1st SISPA 2022

1st International Seminar on Animal Health and Production

Livestock diseases and population medicine in dairy cattle farms

11-12

October

2022

Laboratory of Animal Production, Biotechnologies and Health (PABIOS)

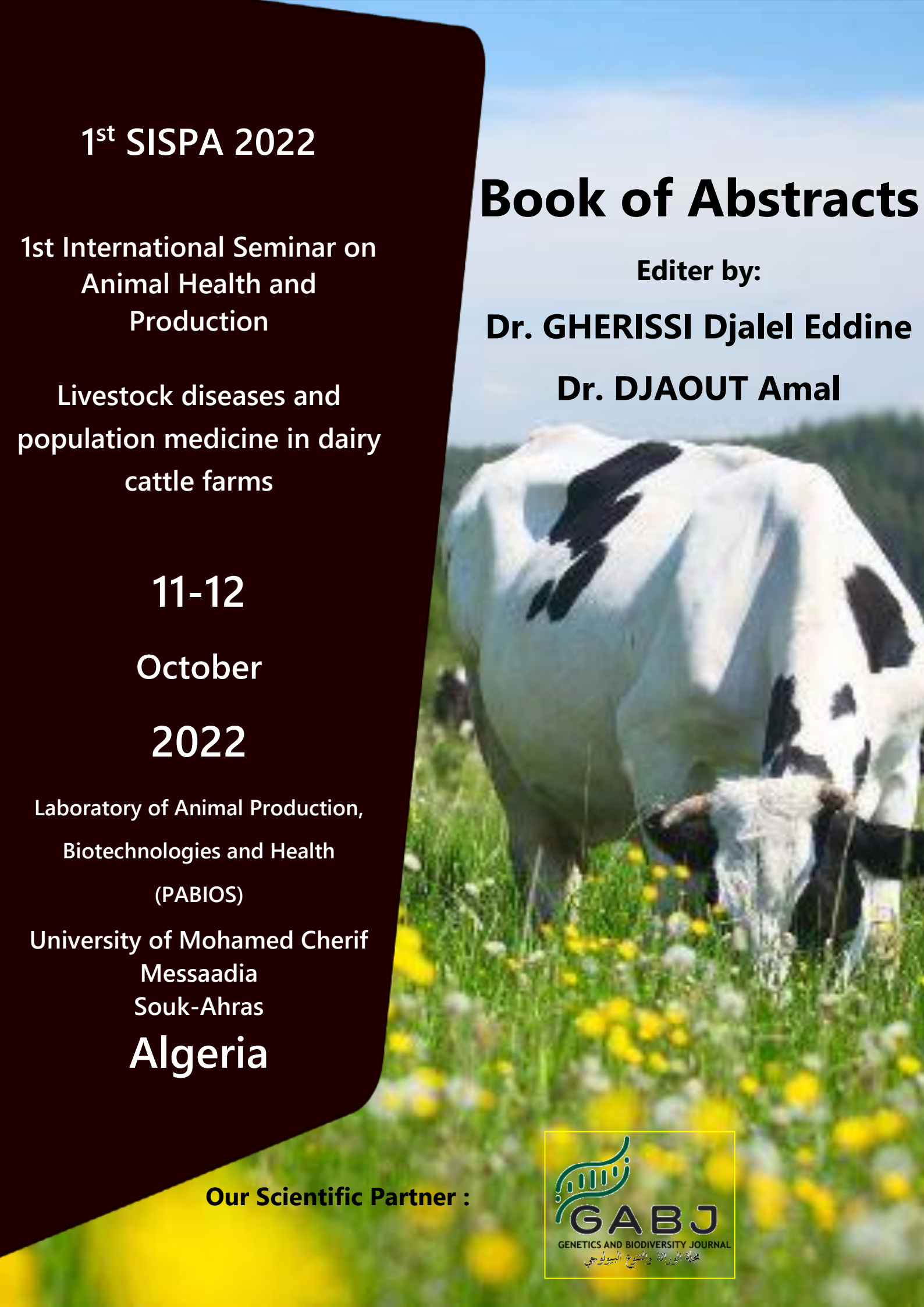
University of Mohamed Cherif Messaadia
Souk-Ahras
Algeria

Book of Abstracts

Editer by:

Dr. GHERISSI Djalel Eddine

Dr. DJAOUT Amal



Our Scientific Partner :

GABJ
GENETICS AND BIODIVERSITY JOURNAL
مجلة علوم الوراثة والتنوع البيولوجي


1ER SISPA

En cordial hommage Aux

PR. FADEL DJAMEL

DR. AOUADI ATEF

IER SISPA

DR. SMERSSI DJALEL
EPSP/INE
Seminar Chairman

Book editors

Dr. Djalel Eddine GHERISSI (Institute of Agricultural and Veterinary Sciences of Souk Ahras University)

*Dr. **Djalel Eddine GHERISSI**, I am Algerian Assistant Professor specialist in Animal Production, biotechnology and health. I am the dumpty director of the Institute of Agricultural and Veterinary Sciences of Souk Ahras University in charge of the post-graduation, external relations and scientific research. I have many years experience in University teaching graduation, Master and doctoral levels in Veterinary and Agronomic Sciences and I am team leader at the research laboratory: Animal Production, Biotechnologies and Health. I am also an ex-researcher at the National Institute of Agricultural Research of Algeria. I give workshops in animal biotechnologies, animal health and genetic improvement of farm animals to train scientists, veterinarians, students, and farmers in improved livestock production practices. My current research is focused on livestock systems and production valorization and sustainability in particular under arid and semi-arid areas. The dairy cattle and the dromedary camel are the main focused species. My efforts in agricultural development are focused on improvement animal genetics, production and welfare. My long-term goal is to empower agriculturalists with the knowledge and skills needed to increase the production of nutritious animal-source foods as a means to reduce poverty, and improve food security.*

Dr. Amal DJAOUT *(National Institute of Agronomic Research of Algeria (INRAA), Setif 19000, Algeria)*

***Dr Amal DJAOUT**, I am a researcher at National Institute of Agronomic Research of Algeria (INRAA), East Agrosystems Division Setif unit since 2012. I am a specialist in zootechnics, biotechnology and animal production. I participate in several national and international projects on biodiversity, genetics, reproduction and breeding systems. I also have experience supervising LMD, masters and doctoral students in biology, agronomy and veterinarians. My current research is focused on the study of biodiversity, characterization and conservation of different breeds of different species (ovine, goat, camelina, bovine, poultry and donkey) based on phenotypic and genotypic characterizations of animals. My objective in these studies is the conservation of our animal genetic patrimony.*

Ministère de l'Enseignement Supérieur et de la Recherche Scientifique
Université Mohamed Chérif Messaadia - Souk-Ahras-
Institut Des Sciences Agronomiques et Veterinaires

Animal Production, Biotechnology and Health Laboratory (PABIOS)

In collaboration with the

Department of Veterinary Sciences

Proceeding

1st International Seminar on Animal Health and Production (1st SISPA)

"Livestock diseases and population medicine in dairy cattle farms"

Souk Ahras, October 11-12, 2022 (on line)

Seminar Honorary Committee

Pr. BOUFAIDA Mahmoud, Rector of the University Mohamed Chérif Messaadia, Souk Ahras.

Dr. GASMALLAH Noreddine, Director of the Institute of Agricultural and veterinary Sciences, Souk Ahras University

Chairman of the Seminar

Dr. GHERISSI Djalel Eddine, Lecture in Animal production and Biotechnology at the Institute of Agricultural and veterinary Sciences, Souk Ahras University

Chairman of the Scientific Committee

Pr. BOUZEBDA AFRI Farida, Professor at the Institute of Agricultural and veterinary Sciences, Souk Ahras University

Chairman of the Organizing Committee

Dr. OUENNES Houria, Lecturer at the Institute of Agricultural and veterinary Sciences, Souk Ahras University

Seminar Organising Committee

Dr. AIDOUDI Hafiza	Univ. de Souk Ahars
Dr. AMARA Assila	Univ. de Souk Ahars
Dr. BARROUR Djanette	Univ. de Souk Ahars
Dr. BELARIBI Ragheb	Univ. de Souk Ahars
Dr. BELBELDJ Hamid	Univ. de Souk Ahars
Dr. BELFETNI Nora	Univ. de Souk Ahars
Mr. BOUMZAOUET Alaoua	Univ. de Souk Ahars
Dr. CHACHA Faycel	CRBT
Dr. CHERGUI Moussa	Univ. de Biskra
Dr. CHIKHA Maria	Univ. de Souk Ahars
Dr. CHOUAL Khayreddine	Univ. de Souk Ahars
Dr. DAIA Mohamed El Hadi	Univ. de Biskra
Dr. DJAOUT Amel	INRAA
Dr. FARES Mohamed Amine	Univ. de Souk Ahars
Dr. FERAG Aziza	Univ. de Souk Ahars
Dr. HANANI Hania	Univ. d'El Tarf
Dr. KADRI Younes	Univ. de Souk Ahars
Dr. KAMEL Khaoula	Univ. de Souk Ahars
Dr. LABIED Ibtissem	Univ. de Souk Ahars
Dr. LAMRAOUI Ramzi	Univ. Batna 1
Dr. LEULMI Hadjer	Univ. de Biskra
Dr. LEKOUAGHET Asma	Univ. de Souk Ahars
Dr. MEHAMDIA Doniazed	Univ. de Souk Ahars
Dr. RABAHI Samia	Univ. de Souk Ahars
Mme. REBEI Samia	Univ. de Souk Ahars
Dr. REGHAISSIA Nassiba	Univ. de Souk Ahars
Dr. SAHI Sameh	Univ. d'El Tarf
Dr. SALHI Sabrina	Univ. de Souk Ahars
Dr. SEDDIKI Sara	Univ. de Souk Ahars
Dr. TADJINE Dahmene	Univ. de Souk Ahars
Dr. TAMANDJARI Sofiane	Univ. de Souk Ahars

Seminar Scientific Committee

Pr. ASIM Faraz	Univ.Bahauddin Zakariya, PAK
PR BENAISSA Mohamed Hocine	CRSTRA, ALG
Pr. BOUZEBDA Zoubir	Univ. Souk Ahars, ALG
Pr. DEGHNOUCHE Kahramane	Univ. Biskra, ALG
Pr. FRANCK Michel	Ecole vétérinaire Lyon, FRA
Pr. GAOUAR Semir. Bechir S.	Univ. de Tlemcen, ALG
Pr. GUERRIERO Guilia	Univ. Naples Federico II, ITA
Pr. HANZEN Christian	Univ. de Liège, BEL
Pr. KHENENOU Tarek	Univ. Souk Ahars, ALG
Pr. KOUACHI Nouha	Univ Souk Ahars, ALG
Pr. LIESHCHOVA Maryna	Univ. Dnipro, UKR
Pr. MARNET Pierre-Guy	Institut Agro Rennes-Angers, FRA
Pr. MEUTCHIEYE Félix	Univ. Dschang, CAM
Pr. MYLOSTYVYI Roman	Univ. Dnipro, UKR
Pr. PASHA Riaz	Univ. PMAS-Arid , Agriculture, PAK
Dr. AMEUR Ameur Abdelkadder	Univ. de Tlemcen, ALG
Dr. AYARI Adel	Univ. Souk Ahars, ALG
Dr. BELKHIRI Yamina	Univ. Batna 2, ALG
Dr. BOUAOUICHE Abderrahmen	Univ. Souk Ahars, ALG
Dr. HOUSSOU Hind	Univ. Souk Ahars, ALG
Dr. MEGUINI Nadir	Univ. Souk Ahars, ALG
Dr. MERGHAD Amina	Univ. Souk Ahars, ALG
Dr. MONACO David	Univ. Bari, ITA
Dr. RAHMOUN Djalal Eddine	Univ. Souk Ahars, ALG
Dr. TEFIEL Hakim	Univ. de Tissemsilt, ALG
Dr. TITAOUINE Mohammed	Univ. Biskra, AL

Preamble

According to FAO (2018), milk consumption per year and per capita is 234 kg in developed countries, compared to 69 kg in developing countries. But the gap has tended to narrow for several years, with improved incomes and changing eating habits in emerging countries. This situation has been more or less affected in recent years by Covid 19, and official figures are lacking to establish a precise observation.

In Algeria, the average milk consumption is 157 kg/capita/year, i.e. 70 kg more than the world average set by the FAO (2018). However, it should be noted that milk in Algeria is still a subsidized product and imports represent 40% of consumption (≈2.5 billion liters out of a total of 6 billion liters). The objective sought is to improve the consumption level of locally produced milk in order to reach an average of 90 kg/inhabitant/year. This makes milk production one of the pillars of agriculture in Algeria and requires the veterinary sector to prepare and adapt to this challenge. On a global scale, there are two different situations in intensive dairy cattle farming; encourage larger farm sizes or impose restrictions on mega-farms. In both situations, fertile, healthy cows, a healthy and well-balanced diet, well-controlled breeding costs, genetic improvement leading to quantitatively and qualitatively interesting production, respect for biosecurity, welfare and the environment are some of the primary objectives in order to meet the needs of the consumer with a health guarantee. However, certain difficulties are commonly encountered in this type of production, namely, the development of fodder systems, the progress of milking and the collection of milk, the impact of breeding diseases, the level of training of breeders, the development of buildings and the environment, etc.

The livestock diseases are permanent, in all farms, unlike contagious diseases. For their part, livestock diseases result less in mortality increase than in a drop in animal performance, which has the effect of reversing the economic efficiency of herds. In dairy cattle farming, conditions can be multifactorial (respiratory problems, mastitis, lameness, infertility, etc.). This partly explains the failures of treatments, because risk factors can be neglected or forgotten if the diagnosis is made on a single individual. The breeder can be distraught when he finds himself confronted alone with the complexity of diseases with various triggering and favoring factors.

Indeed, population medicine is a scientific discipline that makes it possible to respond to these issues by placing the analysis of conditions and risk factors at the herd level. Moreover, the principle of population medicine is to no longer consider the patient as an individual, nor as a sum of individuals, but as a community where all the individuals are interrelated with each other. Population medicine takes into account the entire herd in a global way, in its own environment, with specific technical and economic breeding management. The veterinarian must be able to extend his approach and his practice of individual medicine to the whole constituted by the herd, which will then allow him to take into consideration all the present conditions, as well as their various evolutions and the risk factors associated with them. He should invest more in the results of the breeding, the analysis and the interpretation of the situations and the problems' resolution, all that in a real common work, implying the transmission of knowledge, the training and the advice.

The theme of this seminar focuses on the tools that a dairy herd veterinarian/zootechnician must acquire in order to fight against livestock diseases. Focusing on population medicine, we discuss the various services offered by this discipline in order to achieve the desired objectives of herd health

Themes

1. **Dominant pathologies**
2. **Population medicine**
3. **Performance monitoring and improvement**
4. **Economic analysis**

PLENARIES

- **Plenary 1- Bouzebda Afri Farida, ALGERIA : Milk sector in Algeria: current situation and development prospects**
- **Plenary 2- Christian HANZEN, Belgium: The postpartum: a matter of periods and pathologies**
- **Plenary 3- Curtis R YOUNGS, USA: Genetic improvement strategies for dairy cattle**
- **Plenary 4- Pierre-Guy MARNET, France: State of the stock of milking equipment and milking hygiene practices in Tunisia on milk quality: an example of mechanization development error not to be reproduced**
- **Plenary 5- Anouar BELAID, Belgium: Management of the nutritional status of periparturient dairy cows**
- **Plenary 6- Michel Franck, France: Thoughts on the management of dairy herds**

DAIRY SECTOR IN ALGERIA: CURRENT SITUATION AND DEVELOPMENT PROSPECTS

Institute of Agronomic and Veterinary sciences, University of Souk Ahras, Algeria

Abstract

The milk sector is a key sector in agricultural production in Algeria. The participation of cattle in milk production is estimated at 73% (900 thousand head of dairy cows). Socio-economic reasons make the Algerian a big consumer of milk with an average of 155l/ hab / year, while the FAO recommendations are 90l / hab / year. The ever-increasing milk needs of the population amount to 5 billion liters per year, with a national production of 3.5 billion liters, hence the import policy, which makes Algeria the second largest importer of milk powder in the world after China. The import of powdered milk represents 15.4% of food imports and ranks 2nd after cereals. In addition to the envelope allocated to the import of milk, the state provides breeders with aid in terms of subsidies for the purchase of imported high genetic performance cows, and concentrate feed, which constitutes the essential ration, and various bonuses. The implementation of projects for mega farms of thousands of cows in various regions of the country and especially in the south (Ghardaia, El Oued, El Bayed, etc.), as well as the implementation of a roadmap for the characterization and The choice of farms potentially suitable for integrating this sector and benefiting from state aid is to be analysed. The globalization of milk production in terms of quantity and better health and nutritional quality requires us to follow the guidelines and recommendations of international organizations (WHO, FAO, CIN). Make sure you choose the type of breeding Animal welfare, good farming practices, respect for the environment, greenhouse gases, water management, biosecurity and farm health, because it is well established that animal health is a reliable identifier of public health. From the 1970s until the 2022 project announced by the Ministry of Agriculture, the thousand times waltz was repeated "import of 20,000 heifers full of high genetic performance" but without expected production results, the problem is to first the resolution of internal concerns that undermine the sector.

DOI: *10.46325/gabj.v7i2.372*

CHRISTIAN HANZEN, BELGIUM: THE POSTPARTUM: A MATTER OF PERIODS AND PATHOLOGIES

Faculté de médecine vétérinaire Université de Liège, Belgique

Abstract

Optimizing fertility involves not only understanding but also control of the detection, quantification and preventive and/or curative treatment of various obstetrical factors (dystocia), infectious (placental retention, uterine infections, mastitis, lameness), metabolic (hypocalcemia, ketosis, steatosis, energy balance), hormonal (anoestrus) and management (detection of estrus, diet). Their characteristics, risk factors and direct or indirect effects continue to be the subject of much research. If it is relatively easy to quantify a problem of infertility and/or infertility, the choice of the right explanatory hypothesis necessary for the implementation of an effective preventive or curative strategy is much more difficult and requires a minimum understanding of their risk factors and their mechanisms of effect. This implies for the practitioner the use of a strategy of examining heifers and cows in the herd and collecting data as optimally as possible during the different postpartum periods. The paper proposes (1) to define the different postpartum periods and their pathologies, (2) to describe their prevalence, a necessary condition for the identification of a problem or not in a given farm and (3) to present a general view of their relationships. This presentation will be done in the context of clinical reasoning, a process of solving health problems that involves the clinician synthesizing information from a clinical case, integrate them with previous knowledge and experience and use them to make diagnostic and management decisions.

DOI: *10.46325/gabj.v7i2.372*

CURTIS R YOUNGS, USA: GENETIC IMPROVEMENT STRATEGIES FOR DAIRY CATTLE

Iowa State University Ames, USA

Abstract

The global population of cattle exceeds 1.5 billion head, and the efficient production of animal-source foods from those animals is vitally important to help feed the world's rapidly growing human population that is projected to surpass 10 billion people by the year 2050. One of the challenges faced by the dairy cattle industry is preserving genetic diversity of cattle breeds while concurrently increasing milk output in an environmentally sustainable manner. Well-designed genetic improvement programs can help address this challenge. The use of reproductive tools such as artificial insemination and embryo transfer enable the production of large numbers of highly productive offspring from the best genetic bulls and cows. Ejaculates that have been sorted to enrich the population of either X chromosome or Y chromosome-bearing spermatozoa can be used to enhance the production of both milk and meat from dairy cattle through adoption of the "beef on dairy" concept. In vitro embryo production allows for a substantial increase in the production of genetically superior calves compared not only with traditional multiple ovulation and embryo transfer (MOET) schemes but also with conventional mating. Identification of animals possessing the greatest genetic capacity for milk production can occur via use of genomic selection technology, and this same technology can be used to breed healthier animals that require fewer natural resources to produce a given volume of milk. Genome editing is a powerful tool that will allow major breeding companies to generate animals that possess an intentional genomic alteration such as heat tolerance (slick locus/prolactin receptor), decreased milk allergenicity (β-lactoglobulin gene), increased muscling (myostatin gene), and potentially for resistance to diseases such as mastitis, tuberculosis, and bovine respiratory disease. The creation of "surrogate sires" to deliver superior genetics under field conditions is under development and may drastically change dairy cattle production throughout the world.

Keywords

Sexed semen; in vitro embryo production; genomic selection; genome editing; surrogate sires.

DOI: *10.46325/gabj.v7i2.372*

PIERRE-GUY MARNET, FRANCE: STATE OF THE STOCK OF MILKING EQUIPMENT AND MILKING HYGIENE PRACTICES IN TUNISIA ON MILK QUALITY: AN EXAMPLE OF MECHANIZATION DEVELOPMENT ERROR NOT TO BE REPRODUCED

Institut Agro Rennes-Angers ex Agrocampus-Ouest, France

Abstract

Tunisian milk chain is in danger with a dramatical reduction of milk production over the last years. Health problems of cows and especially mastitis could be important due to a poor management of hygiene and possible poor milking equipment maintenance on farms. To verify these hypotheses, we studied the prevalence of mastitis and relationships between milking equipment status, milking practices and milk quality in 11 large scale herds and 128 small holder farms representative of the dairy sector in the main governorates of Tunisia. Aside to milk quality assessment (Fat, Protein, SCC flora and Total Aerobic Flora (TAF) and specific flora concentrations), we evaluated cleanliness and operating status of milking place and equipment but also practices by the way of surveys, and recorded milking parameters using a European machine testing protocol. We confirmed a high prevalence of mastitis (33,3% to 45,9%) and the resulting poor milk quality in these farms (low richness, high SCC and high TAF concentrations). The risks factors identified were significant lack of hygiene of milking machines, and bad operating status of equipment (air leakages, liners and tubes damages, insufficient vacuum reserve, too high max vacuum and pulsation rate, non-adapted pulsation ratio (50:50 to 75:25). Based on individual cow SCC the mastitis prevalence was even higher in the small holder farms (57.6%). The mean somatic cell concentration of individual cow SCC (ISCC) and bulk milk SCC (BMSCC) was very high (1283.1 ×103 cells / ml and 778.6 ×103 cells / mL, respectively), all ranks and stages of lactations combined. These high values confirmed the infectious origin of mastitis that we found caused mainly by Staphylococcus aureus and Coagulase Negative Staphylococci (CNS). Because of lack of systematic control and maintenance, and of milker training, Tunisian milking machines stock is now dangerous for animals (health and welfare). They do not help farmers to reduce their workload nor increase their income because of bad hygiene and operating status of milking equipment resulting in bad stimulation and udder health status of animals.Additionally, to a systematic milking equipment control and maintenance that it would be good to make mandatory, washing the udder before milking, forestripping and feeding cows after milking to make them stand are among milking practices which reduced significantly mastitis prevalence ($p<0.05$) and that must be encouraged to restore udder health and milk quality and thus productivity and durability of Tunisiandairy sector.

Keywords

Cows; milking machine; milk quality; mastitis; hygiene

ANOUAR BELAID, BELGIUM: MANAGEMENT OF THE NUTRITIONAL STATUS OF PERIPARTURIENT DAIRY COWS

Ruminant Technical Service Manager at Kemin industries, Belgium

Abstract

The transition phase of cows is generally the period between 3 weeks prepartum until 3 weeks postpartum (Drackley, 1999; Grummer, 1995). This period is extremely important in determining the production and profitability of dairy cows as most health disorders can occur during this period (milk fever, ketosis, retained placenta (RP), displaced abomasum (DA), metritis, and mastitis, mainly) and have a large negative impact on farm income (Belaid and Sergio, 2014). Managing cows correctly during the transition is key for overall farm success. A crucial time in the transition period is the last three weeks before calving which is known as the 'close-up' period. During this time, cows prepare for their next lactation. However, without adequate nutrition, cows can calve in and fade quickly, causing a loss of potential income for farms. Thus, paying significant attention to this close-up period can provide higher dividends as it sets the stage for how well cows perform in their next lactation. Numerous studies have been conducted to provide some insight into how to feed close-up cows in order to avoid postpartum diseases (Minor et al., 1998; Dann et al., 1999; Vande-Haar et al., 1999; Mashek and Beede, 2000; Doepel et al., 2002; Rabelo et al., 2003). Dietary cation anions difference (DCAD) and Choline supplementation are commonly used as a nutritional approach to reduce the incidences of hypocalcemia and Ketosis, diseases with the highest probability in the postpartum period that can trigger a cascade of negative events (Goff, 2006). In Kemin, we have developed two solutions; NutriCABTM an encapsulated anionic salt made up of 80% calcium chloride to aid cation and anion balance in dairy cow diets, and CholiGEMTM a rumen bypass choline supplement that contains more than 60% of choline chloride to turn challenges of transition phase into opportunities. The aim of our presentation is to highlight the benefit of close-up DCAD and choline nutrition in the profitability of dairy herd as well as animal welfare.

Keywords

DCAD; Choline; transition period; close up diet.

DOI: *10.46325/gabj.v7i2.372*

MICHEL FRANCK, FRANCE: THOUGHTS ON THE MANAGEMENT OF DAIRY HERDS

National Veterinary School of Lyon ENVL, France

Abstract

The author takes up some major questions related to dairy herds and their evolution in the world; Basically, dairy farming is well known, but the last decades have been marked by ideas of intense productivity that are not justified in terms of production, profitability, animal welfare and even less human welfare. The question therefore arises country by country, with a prior analysis of human consumption needs for milk and dairy products; if the forecasts are correct, there is a lack of 2 billion dairy cows in Algeria, which means 2 to 3 billion ha of fodder area and 1 billion ha of cereal area; these plant constraints are perfectly within the capacities of Algeria; the most fundamental question lies in the choice of dairy farming development; small or large farms with more than 100 cows; and it is a totally political choice with obvious social repercussions; taking all of this file into consideration, including the price of milk to the consumer, which is largely influenced by the price of imported milk, it is clear that the country will have to help producers since it is difficult to increase consumer prices ; without neglecting the interest of large dairy farms, it is necessary to conceive the development of small farms with an initial objective of 25 cows, i.e. 100,000 farms, which implies aid but also a whole accompaniment of the State not only on the price but also on the organization of milk collection, processing and quality control. We will also take care to avoid monoproduction, a small farm has the capacity to control several productions, on its scale, and in particular in the field of poultry. From a social point of view, it is undoubtedly the best choice since it is better to help families to live on their production rather than unemployment.

DOI: *10.46325/gabj.v7i2.372*

- Theme 1- Dominant pathologies
- Theme 2- Population medicine
- Theme 3- Performance monitoring and improvement
- Theme 4- Free communications

DOI: *10.46325/gabj.v7i2.372*

THEME 1

DOMINANT PATHOLOGIES

ORAL COMMUNICATIONS

DOI: *10.46325/gabj.v7i2.372*

SITUATION OF ANIMAL BRUCELLOSIS AND ITS IMPACT ON HUMAN HEALTH IN THE EAST OF ALGERIA

HANNANI H[1,2,3], HEMICI S[1], HANNANI A[1]

1. Département des sciences vétérinaires, Université Chadli Bendjedid d'El-Tarf. Algérie.

2. Laboratoire PABIOS, ISAV, Université Mohamed Cherif Messaâdia, Souk- Ahras. Algérie.

3. Laboratoire LRBPE. Université Chadli Bendjedid d'El-Tarf. Algérie.

Contact : *hannanamira904@gmail.com, h.hannani@univ-eltarf.dz*

Abstract

In Algeria, brucellosis is an infectious, contagious disease that causes serious health problem, both in animals and public health.In order to evaluate the status of this major zoonosis in Eastern Algeria, a retrospectivesurvey is conducted in 5 wilayas (El-Tarf, Annaba, Souk-Ahras, Tébessa and Guelma) between 2013 and 2019. Statistical data were collected from the veterinary inspections and the public health departments of the concerned wilayas. The analysis of animal brucellosis data shows an intermittent trend in the number of cases of bovine and caprine brucellosis. Bovine brucellosis recorded a relatively large number of cases compared to that of caprine brucellosis. The wilaya of Tebessa records 147 cases of bovine brucellosis, with a prevalence rate of about 2.02% on the total number of detected animals followed by the wilaya of Souk-Ahras with 127 cases recorded. . Data for caprine brucellosis remain insufficient given the size of the goat population in the study area. The greatest number is achieved in the wilaya of Souk-Ahras with 125 cases. Concerning human brucellosis, there is a parallel evolution to the animal disease. Cases of human brucellosis have been recorded at the level of all the studied wilayas. The highest number of cases is recorded at the wilaya of Tebessa with 3146 cases with a maximum of 1014 cases (32.23%) reported in 2017. The wilaya of Guelma occupies the second place with 156 cases registered including 58 cases reported in 2017. The achievement concerns both sexes with a slight dominance in men. Data also show human contamination in all age categories considered. Individuals between the ages of 20 and 65 are most affected. In view of this important impact of animal disease on human health, it's important to establish a national emergency program to combat this zoonosis that continues to spread in our farms leading to huge economic losses and recording of thousands of human cases every year.

Keywords

Algeria; brucellosis; evolution; prevalence; zoonosis.

DOI: *10.46325/gabj.v7i2.372*

PHENOTYPIC CHARACTERISATION OF *BRUCELLA* RESPONSIBLE FOR ABORTIONS IN COWS IN NORTHERN ALGERIA

LOUNES N[1], LAZRI M[2], BENAMROUCHE N[2], TALI-MAAMAR H[2], RAHAL Kh[2]

1. École Nationale Supérieure Vétérinaire (ENSV), Alger, Algérie.

2. Laboratoire de Bactériologie Médicale, Institut Pasteur d'Algérie, Algérie.

Contact : n.lounes@ensv.dz

Abstract

In Algeria, abortions are frequently observed in cattle farms, representing a major concern in view of their economic and health impacts. Their losses considerably hinder the development of the cattle industry. In Algeria, very few studies have explored their origin in cattle. Brucellosis plays an important role in the causes of these abortions, as it is prevalent in our farms with a high prevalence of 13% (DSV, 2019). Therefore, our study aimed to isolate and identify *Brucella* responsible for abortions in cows in the northern regions of Algeria. From October 2011 to June 2014, our study included 41 brucellosis-seropositive aborted cows by two tests (Rose Bengale Test and Complement Fixation), from 26 farms, distributed over 10 wilayas of the different northern regions (Algiers, Blida, Medea, Tizi Ouzou, Bejaia, Jijel, Bordj Bou Arreridj, M'sila, El Taref and Tlemcen). The females were between 2 and 10 years old, of different breeds (Holstein, Montbeliarde, local and crossbred). These cows were subjected to 70 samples (36 milk, 16 retropharyngeal, 16 retro-mammary and 2 inguinal lymph nodes). The phenotypic characterization of *Brucella* was carried out according to the French standard AFNOR NF U47-105. Clinically, the 41 abortions were observed in the second or third trimester of gestation, 4 were associated with retained placenta, 3 with mastitis and 1 with arthritis. Bacteriologically, we isolated 25 *Brucella* isolates from 18 infected females (44%), identified as *B. abortus* bv 3 (22), *B. abortus* bv 2 (1) and *B. melitensis* bv 2 (2). Our study reports the first bacteriological results concerning abortions due to Brucella in cattle in Algeria and reveals that *B. abortus* 3 is the dominant biovar.

Keywords

Abortion; Brucella; cattle; Algeria; identification.

DOI: *10.46325/gabj.v7i2.372*

THE CAUSES OF BOVINE ARTIFICIAL INSEMINATION FAILURE: THE NON EVIDENT INFERTILITY

MIROUD K.

Département des Sciences Vétérinaires. Université Chadli Bendjedid El-Tarf. Algérie

Contact : *k_miroud @yahoo.fr / kamel-miroud@univ-eltarf.dz*

Abstract

Artificial insemination (AI) tends to be the most widespread means of reproduction in dairy cattle. Among its many advantages, genetic improvement is primary. The considerable genetic gain achieved so far, notably in terms of milk yield, has been detrimental to the dairy cow's fertility resulting in a sharp decrease in the first AI conception rate (from 65% to 40%) and a rise in the percentage of repeat breeder cows that need to be inseminated more than twice to conceive. If many causes of AI failures are evident (AI moment, uterine infection, negative energy balance, sperm deficiency…), other causes, however, due to their non evident character, are responsible of repeat breeding in cows which make them the type of females that represent the most important clinical and management challenge.

Keywords

AI; dairy cow; non evident causes of repeat breeding.

DOI: *10.46325/gabj.v7i2.372*

HYPEROSMOTIC SODIUM BICARBONATE IN THE AMELIORATION OF SEPTICAEMIA ASSOCIATED WITH BOVINE NEONATAL DIARRHEA

ZAFAR M.A[*1], HUMAYUN A[1], PASHA R.H[2], KHAN M.A[3], TAHIR A.H[1], RAHIM M.F[1]

1. Department of Clinical Studies,

2. Department of Veterinary Biomedical Sciences,

3. Department of Veterinary Pathology, Pir Mehr Ali Shah-Arid Agriculture University, Rawalpindi.

Contact : *dr.mazafar@uaar.edu.pk*

Abstract

The study was conducted to evaluate efficacy of hyperosmotic sodium bicarbonate (HSB) as an adjunct to antibiotic and non-steroidal anti-inflammatory drug (NSAID) therapy in experimentally induced neonatal diarrhoea. For that purpose, 14-17 days old 18 buffalo calves were reared and diarrhea was induced through oral administration of *Salmonella* broth. Calves were then randomly divided into three equal groups i.e., groups A, B and C. Treatment was instituted after onset of diarrhea when calves achieved inclusion criteria. Group A was treated with normal saline solution (NSS 0.9% NaCl) 60 mL/ Kg BW, IV once. Group B received hypertonic saline solution (HSS 7.5% NaCl) 5 mL/ Kg BW, IV. Group C was administered with hyperosmotic sodium bicarbonate solution (HSB 8.4% $NaHCO_3$) @ 5 mL/ Kg BW, IV once. All groups were additionally treated with ciprofloxacin 7 mg/ Kg BW, IV bid and flunixin meglumine 2 mg/ Kg BW, IV t-i-d for consecutive five days. Comparative efficacy of all the treatment regimens was assessed through cardinal parameters (body temperature, heart rate, respiration rate and survival index) and cytokine concentration (IL-1β, IL-6, TNF-α and IL-10). All these parameters were observed at baseline (before induction of diarrhea), during neonatal diarrhea, and at different hours after treatment. The data obtained was analysed through Completely Randomized Design (CRD). Buffalo calves of group C resuscitated more rapidly and effectively than groups A and B and showed significantly ($P < 0.05$) higher survival rate of 100% from other groups. Group C showed significant differences ($P < 0.05$) over group A in recovering basal values of body temperature, and respiration rate in diarrheic calves. Treatment of calves in group C with HSB showed significant ($P < 0.05$) decrease in elevated IL-1β, IL-6, TNF-α and IL-10 over groups A and B. On the basis of finding of this study, it is concluded that HSB (8.4%) profoundly ameliorated deleterious

DOI: *10.46325/gabj.v7i2.372*

effects of septicaemia by lowering cytokine concentrations, reverse acidemia and improve survival in diarrheic buffalo neonatal calves.

Keywords

Septicemia; induction; diarrhea; treatment; resuscitation; calves.

DOI: *10.46325/gabj.v7i2.372*

DORAMECTIN FOR THE TREATMENT OF ADULT-ONSET GENERALIZED DEMODICOSIS IN CALVES

ZAFAR M.A[1], PASHA R.H[2], KHAN M.A[3], TAHIR A.H[1] and RAHIM M.F[1]

1. Department of Clinical Studies,

2. Department of Veterinary Biomedical Sciences,

3. Department of Veterinary Pathology, Pir Mehr Ali Shah-Arid Agriculture University, Rawalpindi.

Contact : *dr.mazafar@uaar.edu.pk*

Abstract

The efficacy of doramectin for the treatment of clinical generalized demodicosis was assessed in two calves. Two non-descript calves of 3-4 months age with adult-onset generalized demodicosis that had failed to respond to application of amitraz solution were presented at Veterinary Medical Teaching Hospital (VMTH), Department of Clinical Studies, Faculty of Veterinary and Animal Sciences, PMAS-Arid Agriculture University, Rawalpindi. The disease was diagnosed on the basis of physical examination along with multiple deep skin scrapings. The calves were then treated with five shots of undiluted doramectin (Dectomax®, Pfizer Animal Health Pakistan) at a dosage of 0.6 mg/kg of body weight, SQ, at interval of one week. No other parasiticidal agent given along doramectin topically or systemically. Miticidal efficacy of doramectin was evaluated through resolution of clinical signs and reduction in mite (*Demodex bovis*) count. Clinical examination and multiple skin scrapings were performed each time at the time of treatment. Skin scrapings were performed at approximately the same sites at every examination. On day 45, no mitewas detected indicated 100% parasiticidal activity of doramectin against *Demodex bovis*. Skin condition significantly improved as a result of count reduction of mite. Follow-up information was collected through telephonic call on monthly basis for 06 months. Calves were considered cured from demodicosis after 06 months of discontinuation of doramectin administration. In conclusion, weekly administration of doramectin at a dosage of 0.6 mg/kg, SQ, was found effective in the treatment of adult-onset generalized demodicosis in non-descript calves.

Keywords

Bovine demodicosis; Treatment; Doramectin; Recovery.

COMPARISON BETWEEN CYTOLOGY AND HISTOPATHOLOGY TO EVALUATE ENDOMETRITIS IN DAIRY COWS

SAFER I, HEMIDA H, AYAD M.A

Institut des Sciences Vétérinaires, Université de Tiaret, Algérie

Contact : *imenesafer14@gmail.com*

Abstract

Clinical and subclinical endometritis are largely involved in the decrease of reproductive performance in cows. The objective of this study is to understand, by cytology and histology, how homogeneous is the inflammation in the genital tract of the cow and how the inflammatory status of the genital tract is correlated by cytological and histological examination. Currently, the gold standard technique for the diagnosis of endometritis in postpartum cows is cytology, using a sterile cytobrush or a swab from the uterine body. However, this method only assesses the condition of the mucosa and only in one site of the genital tract. An ex vivo study was carried out on 30 uteri collected from the slaughterhouse of Tiaret by taking two samples at 4 different sites of uterus (cervix, uterine body, the right horn and left horn), one for cytology examination and another for histology. The findings showed that there was a poor correlation between cytology and histology (P= 0.02). The obtained data show that there is no homogeneity between cytological and histological sampling sites, which may distort or even underestimate the inflammatory status of the uterus. Since inflammation may be localized to a single site. The number of neutrophils in both horns and the uterine body showed a good correlation for the cytological test. Although cytology was found to give similar results to histology, the data showed that it was less sensitive in diagnosing inflammatory reactions of the endometrium in cows than histopathology. Also, there was a poor correlation between the two tests. The uterine biopsy provides better results but is very difficult to perform.

Keywords

Endometritis; Diagnosis; Cytology; Histology; Cow.

DOI: *10.46325/gabj.v7i2.372*

SEROPREVALENCE OF CATTLE ABORTIONS DUE TO COXIELLA BURNETII (Q FEVER) IN THE WILAYA OF BLIDA "NORTH ALGERIAN".

DJELLATA N[1], YAHIMI A[1], AIZA A[2], ACHAT F[2], TEURKIA F[2]

1. Laboratoire LBRA, Institut des sciences vétérinaires, Université Saad Dahlab de Blida 1

2. Département des Sciences Biologiques, Université Djilali Bounaama Khemis Miliana

Contact : nadia.djellata@yahoo.fr

Abstract

Q fever is a bacterial zoonosis caused by Coxiella Burnetii, a strict intracellular bacterium with worldwide distribution. Domestic ruminants are the main reservoir of the bacteria. The objective of this study was to determine the seroprevalence of Q fever in dairy cows having aborted in the wilaya of Blida, in the north of Algeria. This study was conducted between October 2021 and February 2022. It concerns a serological analysis, using an ELISA test (enzyme-linked Immunosorbent Assay) of blood samples from 120 cows with aborted from 70 farms. The individual seroprevalence of Coxiella Burnetii obtained was 23.33% (28/120) (95% CI: 19.76-28.91). As for the seroprevalence obtained at the herd level, the latter was 40% (28/70) (95% CI: 37.52 to 42.18). The continuation of the present study by the more specific identification of the germ involved by PCR is very strongly recommended.

Keywords

Bovine abortion; Coxiella Burnetii; Serology; ELISA test; wilaya of Blida.

DOI: *10.46325/gabj.v7i2.372*

STUDY OF THE INFLUENCE OF CALCIUM, PHOSPHORUS, MAGNESIUM, TOTAL PROTEIN, TRIGLYCERIDES AND BODY SCORE ON THE OCCURRENCE OF MILK FEVER AND RETAINED PLACENTA IN DAIRY COWS RAISED IN ALGERIA

HALLOUZ H-F [1], MELIANI S [2], BENALLOU B [1]

1. Laboratoire REPROLAB, Institut des sciences vétérinaires, Université de Tiaret, Algérie

2. Laboratoire REPROLAB, Département de Biologie, Université de Tiaret, Algérie.

Contact : hadjfeghoul@hotmail.com

Abstract

The present study was carried out in Algeria in the Tiaret region. A total of 90 samples were taken from a total of forty-five Prim Holstein dairy cows that had been monitored since dry period. As studies on biochemical parameters in cows raised in Algeria are very limited, and many studies carried out elsewhere give results for farms that do not have the same characteristics as Algerian farms (herd size, level of production, breed, feed), the aim of our work is to study the effect of calcium, phosphorus, magnesium, total proteins, triglycerides and body score on the occurrence of postpartum pathologies in dairy cows such as milk fever (hypocalcaemia) and retained pacenta. We monitored the evolution of Total Protein, Triglycerides, Calcium, Phosphorus, Magnesium and Body Score in Prim Holstein dairy cows. Each cow was sampled twice: the first time during dry period, the second time within 48 hours of calving. The blood sample was collected in a heparinised vacutainer tube. Biochemical analyses were performed on a Roche® COBAS INTEGRA 400. In our work, a high body condition score at dry period and parturition had a significant effect on the occurrence of milk fever in dairy cows. As well as an increase in serum phosphorus concentration in dairy cows at dry period has a significant effect on the occurrence of milk fever in dairy cows.

Keywords

Biochemical parameters; Dairy cow; Peripartum; Hypocalcaemia; Retained placenta.

DOI: 10.46325/gabj.v7i2.372

A MULTIVARIABLE INVESTIGATION INTO THE RISK FACTORS FOR LAMENESS IN TUNISIAN DAIRY COWS

SDIRI C, BEN SOUF I, M'HAMDI N

Laboratory AERL, INAT, Carthage University, Tunis, Tunisia

Contact : *chaimasdiri2@gmail.com*

Abstract

Lameness is a serious concern in the dairy sector, reflecting its high incidence and impact on animal welfare and productivity. There is limited information on environmental and managerial risk factors associated with lameness in Tunisian dairy herds. The study's objectives were to explore and quantify the environmental and management risk factors associated with lameness in dairy herds. A cross-sectional study was conducted on 100 small and medium dairy farms between 2020 and 2021, where all lactating cows were locomotion scored (scale 1-4) during two visits. Environmental and management variables, such as the length of the main track and animal handling practices were recorded during the visits. The prevalence of lameness was measured for each farm and associated risk factors were analyzed using a Generalised Linear Model, where the farm was the unit of analysis. The estimated average prevalence of lameness was 21.7% (range from 8 to 47.5%). The prevalence of lameness was associated with the amount of rainfall during the 30 days before the farm assessment, smoothness of the concrete surface and available space per cow in the holding yard, and length of the feedpad available per cow. Inappropriate handling of cows on the track (e.g. causing sideways pushing among cows) was also a contributing risk factor to the high prevalence of lameness in these dairy herds. The findings of this study suggest that by managing several environmental and farming practices producers can reduce the prevalence of lameness leading to improved productivity of their herds.

Keywords

Dairy herds; Lameness; Risk factor; Tunisia

DOI: *10.46325/gabj.v7i2.372*

MILIARY BOVINE TUBERCULOSIS IN BUFFALOES IN AL-MUTHANNA GOVERNORATE /IRAQ

AL SALIHI K

College of Veterinary Medicine, Al Muthanna University, Samwah, Iraq

Contact : *kama-akool18@mu.edu.iq / https://orcid.org/0000-0002-5698-2678*

Abstract

Bubalus bulais (river buffaloes) are widely distributed in the southern marshes of Iraq. This study intends to report the first case of miliary bovine tuberculosis in Al Muthanna abattoir/Iraq with its clinical, gross, and histpathological findings and microbiological investigations. 10 years old, buffalo showed chronic cough, infertility, emaciation, debilitation, lower milk production, loss of weight, and loss of appetite for 2 months; during meat inspection, thousands of various size typical tubercules, yellowish, granulomatous, and caseous lesions were distributed over all the body. Microscopically, features of tuberculosis granuloma lesions were observed and revealed oval, round, or irregular central areas of caseous necrosis and mineralization enclosed by a thin to a broad layer of diverse inflammatory cells and a layer of solid collagenous connective tissue. Moreover, a direct smear from the lesion stained by the Ziehl-Neelsen stain showed red, straight, and slightly curved rod, seen singly or in clusters, indicating the tubercle bacilli.Additionally, the *growing bacteria on* the Löwenstein-Jensen media slant revealed flat, smooth, moist, white, not pigmented colonies suggestive of *M. bovis* that revealed typical results with traditional biochemical tests, including negative reaction to nitrate reduction niacin test and deamination of pyrazinamide. In conclusion, for the author, this is the first case report on miliary bovine tuberculosis in buffalo in Iraq. The diagnosis was made according to clinical signs, gross pathology, and histopathological features supported by Ziehl-Neelsen stain and bacterial isolation. The author recommends future epidemiological molecular studies to improve the diagnosis tools of bovine tuberculosis in Iraq and investigate the causative agent *M. bovis* to establish the roles for disease control that becomes much more challenging.

Keywords

Bubalus bulais ; miliary TB; M. bovis; tuberculosis; Löwenstein-Jensen media.

DOI: *10.46325/gabj.v7i2.372*

TEMPORAL AND SPATIAL VARIATIONS IN TRYPANOSOMOSIS PREVALENCE FROM 1980 TO 2018: SYSTEMATIC REVIEW AND META-ANALYSIS OF STUDIES ON THE GAMBIAN RUMINANTS WITH SPECIAL EMPHASIS ON CATTLE

OLANIYAN O.F[1], KAYA I[1], SECKA A[2]

1. Département des Sciences Animales, Université d'Ege, 35040 Izmir, Turquie.

2. Centre d'Innovation pour l'Elevage en Afrique de l'Ouest, PMB 14, Banjul, Gambie.

Contact : *of.olaniyan@utg.edu.gm*

Abstract

African Animal Trypanosomosis (AAT) is a disease of great economic burden, especially with its adverse impacts on milk production. Consistent quantification of trypanosomes, the parasite responsible for AAT is therefore important for effective control and eradication strategies. A rigorously predefined protocol to search and select eligible publications that utilized either microscopy, serology, or molecular methods to investigate prevalence of AAT based on the three most common *Trypanosoma* spp. (*T. congolense, T. vivax, and T. brucei*) in the field-based naturally grazed Gambian cattle, sheep and goats was used. Meanwhile, all the eligible studies utilized buffy coat technique (BCT) to detect trypanosomes in the blood samples, while the more sensitive serological and molecular detection methods are yet to be widely exploited. Concerning meta-analysis, sensitivity and subgroup analyses were carried out with random effects model, and prevalence estimates of each study with 95% confidence intervals (CI) were presented with a forest plot. Heterogeneity among the studies on cattle was moderate ($I2$ = 55%) and the pooled trypanosomosis prevalence based on BCT was 5.2% (95% CI: 4.0 – 6.4). Estimated prevalence varied according to the trypanosome detection methods, study locations, types of publication, year, and length of observations. The prevalence estimates based on BCT ranged from 3.2 to 8.1% in goats and 2.8 to 10.6% in sheep. Trypanosomosis prevalence in sheep and goats through meta-analysis could not be pooled due to small number of studies. Even though there seems to be a slight decrease in trypanosomosis prevalence in cattle in one of the Gambian districts, there was no consistent trend across the years. This study contributes to better understanding of trypanosomosis prevalence. It also implies that threats of AAT on farm animals still exists and the disease should not be overlooked in the pursuit of increased dairy production in the emerging African countries.

Keywords : *Cattle; Sheep; Goat; Trypanosomosis; Prevalence.*

DOI: *10.46325/gabj.v7i2.372*

STAPHYLOCOCCUS AUREUS IMPLICATION IN CLINICAL AND SUB-CLINICAL MASTITIS IN ALGERIA CENTER REGION

DOUIFI M[1,2], BOUKHALFA N[3], HAKEM A[2,4]

1. Institut des sciences veterinaires. Universite de blida 1, Blida, Algérie

2. Laboratoire EVES, Universite de Djelfa, Djelfa, Algérie.

3. Département des sciences biologiques, Universite de khemis miliana, Algérie.

4. Centre de recherche en agropastoralisme, Djelfa, Algérie.

Contact : douifimohamed@gmail.com

Abstract

Mastitis is defined as inflammation of the mammary gland and is characterized by local and systemic symptoms that occasionally cause a general infection. This illness has a heavy impact on cows'wellbeing and milk quality. The aims of this work were to evaluate the prevalence of clinical andsubclinical mastitis, identify the related risk factors, and determine the role of Staphylococcus aureusin udder infection and its susceptibility to different antibiotic drugs. A total of 224 dairy cows from 28farms were tested by the California mastitis test (CMT) for sub-clinical mastitis and by clinicalexamination for clinical mastitis. Positive samples were subjected to laboratory analysis. The resultsdemonstrate a prevalence of 3.57% and 47.32% for mastitis and subclinical mastitis respectively. Parity, udder and leg hygiene, and stage of lactation have a significant relationship with subclinical mastitis. Staphylococcus aureus has been isolated from 12.5% of clinical mastitis and 24.52% of subclinical mastitis. Antibiotic susceptibility testing reveals a high resistance to penicillin G (66.6%). Tetracyclin (29.62%), Erythromycin (18.51%), Trimethoprim + sulfamethoxazole (14.81%), enrofloxacin (11.11%), oxacillin (7.4%) and amoxicillin/clavulanate (3.7%). This result highlights theneed to improve mastitis control measures among dairy cow farmers and the necessity to support responsible use of antibiotics in Algeria dairy farming.

Keywords

Cows; mastitis; prevalence; Staphylococcus aureus; antibiotic; resistance

DOI: 10.46325/gabj.v7i2.372

STUDY OF THE BACTERIAL LOAD AND THE PRESENCE OF E COLI IN HEALTHY AND METRITIS UTERUS IN POSTPARTUM DAIRY COWS

LAMRAOUI R[1], OUCHERIAH Y[1], SMADI A.M[2], ZERDOUMI O[3], DERRAR N[3], MANSOURI H.M[4]

1. Laboratoire LESPA, ISAV, Université Batna 1, Algérie.

2. Centre de Recherche en Biotechnologie (CRBt), Constantine, Algérie.

3. Institut des sciences vétérinaires et agronomiques, Université Batna1, Algérie.

4. Clinique vétérinaire Savannah, Batna, Algérie.

Contact : rayane.lamraoui@univ-batna.dz

Abstract

Cattle are distinguished from other species of mammals by an inevitable microbial contamination of the uterus at the time of calving, at the origin of a mobilization of the genital immunity of the animal. However, while postpartum uterine inflammation is systemic and physiological, its persistence becomes pathological and because a healthy uterine environment is an indispensable factor for successful reproduction, a microbiological study of the uterus was carried out which aims to study the bacterial load of a healthy and diseased uterus and we chose to study the prevalence of *E coli*, which is a major pathogen of metritis. This study was carried out in the region of Batna, after the selection of the cows we started with the cytological examination which showed that the clinically healthy cows did not suffer from inflammation (negative cytological test) then samples of uterine rinsing samples were counted, and the bacteria were isolated on nutrient agar and enterococci-selective media (maconkey). It was possible to deduce that the healthy cows did not have *E coli* on d 30-d 40 pp by the identification step (gram staining: no gram-negative bacillus). Regarding the bacterial loads, we obtained an insignificant number of CFUs (negative culture), which leads us to suppose that the uterus of these cows succeeded in eliminating them. Our bibliographical research allowed us to study the kinetics of bacteria within a postpartum uterus and to see how during uterine involution the bacterial load decreases until the healthy cow completely gets rid of bacteria, this work is not finished yet, we want to carry out a more in-depth study on a higher number of cows.

Keywords

Metritis; Bacterial load; E coli; D30-40 postpartum; CFU.

DOI: *10.46325/gabj.v7i2.372*

1st International Seminar on Animal Health and Production (1st SISPA)
Livestock diseases and population medicine in dairy cattle farms
October 11 and 12, 2022
University of Mohamed Chérif Messaadia - Souk Ahras

EFFECT OF HEAT STRESS ON THE ADRENAL GLAND OF CATTLE IN THE NORTHEAST OF ALGERIA

RAHMOUN D.E [1], GHERISSI D.E [1], LIESHCHOVA M.A [2], MYLOSTYVYI R.V [2], KHENENOU T[3], BENTAZIR A.C[3], FARES M.A[3], AIDUDI A. [3]

1. PABIOS Laboratory. University of Mohamed Cherif Messaâdia, Souk Ahras, Algeria

2. Dnipro State Agrarian and Economic University, Dnipro, Ukraine

3. STV laboratory University of Mohamed Cherif Messaâdia, Souk Ahras, Algeria

Abstract

A set of adrenal glands from beef cattle in the north-eastern region of Algeria was sampled during the four seasons to study the macro and microscopic modifications of this organ under the effect of heat stress. A complex of macroscopic and histological techniques by standard and special stains was used, allowed to elucidate the peculiarities topography, macrostructure and analysis of the patterns of the structural and functional organization of the parenchyma of the adrenal gland under the effect of change, in the temperature and humidity index (THI). Concerning the absolute weight of the organs, which was at its maximum, the winter index, the THI was 62.28, for morphometry (length, width, thickness), but also volume were maximum indices in the summer period with a THI equal to 82.53. The dosage of cortisol and adrenaline during the different stages revealed to us a secretion activity of cortisol in the winter period, for adrenaline a maximum secretion was observed in the spring period. Staining with hematoxylin & eosin revealed an increase in the surface of the capsular and granular zone, in the summer period, while the percentage of the fascicular zone was maximum in the winter period, for the reticular zone, a percentage increase was noticed in spring the medullary area had an increase in surface area in winter period. Staining of histological sections with fibronectin and laminin-1 elucidated the different layers of the adrenal gland zones of cattle. Immunohistochemistry with S100 protein detected the presence of a well-defined selective antibody reaction to antigen for cortical and medullary areas, i.e. strong antibody positivity was demonstrated in cortical and skeletal cells from the superficial zone of the medullary zone, while the reticular zone gave no reaction and the medullary zone was scored for its positive reaction to protein S100.

Keywords

Adrenaline; adrenal glands; cattle; cortisol; heat stress; histology; temperature and humidity index (THI).

DOI: *10.46325/gabj.v7i2.372*

1st International Seminar on Animal Health and Production (1st SISPA)
Livestock diseases and population medicine in dairy cattle farms
October 11 and 12, 2022
University of Mohamed Chérif Messaadia - Souk Ahras

RETROSPECTIVE STUDY ON TUBERCULOSIS AND BRUCELLOSIS IN DAIRY CATTLE IN THE WILAYA OF AIN DEFLA

BOUKERT R[1], DAMENE H[2], SAHRAOUI N[1]

Contact : razika555@live.fr

1. Laboratoire LBRA, Institut des sciences Vétérinaires, Université de Blida -1, Algérie

2. Institut des sciences Vétérinaires, Université de Blida-1, Algérie

Abstract

Among all the existing pathologies, tuberculosis and brucellosis remain the main zoonosis that constitutes a serious animal health problem. Despite the progress made in the field of surveillance, diagnosis, treatment and control, the risk remains topical. The present work is a retrospective study on tuberculosis and brucellosis in dairy cattle in the wilaya of Ain Defla during the period from 2015 to 2019. Our results showed an average detection (1295.8) of bovine tuberculosis and (1752) of brucellosis respectively. We recorded an infection rate (0.74%) for bovine tuberculosis and (3.12%) for brucellosis in the number screened. A high annual incidence was reported in 2015 (37.5%) for bovine tuberculosis and (62.3%) brucellosis respectively in 2019. The commune of Ain Defla recorded the highest infection rate of bovine tuberculosis (82%) and brucellosis (71%) compared to other communes. In conclusion, this study has demonstrated the existence of these two diseases in dairy cattle farms in this wilaya, for this management measures should be implemented to reduce the risk of infections.

Keywords

Ain Defla; Bovine; Brucellosis; Tuberculosis; Zoonosis.

DOI: 10.46325/gabj.v7i2.372

L'ACIDOSE RUMINALE SUBAIGUE CHEZ LA VACHE LAITIERE

BOUHROUM N[1], BENSAHLI B[2]

1. Laboratory LBRN, University of Hassiba Ben Bouali Chlef, Ouled Fares, Algeria

2. Veterinary doctor in Sidi Mhamed Benali Relizane, Algeria

Contact : *nassima_bensahli@yahoo.fr*

Abstract

Ruminal acidosis is a very common disease in dairy cattle and is responsible for significant economic loss. The most dangerous form is the acute form, the subaigüe and chronic form is the most difficult to identify because no sign at the clinical examination is specific. The objective of this study is the establishment of a method to diagnose subacute or chronic acidosis to ensure better management of lactation rearing and to study the effect of bentonite on peripheral acidosis indicators. The study was conducted on 20 Holstein and Montbéliard dairy cows at dairy farm level situate at Sidi Mhamed Benali, Wilaya of Relizane. The parameters recorded are : the rumen filling score, the chewing index, the evaluation of the dung by determining its consistency, the measurement of the undigested food quantity and the determination of the pH of the dung. A diet containing (5 Kg of Miscellaneous Concentrate, 7 Kg of alfalfa hay (Dry), 17 Kg of Sorghum green plus 1.5% bentonite = 250g/cow/day) was distributed to Lot 2. The results obtained showed that there is a significant difference between the pH of dung, the dung consistency and chewing index with respect to the usual values of (6.42, 2.78, 55.53) respectively (p<0.05) and lot 2 receiving bentonite showed an improvement in dung pH and chewing index with respect to lot 1 due to (6.55, 6.29); (61.5, 49.74) respectively (p<0.05). In conclusion, ruminal acidosis is a pathology that can be diagnosed thanks to the accumulation of several clinical signs and the use of bentonite helps to prevent it.

Key words

Bentonite; dairy cow; food management; milk production; Subclinical acidosis

DOI: *10.46325/gabj.v7i2.372*

POSTER COMMUNICATION

DOI: *10.46325/gabj.v7i2.372*

PREVALENCE OF SUBCLINICAL MASTITIS IN DAIRY CATTLE FARMING IN THE MECHROHA REGION, WILAYA OF SOUK AHRAS

GANAOUI M[1], GANAOUI N[2], KHELEF D[3]

1. Labo ESSPRETCADS. Université Chadli Ben Djedid El-Tarf.

2. Universite Ibn Khaldoun Tiaret, Algérie

3. École Nationale Supérieure Vétérinaire, Algérie

Contact : mar.gritegirl@gmail.com

Abstract

Mastitis is a serious pathology in dairy cattle farming, both in terms of its frequency and the losses it causes. The objective of this work was to evaluate the prevalence of subclinical mastitis in the region of Mechroha, wilaya of Souk Ahras, and their impact on milk production. The study was carried out on 100 lactating dairy cows belonging to 5 dairy cattle farms. The California Mastitis Test (CMT) has been used to screen for subclinical mastitis, with positive test results indicated by changes in the consistency of the reactive raw milk mixture on a black-bottomed well. The results of the CMT test (California Mastitis Test), reveal on 400 quarters a percentage of positivity of 59.9% of the samples, increasing with the stage and with the number of the lactation. In addition, milk recording carried out on cows of the same number and lactation stage showed a drop in milk production of around 9.9% on average between positive cows and negative cows. Thus, the CMT seems to be an advantageous tool to develop, on a small or large scale, for systematic and regular screening in an integrated mastitis control program.

Keywords

California Mastitis Test (CMT); subclinical mastitis; screening; milk production

DOI: 10.46325/gabj.v7i2.372

THE INFLUENCE OF THE ENVIRONMENT AND REARING CONDITIONS IN THE PERTRBATIONS OF NEUROLOGICAL AND PHYSIOLOGICAL PARAMETERS IN THE PREGNANT RAT

BERREHAIL C, FERHATI H, CHOUBA I, ANGUEL I , SOUAL R, TAHRAOUI A

Laboratoire NEA, Université Badji Mokhtar Annaba, Algérie.

Contact : berrehailchems0@gmail.com

Abstract

In humans, genetic and environmental factors influence the susceptibility to many diseases. One of these factors is stress, which is a very important issue in both humans and animals. Stress also affects the animal world and represents an ethical and economic problem for farm animals. An important issue in animal husbandry is animal welfare, pregnancy and lactation are generally described as periods of high stress. Studies on humans and animals have shown that stress during pregnancy causes an increase in maternal anxiety and can lead to neurological and behavioral disorders in the long term through the involvement of the hypothalamic-pituitary-adrenal axis, also known as the corticotropic axis. There are many types of stress during gestation that have been applied to the rat, including restraint stress. The latter causes cognitive, physiological and behavioral disturbances that persist in the long term. Our problem aims to evaluate the direct effects of prenatal exposure to restraint stress on the neurobehavioral aspects of wistar rats. The behavioral study was performed using the forced swimming test to evaluate the anxiety behavior and physiology of stressed rats. Sixteen female rats of the wistar strain were divided into two batches: control batch (C) underwent no stress and no treatment (n=08), batch (S) underwent restraint stress during the last week of gestation (n=8). The results indicate an increase in the anxious behavior of the stressed rats compared to the control rats as well as a physiological disturbance installed in the stressed rats.

Keywords

Rat; environment; stress; behavior; anxiety.

DOI: *10.46325/gabj.v7i2.372*

A REVIEW: LUMPY SKIN DISEASE SITUATION IN PAKISTAN

SHAMSHAD F[1], CHIKHA M[2]

1. University of veterinary and animal sciences Lahore (Narowal Campus), Pakistan

2. STV Laboratory, ISAV, University of Souk-Ahras, Algeria.

Abstract

Lumpy skin disease (LSD) is an emerging viral arthropod vector born Transboundry contagious disease of domestic animals with zero zonotic potential. It is a host specific disease particularly affects the cattle and young calf. It is caused by Lumpy skin disease virus which belongs to family Poxviridae and genus Capripox. The causative agent also induced the sheep and goat pox. Its incubation period ranges from one to four weeks. Lachrimation, nasal secretion, saliva secretion, ocular discharge, fever, anorexia, abortion, decreased milk production and infertility are the clinical symptoms of this endemic. It is transmitted through the common flies, insects and mosquitoes. It is declared as endemic in African countries and Middle East. Recently LSD is reported in Pakistan with the 2 to 45% morbidity rate but its mortality rate is less than 10%. It entered into the Pakistan through the Rajasthan India's state sharing borders with Pakistan. It causes the great socio economic collapse in Pakistan by influencing the milk quantity, low hides quality and limited meat ingestion. Vaccination, strict quarantine measures and vector control along with the controlled movement of the affected animals are the main factors that can limit its spread. This review is designed to summarize the LSD spread, aetiology, transmission, clinical aspects, diagnosis, and management of the disease and potential of the wild life in its spread in Pakistan.

Keywords

Lumpy; skin; disease; situation; Pakistan.

DOI: *10.46325/gabj.v7i2.372*

RISK FACTORS FOR BOVINE DYSTOCIA IN ALGERIA

MORSLI A[1], AROUNE D[2], HENNEB M[1]

1. Département des sciences agronomiques, Université de Boumerdes, Algérie

2. Département de biologie, Université de Boumerdes, Algérie

Contact : a.morsli@univ-boumerdes.dz

Abstract

Diagnosis and treatment of dystocia, requires a good understanding of normal parturition, sensitivity to the welfare of mother and offspring, and good practical skills. This study was conducted to determine the relative relationships between the factors affecting bovine dystocia in Algeria, we recorded the following results: Out of 3060 calvings monitored, the average rate of dystocia recorded was 6.9% (212 cases) in the different breeds studied, all combined. The rate of dystocia of fetal origin was around 59.4% against 40.6% for dystocia of maternal origin. Poor presentations represented 41% of cases of dystocia, nondilation of the cervix 15.7%, uterine torsion 13.2%, fetal gigantism 12.8%, pelvic angustia 6.2%, uterine atony 4.7%, fetal emphysema 3.8%, dropsy of the fetal membranes 0.9% and finally anasarca, monstrosity, fracture of the pelvis and cervical tumor 0.5% each. The number of cases of dystocia increased considerably during the months of January (57 cases) and February (44 cases). Primiparous cows aged less than or equal to 2 years presented the majority of cases of dystocia (86 cases). 91% of dystocia cases involved single litters, 7.5% double litters, 0.9% triple litters and only 0.5% quadruple litters. In the case of single or multiple hotpots, it is mainly the bad presentations that have been recorded. Several intrinsic and extrinsic factors must be carefully studied to understand the ultimate cause of dystocia. Only when the ultimate causes have been identified can effective preventative measures be instituted.

Keywords

Algeria; dystocia; fetal; maternal; cow.

DOI: *10.46325/gabj.v7i2.372*

DOMINANT PATHOLOGIES ON DAIRY HOLDINGS SURVEYED (WILAYA OF SKIKDA)

ZALANI K[1], BOUHEDJA N[2]

1. Département des sciences agronomiques, Université du 20 Aout 1955, Skikda, Algérie.

2. Laboratoire ESSPRETCADS, Université d'El Tarf, Algérie.

Contact : karimazalani@yahoo.fr

Abstract

Diseases with a high prevalence in dairy cattle are responsible for serious economic harm, not only resulting in mortalities and a decrease in production of the dairy herd but also additional veterinary costs while increasing the workload for farmers. The objective of this study is to determine the nature and frequency of the dominant pathologies in 157 dairy cattle farms monitored over two consecutive years (2016 and 2017). Mastitis, anestrus and lameness were at the top of the pathologies observed during the surveys. They are followed by abortions, non-delivery and metritis which all appear as multifactorial pathologies. Clinical mastitis represents 31.5% of the cases observed in the farms surveyed with a high prevalence rate (7.7±10.9% on average). As for anestrus, it is frequent (15.6% of pathological cases of reproduction observed) with a prevalence rate of 5.6±15.2%. Lameness comes third in the hierarchy of pathological disorders, after fertility and mastitis. Regarding repeat breeding, it represents 7.2% of the pathological cases observed, with a prevalence rate of 1.9%. Other pathologies are observed at lower prevalence rates (Theileriosis =1.4% and piroplasmosis =1.0%). Metritis has the lowest prevalence rate (0.7%). In the case of calves from the farms surveyed, diarrhea is the most common disease (93.8% of cases) and is most often fatal. The multifactorial nature of these pathologies testifies to the unfavorable conditions in terms of housing, food, reproductive management and milking hygiene of dairy cows.

Keywords

Cattle dairy farm; dominant pathologies; prevalence.

DOI: *10.46325/gabj.v7i2.372*

1st International Seminar on Animal Health and Production (1st SISPA)
Livestock diseases and population medicine in dairy cattle farms
October 11 and 12, 2022
University of Mohamed Chérif Messaadia - Souk Ahras

CONTRIBUTION TO THE STUDY OF BOVINE SARCOSPORIDIOSIS IN THE PROVINCE OF BORDJ BOU ARRERIDJ (NORTHEAST ALGERIA)

SID N[1,2], BELALMI NEH[1,2]

1. Faculté SNV/STU. Université Mohamed El Bachir El Ibrahimi. Bordj Bou Arréridj.

2. Laboratoire SANENV, Faculté SNV/STU. Université Mohamed El Bachir El Ibrahimi. Bordj Bou Arréridj.

Contact : nassim.sid@univ-bba.dz

Abstract

Sarcosporidiosis is a parasitic disease caused by protozoa of the Sarcocystis infesting humans and many animal species. The aim of this work is to determine the prevalence of sarcosporidiosis in cattle slaughtered in the abattoirs of El-Hammadia and Medjana (province of Bordj Bou Arreridj). A total of 32 cattle (18 males and 14 females) aged between 9 months to 6 years were macroscopically examined for sarcocysts. Histological examination was performed on 128 samples taken from four organs (esophagus, tongue, heart and diaphragm). No macrocysts were detected during inspection of the carcasses. On the other hand, histological examination revealed an overall prevalence of 40.62% of sarcosporidiosis. Prevalence of 50% and 31.25% were obtained respectively at EL Hammadia and Medjana slaughterhouses. Depending on age and sex, adult cattle (62.5%) are more affected than young (18.75%) and females are the most infested (57.14%) than males (27.77%).According to muscles, the heart was the most infested muscle (28.12%) followed by the esophagus (25%) and the tongue (21.87%) while the least infested was the diaphragm (6,25%). Given the high prevalence of this infestation in bovine carcasses observed in Bordj Bou Arreridj region, it is important to put in place appropriate tools to control this zoonosis.

Keywords

Sarcosporidiosis;Cattle; Histological examination; Slaughterhouse; Bordj Bou Arreridj.

DOI: 10.46325/gabj.v7i2.372

EPIDEMIOLOGICAL STUDY AND CONTROL STRATEGY AGAINST BOVINE BRUCELLOSIS IN THE WILAYA OF CHLEF

RERRIBALLAH N[1,2], NASRI H[2], SEHNINE M[3]

1. Institut des sciences vétérinaire, Tiaret, Algérie,

2. Direction des services agricole, Chlef, Algérie,

3. Faculté des sciences de la nature et de vie, Chlef, Algérie,

Contact : n.rerriballah@gmail.com

Abstract

Bovine brucellosis is a contagious disease that hinders animal production and results in a huge economic loss to the farmer. In this present epidemiological study, we focused on the evolution of this zoonosis, during a period from 2016 to 2020, as well as the evaluation of the control strategy put in place by the authority, in order to eradicate this disease in the wilaya of CHLEF. The analysis of the various data collected at the level of the Directorate of Agricultural Services (DAS) of CHLEF, has shown that: the total rate of cattle detected has reached 12.98% of the total number of cattle (data not published), during the last five years. In addition, the highest rate of cattle screened was recorded in 2018 (20.63% of the population in this year). From 2016 to 2020, the total number of cattle declared is 353 cases infected. Comparing the years 2016, 2017 and 2018, the average of cattle reported in 2020 remains significantly lower ($p<0.05$). However, we observed that this average is significantly higher ($p<0.05$) in the months of October. In these five years, the total reported prevalence is 1.16% (unpublished data) with a higher prevalence of 2.06%, reported in 2016. The geographical distribution of the disease shows that the CHLEF Daïras is the most affected by brucellosis with 49.29% of all cases, followed by the OULED FARES (16.15%) and BOUKADIR (14.45%) Daria's. This study recommends the implementation of urgent strategies to isolate infected areas and to protect the animal and human population against this zoonotic disease.

Keywords

Bovine brucellosis; cattle; screening; prevalence; Chlef.

COMPARATIVE STUDY OF THE CONTROL AND DIAGNOSIS OF BOVINE MASTITIS IN THE DNIEPER REGION - UKRAINE AND ANNABA – ALGERIA

RAHMOUN DE[1], LIESHCHOVA MA[2], MYLOSTYVYI RV[2]

1. Laboratory PABIOS Veterinary science of Taoura. University of Souk Ahras Algeria

2. Dnipro State Agrarian and Economic University, Ukraine

Abstract

Due to mastitis (inflammation of the mammary glands), farmers suffer the greatest loss of milk yield, from this, early diagnostic approaches could have a perspective to masterand control the consequences caused by this pathology. Research methods in morphology, histology and radiology have made it possible to study mastitis in cattle in the Annaba region in Algeria, and compare it to those in cattle in the Dnieper region in Ukraine. Research carried out on several bovine heads during the lactation period. Analysis of the morphometry of the mammary glands and teats showed us that hypertrophy of the latter with the presence of heat and redness in these areas due to inflammation, microbiological tests of milk samples were positive for in all females, let us mention that the catarrhal form which was found with more often, only one lobe of the udder is affected. The purulent form with a hardening that appears on the udder of the animal. The body temperature is very high - 40-41 degrees. Milk contains pus. The purulent-catarrhal form with accumulation in the alveoli and milk ducts, on the other hand, the histological study revealed the presence of fibrinous tissue with the standard stains such as hematoxylin and eosin and also nitrate of silver, immunohistochemistry had given positive reactions to the CD45++ antibody, which invaded all areas of the mammary gland, with ultrasound examinations, we were able to visualize the fibrinous formation and also neovascularization limiting all the affected peripheral areas.

Keyword

Immunohistochemistry; histology; milk; mastitis; microbiology; cow.

DOI: *10.46325/gabj.v7i2.372*

IMPROTANCE OF SUBCLINICAL MASTITIS IN DAIRY FARMS IN THE KHENCHELA REGION

LATRECHE A[1,2], DEGHNOUCHE K[3]

1. Laboratoire BRS, Université Kasdi Merbah Ouargla (Algérie).

2. CAMEL-SHIELD - Project PRIMA

3. Université Mohamed Kheider Biskra (Algérie)

Contact : latrecheamel04@gmail.com

Abstract

Mastitis represents one of the pathologies, which are the most expensive in milk cattle breading. The objective of our study is to determine the prevalence of subclinical mastitis and associated risk factors in dairy farms in Khenchla wilaya. A survey was conducted among veterinary practitioners and breeders. The CMT test was used for the diagnosis and determination of the prevalence of subclinical mastitis. The results showed that:

- Of the farms surveyed, 25 farms are characterized by lack of hygiene in the barns
- 50 cows were tested by the CMT, including 22% of cows were positive.
- Existence of a significant relationship between risk factors for subclinical mastitis (State of maintenance of the barn, State of animal care, Disinfection of the udder before milking, The practice of wiping, Renewal of the water used, State of operation and maintenance of the machine to milking) and the outcome of CMT.

Keywords

Dairy cattle breeding; subclinical mastitis; ; CMT; detection; risk factors; pathologie

DOI: *10.46325/gabj.v7i2.372*

EVALUATION OF ECONOMIC LOSSES DUE TO BOVINE TUBERCULOSIS AT THE LEVEL OF BLIDA SLAUGHTERHOUSES

HALECHE I [1, 2]*, ZIAM H [1, 2], AKLOUL K [2]

1. Laboratoire BES, Université de Blida, Algérie

2. Institut des Sciences Vétérinaires, Université de Blida 1, Algérie

Contact : halecheikram@gmail.com

Abstract

Bovine tuberculosis is an infectious disease transmissible to humans and certain domestic and wild animals and is caused mainly by the bacterium *Mycobacterium bovis*. It is a zoonotic disease with a high hygienic and economic impact and is listed by the OIE as a notifiable disease. Our work evaluates the prevalence and the economic impact of tuberculosis through the seizures of infected organs in the slaughterhouses of Blida, using the data from the veterinary services department of Blida. A total of 1,590 cattle were diagnosed with TB from 2009 to 2018. The economic impact was determined by the quantities of carcasses and organs seized. The annual losses were 4313.5 kg of meat and 677 kg of viscera (including 233 kg of liver and 444 kg of lungs) infected by TB. The average financial losses were 6,901,600 DA for infected carcasses. The cost of the infected liver was 582,500 DA, and 666,000 DA for the lungs. The control of this disease is based on the identification and compulsory screening of the bovine herd to reduce the clinic impact and the losses induced by this zoonosis.

Keywords

Bovine tuberculosis; Economic impact; Slaughterhouse; Zoonosis; Blida.

DOI: 10.46325/gabj.v7i2.372

CHARACTERIZATION OF MOSQUITO SPECIES ASSOCIATED WITH CATTLE AND WEST NILE VIRUS TRANSMISSION IN THE WEST REGION OF THE CITY OF ANNABA

BOUDEMAGH NEH[1], BENDALI-SAOUDI F[2], SOLTANI N[2]

1. Université Ferhat Abbes, Département des études de base, Sétif, Algérie.

2. LBAA, Département de Biologie, Université Badji Mokhtar, Annaba, Algérie.

Contact : nourelhouda_doc@yahoo.fr

Abstract

Mosquitoes are the vectors of several pathogenic agents such as protozoa, bacteria, viruses and nematodes, and their haematophagous characteristics give them the status of temporary ectoparasites that transmit various diseases to humans and animals. In this work, we tried to highlight the species of culicidae associated with cattle and involved in the transmission of the West Nile virus. The capture of mosquito adults was carried out at Lake Fetzara (western region of the city of Annaba), in cattle stables. Then, We are proceeded to the systematic identification of the samples captured during several exits, according to the computer software of (Schaffner et al, 2001). The identified mosquitoes belong to the complex species: *Anopheles maculipennis*, represented by two subspecies (*sacharovi* and *labranchiae*) and the species *Anopheles algeriensis*. The subspecies *Anopheles maculipennis sacharovi* is dominant in our study area. This species is responsible for the transmission of malaria To animals homeotherms and humans, and they are also proposed as suspect species of West Nile virus. Therefore, a virological study was conducted on this species to test its vectorial role in the transmission of West Nile fever virus. Chicks were used as an amplifying biological model of the virus. A solution prepared on the basis of ground *Anopheles maculipennis sacharovi*, they were inoculated using the technique of Payment P. & Vytaut P (1980). The injected dose is the maximum. Daily monitoring allowed us to track changes in weight, temperature, symptomatology and autopsy of fatal cases.

Keywords

Algeria; Lake Fetzara; Cattle; Culicidae; Anopheles; West Nile virus.

DOI: 10.46325/gabj.v7i2.372

ISOLATION AND ANTI-BIORESISTANCE OF BACTERIA RESPONSIBLE FOR SUBCLINICAL MASTITIS IN DAIRY COWS IN THE REGION OF CHLEF, ALGERIA

DRICHE EH[1], BEKARA MA[1], NAMOUNE R[1], NACEF A[2], M'HAMMEDI BOUZINA B[2], DJABBAR A[1], MOHAMMED S[1]

1. LBMGB, Faculté de SNV, Université Hassiba Benbouali de Chlef, Algeria

2. Département de Biologie, Faculté de SNV, Université Hassiba Benbouali de Chlef.

Contact : e.driche@univ-chlef.dz

Abstract

Subclinical mastitis poses a real threat in dairy cattle herds, affecting both quantity and quality of milk, causing more than 3 to 4 times economic losses compared to clinical mastitis. The present study aims to isolate and identify Gram-negative bacteria causing bovine mastitis in the region of Chlef as well as to determine their resistance profiles. Thus, screening for mastitis using the California Mastitis Test (CMT) of 152 milk samples taken from 13 farms in different regions of Chlef showed that 82 milk samples are CMT positive and 70 samples with CMT negative. The isolation of bacteria on specific medium allowed to select 79 isolates. Their preliminary identification allowed them to be grouped into two groups: 53 (67%) strains of Enterobacteriaceae and 26 (33%) strains of Gram-negative bacilli. Base on biochemical identification by API 20E and NE 20, these strains were identified to 19 species of Enterobacteriaceae: 5 of Enterobacter, 4 of Serratia, 3 of Salmonella, 2 of Citobacter and 5 species for Klebsiella, Ponteas, Morganilla Photobacter and Fergusoni, and 8 species of non-fermentative Gram-negative bacilli: 3 species of Aeromonas, 2 of Pseudomonas, 3 of the genera Bulkhaldrai, Pasturella and Chrysobacteruim. Resistance profiles showed that strains of Serratia, Salmonlla, Klebseilla, Citobacter, Aeromonas, Pseudomonas, Pasteurella have varying rates of resistance to beta-lactam family especially: amoxicillin, ceftazidime, cefoxitin, ticarcillin+clavulanic acid, ceftriaxone. However, all the strains tested show a very high sensitivity to gentamicin. These results show that Gram-negative bacteria occupy an important place in terms of quantity and diversity of bacteria responsible for subclinical mastitis in dairy cows.

Keywords

Subclinical mastitis; CMT; phenotypic identification; Enterobacteriaceae; non- fermentation bacilli; antibiotic resistance.

DOI: 10.46325/gabj.v7i2.372

THEME 2

Population medicine

DOI: *10.46325/gabj.v7i2.372*

SCREENING FOR BOVINE BRUCELLOSIS IN THE BATNA REGION USING THE INDIRECT ELISA TECHNIQUE

YAHIA K [1,2], YAHIA M [1,2], BENBIA S [1,2], AYACHI A [3]

1. Laboratoire LBMBPC

2. Département de biologie des organismes, Faculté des SNV, Université Batna 2, Algérie.

3. Institut Des Sciences Vétérinaires Et Science Agronomique, Université Batna 1, Algérie.

Contact: *yahiakahina7@gmail.com*

Abstract

In order to assess the prevalence of animal brucellosis in Batna which has a cattle farm important with a workforce of 50,778 head including 25,289 dairy cows. 460 bovine was collected at the level of 6 farms in the region, the serological test was carried out using an indirect ELISA test. The strain of Brucella abortus was identified in 114 dairy cows with a prevalence of 24.78, this prevalence which varies between the different farms 11.5 – 64, which testifies that brucellosis is rampant in our state has high rates in the bovine species. Among the risk factors identified during our epidemiological investigation: Mixed farms with small ruminants in which cases of brucellosis are often declared repeatedly; uncontrolled trade including which new animals whose health statuses are unknown are introduced ; Common pastures and water points are sources of contamination and promote dissemination; insufficient prophylactic measures adopted; contagion from abortion products is high and sometimes the absence of vaccine ,Despite a control program implemented since 1995 by veterinary services which i based on the screening / culling, thousands of human cases and heavy economic losses continue to plague our farms , other monitoring and control programs are essential in our livestock.

Keywords

Brucellosis; Prevalence; ELISA test; Brucella abortus; Dairy cow

DOI: 10.46325/gabj.v7i2.372

CHANGES IN THE QUALITATIVE COMPOSITION OF THE MILK OF HOLSTEIN COWS DURING SUMMER CHRONIC HEAT STRESS

MYLOSTYVYI R[1], IZHBOLDINA O[1], MIDYK S[2], CHERNIY N[3], KORNIENKO V[2]

1. Dnipro State Agrarian and Economic University, Dnipro, Ukraine

2. National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine

3. State Biotechnological University, Kharkiv, Ukraine

Contact : mylostyvyi.r.v@dsau.dp.ua

Abstract

Seasonal summer heat stress leads to significant economic losses, resulting in a drop in milk yield in dairy cows and a deterioration in milk quality. The purpose of this study was to determine the changes in some qualitative parameters of milk in Holstein cows during chronic heat stress on one of the largest commercial dairy farms in the Kyiv region of Ukraine (50°49′14″ N 31°49′23″ v. d.). Five multiparous cows of medium lactation with a milk yield of about 30 kg per day were randomly selected into the control (in the spring, at the end of May) and the experimental group (in the summer, at the end of August). Milk samples were taken from cows during the morning milking. Qualitative analysis of milk included the determination of dry skimmed milk residue, density, mass fraction of lactose, fat, protein and minerals, as well as the freezing point, electrical conductivity and active acidity by ultrasonic method. Animals were kept in naturally ventilated rooms. The general mixed single-type balanced diet consisting of corn silage and concentrates that the cows received remained unchanged. The sampling of milk from cows of the experimental group was preceded by a continuous 26-day hot period, during which the maximum daily values of the temperature and humidity index did not fall below 72 units. The results showed that in the milk of the animals of the experimental group there was a significant decrease in the content of dry fat-free milk residue, the mass fraction of fat and protein ($P < 0.05$). The mass fraction of lactose and minerals tended to increase. It should be noted that the average daily milk yield of dairy cows in the herd in spring and summer was almost at the same level. In conclusion, the results of the study showed that high summer temperatures lead to a deterioration in the quality of milk in Holstein cows. The mass fraction of milk fat, which undergoes the greatest change under the influence of seasonal heat stress, is one of the most valuable components of milk, which has a direct effect on nutritional value and purchase price of raw milk. Therefore, a further deeper study of the fatty acid composition of milk using the method of chromato-mass

DOI: *10.46325/gabj.v7i2.372*

spectrometry will provide valuable data necessary to search for possible herd management strategies to maintain high milk quality undernconditions of seasonal heat stress.

Keywords

Dairy cows; heat stress; qualitative composition of milk.

DOI: *10.46325/gabj.v7i2.372*

VALIDATION OF PROGESTERONE RADIOIMMUNOASSAY KIT IN COW'S SKIM MILK

BENABDELAZIZ A, BOUDJEMAI S, KHELILI R, BESBACI M, KAIDI R

Abstract

The main basic reagents of a direct radioimmunoassay (RIA) kit for progesterone were prepared and characterized. The analytical and clinical validation of kit was undertaken for the measurement of progesterone in skimmed cow's milk. The results of this validation showed that this developed kit was fast, simple, sensitive, precise and accurate. The working rang of skim milk standard curve is 0 to 40ng/mL. The detection limit of the test was 0.13 ng/mL, it is within the range of progesterone concentrations measured in skimmed milk during the follicular phase. The analytical validation tests of the assay technique recorded for the precision an intra and inter-assay coefficient variations between 4.94 and 12.66%, for the accuracy, recovery rates ranging from 84 to 119% and the parallelism tests indicated good linearity (R_2 >0.99). The clinical test showed a strong correlation (r=0.998) between the concentrations of progesterone assayed in samples of skimmed cow's milk, using the developed RIA progesterone kit and a commercial RIA progesterone kit.

Keywords

Validation of a kit; Progesterone; RIA; skimmed bovine milk.

DOI: *10.46325/gabj.v7i2.372*

A DESCRIPTIVE STUDY OF REPRODUCTION MONITORING ACTIVITY IN DAIRY CATTLE FARMS BY VETERINARIANS AND INSEMINATORS FROM TWENTYFOUR ALGERIAN DEPARTMENTS

BORDJA N[1], GHERISSI D.E[1,2], BOUGHANEM A[4], HADJ MOUSSA H[4], FERAG A[1,3], KHENENOU T[1,3]

1. Institute of agricultural and veterinary sciences, University of Souk-Ahras, Algeria.

2. Laboratory PABIOS, University of Souk-Ahras, Algeria.

3. Laboratory of Life Sciences and Techniques, University of Souk-Ahras, Algeria.

4. CNIAAG, Birtouta, Algeria.

Contact : *bordjanadjet1@gmail.com*

Abstract

Reproductive results are crucial for improved milk production, and practitioners must focus all their efforts on effective reproductive management. The purpose of this study is to evaluate the situation of reproductive monitoring activity in Algerian dairy cattle herds. A participative survey was conducted with 75 interviewed dairy cattle practicing veterinarians and inseminators veterinarians affiliated with the National Center for Artificial Insemination and Genetic Improvement (CNIAAG). In 12% of the practices, reproduction is the primary activity while 69.3% have mixed activities. Only 10.8% of veterinarians earn more than 50% of the yearly global revenue from reproductive activities. 85.3%, and 22% of the veterinarians fix objectives of the monitoring and establish a reproduction report, respectively, and 64% of them use a paper notebook to manage breeding data. The most requested information before the visit are last calving (80%), estrus (80%), and calving (90.7%) dates. For animals' exams, 32% of the veterinarians intervene monthly on the farm, and only approximately half of them (52%) systematically control the cows in post-partum. Moreover, 80% of veterinarians examine for pregnancy in mated females and 72% confirm it at an average interval of 56.71±22.82 days and 91.85±26.94 days, respectively. Furthermore, 73% of the respondents systematically perform an examination on non-pregnant cows after 3 matings, and only 48% simultaneously record the cows' body condition score. In the case of postpartum genital pathology, 38.7%, 22.7% and 26.7% of veterinarians always perform manual transrectal exploration of the genital tract, vaginoscopy, and ultrasonography, respectively. While, 73% of them examine the cows' cyclicity when evaluating uterine involution. A good proportion (64-80%) included monitoring of feed, milk quality/mammary disease, and livestock diseases

DOI: *10.46325/gabj.v7i2.372*

in their regular visits. Over the previous five years, 53% of veterinarians reported a decrease of the dairy farms requesting reproduction monitoring. The main constraint related to this statement is the cost for the breeder. This study gave us a clear idea about reproduction monitoring activity in Algerian dairy cow breeding.

Keywords

Survey; dairy cattle; reproductive management; monitoring

DOI: *10.46325/gabj.v7i2.372*

1st International Seminar on Animal Health and Production (1st SISPA)
Livestock diseases and population medicine in dairy cattle farms
October 11 and 12, 2022
University of Mohamed Chérif Messaadia - Souk Ahras

IS THERE A NEGATIVE IMPACT OF THE HEAT STRESS IN DAIRY CATTLE FERTILITY: STUDY IN TWO ALGERIAN DEPARTMENTS?

FERAG A[1], GHERISSI D.E[2], BOUGHANEM A[4], HADJ MOUSSA H[4], AKRICHE S[3], KHENENOU T[1]

1. Laboratory STV, University of Souk-Ahras, Algeria,
2. Laboratory PABIOS, University of Souk-Ahras, Algeria.
3. LAB-STA, University of Carthage, Tunisia.
4. CNIAAG, Birtouta, Algeria.
Contact : ferag.aziza@gmail.com

Abstract

The Mediterranean basin, especially the North African region, is one of the most sensitive regions to climate change. The reproductive performance of dairy cows is negatively affected by heat stress. The latter is most commonly assessed by the temperature-humidity index (THI). The objective of this study is to evaluate the relationship between the insemination success rate and fertility of dairy cattle according to climatic conditions in two regions with various bioclimatic data. For this purpose, results of 1001 artificial inseminations performed during the year 2020 in the Wilaya of Annaba and Ghardaïa were used. The data of the date of the first AI, subsequent inseminations, pregnancy diagnosis, and Reproduction Period were collected. The logistic regression model revealed a negative relationship between THI levels and the success of insemination; as THI levels rise, there is a decreased probability that artificial insemination would be successful. Additionally, the odds ratio for THI (0.94) shows that this factor has a potential effect on the decrease of successful inseminations rate. The results also showed that the rate of failed was higher when THI > 70 than the rate of non-fecundation when THI <70 (69.7% and 53.1%, respectively). Similarly, the successful rate of AI is higher when THI < 70 compared to THI > 70 (49.3%; 30.3%). Animals from the Annaba region have a total fertility index of 8.71, while those from the Ghardaïa region have a total fertility index of 3.57. (4.17 on average). Finally, the reproduction period varies significantly depending on the THI of the first AI, varying from low levels (45 to 48 days) when the THI <70 and 70-80 (P>0.05) and 90 days when the TH>80 (P0.05). This study highlights the negative impact of climatic conditions on the fertility of dairy cattle and emphasizes the necessity of identifying solutions to mitigate this detrimental effect by acting particularly on the well-being of dairy cows.

Keywords: *Dairy cattle; climate change; Fertility; humidity-temperature index; Reproduction.*

DOI: 10.46325/gabj.v7i2.372

DEVELOPMENT OF AN ANDROID-BASED DAIRY COW FEEDING MANAGEMENT APPLICATION - A NEW VISION FOR MODERN LIVESTOCK PRODUCTION IN ALGERIA

BEGHOUL S

Laboratoire PADESCA, Institute des Sciences vétérinaires, Université Constantine 1, Algérie

Contact : docteurbeghoul@gmail.com

Abstract

Currently in Algeria, an increasing number of dairy breeders are making their own feed for their animals. This practice is certainly due, among other things, to the increase in feed prices on the local and world markets since the COVID 19 crisis. In order to succeed, it is necessary to master several parameters, including the right feed formulas and the ability to readjust them in the face of inevitable shortages and variations in the nutritional values of raw materials. With this in mind, we have developed a mobile application that will be a working tool in the "dairy cow" sector. We are proposing an application designed to facilitate veterinary nutritionists to manage their herds properly, and above all to calculate a balanced feed ration that meets the requirements of the standards for the energy value of feed and protein needs at a lower cost, and that also enables animals to transform plant biomass into products that can be consumed by humans, such as milk. As for the usefulness of this application, after entering all the data (weight, physiological stage, diet, quantity of feed distributed.....) the application adjusts the formula by calculating the energy and protein value of the ration in order to detect any nutritional imbalance. In the second step, the application proposes solutions according to the availability of the raw material. Once the calculations are complete, the software reconfirms that the adjusted ration is iso-energetic and iso-protein. Another perspective, which can be considered as a challenge, is to take a step towards the realization of a SmartFarm model, to be able to link our application to an automatic feed dispenser, for a better profitability possible with a very reduced time; this will further valorize our application which will become very interesting.

Keywords

Calculation; Correction; Informatization; Diet; Smart.

DOI: *10.46325/gabj.v7i2.372*

EFFECT OF BACILLUS SUBTILIS AND OTHER PROBIOTICS ON MILK PRODUCTION IN COWS

CHERIF N

Département de Biologie, Université de Ain Témouchent, Algérie

Contact : nadjib.cherif@univ-temouchent.edu.dz

Abstract

Probiotics have a very important interest in the breeding of dairy cows. They improve weight gain and stimulation of the immune system, as well as disease resistance in young calves, while in adult cow milk production is also influenced by these microorganisms with an increase in yield, as well as a reduction in the negative energy balance. Probiotics have a role in improving the composition of the microbial community in the gastrointestinal tract. Supplementation of 1.0 x 10 11 CFU (Colony Forming Unit) per day and per animal with Bacillus subtilis natto improves and increases the production of milk (15%), fat (16%), protein (19%) and lactose (16%), and also increases the number of beneficial bacteria such as amylolytic bacteria , proteolytics and cellulolytics , and also decreasing the load of protozoa. It is also noted that the number of somatic cells in milk decreased with a rate of (-39%). The stimulatory effect of Bacillus subtilis supplementation on lactation performance has been confirmed, a ration of 2.0 × 10 11 CFU of B. subtilis /day/cow can be used to improve milk yield in cows exposed to a thermal stress.

Keywords

Improvement ; Bacillus subtilis ; Probiotics; Milk production.

DOI: *10.46325/gabj.v7i2.372*

RISK FACTORS OF INFERTILITY IN DAIRY CATTLE IN THE MITIDJA REGION

SOUAMES S[1], BERRAMA Z[1], HANZEN Ch[2]

1. Laboratoire SPA, ENSV, Alger, Algérie

2. Faculté de Médecine Vétérinaire, Service de Thériogenologie des animaux, Univ. Liège (Belgique)

Contact : s.souames@ensv.dz

Abstract

The objectives of the present study were to evaluate the reproductive performance and to characterize the factors influencing fertility in dairy cows reared in the Mitidja plain, considered as one of the main dairy basins of Northern Algeria. 1054 lactations from 5 dairy farms were retrospectively studied. Average intervals of 133±105d (15- 740d), 60±94d (0-603d) and 194±135d (15-740d) were reported respectively for the waiting period (calving-1st insemination interval), the breeding period (1st insemination–conception interval) and the VIF (calving–conception interval). Fertility, expressed as the percentage of apparent pregnancy at first artificial insemination (GIA1), and the total number of inseminations per pregnancy were 52% and 1.9 respectively. The relational study of fertility performed with a logistic regression model using the odds ratio (OR) identified 3 risk factors inherent to the animal and its environment. The chances of achieving pregnancy at AI1 increased significantly for a waiting period (calving-IA1) between 50 and 100 days postpartum (OR=1.67, P<0.05). Calving season significantly increases the chance of pregnancy at the first insemination after calving. This effect was more pronounced for the summer season (OR=1.47, P=0.07). The breeding season has a specific effect on fertility, the first inseminations were often followed by pregnancy when performed in autumn (OR=1.67, P<0.05) and spring (OR=1.65, P<0.05).

Keywords

Dairy cow; artificial insemination; fertility; season; Mitidja; Algeria.

DOI: 10.46325/gabj.v7i2.372

COMPARISON BETWEEN FORAGE QUALITY OF ALGERIAN MILLET AND SORGHUM COMPARISON BETWEEN MILLET AND SORGHUM

ALANE F[1], RAHALE-BOUZIANE H[2], FADJER Z[2]

1. Division productions animales, INRAA, Baraki, d'Algérie

2. Division ressources génétiques, INRAA, Baraki, d'Algérie

Contact : alanefarida@hotmail.fr

Abstrcat

Sorghum and millet grow in harsh environments where other crops do poorly; but between the two genera which offer better fodder quality? To this end, a test was installed in 2013 at the INRA station in Algiers. The experimental device is of the complete random block type with three repetitions. At the vegetative stage, the dry leaf to stem ratio of millet is lower than that of sorghum, which indicates good digestibility of sorghum with a low fiber content. The pasty milky stage is reached at 112 days in millet and 119 days in sorghum. r=0.60**). For both species the ratio of leaves to stems at this stage decreases by more than half; the fiber rate is high in the Sudanese sorghum population, the whole plant registers 32.73%. In millet from the vegetative stage to the pasty milky stage, the fiber content goes from 27.63% to 33.20%. On the other hand, for nitrogen from the vegetative stage to the pasty milky stage, there is a decrease of 2.8 points, i.e. from 5.89% to 3.09%. Such ecotypes can play a role in the conservation and development of fragile soils, can also serve as a source of genes.

Keywords

Chemical Composition; Feed; Grass; Yield.

DOI: 10.46325/gabj.v7i2.372

1st International Seminar on Animal Health and Production (1st SISPA)
Livestock diseases and population medicine in dairy cattle farms
October 11 and 12, 2022
University of Mohamed Chérif Messaadia - Souk Ahras

CHARACTERISTICS OF IELISA TECHNIQUE COMPARED TO USUAL TESTS FOR THE DIAGNOSIS OF BOVINE BRUCELLOSIS AND PREVALENCE OF THE DISEASE IN WESTERN ALGERIA

BOUZIRI A[1, 2], MIMOUNE N[1], BOUKHECHEM S[3], SEBAI A[2], MOSSADEK THAMDI[4], KHELEF D[1].

1. Animal Health and Production Laboratory, ENSV, Algiers, Algeria.

2. Regional Laboratory (LVRM), Hassi Mameche, Mostaganem, Algeria

3. Institute of Veterinary Sciences, Mentouri University, Constantine 1, Algeria.

4. HASAQ Laboratory, National High School of Veterinary Medicine, Algiers, Algeria.

Contact : n.mimoune@ensv.dz

Abstract

The present study aimed to assess the technical characteristics of indirect Elisa test (iELISA) in comparison with the buffered antigen test (BAT) and the complement fixation test (CFT). We estimated during this work the prevalence of bovine brucellosis in the western Algeria and its evolution during the last 9 years (from 2013 to 2021). Therefore, 152121 sera of dairy cattle were analyzed at the Regional Veterinary Laboratory of Mostaganem using two serological tests for the detection of brucellosis, iELISA and BAT. The results of the latter were confirmed through a third serological test, CFT. Data showed a seroprevalence of 0.72% by BAT, confirmed with CFT. However, it was of 1.64% when using iELISA. This latter presented a sensitivity of 67.81% and was more specific (specificity = 98.65%) than BAT. Furthermore, it showed a great negative predictive value (99.98%) and a low positive predictive value (18%). During the last 9 years, the highest seroprevalence of the disease was noticed in 2016 (2.27%). The lowest rate was recorded in 2013(1.06%). iELISA technique seems to be particularly efficient for the detection of brucellosis in view of its values of detectability of seropositive animals. Moreover, its simplicity of execution allows testing several sera in a minimum of time compared to CFT which is little used as difficult to implement.

Keywords

Brucella; iELISA; BAT; FCT; seroprevalence

DOI: *10.46325/gabj.v7i2.372*

TECHNICAL AND ECONOMIC EVALUATION OF TOTAL MIXED RATIONS "TMR" ON THE MILK PRODUCTION PERFORMANCE OF THE MONTBÉLIARDE BREED REARED IN OFF-LAND FARMING IN THE REGION OF SETIF.

BIR A[1], BELGUIDOUM S[1], KESSOURI A[1], MERATLA L[2], DJELLAB H[2], BOUSSOUAR O[2]

1. Laboratoire VRBN, Faculté SNV, Université Ferhat ABBAS Sétif 1, 19 000. Algérie.

2. Coopérative agricole de services spécialisée en élevage (COOPSSEL), Sétif.

Contact: *birabdenour@univ-setif.dz*

Abstract

An experimental system on 35 multiparous Montbéliarde dairy cows at the start of lactation at the COOPSSEL school farm located in Setif, was set up to assess the effect of a new total mixed ration formula "TMR" on milk production performance. Also, we identified the production performance of the lactation recorded with the old formula to make comparisons. The results obtained for the new ration show a clear improvement in the average daily milk production, it went from 21.87 liters for the old ration to 25.30 liters, an improvement of the order of 3.43 liters. Ditto for the total milk production per lactation which increased from 6,561 liters to 7,590 liters. The average feed cost of a liter of milk is much cheaper for the new ration with an average of 28.46 ± 3.14 AD against 36.79 ± 3.88 AD for the old ration. These results are linked both to the savings made by the new formulation in the cost price of the new ration (-12.64%) and to the improvement in milk production performance.

Keywords

Dairy cow; Feed; milk production performance; Setif; total mixed ration "TMR".

EVALUATION OF CERTAIN FERTILITY VARIATION FACTORS IN DAIRY COWS

GUEBLI B, FERRAS N, GHARBI I

Veterinary Sciences Institute, Saad Dahlab University, Blida-Algeria

Contact : guebli.bouthaina.1999@gmail.com

Abstract

In dairy cattle breeding, the fecundity and fertility parameters have gradually moved away from the reproduction objectives usually set for obtaining satisfactory productivity. Infertility is mainly linked to nutritional and health factors. The parameters usually used to assess the level of reproductive performance only allow the overall result to be assessed, whereas nutritional imbalances or postpartum health problems can act on the phases of the reproductive cycle. In this context, the objective of this work consists in evaluating the fertility of cows after using two strategies (mating on natural heat vs artificial insemination on synchronized heat), then to assess the influence of nutritional markers on fertility. The study was carried out on a sample of 25 dairy cows from a farm located in Tipaza (Kolea). After identification of the animals and recording of health problems during the period preceding the AI service, the cows were divided into: batch 1/ cows covered on natural heat and batch 2/ cows inseminated on induced heat. The heats of this last batch were synchronized using (1) Prid® Delta associated with PGF2a and (II) a single injection of PGF2a. The blood sample as well as a notation of the body condition were carried out before the mating or AI. The blood sample made it possible to measure BHB, glucose and cholesterol. Our results show that the pregnancy rate is significantly lower in cows inseminated on induced heat than in those mated on natural heat. It appears that the reproduction parameters undergo a marked influence by certain pathologies in the period preceding AI/mating. The assessment of the influence of nutritional indicators shows that at the time of mating/AI, glycaemia, NEC and cholesterolaemia remained within the physiological range in the majority of cows.

Keywords

Dairy cow; fertility; fecundity; synchronization; pathologies; nutritional markers.

DOI: *10.46325/gabj.v7i2.372*

RISK FACTORS FOR BIOCHEMICAL AND MINERAL DISORDERS ON REPRODUCTION PERFORMANCE ACCORDING TO THE CALVING SEASON OF DAIRY COWS

CHACHA F [1], GHERISSI D.E [2], LAMRAOUI R [3], AFRI-BOUZEBDA F [2], BOUZEBDA Z [2]

1. Biotechnology Research Center, PO E73 .NU N° 03 Constantine, Algeria.

2. Laboratory PABIOS, University of Souk-Ahras, Algeria.

3. Departement of Biology of Living Organisms, SNV faculty. University of Batna 2, Algeria.

Contact : f.chacha@crbt.dz

Abstract

The aim of this study was to evaluate the effect of some biochemical and mineral disorders on reproductive parameters according to the calving season in dairy cows on postpartum as well as the body condition (BCS) and amount of feed concentrate ingested (FC) in Montbeliard dairy cows reared under semi-arid conditions. Blood samples were taken from 74 clinically healthy dairy cows from 10 Algerian semi-intensive dairy herds once a month for three months postpartum. Thus, assessment of the (BCS), (FC) and reproductive events was recorded. The animals were allotted according to their calving season to four different seasons i.e. the autumn, the winter, the spring and the summer. Albumin, urea, glucose, total cholesterol, calcium, phosphorus and magnesium plasma levels were analyzed by colorimetric method adapted to each biochemical parameter. One-way repeated measures analysis of variance (ANOVA) showed a significant effect of the season ($P<0.05$, $P<0.01$ and at $P<0.001$) on all studied parameters. However, a negative influence of glucose and total cholesterol has been observed on the reproductive parameters of cows calving in the cold season (winter); this influence is also observed for urea in cows having given birth in the spring season, as well as for calcium and magnesium in cows calving in the hot season (summer). These results suggest that postpartum nutrition in dairy cows, estimated by body condition and metabolic profile, offers a clear indication for monitoring reproduction, and helps to partly explain some factors of poor performance of reproduction such as the conception rate at the first insemination, the coital index and the calving-mating interval.

Keywords

Biochemical profile; reproductive performance; season; semi-arid; postpartum.

DESCRIPTIVE STUDY OF MEDICATION USAGE IN RETAINED PLACENTA, ACUTE PUERPERAL METRITIS AND CHRONIC ENDOMETRITIS OF DAIRY CATTLE IN ALGERIA

GHERISSI D.E[1,2], BOUGHANEM A[3], HADJ MOUSSA H[3], FERAG A[1], BORDJA N[1], KHENENOU T[1]

1. Institut des sciences agronomiques est veterinaries, Universté de Souk Ahars, Algérie

2. Laboratoire PABIOS, Université de Souk Ahras, Algérie

3. GNIAAG, Birtouta, Algérie

Abstract

The study aimed to describe the use of reproductive therapeutics practiced in three reproductive disorders of dairy cows, namely retained placenta, acute puerperal metritis and chronic endometritis. A participative survey was conducted with 75 interviewed dairy cattle practicing veterinarians and inseminators veterinarians affiliated with the National Center for Artificial Insemination and Genetic Improvement (CNIAAG) spread over 24 departments. Results are reported as the proportion (CI95%) of different therapeutic strategies practiced by the interviewed veterinarians. The systematic intervention when retained placenta without general clinical signs is practiced by 30.7% (95% CI 20.5-42) of the interviewed veterinarians. In this affection, the use of systematic manual delivery, antibiotic Items, antibiotherapy by general route, Oxytocin, Prostaglandins F2α and Anti-gangrenous serum were reported by 90.7% (95% CI 81.7-96.2), 66.7% (95% CI 54.8-77.1), 68.0% (95% CI 56.2-78.3), 46.7% (95% CI 35.1-58.6), 38.7% (95% CI 27.6-50.6) and 5.3 (95% CI 1.5-13.1), respectively. In case of acute puerperal metritis, the proportion of veterinarians using systemic antibiotic therapy, intrauterine antibiotic therapy (injector), antibiotic Items, Oxytocin, Prostaglandins F2α, uterine lavage is 89.3% (95% CI 80.1-95.3), 45.3% (95% CI 33.8-57.3), 41.3% (95% CI 30.1-53.3), 33.3% (95% CI 22.9-45.3), 41.3% (95% CI 30.1-53.3) and 36.0% (95% CI 25.2-47.9) respectively. Otherwise, when they are faced with chronic endometritis, the veterinarians' decision to intrauterine antibiotics alone, Prostaglandins F2α, intrauterine antibiotics and prostaglandins at the same time, intrauterine antibiotics followed by prostaglandins F2α, Prostaglandins F2α followed by an intrauterine antibiotics, uterine lavage is reported by 20.0% (95%CI 11.6-30.8), 16.0% (95%CI 8.6-26.3), 34.7% (95% CI 24.0-46.5), 21.3% (95% CI 12.7-32.3), 14.7% (95% CI 7.6-24.7), 24.0% (95% CI 14.9-35.3), respectively. Finally, about half of the practitioners choose the uterine infection treatment according to the status of the cow's ovarian activity. The results of the present study show an

DOI: *10.46325/gabj.v7i2.372*

increased heterogeneity of the medication use in uterine infection and retained placenta of the dairy cow. This corresponds to the widely differing opinions in the literature as to the usefulness, routes of administration, association and results of the various proposed therapeutic strategies.

Keywords

Chronic endometritis; Dairy cows; Medication use; Puerperal; Retained placenta.

DOI: *10.46325/gabj.v7i2.372*

POSTER COMMUNICATION

DOI: *10.46325/gabj.v7i2.372*

FEEDING AND MANAGEMENT OF FEED RESOURCES IN CATTLE FARMING IN THE NORTHEAST OF THE PROVINE OF KHENCHELA

ABAIDIA A[1,2], LEBBAL S[2], ZERAIB A[2]

1. Laboratoire ESSPRETCADS, Université Chadli Bendjedid d'El Tarf, Algérie.

2. Université Abbas Laghrour, Khenchela, Algérie.

Contact : abdoelghafour_a@yahoo.fr

Abstract

The present study, which was carried out in the North-East of the region of Khenchela, concerns the description of the feeding practices used in the conduct of dairy cows, due to the practice of agriculture as the main activity of the inhabitants and the strong concentration of cattle breeders in these localities. Subsequently, we focused on food and dairy production. Natural forages are, overall, a good source of energy and protein. The use of corn silage to cover the winter period has improved following the State policy for the subsidy of this type of fodder (wrapping). The most used forage crops are alfalfa and barley, but the areas remain insufficient in relation to the needs of the farms. The nutritional value of the used raw materials proves to be of paramount importance for a better valuation of the raw materials presented to the animals. The success of any breeding requires mastery of breeding management (feeding, reproduction, rationing, etc.) and mastery of breeding conditions to overcome the gap between production and these needs.

Keywords

Cattle; Khenchela; dairy production; food; perfect command.

.

DOI: *10.46325/gabj.v7i2.372*

MONITORING OF SOME BLOOD BIOCHEMICAL PARAMETRS IN DAIRY COWS AT THE REGION OF CONSTANTINE DURING THE DRY-OFF AND THE THREE FIRST MONTHS OF LACTATION

BENAYACHE S[1], BENATALLAH A[1,3], BENHIZIA S[2], MEKROUD A[2]

1. Centre de recherche en Sciences pharmaceutique, Ali Mendjeli Constantine, Algérie

2. Laboratoire PADESCA, institut des sciences vétérinaires, 25100 El Khroub, Algérie

3. Centre de recherche scientifique et technique des régions arides, Biskra, Algérie

Contact : benayache_sarah@yahoo.fr

Abstract

In the current situation of quantitative abundance and milk quotas, feeding the dairy cow has as its first priority to produce milk of excellent quality and ensure the best health of the dairy cow. When it comes to dairy cow health, it is both technically and economically imperative to prevent rather than cure. Which biochemistry can be a useful tool for the early detection of dietary errors. The aim of our work was to follow some biochemical parameters indicative of the energy and protein status of the dairy cow of the Prim Holstein breed during the dry period and the beginning of the lactation. This study was carried out in 02 cattle dairy farms in the Constantine region. These 2 farms were chosen on the basis of the processes and mode of feeding used during the dry period and the start of lactation, blood samples were taken carried out (at 15day intervals) on 20 multiparous cows, of the Prim Holstein breed aged between 3 and 7 years. Our results obtained from the biochemical analysis of the blood show, for the majority of the plasma parameters that testifies of energy status, a very significant variation ($p<0.0001$) between drying off and the start of lactation, on the other hand, the glycemia remains almost stable and without significant variation throughout the study period ($p<0.05$). The parameters indicating protein status (proteinemia, uremia and creatinine) show a significant variation ($p<0.001$) between drying off and the first 3 months of lactation, whereas the albuminemia does not show a significant variation during this study period. Last but not least, we can conclude from our results that the blood biochemical parameters do not remain stable during the dry period and the first 3 months of lactation regardless of the parameters indicating energy or protein status.

Keywords

Energy status; protein status; dairy cow; drying off; biochemicals parameters.

DOI: *10.46325/gabj.v7i2.372*

HEAT STRESS IMPACT ON MILK PRODUCTION IN DAIRY COWS

MEBARKI M[1], BESBACI M[2]

1. Laboratoire ESPA, Département des sciences vétérinaires, Université de Batna 1, Algérie,

2. Institut des sciences vétérinaires, Université de Blida, Algérie,

Contact : veto75@yahoo.fr

Abstrcat

Heat stress in dairy cows is caused by a combination of environmental factors (temperature, relative humidity, air movement and solar radiation). Continued genetic selection for better performance results in increased sensitivity to heat stress. This is one of the reasons why the lactation curve during summer tends to decrease compared to spring when the lactation curve remains at high levels. The trial was conducted in the region of Khenchela during spring (March-April-May) and summer (June-July-August) on a total of 56 Prim'Holstein dairy cows in (first 70 days of lactation). The average total milk production per cow was significantly higher in spring (28.54±5.02l) than in summer (22.44±3.83l) at the level of $P<0.05$. A higher milk fat content was recorded in spring compared to the summer period the level of significance being $P<0.01$. The protein content of milk in spring was 11.5% higher than in summer. The difference established was highly statistically significant ($P<0.001$). While the values obtained for the percentage of lactose showed no significant difference ($P>0.05$).

Keywords

Heat stress; Production; Dairy cows; Environment; Early lactation.

DOI: 10.46325/gabj.v7i2.372

EVALUATION OF SOME REPRODUCTION PARAMETERS OF DAIRY CATTLE FARMING IN THE EASTERN REGION OF ALGERIA: CASE OF THE WILAYA OF BEJAÏA

ADAOURI M[1], ADEM R[2], LEBIED M[2]

1. Institut National de la Recherche Agronomique d'Algérie, INRAA, Alger, Algérie.

2. Institut Technique des Elevages, ITElv, Baba Ali-Birtouta, Alger, Algérie.

Contact : madaouri@gmail.com

Abstract

The evaluation of reproductive performance of the imported dairy cattle herd was performed on 361 dairy cows on four consecutive campaigns 2012/2013 (n = 115), 2013/2014 (n = 95), 2014/2015 (n = 85) and 2015/2016 (n = 66) at the level of the agro-zootechnical and livestock complex (CAZEL) located in the eastern region of Algeria (wilaya of Bejaïa).This farm was characterized by fertility results close to the recommended standards. The percentages of pregnant cows were 88, 77, 84 and 100% (86%) per companion and in total, the respective success rates at the first artificial insemination were 58, 49, 66 and 47% (55%) and the rates of fertilized cows at three inseminations and more were 18, 22, 14, 23% (19%). As for the fecundity of the herd, it was considered low with improvement during the last breeding campaign. The interval between calving and the first service was 148, 136, 158 and 110 days (138) per campaign and in total (60 days postpartum recommended) and the respective calving-conception interval was summer 208, 172, 184 and 169 days (183 days) (80 to 90 days postpartum recommended). Benchmarking performance showed different results from campaign to campaign. The farm was characterized, finally, by a lack of reproduction management linked to the poor performance of the dairy herds and the lack of integration of new technologies.

Keywords

Algeria; Dairy cattle; fecundity; fertility; calving.

DOI: *10.46325/gabj.v7i2.372*

TECHNOLOGICAL IMPACT ON THE PHYSICO-CHEMICAL AND MICROBIOLOGICAL QUALITY OF RAW MILK

SILARBI T[1], TEFIEL H[2], KHALED H [1], AMIRAT M[3], ABDELLAH F[3]

1. BIOLIVAL, Institut supérieur biotechnologie Monastir Tunisie

2. LRAE, Faculté des sciences et technologies – université de Tissemsilt.

3. Institut des Sciences Vétérinaires, Université Ibn Khaldoun, Tiaret

Contact : tayebsilarbi@yahoo.fr

Abstract

The aim of this study is to estimate the physico-chemical and microbiological characteristics and to evaluate the effect of changes in sanitary conditions of raw cow's milk. The analyzes were carried out using two types of samples taken: the first type: in a farm where milking conditions are normal (CN); an ordinary milking; the second type: A farm where milking conditions are improved (CA), thanks to new milking techniques. The physico-chemical analyzes reveal that the temperature of the milk is between 34.25°C and 37.50°C; the pH, between 6.65±0.021 and 6.71±0.007; Doronic acidity between 1.48 and 1.71 G/L and density between 1.0276 and 1.0330°D. Microbiological analyzes generally reveal that samples taken under normal conditions (CN) are more loaded with flora detectable under improved conditions (CA). at 1.3 - 4.8. 10 5 CFU/mL in AC. Regarding the search for pathogenic germs (clostridium sulphito-reducers, salmonella) our results reveal the total absence of these germs in all our samples. The improvement of the hygienic conditions of the milking by the application of new techniques, made it possible to reduce the microbial load of the samples of raw milk analyzed. It appears from this work and in the light of these results, the hygienic quality of the samples taken in the CN are of poor quality. After applying a few hygiene rules, a significant improvement more than 50% of the samples analyzed meet the standard.

Keywords

Normal conditions (ordinary); improved conditions; bacterial flora; raw milk.

DOI: 10.46325/gabj.v7i2.372

ASSESSMENT OF CERTAIN FACTORS RELATED TO THE ANIMAL AND ITS ENVIRONMENT ON THE MILK PRODUCTION OF PRIM' HOLSTEINS DAIRY COWS

BERRAMA Z, SOUAMES S, SAIOUD A, MIMI I,

Laboratoire SPA, ENSV, Alger, Algérie

Contact : z.berrama@ensv.dz

Abstract

The aim of this study is to evaluate the effect of parity, lactation number, age at first calving, dry period duration and calving season on milk yield traits. A total of 45 Prim' Holsteins cows reared in a private dairy farm were used. Cows' individual information data were collected from 730 breeding sheet in order to determine the studied factors and to assess their effects on milk yield traits. The results showed that parity, lactation number, dry period duration and calving season influenced milk yield. However, no significant effect of age at first calving on lactation performance was recorded. The average milk yield per cow and the average lactation duration were respectively 23.73 Kg/d and 329.51 days. These performances did not obtain the desired objectives for the Prim 'Holstein breed.

Keywords

Milk yield; Algeria; Lactation; Dairy Cows.

DOI: *10.46325/gabj.v7i2.372*

PREVALENCE AND ANTIBIOTIC SUSCEPTIBILITY OF BACTERIAL ISOLATES FROM MASTITIS COWS IN DAIRY FARMS OF TIZI OUZOU, ALGERIA

TITOUCHE Y[1], AKKOU M[2], MEGUENNI N[1], AILAM M[1], AKERMOUN D[1], KECHIH-BOUNAR S[3], HOUALI K[1]

1. LABAB, Université Mouloud Mammeri, Tizi Ouzou. Algérie.

2. Institut des Sciences Vétérinaires, Université Saad Dahleb, Blida. Algérie.

3. Laboratoire Régional Vétérinaire de Tizi Ouzou, INMV. Algérie.

Contact : yacinetitouche@yahoo.fr

Abstract

Mastitis is among the most common and challenging diseases of dairy animals, causing economic losses due to reduced yield and poor quality of milk. In this study, we investigated the prevalence and antimicrobial susceptibility of bacterial isolates from subclinical and clinical bovine mastitis in dairy farms located at Tizi Ouzou, Algeria. A total of 144 lactating cows were sampled from 28 randomly chosen dairy farms and screened for mastitis. The overall prevalence was 28.47% (41/144), of which 21.52% (31/144) were subclinical and 6.94% were clinical cases. The most isolated bacteria from the contaminated samples were Staphylococcus aureus with rate of 60.97%, followed by Escherichia coli (21.95%), Streptococcus spp (4.88%) and Providencia spp (2.44%). Antibiotic susceptibility testing revealed that all S. aureus strains were resistant to penicillin, 91.6% and 66.7% of E. coli strains were resistant to amoxicillin and amipicillin, respectively. All Providencia isolates were resistant to ampicillin, nitrofurantoin and ceftiofure, while the Streptococcus strains were resistant to penicillin, streptomycin and lincomycin. In conclusion, another investigations are needed to identify the risk factors and the control measures of mastitis in dairy herds.

Keywords

Bovine mastitis; antibiotic susceptibility; control measures; dairy animals

DOI: *10.46325/gabj.v7i2.372*

EVALUATION OF FERTILITY PARAMETERS IN IMPORTED DAIRY HEIFERS AND THOSE BORN IN ALGERIA

BELFETNI N[1], MIROUD K[2], KAIDI R[3]

1. Institut des Sciences Agronomiques et Vétérinaires, Université de Souk Ahras, Algérie

2. Département des Sciences Vétérinaires, Université d'El Tarf, Algérie

3. Université de Blida, Algérie

Contact : n.belfetni@univ-soukahras.com

Abstract

In dairy breeding, the cattle-breeder must succeed in leading his renewal heifers to be good dairy females in particular from the points of view of the production, reproduction and longevity. This work proposes to give a progress report on those, while being interested in the conditions of breeding, at the various key stages of the breeding of dairy heifer since its birth until the first calving and particularly with the evaluation of the parameters of fecondity in dairy heifers born in Algeria by comparing them with those of the imported heifers with end to locate the level of performance of reproduction compared to the standards and to reduce lengthenings. The control of the age to the first calving according to laid down objectives proves to be crucial. For a calving in 24 months of age, a precociously acquired puberty, a maintained cyclicity, a setting with the reproduction as soon as possible, a good state of fattening and a good development at the various stages are the objectives to be reached under the best possible conditions. The success of this practice leads to the increase the milk production and the improvement of the situation of the dairy cattle breeding in Algeria. Within sight of the results obtained, we can qualify the dairy cattle breeding in Algeria as far from the standards because of lengthenings observed: The average birth-first insemination interval=20,99±4,17 months, the average birth-fertilizing insemination interval=23,40 ±4,89 months, the average calving birth interval =32,66±4,90 months.

Keywords

Dairy heifers; performances of reproduction; fertility; milk production; Algeria.

REPRODUCTION ASSESSMENT IN DAIRY CATTLE FARMS USING ARTIFICIAL INSEMINATION IN THE SOUK AHRAS REGION

MECHERI A, BELFETNI N

Institut des Sciences Agronomiques et Vétérinaires, Université de Souk Ahras, Algérie

Contact : amermecheri46@gmail.com

Abstract

The objective of the work is to establish a reproduction balance sheet in dairy cattle farms using artificial insemination in order to quantify the reproductive performance of dairy cows following the use of this biotechnology and to situate their level in relation to accepted reference standards. This study concerned three dairy cow farms of the Montbéliarde breed located in the wilaya of Souk Ahras and occupying three different regions in the wilaya. The results obtained showed that the average calving-calving, calving-fertilizing insemination, calving-1st insemination, 1st insemination-fertilizing insemination intervals deviate significantly from the reference standards (450.78±99.03 d vs 365 d ; 172.76±102.38 d vs 85 d; 171.62±86.70 d vs 60 d; 43.79±60.80 d vs 23-30 d respectively). The success rate in 1st artificial insemination (52.13%), the success rate in 2nd artificial insemination (31.62%), the percentage of dairy cows with 3 artificial inseminations and + (16.23%) were close to standards. The apparent fertility index (1.51), the total fertility index (1.94), the pregnancy rate (51.31%), the total culling rate (4.14%), the reform for infertility (1.37%) were within accepted norms (<2; <2.5; >45%; between 25-30%; <10% respectively). The abortion rate (4.13%) exceeds the reference value (<3%). A significant difference (p<0.05) between large herds (>30 dairy cows) and small herds (>30 dairy cows) was recorded for all calculated fertility parameters. Plasma progesterone concentrations on the day of artificial insemination are distributed as follows :<0.2 ng/ml for 33.33% of dairy cows; between 0.2-0.6 ng/ml for 33.33%; between 0.6-1 ng/ml for 22.22% and >1.5 ng/ml for 11.11% of dairy cows. This study made it possible to determine the influence of certain factors on the reproductive performance of dairy cows.

Keywords

Dairy cows ; Artificial insemination ; Fertility ; Reproduction ; Progesterone ; Souk Ahras.

THEME 3

Performance monitoring and improvement

ORAL COMMUNICATION

DOI: *10.46325/gabj.v7i2.372*

SITUATION OF THE BOVINE SECTOR DURING THE COVID-19 PERIOD IN THE WILAYA OF EL-TARF (ALGERIA)

HANNANI H[1,2,3], AFFOUN Y[4], BOUTOBBA H[4], HANNANI A[1]

1. Département des sciences vétérinaires, Université Chadli Bendjedid d'El-Tarf, Algérie.

2. Laboratoire PABIOS, Université Mohamed Cherif Messaâdia, Souk- Ahras. Algérie.

3. LRBPE, Université Chadli Bendjedid d'El-Tarf, Algérie.

4. Département des sciences agronomiques, Université Chadli Bendjedid d'El-Tarf, Algérie.

Contact : *hannanamira904@gmail.com*, *h.hannani@univ-eltarf.dz*

Abstract

In order to highlight the situation of the cattle industry during the pandemic period (COVID-19) in the wilaya of El-Tarf, a retrospective survey was conducted at the agricultural services and the wilaya's Chamber of Agriculture. The data collected concern statistics on cattle numbers and production during the period from 2016 to 2021. The results obtained show a decrease in the cattle number (-12.63 %). The most represented cattle are from the local population (80%). However, we noted the presence of cattle specialized in dairy production (17%) and other improved cattle. Data analysis shows a drastic decrease in milk production of - 44.96%. By other side, an increase in meat production of 14.25 % was observed. The results show a change in the eating habits of the population, which consume bulls in favor of calf, from the year 2020. We concluded that milk production remains insufficient compared to the number of cattle raised. Moreover, the decrease in numbers observed constitutes a risk of erosion of the genetic heritage of the local cattle population, which is mainly destined for meat production, requiring the implementation of a safeguard program.

Keywords

Cattle; improvement; meat; milk; production.

DOI: 10.46325/gabj.v7i2.372

STUDY OF HORMONAL AND BIOCHEMICAL CHANGES IN DAIRY COWS DURING GESTATION AND POST-PARTUM

BENHIZIA S [1], MEKROUD AB [1], AIT ABDESSELAM M [2]

1. PADESCA Laboratory. Institute of Veterinary Sciences, El Khroub, Constantine, Algeria

2. Faculty of Natural and Life Sciences, Ibn Khaldoun Tiaret University, Algeria

Abstract

The aim of this study is to determinate the usual values of some biochemical and hormonal parmeters during the gestation and during the period of post partum, in order to help practitioners to use this paraclinic tool. A second objective is to study the effect of the physiological stage on certain blood metabolites in dairy cattle. The present research was conducted on 10 cows, of Prim Holstein breed aged from 3 to 5 years, clinically healthy, multiparous, from two dairy farms located in the wilaya of Constantine. Samples were realized at different physiological stages (beginning, middle and end of gestation, prepartum, a day after calving and a month post partum). These samples focused on the assay of certain biochemical parameters (urea, creatinine, albumin, total proteins, cholesterol, calcium and phosphorus) and hormonal parameters (progesterone, oestradiol, prolactin) Uremia, albunemia, proteinemia, cholesterolemina, calcemia, progesteronemia as well as the plasmatic concentration of oestradiol varied significantly ($p<0.01$). The plasmatic concentrations of creatinine showed slight variations ($p=0,198 > 0,01$), whereas those of prolactin did not show any variation ($p=0,41 >0.05$). The obtained results on the base of blood parameters (biochemical and hormonal), indicate the necessity to monitor the metabolic profile of animals, in order to determinate the nutritive state, and to take preventive measures towards health troubles to increase the productivity.

Keywords

Biochemical profile; Hormonal profile; Dairy cow; Pregnancy; Post partum.

DOI: *10.46325/gabj.v7i2.372*

TYPOLOGY OF RAW MILK COLLECTION AND RESILIENCE OF DAIRY FARMS IN SEMI-ARID CLIMATE (CASE MASCARA REGION)

BENAMARA N[1], YEROU H[2], MADANI T[1]

1. Laboratoire de VRBN, Université Farhat Abbas Sétif 1, Algérie.

2. Laboratoire de GEDE: Université Mustapha Stambouli Mascara, Mascara, Algérie.

Contact : benamarazootech@gmail.com

Abstract

Dairy production is a strategic sector of Algerian agricultural policy because milk and its derivatives are important products in the Algerian consumption model. The overall development of the milk sector in Algeria has been marked by disorders which are due to certain factors inherent in its recent development. The objective of this work is to diagnose the upstream of the dairy sector in semi-arid zones to characterize the main constraints that hinder the technical and economic development of dairy barns, and therefore analyzed the functioning of the cattle milk supply chain and identify bottlenecks to improve the resilience and efficiency of the supply chain. The methodological approach adopted consists of systemic analysis in terms of qualitative and quantitative surveys and specialized follow-up with stakeholders in the sector, as well as the characterization of relationships between stakeholders. The typological results indicate low dairy profitability in the surveyed barns, although the genetic potential is improved dairy genetic types. Despite the diversity of strategies adopted by breeders, the fundamental element that emerges is the threshold of the adaptive power of this genetic potential to the context of local breeding in semi-arid zone, This needs to be analyzed and identified through multiyear specialized resilience monitoring. With the increase in costs and the multiple constraints related to milk production in the study area, a percentage of farmers achieve positive revenues with a lower cost of production. The typology reflects the existence of three main factors affecting the milk sector in the semi-arid region of Mascara: the physical environment, the social and economic component. These factors, coupled with a number of other constraints, represent sometimes insurmountable handicaps for the development of the sector and thus interrupt its resilience and its ability to adapt to disturbances in the face of a changing environment.

Keywords

Raw milk; cattle; dairy industry; resilience; typology.

DOI: *10.46325/gabj.v7i2.372*

REMOTE PREVENTIVE DIAGNOSIS OF THE STAGES OF THE SEXUAL CYCLE AND CERTAIN OVAROPATHOLOGIES IN COWS

FEDORENKO S[1], SKLIAROV P[2], STEFANYK V[3], LIESHCHOVA M[2], KURAKSINA L[1], FEDORENKO V[1]

1. State Biotechnological University, Kharkiv, Ukraine

2. Dnipro State Agrarian and Economic University, Dnipro, Ukraine

3. National University of Veterinary Medicine and Biotechnologies of Lviv, Ukraine

Contact : lieshchova.m.o@dsau.dp.ua

Abstract

Strict control of the reproductive state of the herd is extremely important. A component of a good organization of work on reproduction, contributing to the solution of such important problems as the diagnosis of pregnancy and infertility, is the determination of the optimal time for insemination of animals along with the diagnosis of reproductive pathologies, which is impossible without the use of special research methods using the latest instruments and instruments. One of the promising directions for solving this problem is thermographic diagnostics, which is based on thermal imaging (thermal imaging or infrared vision) – a method for detecting infrared radiation from any body whose temperature is above absolute zero. Skin temperature is an integral indicator, which is formed by several factors: the vascular system (regulates temperature due to changes in the diameter of peripheral arteries, veins, capillaries), the level of metabolic processes, thermal conductivity and heat transfer. This radiation is captured and recorded by special highly sensitive devices - thermal imagers. In our studies, we used a TI-120 thermal imager, and for the analysis of thermograms, we used the IR Analysis Software program. The research results reliably confirm the regularity of the increase in the temperature of the external genital organs, depending on the stage of the sexual cycle and the structural and functional state of the ovaries, which is clearly recorded thermoscopically. Thus, in cows during the period of estrus, the temperature gradient of the external genitalia was 33.1±0.18°C, which is 2.5°C higher than in animals with metestrus. At the same time, the color palette was characterized by a greater severity of “hot” colors (yellow and red). In cows with hypoluteolysis and hypogonadism, the temperature of the external genitalia probably decreased by 3.8°C and 4.1°C, respectively, compared with the period of estrus and by 1.3°C and 1.6°C more than in animals in the stage metestrus, respectively. The color palette was dominated by "cold" colors (blue and green). In general, it can be noted that

DOI: 10.46325/gabj.v7i2.372

in terms of thermograms of cows with the manifestation of full sexual function, the predominance of "warm" colors (red and orange) was established, while in animals with noninflammatory (dystrophic) ovariopathology, on the contrary, "cold" colors (blue and green). Thus, thermography is a promising non-contact remote diagnostic express method and, being absolutely harmless and objective, makes it possible to detect differences in the distribution and intensity of infrared radiation depending on the physiological or pathological state of the external genital organs. The prospect of use is to identify and differentiate the stages of the sexual cycle, pathological processes at the preclinical stage of development, in the genesis of which lie dystrophic or inflammatory processes, and the assessment of the therapeutic effect.

Keywords

Sexual cycle; Gonadopathy; Diagnostics; Thermography

DOI: *10.46325/gabj.v7i2.372*

MASTITIS IN DAIRY COWS IN TUNISIA: PREVALENCE AND EFFECTS ON MILK QUALITY

BEN SOUFI I, SDIRI C, M'HAMDI N

Research Laboratory ERA, Carthage University, 43 Avenue Charles Nicolle, Tunis, Tunisia

Contact : bensoufikram2@gmail.com

Abstract

Subclinical mastitis remains the dominant form of mastitis affecting dairy cattle and is responsible for the greatest economic losses associated with mastitis in dairy herds in the world. This study investigated the prevalence of subclinical mastitis (SCM) in dairy cows. A total of 395 dairy cows in 120 herds from three regions in Tunisia were initially screened for subclinical mastitis using the California mastitis test (CMT), and milk samples were aseptically collected. Milk was sampled from udder quarters with a CMT score ≥3. Herd bulk milk quality and safety were investigated to generate knowledge for quality control. In the present study, the overall prevalence of mastitis based on CMT and clinical examination was 80%, out of which 6.8% was clinical mastitis, while 73% was subclinical mastitis. Based on culture, the overall prevalence of clinical and subclinical mastitis was 52, 73, and 72% at the quarter, cow, and farm levels, respectively. Main risk factors for SCM with implications on management routines included housing of cows in individual cattle kraal and on the earthen floor, poor hygiene (hands, cows, and milking area), absence of foremilk stripping, increasing stage of lactation, lack of calf suckling and feeding after milking. Total bacterial count and somatic cell count were high in milk from farms and milk collection centers, which indicates poor udder health and hygiene and contamination along the transport chain.

Keywords

Dairy herds; Mastitis; Management factors; Tunisia

DOI: *10.46325/gabj.v7i2.372*

OPTIMIZATION OF MILK PRODUCTION IN TUNISIA

TRIMECHE A[1], MAALAOUI A[1], MARNET P G[6] , ZAIEM I[2], BEN SAID SALAH[3], TAINTURIER D[4], FRANCK M[5]

1. Service de Zootechnie et Economie Agricole, ENMV Sidi Thabet, Tunisie

2. Service des Sciences et Pathologie de la Reproduction, ENMV Sidi Thabet, Tunisie

3. Service de Pathologie de Bétail, ENMV Sidi Thabet, Tunisie

4. Service de Biotechnologie et Pathologie de la reproduction, ENV Nantes, France

5. ADNucleis, Grezieu, La Varenne, France

6. Agrocampus Ouest , 35042, Rennes, France

Contact *: atrimeche@yahoo.fr*

Abstract

As soon as the dairy herds exceed a certain size (about fifty cows), it becomes difficult for the manager to perfectly control his daily losses and profits; its only benchmark is the number of liters of milk sold per day, but this is only an indicator like the others and very insufficient for controlling health and zootechnical risks. The authors propose practical software to implement for rapid detection of the main warning signals likely to reflect a deterioration in the level of productivity of the herd; the lactation curve is modeled and the management information known month by month, which makes it possible to implement satisfactory corrective actions. The main risks are infectious affections with or without mortality (mastitis, metritis, podal pathology, IBR, BVD...) but also metabolic disfunctions (milk fever, ketosis, acidosis...) associated or not with infertility and reforms excessive. Corrective actions concern the staff(s), their training and their "gestures", therapeutic or preventive action on animals, modification of the ration, adaptation of buildings (to reduce the effect of heat). This operation is carried out in a few farms in Tunisia; it can be extended to farms wishing to adopt this strategy, which makes it possible to identify not only the main dangers, but also their financial impact on farm income; it is this last indicator that is used by the manager to target the corrective action(s) to be implemented as a priority, with above all a measurement of the incidence of milking, influence of mastitis, optimization of milk quality, especially by the use of cold on the farm using solar energy.

Keywords

Milk production; Tunisia; health; management

USING OF OLIVE CAKE ON MILK AND YOGURT QUALITY AND FATTY ACID PROFILE OF DAIRY BUFFALO

MOHAMMAD ABADI T

Agricultural Sciences and Natural Resources University, Iran

Abstract

This study was conducted to investigate the effect of olive oakon milk and yogurt composition and the fatty acid profile of dairy buffalo.15 buffaloes have used with an average age of 4 years and average weight of 570 kg and two parities. Treatments included 0%, 7.5%, and 15% olive cake which fed two times for 45 days in a completely randomized design. At the end of the experiment, the fatty acids profile of milk and yogurt composition were measured. Milk fat increased in olive cake treatments ($P<0.05$) but milk production and proteinwere not different ($P>0.05$). The acidity, microbial load, Staphylococci loadof buffalo's milk yogurt did not influence by olive cake ($P>0.05$). But yogurt fat and protein decreased by 7.5 % olive pomace($P<0.05$). The concentration of short and medium chains fatty acids, oleic acid, linoleic acid, and conjugated fatty acids of milk in olive cake is more than other treatments ($P<0.05$). Theusing of olive cakeincreased the concentration of unsaturated and conjugated fatty acids. Therefore, it's recommended in the dairy buffaloesdiet.

Keywords

Olive cake;Buffalo; Milk; Yogurt; Fatty acid profile

DOI: *10.46325/gabj.v7i2.372*

LINEAR UDDER TYPE TRAITS AND PHYSICO-CHEMICAL PROPERTIES OF WHITE FULANI CATTLE AND THEIR CROSSES WITH SOKOTO GUDALI

POPOOLA M.A, RAJI A.M

Federal College of Animal Health and Production Technology, Ibadan, Nigeria

Contact : moshood.popoola@fcahptib.edu.ng

Abstract

Commonly utilized in dairy cattle, where several studies have been conducted for selection objectives, are the linear descriptive scoring method and physico-chemical properties of milk. In this study, 700 White Fulani cattle and their crosses with Sokoto Gudali with an average age of 3 to 4 years were linearly scored for their udder characteristics. Visual evaluation was used to subjectively score the udder traits of the cattle. Milk samples were collected from these lactating animals within first and second parity from these cattle to assess its physico-chemical properties. Result revealed that there was no significant difference ($p>0.05$) in udder traits and physico-chemical properties of milk between white Fulani cattle and their crosses (White Fulani X Sokoto Gudali). Results further revealed that positive and low correlation between the udder traits of White Fulani cattle and their crosses. High and negative correlations were obtained in most of physico-chemical properties of White Fulani cattle and their crosses. These udder traits and milk physico-chemical properties can be utilized as suitable selection markers to improve milking ability particularly among pastoralists and milk quality attributes of these cattle.

Keywords

Dairy cattle;lactating; milk; traits; udder

IMPACT OF FORAGE ON DAIRY CATTLE PRODUCTIVITY

SALHI S[1,2], BOUZEBDA-AFRI F[1,2] , BOUZEBDA Z[1,2],LATRECHE F[1], BOUMEZAOUET A[1], MAARFIA S[1]

1. ISAV. Université Cherif Messaadia, Souk Ahras. Algérie

2. Laboratoire PABIOS, Université Cherif Messaadia, ISAV. Souk Ahras. Algérie

Contact : s.salhi@univ-soukahras.dz

Abstract

In a dairy cattle farm, feed management is preliminary to achieving profitability. One of the major problems; is the ability of farmers to produce their own fodder. This autonomy is linked to the endowment of farms with land devoted to fodder crops, especially irrigated, if not even worse with the new soilless cattle breeding system. Our study focused on the evaluation of the impact of the different basic rations distributed to dairy cattle of the Prim Hostein and Montbéliarde breeds; on milk production. For this aim, we followed the evolution of the quantity produced according to the various rations provided during each feeding period (A, B and C), at the level of the private farm Tidjani Laid of Souk Ahras. We noted that the influence of the nature of the basic ration was important because the quantity actually produced (24 l/d), remains below the expected objectives of a genetic heritage specialized in milk production (60 l/d). Although the production allowed by the rations distributed is 52.4 l/d; and the use of available concentrate only further aggravates the effect of the limiting factor, represented by intestinal digestibles proteins (PDI). From the chemical results, it is deduced that the butyrous rate (TB); is increasing according to the ration provided because; during grassing the average TB of all the dairy cattle is around 27.16g/l±4.78 vs 23.4g/l±5.63 recorded during the winter period, then the addition of the luzern reinforced the latter by reaching 31.18g/l±3.33. Same observation concerning the protein rate (TP) estimated at 29.3g/l±1.48, 29.71g/l±1.54 then 31.6 g/l ±1.68; periods A, B and C respectively.

Keywords

Feeding; Limiting factor; Milk ; Quantity ; Quality.

EFFECT OF AGE ON TESTICULAR HISTOMORPHOMETRY AND SPERMATOGENIC ACTIVITY OF BULLS IN A SEMI-ARID ENVIRONMENT

BELKHIRI Y[1,2], BENBIA S[2,3], DJAOUT A[2,4]

1. Département de Biologie des Organismes, Université de Batna 2, Algérie.

2. Laboratoire PABIOS. ISAV, Université de SoukAhras, Algérie

3. Laboratoire LBMBPC, Université de Batna 2, Algérie

4. Institut National de la Recherche Agronomique (INRAA), Algérie

Contact : y.belkhiri@univ-batna2.dz

Abstract

The aim of the present study was to evaluate age related changes in testicular histomorphometry and spermatogenic activity of bulls during their sexual development. A total of 36 bulls were selected and divided into four groups (n=9 in each) according to their age. Bulls included in Groups I, II, III and IV were 10, 12, 14 and 16 months old respectively. Statistical analysis revealed that the secondary spermatocytes, round and elongated spermatids increased signifiantly (P<0.05) with the age of bulls. Likewise, both Sertoli and Leydig cell numbers increased signifiantly (P<0.05) with the age of bulls. However, the number of spermatogonia and primary spermatocytes did not change (P>0.05) due to age. The mean tubular diameter increased from 200.70±5.45 µm (10 months of age) to 227.30±9.16µm (16 months of age) and the total volume of seminiferous tubule per testis from 69.63±1.50 % (10 months of age) to 84.64±2.53 % (16 months of age). A positive linear relationship (P<0.05) was found between meiotic index (Y) and the age (X, in month), which was characterized by the equation 0.048X+3.135 and a coeffient of correlation (R) of 0.396. The correlation between age and Sertoli cell effiency was 0.482 with a regression equation Y= 0.141X+7.696. It is concluded that histomorphometric parameters of the bulls' testes and spermatogenic activity are correlated with the age, so these parameters provide a reliable tool for the assessment of the reproductive state and sperm production capacity of a bull in a breeding program.

Keywords

Histomorphology; spermatogenic effiency; testis; age; bulls

IMPACT OF PHOTOPERIOD AND OXYTOCIN ON THE QUANTITY AND QUALITY OF MILK DURING MILKING IN THE *PRIME HOLSTEIN* TOW FARM AND FARM TIDJANI LAID AND YOUSFI ETTAYEB IN THE WILAYA OF SOUK AHRAS

BOUAOUICH A[1], BRAHMI Aa[2], MEDDOURI DE[2]

1. Laboratoire STV, Université Mohamed Chérif Messaadia, Souk Ahras, Algérie,

2. ISAV, Université Mohamed Chérif Messaadia, Souk Ahras, Algérie

Contact : a.bouaouich@univ-soukahras.dz

Abstract

The impact of photo-period and ocytocin on the quality of milk was studied, under real production conditions, on ten Holstein cows. The study showed that there are significant variations. Dairy production varies with time of day and ocytocin, and increases significantly in cows exposed to higher levels of light. Similarly, the results obtained show that light plays an important role in milk production according to quality and quantity. There is a significant change in the fat content of milk, as is the milk produced on the Yousfi Ettayeb farm which has cows less exposed to light whose milk is higher in fat but with lower amounts. In addition Milk produced at the Tidjani Laid farms that have cows more exposed to light is less rich in fat but with higher amounts. On the other hand, photo period and ocytocin do not significantly affect other milk parameters such as acidity, PH, density and lactose.

Keywords

Production; milk; photo period; ocytocin; quality; quantity

PHYSICOCHEMICAL COMPOSITION OF CAMEL, CATTLE AND GOAT MILK AT THE END OF LACTATION IN SEMI-EXTENSIVE FARMING IN ZIBAN, ALGERIA

CHERGUI M[1], GHERISSI D[2], TITAOUINE M[3]

1. Département SNV, laboratoire DEDSPAZA université de Biskra Algérie.

2. Institut des sciences agronomiques et vétérinaires, Université de Souk Ahras, Algérie

3. Laboratoire LGBVB université de Biskra BP 68 Biskra 07000 Algérie.

Contact : moussa.chergui@univ-biskra.dz

Abstract

Milk is the only source of nutrients for newborns of mammalian species. It therefore plays a crucial role in human nutrition. Apart from its nutritional value, it includes biologically active compounds such as caseins, sources of essential amino acids and whey proteins, important for the various physiological and biochemical functions they provide. Few works have been devoted to the comparative study of the physico-chemical quality of milk of various animal species in Algeria. The present study aims to determine the composition of the milk of the cow, the camel and the goat during the end of lactation belonging to the same conditions of semi-extensive breeding in the region of Ziban. The following parameters were measured using a Lactoscan (SAP50; CB-011052): pH, acidity (D°), density, fat (gr/l), dry extract (gr /l), ash (%), protein (%) and lactose (%). The results of comparison of the means of the different parameters studied showed very highly significant differences between the three species ($P<0.005$). Camel milk was found to be the least acidic (pH= 7.12 ± 0.13; 1.73 gr lactic acid/L; $P<0.05$) and the least dense (ρ =1025 ± 0.961; $P<0.05$) compared to the others milks, but goat's milk is the richest in fat (49.79 ± 14.06 g/l; $P<0.05$) compared to camel and bovine milk. Moreover ; cow's and goat's milk are richer in protein (3.15 ±0.17 g/l and 3.10 ±0.19 g/l; $P>0.05$) compared to camel milk (2.81 ±0.5 g/l, $P<0.05$). As for the lactose content, camel milk contains less of this element (4.23±0.23%; $P<0.05$) compared to the two other species (4.74±0.25% for cow's milk and 4.68±0.30 % for goat's milk; $P>0.05$).

Keywords

Camel; Goat; Milk; Physico-chemical quality; Cow.

DOI: 10.46325/gabj.v7i2.372

POSTER COMMUNICATION

DOI: *10.46325/gabj.v7i2.372*

DAIRY CATTLE FARMING IN TUNISIA AND CRITICAL POINTS FOR THE CONTROL OF MILK HEALTH HAZARDS

BEN M'BAREK S[1] , HENI A[2]

1. Médecin Vétérinaire Inspecteur Régional, Commissariat Régional au Développement Agricole de Sidi Bouzid, Tunisie,

2. Médecin Vétérinaire Inspecteur Régional, Commissariat Régional au Développement Agricole de Sidi Bouzid, Tunisie,

Contact : *Samirabenmbarek1985@gmail.com*

Abstract

The dairy sector in Tunisia has undergone a major change over the last decade marked by a dairy surplus that has made it possible to achieve self-sufficiency in fresh milk, the diversification of derived products and a reversal of trade from an importing model to a export model. Despite this performance, the dairy chain still has weaknesses in its various links. Today, the stakes in the sector are very high. Much remains to be done in terms of improving the quality of dairy products through the diversification of the range, the promotion of innovation, the development of local products at the local level, traceability and hygiene. It is in this context that our poster aims to present current events in the sector and analyze the suggestion to apply a quality risk management program (GRQ) based on the HACCP concept in the areas of public health, food safety, animal health and welfare.

Keywords

Cattle breeding; Tunisia; Critical points; Control; Health hazards; Milk.

DOI: *10.46325/gabj.v7i2.372*

GENETIC DIVERSITY AND PHYSICO-CHEMICAL DESCRIPTION OF THE MILK OF GUELMOISE CATTLE BREED IN EASTERN ALGERIA

Rahal O[1,2], Aissaoui C[2], Ciani E[3], Gaouar SBS[4]

1. Biotechnology Research Center, Constantine, Algeria

2. Department of Agronomic Sciences, El-Taref, Algeria

3. Department of Biosciences, Biotechnologies and Biopharmaceutics, University of Bari "Aldo Moro", Italy

4. PpBioNut Laboratory, Department of Biology, University of Tlemcen, Algeria

Abstract

The present study was a global and a first characterization (Typology, biometric, biochemical and genetic characterization) of the Guelmoise local cattle breed. A structured questionnaire surveys were carried out in 42 farms spread over the four wilayas of the north-eastern region of Algeria. These surveys focused on the characteristics of the farms (socio-economic condition of the farmer, mode of breeding, reproduction and also to take samples of milk and blood). A total of 164 adult animals were selected for morphological description and body measurements (148 females and 16 males). The livestock system has an extensive nature and men are the main responsible for these farms. The HaW, BL, HG, ST and W, in Guelmoise cattle were 115 ± 0.07, 118 ± 0.08, 154 ± 0.09, 187 ± 0.11 cm and 258, 12 ± 43.12 kg respectively in females and 171 ± 0.16, 176 ± 0.18, 187 ± 0.08, 225 ± 0.08 cm and 462±59.67 kg respectively in males. Multivariate statistical analyses have allowed identifying four different classes were defined as follows: morphometric measurements, weight and age in females as in males. Estimated age at first calving was 39.40 months while the calving interval varies between 14 to17 months and the reproductive life of the cows (13,7 years).The average daily production of milk 5,55 ± 1,67 liters in spring with a duration of lactation varies between 6 to 7 month. The physicochemical characteristics of milk were focused on the FC, PC, Lact, DE, DDE and FPD were respectively 2.85 ± 0.89%, 3.60 ± 0.39%, 4.82 ± 0.13%, 11.84 ± 0.90%, 9.13 ± 0.41% and 0.56 ± 0.01°C. The genotyping of 24 individuals of the Guelmoise population using the Illumina BovineSNP50 BeadChip, we found that the observed heterozygosity was globally equivalent to 0.30. The inbreeding measured by Fis was slightly positive (~0.04) indicating the absence of a phenomenon of selection. The data contribute to the feasibility of a conservation and selection programme for this breed and the results are useful for the implementation of a conservation strategy that should aim to conserve animals.

DOI: *10.46325/gabj.v7i2.372*

Keywords

Cattle; Guelmoise; morphological characterization; milk analysis; genetic characterization; SNP; Algeria.

DOI: *10.46325/gabj.v7i2.372*

PHYSICOCHEMICAL CHARACTERISTICS OF COW'S MILK COLLECTED AT THE DAIRY UNIT "LE FERMIER" OF DRAA BEN KHEDDA (TIZI OUZOU)

CHERFAOUI-YAMI D, ARHAB M, BENADJAOUD R, MOUHOUS A, KADI S.A

LABAB, Université Mouloud Mammeri Tizi-ouzou

Contact : djamila.cherfaoui@ummto.dz

Abstract

This study aims to determine the physicochemical quality of cow's milk collected at the dairy unit "Le Fermier" in Draa Ben Khedda, Tizi-ouzou (Algeria). Our work focused on data from the daily analysis of milk samples from different dairy farms in the Tizi-ouzou area from September 2020 to June 2021. A total of 650 samples were analyzed, parameters taken into account were Fat and protein contents, Dornic acidity, density and freezing point. An average of 2805 liters of milk was daily collected in the dairy unit during the study period. Results of analyses revealed these milks to be of sufficient nutritional quality with 34.68± 4.10 g/l and 30.49±1.98 g/l of fat and protein contents respectively. Acidity value was 16.53±0.89 °D, density measured at 20°C and the freezing point were 1028.06±1.60 and -0.496±0.037°C respectively. A typology of milk was designed to synthesise the overall variability of samples parameters allowed to identify 5 classes of milk. Class 1 (n= 113) whose milks have fairly high fat and protein contents (39.52 and 32.97g/l). Class 2 (n=159) are characterized by 36.98 g/l and 31.81 g/l of fat and protein respectively. Class 3 (n=129) showed 34.06 g/l and 30.75 g/l fat and protein contents. Classes 4 and 5 (n=55 and 195) included milks with low fat and protein contents which are respectively 31.09 g/l, 27.78 g/l and 31.43 g/l, 28.55 g/l. Physicochemical carachteristics of milk collected in the Tizi-Ouzou region is considered acceptable and in accordance with in standards of the Algerian dairy industries.

Keywords

Milk; Cow; Fat content; Protein

DOI: *10.46325/gabj.v7i2.372*

CONTRIBUTION TO THE STUDY OF BUTCHERING PERFORMANCES OF THE LOCAL CATTLE POPULATION

OUARTI K , BOUZEBDA-AFRI F, BOUZEBDA Z, BOUGANDOURA B

ISAV. Université Mohamed Cherif Messaadia Souk Ahras, Algérie

Abstract

Our work is a contribution to the collection of data concerning the butchery performances of the local cattle population, by approaching certain parameters: body measurements (chest circumference, spiral circumference, ventral circumference, barrel circumference, body length, height at the withers), live weight, carcass weight, yield and estimation of fineness by the thoracic typing index criterion according to age, sex and varieties. The average results recorded in our study concerning body measurements are respectively 190.96±16.19cm, 255.58±29.68cm, 217.29±21.62cm, 23.08±8.42cm, 152.96±20.87cm, 136.417±10.15cm, 70.96±8.08cm for TP, TS, TV, TC, LSI, HG and HP. The recorded averages for live weight, carcass weight, yield and fineness are 568.16 kg, 320.29 kg, 55.4% and 1/9 respectively. Differences relating to age categories were recorded for most of the criteria studied, while the sex factor and coat color did not show any effect on the parameters studied except for the yield according to the sex of the individuals. However, the assessment of the butchery performances in the local cattle population according to our study shows the interesting butchery aptitude of these animals, which encourages us to better value them for the characterization, the selection, the improvement, and especially the safeguard of this population.

Keywords

Algeria; Cattle; local population; performances; measurements; meat.

DOI: *10.46325/gabj.v7i2.372*

SITUATION OF DAIRY CATTLE FARMING IN THE ARID ZIBANS REGION, SOUTH-EAST ALGERIA

EULMI H[1], DEGHNOUCHE K[1], GHERISSI DE[2], TABET N[3]

1. Laboratoire DEDSPAZA, Université Mohammed Khider, Biskra, Algérie.

2. Laboratoire PABIOS, ISAV, Université de Souk Ahras, Algérie.

3. Laboratoire ESSPRETCADS, Université Chadli Bendjedid, ElTarf, Algérie.

Contact : eulmihadjer21@gmail.com

Abstract

The dairy cattle sector has undergone a considerable evolution in the region of Biskra, marked particularly by the evolution of the size of the cattle herd (3625 in 2010 to 5095 heads in 2021 (DSA, 2021). But the data on livestock are still weak and do not make it possible to describe the situation of this sector or to identify the constraints that influence its future in the area. In this context, our work is interested in describing and evaluating the situation of dairy cattle farms located in the region. The data is collected using farm visits and surveys of breeders from 52 farms belonging to 20 municipalities in the Biskra region (Biskra and Ouled Djellal). The 52 farms total 813 head of cattle, including 489 dairy cows. 53% of the farms approached have between 5 and 15 heads, while 38.5% have a workforce <5VL. 43.5% of farms have cows less than 5 years old, 88% of our sample has an average BCS between 2.5 and 3. The racial composition is predominated by crossbred cattle (71%). Imported cattle (pure breed), which represents about 11% of the herd operated by the surveyed farms, is represented particularly by the Montbéliarde breed (60%). Almost all the herds are vaccinated under the state vaccination program, and the veterinarian is present only in the event of the appearance of pathologies which are the main reason for culling within the farms that practice it (38.5%). Multiple pathologies are observed, firstly mastitis, followed by digestive, lameness and respiratory pathologies. The lack of water, the impassable rural roads, the absence of inseminators and the difficult climatic conditions hinder the exploitation of agricultural land often present in vast expanses and limit the capacities of breeders to develop dairy cattle breeding in the region.

Keywords

Situation; Dairy cattle breeding; Arid region.

DOI: 10.46325/gabj.v7i2.372

ASSESSMENT OF THE PRESENCE OF ANTIBIOTIC RESIDUES IN COW'S MILK COLLECTED FROM TRADITIONAL FARMS IN EL TARF (ALGERIA)

JEDIDI I[1], REDOUANE-SALAH S[3], MESSAÏ A[2]

1. Laboratoire DEDSPAZA, Université Mohamed Khider, Biskra, Algeria,

2. Laboratoire PIARA, Département des Sciences Agronomique, Université de Biskra, Algeria

3. Laboratoire PIARA, Département des SNV, Université de Biskra, Algeria,

Contact : isra.jedidi@univ-biskra.dz

Abstract

Antibiotics are regularly used in dairy cattle for many purposes, curative, preventive or increase milk production. However, the anarchic and uncontrolled use of antibiotics as well as non-respect of withdrawal periods after treatment could lead to the presence of residues in animal products including milk. The harmful effects of antibiotic residues on consumer health are well documented, and therefore monitoring of their presence is a necessity. The aim of our study is to evaluate the presence of two families of antibiotics in raw milk from El Tarf city and to assess the impact of the season on the prevalence of antibiotic residues. This study involved 116 samples of raw cow's milk from traditional farms during two seasons, spring (May) and summer (June to August 2022). Screening for antibiotic residues was carried out using beta-star-combo® rapid test. The results indicate that 6 samples (5.17%) were positive for antibiotic residues. Among the contaminated samples, 66.7% (4/6) were positive for the beta-lactam family, whereas only two (33.33%) were positive for tetracyclines. Statistical analysis revealed that there was no significant difference between the season and the prevalence of contamination of milk samples (P>0.05). We can conclude that the majority of the milk studied was exempt of antibiotic residues. However, it is necessary to conduct regular and permanent monitoring of antibiotic residues in dairies.

Keywords

Cow's milk; Beta-lactams; Tetracycline; Bet -star-Combo®; El Tarf.

DOI: 10.46325/gabj.v7i2.372

EVALUATION OF THE INTERFERENCES CAUSED BY THE DETERMINATION OF BOVINE SERUM PROGESTERONE USING A COMMERCIAL HUMAN SERUM RADIOIMMUNOASSAY KIT

BENABDELAZIZ A, BOUDJEMAI S, KHELILI R

Abstract

Commercial radioimmunoassay's kits are accredited in the world of endocrinology, however, these analyses, due to non-validated use, are often subject to numerous interferences which affect the performance of the assay and generate wrong results. In this study we treated the impact generated on the analytical and clinical performances of a commercial progesterone RIA kit, validated for human serum tests, used for direct determination of progesterone in cow serum samples. Then, we compared the results of the clinical tests with those obtained after replacing the range of standards provided in the kit, by other ranges of standards prepared in a bovine serum matrix. The results obtained show that the full use of the commercial kit for the determination of cow serums affected significantly the analytical performances (sensitivity, precision and accuracy) and clinical performances of the commercial kit, particularly for the low concentration doses. In addition, replacing the range standards of commercial kit with a lyophilized standards prepared in a buffer then calibrated and reconstituted in depleted bovine serum for the assay, constitutes a very good alternative to use the human commercial kits not validated for animal matrices.

Keywords

Progesterone; RIA; human sera kits; interferences; bovine sera validation.

DOI: *10.46325/gabj.v7i2.372*

CONTRIBUTION TO THE STUDY THE PHYSICO-CHEMICAL AND MICROBIOLOGICAL PARAMETERS OF COW'S MILK IN BOUHADJAR, EL TARF.

MOUISSI S[1], ATROUN S[2]

1. LAFE Université Chadli Bendjedid d'El-Tarf, Algérie.

Contact : samia_sou@yahoo.fr

Abstract

This work is focused on the study of the physicochemical and microbiological quality of cow's milk in the area of bouhadjar wilaya of el tarf; to verify that the product analyzed does not pose a health risk to the consumer. The microbiological analyzes of this raw cow's milk show that the results of the total aerobic mesophilic flora, salmonella, thermotolerant coliforms, staphylococcus aureus, listeria monocytogenes do not exceed the acceptability threshold. The physicochemical quality of this cow's milk analyzed is within the standards in all parameters density, titratable acidity, fat content, total dry matter content. These results indicate that the raw cow's milk analyzed is of very good quality from a microbiological and physicochemical point of view.

Keywords:

Raw cow's milk; microbiological analysis; physicochemical analysis.

DOI: 10.46325/gabj.v7i2.372

NUTRITIONAL, HYGIENIC AND TOXICOLOGICAL CHARACTERISTIC OF RAW COW MILK IN GUELMA PROVINCE (ALGERIA)

BOUDEBBOUZ A[1,2], BOUSSADIA MI[3], BOUSBIA A[1,2], GUEROUI Y[3], BOUDALIA S[1,2], SAHRI M[2], BEN CHABANE A[2], BOUMENDJEL L[2]

1. Laboratoire BEE, Université 8 Mai 1945 Guelma, Algérie.

2. Départ, d'Écologie et Génie de l'Environnement, Université 8 Mai 1945 Guelma, Algérie.

3. Département de Biologie, Université 8 Mai 1945 Guelma, Algérie.

Abstract

Milk and dairy products are essential components for human nutrition; they contain higher biological values of proteins, carbohydrates and lipids which play an important role in physiological functions. However, it can be a vector for pathogenic germs transmission, or contaminated by heavy metals and may pose a risk to human health. This study aims to evaluate physicochemical, bacteriological and toxicological characteristics of raw cow milk collected from different regions of Guelma (Algeria). Eighty-six samples of raw cow milk were collected from several regions in Guelma (Northeastern Algeria), which has already been the subject of physicochemical, bacteriological analysis. Then, quantitative analysis of Fe, Cu, Zn, Cd, and Cr was performed using an atomic absorption spectrophotometer. Physicochemical analysis shows that physicochemical parameters (pH, density, acidity, proteins, fat, lactose contents, and freezing point) comply with international standards. Bacteriological analysis shows that collected raw cow's milk presents high contamination by pathogenic germs: Staphylococcus aureus, Clostridium sulphito-reducers and Salmonella. Toxicological analysis shows high heavy metals contamination, higher than the suggested standards. Here, we evaluated the physicochemical and bacteriological analysis of raw cow milk; results show that criteria analyzed respond almost to the required standard. To examine the possible effects of milk consumption on human health, further investigations of the levels of heavy metals in a greater number of milk samples from various zones are necessary.

Keywords

Raw com milk; bacteriological criteria; physicochemical parameters; toxicological analysis; human health.

DOI: *10.46325/gabj.v7i2.372*

SEASONAL CHANGES IN THE HISTOMORPHOLOGICAL OF THE BULL TESTIS IN A SEMI-ARID ENVIRONMENT

BELKHIRI Y[1,2], BENBIA S[1,3], DJAOUT A[2,4], HOUSSOU H[2,5]

1. Département de Biologie des Organismes, Université de Batna 2, Algérie.

2. Laboratoire PABIOS. ISAV, Université de SoukAhras, Algérie

3. Laboratoire LBMBPC, Université de Batna 2, Algérie

4. Institut National de la Recherche Agronomique (INRAA), Algérie

5. ISAV, Université Souk Ahras, Algérie

Contact : y.belkhiri@univ-batna2.dz

Abstract

The aim of this study was to investigate the influence of season on stereological structure of the testes in bulls. At the beginning of each season (autumn, winter, spring, summer), among the study group, three bulls were randomly selected, slaughtered and their left testes were removed and weighed. Statistical analysis revealed that the average number of the Sertoli cell was significantly high during the autumn and winter seasons indicates high activity of these cells compared with the non breeding season ($P<0.05$). Maximal Leydig cell number per testis were observed during autumn (7.59±0.29x109), whereas minimal value was noticed during spring (5.093±0.27 x109) ($p<0.001$). The lowest seminiferous tubule diameter (STD) (199.45±5.91µm) was observed in summer and the highest in autumn (221.97±7.83µm) ($p<0.01$). Also, tubular tissue volume and height of the germinal epithelium gradually increased during the autumn ($p<0.05$ and $p<0.001$, respectively). A positive linear relationship ($P<0.05$) was found between sertoli cell efficiency (Y) and the season (X), which was characterized by the equation Y= -1.322 x+7.481 and a coeffient of correlation (R) of 0.223. The correlation between season and efficiency coefficient was 0.296. It can be concluded that the morphometric parameters and stereological structure of the testis exhibit seasonal variations in bull in Algeria.

Keywords

Morphometry; histology; testis; season; bull.

DOI: 10.46325/gabj.v7i2.372

CATTLE BREEDING IS A TRADITIONAL SPECULATION IN THE FACE OF ECOLOGICAL, SOCIO-ECONOMIC AND CLIMATIC CONSTRAINTS IN THE ALGERIAN STEPPE. CASE OF THE TEBESSA REGION

Douh M[1,2], Nouari R [1,2], Chacha F[2,3], Rebai S[3] , Benmezaout A[3], Aissaoui C[1]

1. Faculté des Scirnces; Départ. Sces Agronomique. Univ Chadli Ben Djedid. El Taref.

2. Centre de Recherche en Biotechnologies (CRBt), Pôle Biotechnologies. Constantine,

3. ISAV, Univ Cherif Messadia Souk Ahrass

Contact : mouraddouh@gmail.com

Abstract

The study, socio-economic and typological set up has for end to characterize the various modes and classes of mixed cattle breedings in stays in the region of Tebessa, and the constraints. That this speculation especially those of nutritional order; or the mixed cattle breeding shows an attractive economic support on the market of the meats as potential producer in parallel of the sheep and goat breeding specified of this region known by its pastoral vocation. For this, we analysed data from a survey of 74 farmers: Multiple Correspondence Analysis, followed by a hierarchical ascending classification. The analysis showed that land, herd size, breed and building were the main characteristics that differentiated the three assimilated classes (C1, C2 and C3). The results also showed a very low milk productivity of the farms, against an average meat production, especially for bullocks and cull cattle, despite the importance of the existing local genetic potential (Bovin mixte, la Brune, Guelmoise and Setifiènne). Thus the UAA. The size of the cattle herd remains low. In the first two classes (C1 and C2), the contribution of meat productivity (slaughtered cattle) remains similar, while in C3, the contribution remains low because of the specialisation of these large breeders in milk production, varying between 18-25 litres per day. In which the land barrier and the shelter remain noticeable. This situation is mainly due to the low fodder production, and the surfaces, clearly reserved for cereal crops considered more profitable in terms of cash flow, justified by the price of durum wheat varying from 4,500 to 6,000 dinars per quintal (30.16 to 40.21€). This situation is influenced by the climatic, ecological and socio-economic aspects (financial charges removed, poor land, drought, low rainfall). In view of this, cattle breeding in the region remains dependent on food stocks, where the animal is forced to graze on areas with low and poor fodder values. The lack of animal welfare due to the lack of specified cattle buildings can be explained by the

DOI: *10.46325/gabj.v7i2.372*

anarchic storage of feed and a marked lack of mechanisation, which is an asset for the sustainable development of this type of farming.

Keywords

Buildings ; Wheat ; Cattle ; Load ; Fodder ; Socio-economic.

DOI: *10.46325/gabj.v7i2.372*

THEME 4

Free Communications

DOI: *10.46325/gabj.v7i2.372*

EVALUATION OF THE ECOTOXICITY OF A GLYPHOSATE-BASED HERBICIDE ON THE EARTHWORM *LUMBRICUS TERRESTRIS*

MERGHAD A[1], BOUBSIL S[2], MERGHAD I[3], KAOUACHI N[1]

1. Laboratory EAT, University of Mohamed Cherif Messaadia Souk Ahras, 41000, Algeria

2. Laboratory EA, University of Badji Mokhtar-Annaba, Algeria

3. Laboratory STEE, University of Mohamed Cherif Messaadia Souk Ahras, 41000, Algeria

Contact : a.merghad@univ-soukahras.dz

Abstract

Glyphosate is a versatile, non-selective herbicide that has been used by farmers and gardeners around the world for over 40 years to control unwanted plant species; however, the massive use of this herbicide has not been accompanied by studies on its ecotoxicity. This study aimed to define the acute and subacute toxicity of a glyphosate-based formulation on Lumbricus Terrestris. The tests were carried out in Souk Ahras (Algeria), on natural soil. The results showed that the lethal concentration (LC50) was 7.60 ± 0.27g/l for 400 g of soil, i.e. more than 3000 mg of glyphosate/kg of dry soil. This value of the (LC50) of the herbicide was higher than the recommended dose (5.47 g/l). Exposure of worms to 2500 mg/l glyphosate caused a significant reduction (≈ 30%) in hatching rate and number of juveniles/cocoons. The histopathological study revealed the appearance of significant morphological changes in earthworms, integumentary lesions, clitellar swelling and loss of pigmentations. While internally we noticed damage in the cuticular and chloragogen layers, rupture of epithelium and muscle fibers, prominent vacuolations and pyknotic cells. Although the LC50 of this herbicide is higher than its recommended dose, its use can be problematic in the environment because of its harmful effect on the reproduction of earthworms.

Keywords

Glyphosate; Lumbricus Terrestris; acute toxicity; subacute toxicity

DOI: *10.46325/gabj.v7i2.372*

CONTRIBUTION TO THE STUDY OF THE IMPACT OF THE PHYSIOLOGICAL STAGE AND THE SEASON ON SOME BIOLOGICAL PARAMETERS IN EWES OF THE OULED DJELLEL BREED IN BIR BOUHOUCHE PILOT FARM

BOUBSIL S[1], MERGHAD A[2], CHERIF A[1]

1. Laboratory EA, University of Badji Mokhtar-Annaba, Algeria

2. Laboratory STEE, University of Mohamed Cherif Messaadia Souk Ahras, 41000, Algeria

Contact : s.boubsil@univ-soukahras.dz

Abstract

The aim of this study is to evaluate the impact of the physiological stage and the seasons through the analysis of blood parameters: biochemical, hematological, in ewes of the Ouled Djellal breed. This work focused on ewes of the Ouled Djellal breed belonging to a state farm (pilot farm Bir bouhouche) located in Bir bouhouche to the south-west of Souk Ahras (north-east of Algeria). Samples were taken from ewes clinically at different physiological stages (pregnant ewes, lactating ewes). This study was carried out over two seasons (winter and spring). Circulating concentrations of blood glucose, alkaline phosphatase were determined as well as hematological parameters (hemoglobin and red blood cells). The analysis of the results showed that the physiological stage of the ewes has a significant influence ($p<0.05$) on the level of alkaline phosphatase, on the other hand the latter did not show a significant effect on glycemia. In addition, our results showed that the physiological stage and the season do not have a significant influence on some parameters of the hematological profile, especially on: hemoglobin, red blood cells.

Keywords

Biological parameters; Ouled Djellal sheep; season; physiological stage; semi-arid environment

DOI: 10.46325/gabj.v7i2.372

SEASONAL VARIATIONS IN GOAT SEXUAL ACTIVITY IN NORTHERN ALGERIA

YAHIA A[1]*, HAMRAT K[1], HAMMOUDI SM[2], AIT AMRANE A[2], BELHAMITI T[2], KAIDI R[1]

1. LBRA, Institut des Sciences Vétérinaires, Université de Blida 1, Algérie

2. Institut des Sciences Vétérinaires, Université de Tiaret, Algérie.

Contact : achourveto@yahoo.fr

Abstract

The purpose of our study was to determine seasonal variations in sexual activity in goats in northern Algeria. Animal testing is carried out on a total of 32 goats and two teasers (equipped with an apron to detect heat and avoid mating) for a period of 13 consecutive months. The experiment was based on the evaluation of oestral activity by a careful detection of heat by direct observation twice a day (morning and evening) for half an hour. A female was considered hot when it became susceptible to the teaser, stopped and accepted the overlap. The results show that there is a significant difference ($P<0.05$) between the seasons of the year, the period of intense manifestations of the estrus is in Autumn and continues in Winter with maximum percentages recorded in November and December (85.7%) for everyone. Then there was a decline in this activity in spring and early summer with 14.3% and 7.14% for the months of May and June respectively. Then, the estrus activity begins to increase again in the late summer. We recorded in no month of the year the total absence of estrus manifestations. This led us to conclude that the goat in northern Algeria reproduces throughout the year but with a decrease in its sexual activity during the spring seasons and the beginning of summer.

Keywords

Algeria; goat; breeding; seasonality.

DOI: 10.46325/gabj.v7i2.372

ROLE OF DROMEDARY CAMELS IN TRANSMITTING ZOONOTIC PATHOGENS

BENAISSA MH

CRSTRA, Biophysical Station, Touggourt, Algeria

Contact : ben.medhocine@gmail.com

Abstract

Micro-organisms transmitted from livestock including camels– to humans account for an estimated 60% of human pathogens. Micro-organisms can be transmitted through physical contact inhalation, via conjunctiva or Ingestion, Close contact with animals is crucial for transmission. Camels are distinguished by their long-distance grazing. They can transfer micro-organisms across long distance and play a significant role in the ecology and circulation of pathogenic organisms. They are implicated in the transmission of zoonosis as biological and mechanical carriers and as hosts and carriers of infected ectoparasites. However, little is still known about the roles camels in the pathogens transmission and sustainability in the environment. Thus, they may act as a source of infection to the human population around them. The objective of this study was to investigate seroprevalence of some zoonotic pathogens (*Brucella spp, Coxiella burneti, Chlamydia abortus, and Trypanosoma Evansi* infections in camels and if the dromedary camels, may seroconvert against all this pathogens. The overall serprevalence of pathogens in blood samples was 49.5 of the camels were seropositive for antibodies against *Trypanosoma Evansi*, 4.7 % for *Brucella spp.*, 25 % for *Chlamydia Abortus*, 71.2% %for *C. burnetii*, 15 % for *Toxoplasma gondii.* No positive cases were recorded for D. immitis. Overall, 66 % of the camels were positive for at least one out of the six tested pathogens agents, six of which are potentially zoonotic (i.e Brucella spp.,Chlamydia Abortus, C. burnetii, Toxoplasma gondii). These results reveal a high occurrence of zoonotic agents in dromedary camels in Algeria and highlight the risk factors and the need to maintain a comprehensive and regular prophylaxis to reduce the contact between camels and those pathogens. Our findings also suggest that camels are disease reservoirs of zoonotic pathogens which pose public health threats to pastoralist communities.

Keywords

Camels; Algeria; Seroprevalence; Trypanosoma evansi; for Brucella spp; Chlamydia Abortus

DOI: *10.46325/gabj.v7i2.372*

BODY GROWTH MONITORING OF SMALL RUMINANTS IN THE NORTH-EASTERN ALGERIA

REBIAI S[1] , BOUDECHICHE L[2], OUENES H[1], DOUH M[3]

1. Université Mohamed Cherif Messaâdia-SoukAhras

2. Université Chadli Ben Djedid-El Tarf ;

3. CRBT-Constantine.

Contact : s.rebei@univ-soukahras.dz

Abstract

The present study was carried out at 08 private farms, located in the extreme north-east of Algeria, in a mountainous agricultural area between the localities of HBS (Bouhadjar-El Tarf) and Ouled Driss (Souk Ahras). The aim is to investigate the body growth performance of small ruminants in difficult areas. For this purpose; 55 young lambs (29 males and 26 females), and 48 young goats (23 males and 25 females) born between the end of February and the mid-April 2022, were used for this study. The animals belong to the Berber local breed for sheep and crossbreed goats (Arbia goats*Alpine), primiparous and multiparous naturally bred and reared extensively. In sheep, the daily weight gains from birth (00J) until the age of 120J, showed that the males are heavier than the females, whose average weights (kg) at 0 d ,10 d, 20 d, 30 d, 60 d, 90 d, and at 120 d are respectively: 2.55±0.37 vs 2.15±0.26; 5.04±0.84 vs. 4.70±1.06; 6.91±0.80 vs. 5.91±1.45; 8.77±0.79 vs. 7.32±1.60; 13.96±0.49 vs. 12.18±1.76; 19.04 ±0.51 vs 17.14±2.00; 22.57±1.05 vs. 19.43±2.09. At the same time, in goats, young males showed a weight superiority compared to females, with averages recorded at 00J, 30J, 60J, 90J and 120J of 2.75±0.51 vs2.73±0.48; 7.35±1.77vs 6.68±1.72; 10.76±2.07vs9.92±2.36; 14.12±2.24vs12.85±2.14; 16.70±2.76vs14.69±2.33; respectively:. Consequently, the weight gains allowed us to calculate the growth rates (GMQ) in g/d, in the 02 species (for the 02 sexes) from 0 to 30 J, 30 to 60d, 60 to 90d and finally 90 to 120d. Which gave us: 207.33 g vs 172.33 g; 173g vs 162g; 169.33gvs165.33g; 65 g vs 39 g in sheep and 153.33 g vs 131.66 g; 113.66g vs 108g;112g vs 97.66g; 86 g vs 61.33 g in goats. This shows that males still tend to have higher average weights and gains than females throughout the survey period, confirming that sex is one of the most important factors affecting the weight and the growth of young small ruminants at all ages.

Keywords

Extensive farming; GMQ; Lambs; Small ruminants; weight.

DOI: *10.46325/gabj.v7i2.372*

SERO-EPIDEMIOLOGICAL STUDY OF THE MAIN VIRAL DISEASES IN LAYING HENS

SALHI O[1], DELLADJ H[2], BELKACEMI O[2]

1. Institut des Sciences Vétérinaires/Université de Blida 1.

2. Faculté des Scienves de la Nature et de la Vie/Université de Bouira.

Contact : dr.salhi-omar@hotmail.com

Abstract

Background and Aim: The sector of laying poultry (eggs for consumption) is very important for a growing number of countries, Algeria being one of them. However, its production is threatened by a number of viral diseases causing huge economic losses, especially the production drop, namely: infectious bronchitis (IB), Newcastle disease (ND) and infectious laryngotracheitis (ILT). The present study was conducted to evaluate the serological and epidemiological status of the diseases and its impact on the production of laying hens in the region of Bouira

Methods: The serological study was carried out by using the ELISA laboratory method (10 farms / 400 sera) while the epidemiological survey, including the evaluation of the influence of some risk factors associated with these diseases, was carried out through a questionnaire.

Results: Our results show that: among all the farms studied, BI was the most prevalent disease (60%); however, ND and LTI showed less serological positivity (25% and 15% respectively). For risk factors, farms with poor hygiene were significantly more seropositive at 66% ($p = 0.01$). However, when cair hens were not vaccinated against these viral pathologies, the farms appeared to be 52% more seropositive ($p = 0.03$). Finally, the presence of IB, ND and LTI caused a rate of laying drop more than 30% ($p=0.04$).

Conclusion: In conclusion, the epidemiological and serological survey conducted in this study has provided an important framework on viral diseases which are dominant pathologies in laying hens causing huge economic losses (drop in production). Thus, many factors are responsible for the appearance of these diseases and the correction of these is necessary for the improvement of this poultry sector.

Keywords

Epidemiological; serological; viral diseases; laying hen; production; Bouira.

SYSTEMATIC REVIEW OF ABORTIVE DISEASES IN SMALL RUMINANTS IN ALGERIA: PREVALANCE AND RISK FACTORS

HAÏF A[1], OUCHENE-KHELIFI TOUHAMI NA[2], OUCHETATI I[3], OUCHENE N[2]

1. Department of Veterinary Sciences, University of El Tarf, Algeria

2. Institute of Veterinary Sciences, University Saad Dahlab of Blida 1, Algeria

3. Normal High School of Technological Teaching of Skikda, Algeria,

Contact : asmaa.haif@gmail.com

Abstract

Abortive infections are a major health challenge affecting productive and reproductive performance of sheep and goats. However, there is no comprehensive summary on the occurrence and distribution of these infections in Algeria. This systematic review provides a comprehensive summary on the prevalence of different abortive diseases and assesses potential risk factors in small ruminants in Algeria. Five databases were used to search epidemiological data on the prevalence of different abortive diseases (bacterial, parasitic, and viral). Data were collected from 25 papers published between 2003 and 2020. The total mean sample size was 53,080 small ruminants. The majority of the diseases/infections were diagnosed by serological and molecular tests. The overall prevalence of brucellosis was 0.39% in sheep and 5.31% in goats. Chlamydia and Q fever were observed in 32.72% and 20.62% of small ruminants, respectively. The prevalence of peste des petits ruminants was 15.76%and the overall prevalence of bluetongue in sheep and goats was, respectively, 13.41% and 44.50%. Border disease and bovine viral diarrhea were detected in 22.68% and 1.01% of sheep examined, respectively. Toxoplasma gondii infection prevalence among sheep and goats was 21.43% and 32.31% respectively. This study is a comprehensive epidemiological analysis of abortion diseases in small ruminants in Algeria and will therefore be a useful tool for researchers. Larger and more robust prevalence studies are needed to adequately support risk assessment and management of animal and public health threats.

Keywords

Algeria ; Abortive diseases ; Goats ; Sheep ; Prevalence ; Systematic review

DOI: 10.46325/gabj.v7i2.372

SYSTEMATIC REVIEW OF TOXOPLASMOSIS IN ALGERIA: PREVALANCE AND RISK FACTORS

OUCHETATI I[1], OUCHENE-KHELIFI TOUHAMI NA[2], HAÏF A[3], OUCHENE N[2]

1. Normal High School of Technological Teaching of Skikda, Algeria,

2. Institute of Veterinary Sciences, University Saad Dahlab of Blida 1, Algeria

3. Department of Veterinary Sciences, University of El Tarf, Algeria

Contact : imeneouchtati@hotmail.fr

Abstract

Toxoplasma gondii is a zoonotic parasite that can infect all warm-blooded animals. It is responsible for considerable economic losses in some regions and farming systems. This review aims to synthesize current findings on the prevalence and risk factors associated with *T. gondii* infection in animal species in Algeria. It was performed according to the recommendations of the PRISMA guideline. Atotal of 14 papers from 1955 to 2020 were eligible to be included in this systematic review and metaanalysis study including a number of 10,187 animals of which 2594 were positive cases (25.46 %) (24.62–26.31 %, 95 %CI). Prevalence of *Toxoplasma*-infection was 20.04 % in cattle, 22.57 % in sheep, 33.61 % in goats, 28.17 % in horses, 30 % in donkeys, 70.31 % in stray cats, 14.57 % in local rabbits, 30.47 % in dogs and 50.70 % in poultry farms. Adult animals and females were most infected. The highest prevalences were reported in stray cats and poultry. Rabbits were the least infected. This analysis showed a trend of increasing infection since 2015 ($R2 = 0.129$, $p>0.05$) which requires further studies to provide better prevention strategies.

Keywords

Toxoplasma gondii; Meta-analysis; Seroprevalence; qPCR; Algeria; Sheep.

DOI: 10.46325/gabj.v7i2.372

A SURVEY OF OVINE PULMONARY ADENOCARCINOMA IN SHEEP IN BATNA, THE NORTHERN EAST REGION OF ALGERIA

BELALMI N.E.H[1,2], SID N[1], BENOUNE O[2], OUHIDA S[3], IDIR K[4]

1. Depart. of Biology, Mohamed El-Bachir El-Ibrahimi University, BBA, Algeria.

2. Laboratory LESPA, University of Batna, Batna, Algeria.

3. University Hospital Center Saadna Mohamed Abdennour, Setif, Algeria.

4. Directorate of Agricultural Services, Bordj Bou Arreridj, Algeria.

Contact : belalminourelhouda@yahoo.com

Abstract

Ovine pulmonary adenocarcinoma (OPA) is a wasting neoplastic disease affecting sheep caused by Jaagsiekte sheep retrovirus. The disease is characterized clinically by chronic respiratory dysfunction and histologically by neoplastic transformation of epithelial cells. Neither vaccine nor serological tests for OPA are available. This study aimed to obtain estimates regarding prevalence of OPA by means of an abattoir survey in sheep. The surveillance was performed by tissue samples collected from Batna abattoir in the east of Algeria. Lungs from 21651 sheep were examined macroscopically in the abattoir and 34 were removed for histopathology examination due to the presence of gross lesions compatible with OPA. Thirty-three lungs (0.15%) were confirmed of OPA and one lung tumor not associated with OPA was also identified. 12.1 % of lungs were secondarily infected and 51.5 % of lungs affected by fibrosis. The animals affected were aged between 6 to 15 months but the age of 1 year was more susceptible. In all cases observed, the alveoli were lined by neoplastic cuboidal to columnar cells that were arranged in papillary and acinar or glandular like structures. An estimate of OPA prevalence in sheep at Batna abattoir has been obtained and further research is necessary to establish a national monitoring, control and surveillance system.

Keywords

Ovine pulmonary adenocarcinoma; prevalence; abattoir; sheep; Batna.

DOI: 10.46325/gabj.v7i2.372

NEW SPECIES AND A NEW RECORD OF *MANSONELLA* (FILARIOIDEA: ONCHOCERCIDAE) IN AFRICA

SADEDDINE R, SAMBOU M, RIGHI S, DAGHRI K, DAVOUST B, BENAKHLA A, FENOLLAR F, SOKHNA C, RAOULT D, PAROLA F, MEDIANNIKOV O

Abstract

Based on amplification and sequencing of rDNA ITS1 and rRNA5S gene (conservedgene) for the detection of *Filaria*spp. infecting *Culicoides* (Insect: Diptera) and equine in Senegal and Algeria, potentially new species*Mansonella*sp. wasdetermined in threedonkeysfrom Algeria, four equine, and two*Culicoïdes enderleini*fromSenegal. Bothsystems show similarresults, the placement of thisidentifiedfilaria in the genus*Mansonella* and lowidentitywith all *Mansonella*species. Furtherstudyshouldbeperformed to characterize*Mansonella*sp. andassess itsprevalence in Algeria and Senegal

Keywords

*Filaria; Mansonella*sp*;* equine; *Culicoïdes enderleini*; PCR; Phylogenetic

DOI: *10.46325/gabj.v7i2.372*

EVALUATION OF THE REPRODUCTION AND PRODUCTIVITY OF CROSSBRED EWES (MALE D'MAN × FEMALE OULED DJELLAL) STRUGGLED BY OULED DJELLAL RAMS AND SUBJECTED TO THE RAM EFFECT

ADAOURI M[1], LEBIED M[2], TRIKI S[3], MEFTI-KORTEBY H[4], SEBBAGH L[2]

1. Institut National de la Recherche Agronomique d'Algérie, INRAA, Alger, Algérie.

2. Institut Technique des Elevages, ITElv, Baba Ali-Birtouta, Alger, Algérie.

3. Ecole Nationale Supérieure Agronomique, ENSA, El-Harrach, Alger, Algérie.

4. Faculté des Sciences de la Nature et de la Vie, Département de Biotechnologie, Université Saâd Dahleb Blida -1-, Algérie.

Contact : madaouri@gmail.com

Abstract

The objective of this study, which is a continuation of previous work carried out during the first generation (F0) of the alternative genetic cross in sheep, was to evaluate the reproductive and productivity performances in crossbred ewes (Male D' man × Female Ouled Djellal) struggled in the second generation (F1) by Ouled Djellal rams and subjected to the ram effect. It took place at the farm of the ITElv (Technical Institute of Livestock) of Baba Ali (Algeria). A total of 71 crossed females (Male D'man × Female Ouled Djellal) were struggled, after a period of separation of more than a month, by 04 males of the Ouled Djellal breed at the rate of a single ram for 6 to 9 females with a reproductive rate of one lambing per year and three lambings per generation. Statistical analyzes were performed with ANOVA test using SPSS/PASW 22 statistical software. Reproduction was significantly improved ($p<0.001$) for the crossbred females (D'man × Ouled Djellal) used at F1 compared to the Ouled Djellal females used at F0 (Fertility of 95.8 *vs.* 79.2% and fecundity of 122 *vs.* 98%). Similarly, productivity was statistically improved ($p<0.001$) for crossbred females compared to F0 females (Numerical productivity of 121 *vs.* 84% and a weight productivity per ewe and per lambing of 24.6 *vs.*15.3kg). The alternative crossing between these two local sheep breeds with the use of the ram effect has allowed F1 to improve reproduction and productivity compared to F0. It is advisable to continue the program of this crossing by producing the crossed animals of the other generations to confirm or refute these results.

Keywords

Algeria; Alternative crossing; D'man; ram effect; Ouled Djellal

ENDOMETRIAL CELLS MORPHOLOGY AND PROGESTERONE RECEPTOR EXPRESSION DEPENDING ON ESTROUS CYCLE IN DAIRY COWS

BENBIA S[1,2], BELKHIRI Y[2,3]

1. LBMBPC Université de Batna 2, Algérie.

2. Département de Biologie des Organismes, Université de Batna 2, Algérie.

3. LPABS. ISAV, Université de SoukAhras, Algérie.

Contact : s.benbia@univ-batna2.dz

Abstract

The goal of the present study was to evaluate the effect of the ovarian steroids on histo-morphorphometric changes in three endometrium compartments (LE, SGE and DGE) and to determine the distribution and expression of PR receptors in the same endometrium compartments (LE, SF, SS and DS) on the one hand and to establish a relationship between steroids receptors expression and morphometrics parameters. Reproductive tract of 50 healthy dairy cows were obtained from BATNA abattoir (Algeria). Based on macroscopic observation of the ovaries, animals were classified into two equal groups: follicular (n =25) and luteal (n=25). Height of cells epithelium (HCE), progesterone receptors (PR) expressions on luminal epithelium, superficial (SG) and basal (DG) glands were assessed using a morphometric and immunohistochemistry methods. The histological samples were obtained from four different sites for each reproductive tract: horn, body. Morphometric parameters (HCE, density, area and perimeter of SG and DG) were measured using both Panoramic Viewer and Image Pro-Plus version 6. PR expression was assessed using a immunohistochemistry methods. Our results show: Spatiotemporal changes of all morphometric parameters and PR were observed in the superficial compartment of the endometrium. In DG these changes were note observed. Dramatic spatio-temporal changes occurred in SG in all most studies parameters. Correlations were found between morphometric parameters, hormonal profile and PR expression.

Keywords

Cows; phase; follicular; luteal; PR; correlation; histo-morphometry; immunolocalization ; uteri.

DOI: *10.46325/gabj.v7i2.372*

HEPATOPROTECTIVE EFFECT OF CAMEL MILK AND URINE ONHEPATOTOXICITY INDUCED BY THE ASSOCIATION OF ISONIAZID AND RIFAMPICIN

BENHIZIA S[1], ARZOUR N[1] , BOULDJENIB F[2], TORCHE S[1]

1. PADESCA Laboratory. Institute of Veterinary Sciences, El Khroub, Constantine, Algeria

2. Depart. of Pathological Anatomy, University Hospital Centre IBN BADIS, Constantine, Algeria

Abstract

Isoniazid and rifampicin are the two major therapeutic regimens currently used for the treatment of tuberculosis, which can induce hepatotoxicity. The incidence of hepatic dysfunction is more, when Isoniazid and Rifamicin are used in combination. The main objective of this study was to study the hepatoprotective effects of milk and camel urine in 5 groups consisting of 8 rabbits each. The first group received a distilled water (control), while the animals in group 2 received isoniazid (50 mg/Kg/d) daily with rifampin (100 mg/Kg/d) for 10 days. Rabbits in groups 3, 4 and 5 received isoniazid (50 mg/kg/day) and rifampin (100 mg/kg/day) with milk (33 ml/kg weight/day), urine (20 ml/kg weight/day), and a mixture containing milk and camel urine, respectively. Plasma levels of bilirubin, total protein, glucose, urea, creatinine, cholesterol, triglycerides, as well as the activities of the ALAT, ASAT and PAL enzymes were measured. Histological changes in liver tissue have also been described. Group 2 rabbits showed a non-significant increase in plasma levels of ALAT and ASAT and a very significant increase in bilirubin and PAL. Histological sections of the liver of Group 2 rabbits showed signs of hepatocytic pain. Values of assayed biochemical parameters were restored in animals in groups 3, 4 and 5 compared to group 2. Histological variations were also reduced in animals receiving milk and camel urine, thus demonstrating an improvement in the histopathological picture. Camel milk and urine thus have protective effects on hepatotoxicity induced by the combination isoniazid-rifampin.

Key words

Milk; Urine; Camel; Hepatic Toxicity; Anti-tuberculosis drugs.

DOI: *10.46325/gabj.v7i2.372*

FISH HEALTH ASSESSMENT: USE OF HISTOPATHOLOGY AS A BIOMARKER

GUELMAMENE R, ELGROUD R, BENNOUNE O

LAPSA, Institut des Sciences Vétérinaires et des Sciences Agronomique, Univ Batna 1

Contact : rahma.guelmamene@univ-batna.dz

Abstract

The aim of the present study was to assess the health status of some commercially important fish species in the Algerian market using a histology-based protocol, in order to establish baseline data for future studies. Gills, liver, kidneys and guts were fixed, in 10% buffered formalin, and processed for histological analysis using standard techniques; Using as a tool the semi-quantitative histological system proposed by Bernet et al. (1999), organ index values were determined and used to rank the severity of the histological response using a scoring scheme proposed by Zimmerli et al. (2007). Following the calculation of health assessment indices, the gills were the most histologically affected organ with 66.7% of fish showing several histopathological alterations consisting mainly of hyperemia, hypertrophy, hyperplasia and necrosis. The kidney was the organ that in most fish (78.6%) showed normal tissue structure. 71.4% of the fish had a normal or slightly modified liver, but hyperemia, vacuolation and hypertrophy of hepatocytes were observed in some cases. In general, gut's histology was normal or showed mild enteritis. The gills were, therefore, the most affected organs in terms of percentage & prevalence of identified histological alterations. The advantage of using histopathology as a biomarker lies in its intermediate position in the hierarchy of biological organization once it is able to integrate the effects of different factors on organ function and organ health. Additionally, histopathological examination of fish populations usually refers to more several and obvious changes, even if they are present in only a few specimens.

Keywords

Fish; health; histopathology; biomarker; histology.

CROSS SECTIONAL STUDY OF SMALL RUMINANT BRUCELLOSIS IN EL OUED DISTRICT

RAMDANI N[1,2], BOUSSENA S[1], BOUAZIZ O[1], MOULA N[3]

1. Laboratoire GSPA, Université des Frères Mentouri Constantine 1, Constantine, Algérie.

2. LVR d'El Oued, Institut National de Médecine Vétérinaire, Algérie.

3. Faculté de Médecine Vétérinaire, Liège, Belgique.

Contact : drnaciraramdani@gmail.com

Abstract

Brucellosis is an endemic zoonotic disease in Algeria responsible for significant losses in animal industry and public health. This study aimed to determine the true small ruminant herd seroprevalence and associated risk factors in El Oued province. Therefore, a cross sectional study was carried out using simple random sampling strategy. Blood samples collected from 51 herds (612 sheep and goats) were analyzed for the detection of anti-*Brucella* antibodies using Rose Bengal test (RBT), and indirect enzyme-linked immunosorbent assay (iELISA) in parallel and complement fixation test (CFT) for confirmation. A structured questionnaire regarding relevant biodata related to herd and farm management was administered to animal keepers. Assessment of likely association between variables and *Brucella* spp. seropositivity herd status was performed using simple and binary logistic regression. True herd prevalence was 27.95% (95% CI: 17.18–42.01). Herds with abortion history were more likely to be seropositive with higher odds (p=0.03) (OR: 6.25, 95% CI: 1.20–32.46). Poultry presence among sheep and goats flocks (p=0.01) reduced about 89% the risk of the herd being seropositive (OR: 0.11, 95% CI: 0.02–0.61). Based on our findings, a rigorous long-term control program is highly recommended including implementation of biosecurity measures at farms for an optimum outcome.

Keywords

Algeria; Brucellosis; Goats; Risk factors; Seroprevalence; Sheep

DOI: 10.46325/gabj.v7i2.372

EFFECT OF HYDRO-ALCOHOLIC EXTRACT OF SANDFISH « SCINCUS SCINCUS » ON KIDNEY FUNCTION IN MALE ALBINOS WISTAR RATS PRETREATED WITH CADMIUM.

LAMRAOUI R[1], TIAR NH[1], YEKKEN A[1], HACHEMI M[1], GHERISSI DE[2], CHACHA F[3]

1. Département de Biologie des Organismes, Université de Batna 2, Algérie.

2. ISAV, Université Mohamed Chérif Messaadia – Souk Ahras, Algérie

3. Centre de recherche en biotechnologie, Constantine, Algerie

Abstract

The objective of the present study is the effect of *Scincus Scincus* skink on the physiological and histological function of the kidneys (100 mg / kg) in male albino wistar rats pretreated with cadmium. For this, 24 male albino wistar rats weighing (290 ± 20) g in were used and divided into four groups: the 1 st group of control rats (n= 5), 2 nd group of rats treated with cadmium (n=5), 3 rd group of rats treated with l extract of scincus scincus (n=6) obtained by maceration with a yield of 6.98%, 4 th group of rats treated with cadmium + the extract (n=7) of scincus scincus for 56 days. Body weight, creatinine, urea, urine volume, relative kidney weight, urine chemistry are indices used to assess the effect of scincus scincus. The results obtained from plasma urea show significant deference and non-significant deference with the other parameters: creatinine, urine volume, urine chemistry, relative kidney weight, body weight. In conclusion scincus scincus extract was able to protect the kidney by decreasing uremia. However, it does not affect body weight gain or the relative weight of the kidneys.

Keywords

Scincus scincus extract; body weight; creatinine; urea.

DOI: *10.46325/gabj.v7i2.372*

EFFECT CAROB-BASED SHEEP SUPPLEMENT TO STEAMING ON THE WEIGHT PERFORMANCE OF THEIR LAMBS

BOUHEDJA N[1], BENDEKOUM I[1], MEBIROUK-BOUDECHICHE L[1], LAGHOUATI W[2], ZALANI K[3]

1. Laboratoire ESSPRETCADS, Université Chadli Bendjedid d'El Tarf, Algérie.

2. Département des Sciences Vétérinaires, Université Chadli Bendjedid, El Tarf. Algérie.

3. Département des Sciences Agricoles, Université du 20 Aout 1955, Skikda. Algérie

Contact : naym_2125@yahoo.fr

Abstract

Feeding behavior at the end of gestation in ewes, in particular covering their energy needs, greatly contributes to successful lambing and to ensuring a good start to lactation. The present study aims tocompare the impact of two energy supplements (carob *vs*. barley) distributed by steaming on the milk production of ewes and the weight growth of their lambs. Fifty multiparous ewes from 3 to 4 years old, taken from an Ouled Djellal breed sheep farm, were divided into two groups and each received, in addition to ad libitum hay, an energy supplement at the rate of 500g/day /animal, consisting of 70% barley and 30% wheat bran, for the first group G1, and 70% carob and 30% wheat bran for the second group G2. Lamb weight measurements were taken at birth and then at 10-day intervals (from D0 to D50). The birth weight of the lambs is practically identical (3.79 vs. 3.75 respectively for G1 and G2) (P= 0.697). Similarly, the weights at D0, D10, D20, D30, D40 and D50 were not influenced by the type of energy supplement for the lambs of the two groups (P>0.05). In addition, the estimation of milk production by the equations including the weight change of the lambs from D0 to D50 showed similar results (1.03 vs. 1.06 l/day on average for G1 and G2 respectively) , which would undoubtedly explain the identical growth performance of lambs, given that at this period of their life, their diet is exclusively milk. Carob would therefore be a very interesting substitute for barley and could be integrated as an extra supplement in the diet of ewes at the end of gestation.

Keywords

Ewes; lambs; carob; weight gain.

DOI: 10.46325/gabj.v7i2.372

TECHNICAL AND ECONOMIC CHARACTERIZATION AND TYPOLOGY OF RABBIT FARMING SYSTEMS IN WESTERN ALGERIA

TRIKI Z[1], TEFIEL H[1,2], CHAHBAR M[1,2], GAOUAR SBS[2]

1. LRAE, Faculty of science and technology – Tissemsilt University.

2. Laboratory GenApAgiE, Abou Bekr Belkaid University, Tlemcen, Algeria

Contact : zoheir.triki@yahoo.com

Abstract

The aim of the present study is to characterize this breeding and which was carried out in western Algeria. A survey was carried out using a questionnaire to question rabbit farmers in order to highlight the characteristics of the breeding system. it involved 115 livestock units, of which 52 and 63 farms in the regions of Tissemsilt and Tiaret respectively were surveyed, these farms are mainly located in urban and peri-urban areas; the results showed that rabbit breeding is practiced as a secondary activity, the labor is strictly family and is mainly practiced by men (94.23%) and (90.16%) in the regions of Tissemsilt and Tiaret respectively with an age group of 25-34 years which constitutes the majority and it is intended for sale (78.26%) and self-consumption (21.73%), with a strong exploitation of crossbreeds (88.69%) acquired by purchase (80.86%) . The average size of the herd varies from 5 to 80 head. This breeding is practiced for most breeders with a traditional system and buildings in (59.61%) and (84.34%) cases in Tissemsilt and Tiaret respectively. The feed is based on kitchen waste and crop waste and few breeders use industrial pelleted feed. The management is carried out by the breeder himself and/or his family. The average age at the first mating of females is 6 months and males are bred at the age of 7 to 8 months regardless of breed. Reproduction is done in a natural way with four (4) births per year and eight (8) young rabbits on average per birth. The majority of breeders (78.23%) do not administer any care to their animals and no prophylaxis plan is respected. Non-compliance with zootechnical, genetic and health aspects has been noted. Breeders do not see any interest in organizing this sector; yet these regions have interesting water and fodder resources that justify the difficulties most often reported and were faced by breeders such as diseases, mortality, food and lack of market. The results showed that rabbit farming is a disappearing animal husbandry.

Keywords

Tissemsilt; Tiaret; cuniculture; characterization; typology; rabbit; breeding

DOI: *10.46325/gabj.v7i2.372*

QUALITATIVE AND QUANTITATIVE STUDY OF SPONTANEOUS PLANTS GRAZED BY SUCCESSING CAMELS IN THE AREAS OF THE NORTHERN SAHARA OF ALGERIA, CASE OF THE REGION OF BISKRA AND THE L'OUED

KHALID M[1], CHEHMA A[1], JOHANN H[2]

1. Laboratoire BRS, Université Kasdi Merbah Ouargla (Algérie).

2. CIRAD, UMR SELMET, Univ Montpellier, Montpellier, France.

Contact : khalid.072010@hotmail.fr

Abstrcat

The Saharan regions are characterized by very constraining edapho-climatic conditions for the spontaneous survival of living beings. Nevertheless, this ecosystem remains a living environment characterized by a much diversified plant cover, presents geomorphological formations representing the different types of courses (l'Oued beds, sebkha, Hamada, Reg, Erg and Daya) which offer the only food resource available for the dromedary, to maintain and reproduce. The questioning of our study focuses on the behavioral specifications of the dromedary vis-à-vis the poor vegetation of the courses of Biskra D'oued beds and D'oued Souf sebkha during the autumn season. In terms of device and method, we have adopted a work approach that consists of spatiotemporal monitoring of suckling camels by individual sequence (with camcorder) at the time of prehension. The monitoring was carried out at different times of the day on four D'oued bed type stations and three sebkha type stations during the autumn season. The data resulting from this approach: the species grazed, the number of bites of each species, the quantity grazed/species and the percentage of clogging of each plant and the daily quantity grazed per day. For the results obtained, we identified 38 species belonging to 19 families, including 11 ephemeral species and 27 perennial species. Our monitoring of feeding behavior showed that its diet is diversified (24 species consumed/38 species). From a quantitative point of view, the monitoring of daily food intake, according to the bite method, showed that the most grazed species are Salsola vermiculata (5.43 kg), Tamarix gallica (5.01 kg), Anabasis articulata (1 ,54Kg) and Cornulaca monacantha (1.09Kg), giving average quantities of 7.35 to 14.95 Kg, estimated from 1.84 to 3.73 Kg DM /100 Kg of PV/day,

Keywords

Grazing; behaviour ; Camel ; Spontaneous flora; D'oued beds; Sebkha.

DOI: *10.46325/gabj.v7i2.372*

SUMMER OCCURRENCE OF TICK SPECIES (*ACARI*: *IXODIDAE*) ON CATTLE IN THREE REGIONS OF NORTHEASTERN ALGERIA

DERRADJ L[1], KOHIL K[1,2], GHARBI M[3]

1. BEArth laboratory, FrèresMentouri - Constantine 1 University, Algeria

2. Institute of Veterinary Science, Frères Mentouri - Constantine 1 University,Algeria

3. Parasitology laboratory, National School of Veterinary Medicine, 2020 Sidi Thabet,Tunisia

Contact : lotfi.derradje@umc.edu.dz

Abstract

Hard ticks are ectoparasites and vectors of many pathogens. Studies addressing hard ticks in cattle have rarely been carried out in this region. This study aims to estimate the infestation rate, distribution and biological diversity of hard tick species infesting 122 cattle in the provinces of Mila, Jijel and Guelma (north-eastern Algeria) during the summer of 2019. A total of 1,927 ticks were collected. Two hard tick genera (*Hyalomma* and *Rhipicephalus*) and nine species were identified. *Rhipicephalus* spp were more abundant (85.83%) than *Hyalomma* (14.17%). *Rhipicephalus* (*Boophilus*) *annulatus* (54.5%) and *Rhipicephalus bursa* (28.18%) were widespread in north-eastern Algeria. Several species were reported for the first time in the regions studied: *Rhipicephalus sanguineus* in Mila, *Rhipicephalus sanguineus*, *Hyalomma anatolicum* and *Hyalomma marginatum* in Jijel, and *Hyalomma impeltatum* in Guelma. Thus, *Hyalomma anatolicum* is geographically widespread in Algeria. In addition, tick infestation was found to be highest in exotic cattle breeds, female and cattle over four years of age. Ecological analyses showed that in Guelma there is a high diversity and hard ticks are not uniformly distributed within the species. The information gathered could help to develop more effective tick control programmes in these regions. However, further studies are needed in other regions of Algeria to generate a comprehensive national tick database.

Keywords

Hard ticks; Hyalomma impeltatum; Hyalomma anatolicum; Rhipicephalus sanguineus; cattle; Algeria

DOI: *10.46325/gabj.v7i2.372*

ÉVALUATION DE L'ACTIVITE ANTIBACTERIENNE DE L'HUILE ESSENTIELLE DU ROMARIN *ROSMARINUS OFFICINALIS L.*

FENGHOUR H[1], SOUALMIA A [2], GUERDI A[3], MESABHIA A[4]

1. BWEL, Department of Applied Biology. Larbi Tebessi University. Tebessa, Algeria.

2.3.4. Department of Applied Biology. Larbi Tebessi University. Tebessa, Algeria

Contact : fenghourhind@gmail.com

Abstract

Rosemary (Rosmarinus officinalis) is a medicinal plant, it is interesting to know its therapeutic virtues, in order to replace synthetic products by bioactive molecules that are herbal. The study evaluates the antibacterial activity of rosemary essential oil on 3 strains of bacteria involved in lung infections (Klebseilla pneumoniae, Sreptococcus pneumoniae and Staphylococcus aureus). The extraction of essential oil (HE) was carried out by hydro distillation. The aromatogram demonstrated the antibacterial power of essential oil on the bacterial strains tested. The diffusion method on an agar medium was used to determine the diameters of the inhibition zones. The minimum inhibitory (MIC) and bactericidal (MBC) concentrations were determined using the successive liquid micro dilution method. Note that the lowest MIC are recorded with HE tested on Staphylococcus aureus. Comparing the effect of HEs to amoxicillin, we note that the effect of Rosmarinus officinalis is higher than the antibiotic on all bacterial strains tested. In this study, the CMB/CMI ratios of Rosmarinus officinalis oils are equal to 1. These essential oils therefore seem to have bactericidal action against all bacterial strains. The results found in this study are very interesting as they show that the essential oils of Rosmarinus officinalis have a wide spectrum of action against the bacterial strains studied. These essential oils can therefore be used in the prevention and treatment of certain infectious diseases. This study could provide a basis for the development of a new generation of natural antimicrobial agents that can be used in humans against conventional antibiotic-resistant infections.

Keywords

Antibacterial effect; Rosmarinus officinalis; CMI; CMB

SHEEP AND BOVINE PARASITOSES ENCOUNTERED IN A CLIENTELE OF A VETERINARY CABINET IN KSAR EL OUKHARIE W. DE MEDEA

HAMZA M.C[1], DAHMANI A[2], BOURABAH A[3], BERRAK M[4]

1. Institut des Science Vétérinaire de Tiaret. Université ibn khaldoun Tiaret

2. Institut des Sciences Vétérinaires de Blida. Université Saad Dahlab, Blida 1

3. Institut des Science Vétérinaire de Tiaret. Université ibn khaldoun Tiaret

4. Vétérinaire en exercice privé a Ksar el Boukhari w. Médéa

Contact : *chahnazhamza@hotmail.com*

Abstract

To identify the main pathologies of ruminants in the region of Ksar El Boukhari. We carried out a study at the level of veterinary practices over a period of 7 months (from June to December 2018). It resulted in the identification of 589 cases. Of which 87 (14.7%) were parasitic diseases. Among these parasitic diseases 28 (32%) cases were oestrosis, followed by babesiosis 23 (26%) cases. Fasciolosis and respiratory strongylosis occupied 3rd place with several 8 (9%). While coenurosis, scabies and cutaneous myiasis were only 5 (6%), 4 (5%) and 4 (5%) cases respectively. In cattle eleven cases were presented to us. The parasitic pathology that we have most often treated is theileriosis with several 7 cases (64%). Our field treatments are based on clinical diagnosis only, with the total absence of analysis of laboratory confirmations, which is a major handicap in veterinary medicine in our study region.

Keywords

Parasitic disease; theileriosis; estrosis; babesiosis. Fasciolosis

DOI: *10.46325/gabj.v7i2.372*

ANATOMO-TOPOGRAPHIC CHARACTERISTICS OF THE PROSTATE OF THE DROMEDARY (CAMELUSDROMEDARIUS) OF THE REGION OF EL-OUED

AIDOUDI H, RAHMOUN DE, KHENENOU T, BENTAZIR CA

Institut des sciences agronomiques et vétérinaires Taoura Souk Ahras, Algérie

Contact : h.aidoudi@univ-soukahras.dz

Abstract

Our research is based on the highlighting of the topography and the anatomy of the prostate of the dromedary of the region of El Oued in the south east of Algeria, under the directive of the laboratory of life sciences and techniques of the institute of sciences. veterinarian of Taoura from the University of Souk Ahras, about twenty prostates from adult, healthy animals, After slaughter and meticulous dissection of the pelvic cavity, we were able to elucidate the position of the prostate which is located in the lower anterior part from the small pelvis below the bladder, on the urogenital diaphragm, it has been noticed that through the prostate passes the initial section of the urethra, as well as the right and left ejaculatory ducts. In the dromedary, it has the shape of a pear, slightly flattened in the anteroposterior direction. It has been noted that there is a collapse from the base towards the bladder, to the seminal vesicles and to the ampullae of the vas deferens, looking towards the posterior surface which faces the ampulla of the rectum and is separated from it by a plate of connective tissue – the rectovesical septum. Proximity to the rectum allows you to feel the prostate in a living person through the anterior wall of the rectum. The lower lateral surface of the prostate faces the muscle that lifts the anus. The top of the prostate faces downwards and is adjacent to the urogenital diaphragm, on the other hand, it has been noticed that the anterior surface faces the pubic symphysis and is separated from it by a loose tissue containing a branch of a vein. To the pubic symphysis of the prostate go the lateral puboprostatic ligaments, the ligament and the puboprostatic medial muscle, in conclusion, the macroscopic characteristics of the camel prostate is similar to that of cattle.

Keywords

Anatomy; Camel; El Oued; Prostate; Topography

EFFECT OF RAW SUNFLOWER SEED ON FATTY ACIDS PROFILE OF DAIRY CAMELS

MOHAMMADABADI T

Agricultural Sciences and Natural Resources University, Iran

Abstract

This trial was conducted to investigate the effect of raw sunflower seed on the milk production and fatty acid profile of dairy camels. Twelve lactating camels, mean 7 years age, average body weight 570 kg assigned into control treatment without using raw sunflower seed and another group with 400 g raw sunflower seed for 30 days. The raw sunflower seeds were crushed and fed camels before going to the desert for grazing. The result indicated inclusion of raw sunflower seed increased milk production and milk fat of camels in compared to the control ($P<0.05$). Sunflower seed decreased trans fatty acid; C18:1t and increased unsaturated fatty acids; C18:1, C18:2, C18:3 and CLA (conjugated linoleic acid). Trans fatty acid value was 1.21 and 0.09 %, CLA was 0.38 and 0.29 % and C18:2 was 1.61 and 2.1 % for sunflower seed and control group, respectively ($P<0.05$). Therefore, using of sunflower seed by 400 g/day to dairy camels' increased milk production, fat and unsaturated fatty acids and decreased trans fatty acids of camel milk that effectively influence heart health.

Keywords

Camel milk; Fatty acid profile; Sunflower seed.

DOI: *10.46325/gabj.v7i2.372*

THE HISTOPATHOLOGY OF HEPATIC CIRRHOSIS IN THE DROMEDARY OF THE EL-OUED REGION

BENTAZIR AC, RAHMOUN DE, KHENENOU T, AIDOUDI H

Laboratoire STV, Université de Souk Ahras.

Contact : demazir133@gmail.com

Abstract

The study was carried out to highlight the histopathological aspects of hepatic cirrhosis in camels. About thirty adult dromedaries from the El Oued region of southeastern Algeria were used, the research was carried out in the laboratory of life sciences and techniques of the Institute of Veterinary Sciences of Taoura, University of Souk-Ahras. On the macroscopic level, a slight modification in the texture of the extremities of the organ was observed, after having made thin histological sections of the livers and passing through the different stages of staining with hematoxylin and eosin as well as with trichrome d' Azan, we could note images of regeneration nodules in circular form of irregular contour, measuring 11mm to 56 mm in diameter, there was also an accentuation of the deposit of perinodular fibrin which invades the hepatic parenchyma, the use of immunohistochemistry with the CD105 marker, revealed the presence of neovascularization in situ, which demonstrated a highly developed inflammatory activity at the intra-nodular level by the presence of immune cells of the macrophage and lymphocyte type. It was noted that the dosage of liver enzymes demonstrated an elevation of ALT, AST, GGT, with a remarkable decrease in the level of albumin. The silver nitrate impregnation of the histological sections revealed the presence of reticular fiber, the thickness of which varies according to the involvement of the parenchyma. Comparing these patterns with that found in other mammals, this manifestation is very rare which makes the prognosis of this disease is deadly.

Keywords

Cirrhosis; Dromedary; Liver; Histopathology; Nodules

POSTER COMMUNICATION

DOI: *10.46325/gabj.v7i2.372*

EFFETS SECONDAIRES D'UN XENOBIOTIQUE (RH - 0345) SUR UN ORGANISME NON VISE: *PENAEUS KERATHURUS* (CRUSTACEA, DECAPODA)

GHEID S[1], NADJI S[2], SAHI S[1]

1. Département de Biologie, Faculté des SNV, Université Chadli Bendjedid, El Tarf

2. Département de Biologie, Faculté des sciences, Université de 20 Aout 1955 Skikda

Contact : samiragheid@yahoo.fr

Abstract

This work concerns the valorization of the shrimps Penaeus kerathurus (Crustacea, Decapoda) (Forskal, 1775) fished in the Gulf of ANNABA. It aims to evaluate the biometry and the biochemical composition in proteins, carbohydrates and lipids in the gonads of P.kerathurus during two stages of moulting the intermoult (C) and the premoult (D). The study of the biometric parameters carried out indicates an apparent sexual dimorphism, it allowed to detect very highly significant differences on nine parameters between the two sexes. The testicles of P kerathurus contain more protein than the ovaries during both moulting stages; however the ovarian lipid content is higher than the testicular lipids. The evaluation of the side effects of a non-steroidal ecdysteroid agonist insecticide, halofenozide (23% EC) in P.kerathurus, focused on physiological indices. The results show that RH-0345 causes a decrease in gonado-somatic ratio and a decrease in condition index in females and males for both stages at the highest dose. Halofenozide causes a drop in gonadal protein, carbohydrate and lipid concentrations mainly at the highest Dose.

Keywords

Penaeus kerathurus, Biometric indices, Biochemical composition, Insecticides, Halofenozide, Physiological indices.

DOI: 10.46325/gabj.v7i2.372

BEEF CATTLE DYNAMICS IN TUNISIA AND NUTRITIONAL AND FORAGE CONSTRAINTS

HENI A, BEN M'BAREK S

Commissariat Régional au Développement Agricolede Sidi Bouzid, Tunisie

Contact : Aymenheni@live.fr

Abstract

"Beef cattle dynamics in Tunisia and nutritional and forage constraints". The Tunisian bovine sector represents an important component of the agricultural production and the national economy. The spatial-temporal transformation process of the bovine herd that shifted from the North towards the coastal regions a few years ago, required special attention, especially on food and forage availability that has to be improved with the needs of an expanding flock. However, this herd redeployment between regions has the risk to impair the distribution of the forage areas between the three regions (North, Centre and South) which was in harmony with the livestock distribution in accordance with the composition of the diet. So, this redeployment trend of the livestock did not induce a similar trend in the allocation of new lands to fodder crops. Otherwise, the forage production in these regions must be devoted not only to the local flock but also to supply the national herds and especially those of the Sahel regions.

Keywords

Cattle farming; dynamics; livestock feeding; fodder crops; Tunisia.

DOI: *10.46325/gabj.v7i2.372*

ACTUAL SITUATION OF HYDATIC CYSTS IN CATTLE LIVESTOCK IN WILAYA OF KHENCHELA

HADJAB N[1], LACHEKHAB N[2]

1. Départ. Sciences Vétérinaires, LESPA, Universite Hadj Lakhdar Batna1, Algeria .

2. Docteur vétérinaire, l'inspection vétérinaire de la Wilaya de Kenchela

Contact : veto.naima@yahoo.fr

Abstract

In Algeria, Hydatidosis or Echinococcosis is a real scourge for livestock and public health. The clinical diagnosis of animal hydatitosis is almost impossible, and a discovery of the slaughterhouse level must be necessary to determine the spread of this disease and to allow for the implementation of corrective measures. This study aims to determine the rate of infestation of cattle by hydatic cysts in the Wilaya of Khenchela. The post mortem inspection of a total of 1226 cattle's carcasses during the period from January 2021 to July 2022 revealed that the major causes of seizures of red offal are hydatid cysts 23.65 % compared with others causes such Faschiolose 2.69%, and Tuberculoses 2.52%. These cestodes parasitized at 81, 92% the lungs, are the most affected organ, followed by liver (19.46%). In addition, we found that the rate of infestation is very high in the spring and fall periods (7.5% and 6.93%, respectively), compared to the winter and summer periods (5.54% and 3.67%, respectively). Based on these results, patricians veterinary and breeders should follow proper prophylaxis to control this parasitic infection and avoid economic losses "938 kg of lungs and 592 kg of liver recorded in this study".

Keywords

Hydatic cysts; Khenchela; Cattle; prevalence

DOI: *10.46325/gabj.v7i2.372*

CRANIAL OSTEOMETRY OF MALE SAHRAWI CAMELS IN ALGERIAN NORTHERN SAHARA

DIB M[1], BABELHADJ B[1,2], OUDINI E[1]

1.Unité de Rech. sur le camelin, Laboratoire ECO-SYS, Univ.Kasdi Merbah Ouargla, Algeria

2. Ecole Normale Supérieure d'Ouargla, Algeria

Contact : madjeddib19@gmail.com

Abstract

This work proposes to carry out a first osteo-craniometric approach in the dromedary in the northern Algerian Sahara, which was done on a sample of 27 skulls of male dromedaries of the Sahraoui population belonging to two different age groups, namely 14 young adult males from 6 to 10 years old and 13 adult males over 10 years old intended for slaughter. This craniometric study was carried out using the 50 linear measurements proposed by A. von den Driech (1976), 35 for the skull and 15 for the mandible partitioned into lengths, widths and heights of the skull. In this part of our theme, we aim to identify whether there is a difference between the skulls of these two age groups by carrying out all the measurements mentioned above. To do this, a t-test analysis was used. The average value of the long C1 skull lengths for adult males is 513.26 ± 20.22 while for young adults is 515.17 ± 21.65. Regarding the large C25 width, an average value of 230.03 ± 7.42 is attributed to adult males and an average of 230.35 ± 9.02 for young adults. The most indicative measurement of a skull is M8B with a determination rate of 66% followed by M4 and C25 with a rate of 29% and 4% respectively.

In continuity with this theme, measurements on the skulls of the Targui population give promising results.

Keywords

Skull; Camelus dromedarius; Sahraoui; osteometry; Algeria.

DOI: 10.46325/gabj.v7i2.372

DISTRIBUTION AND STATUS OF THE STRIPED HYENA HYAENA HYAENA (LINNAEUS, 1758) (MAMMALIA, HYAENIDAE) IN ALGERIA

OUENNES H[1] , DEROUICHE L[2]

1. Laboratoire PABIOS. ISAV. Université Mohamed Cherif Messaadia Souk ahras. Algérie.

2. École Supérieure des Sciences de l'Aliment et Industries Agroalimentaires, Alger, Algérie

Contact : houriavet19@gmail.com

Abstract

The striped hyena is widely distributed in the northern half of Africa (Wagner 2013), in Asia, the Middle Eastand the Arabian Peninsula, albeit now patchily (Kolowskiand Holekamp 2009). Over a total population of 5000–14,000 individuals, the African population, 2450–7850individuals, represents roughly half of the worldwidestriped hyenas (Hofer and Mills 1998).After the extinction of the spotted hyena Crocutacrocuta (Erxleben, 1777) during the Neolithic period(Geraads 2017), the striped hyena became the only representative of the four extant hyaenid species in NorthAfrica where it is sometimes considered to be a subspecies, HyaenahyaenabarbaraBlainville, 1844.The striped hyena Hyaenahyaena is listed "Vulnerable" by the International Union for Conservation of Nature (IUCN) in the Mediterranean region as its population and range are decreasing in most countries. In Algeria, the distribution and status of this species have not been reviewed for nearly 30 years. A field survey was conducted during the last 10 years in many regions and suitable habitats in order to update this information. Our results show that the striped hyena was eradicated from some northern areas of its former range, but still occurs in most regions of Algeria. Causes of mortality are reported and conservation measures are suggested in order to keep sustainable populations.

Keywords

Carnivora; habitat; North Africa; range; survey

DOI: 10.46325/gabj.v7i2.372

EFFECT OF TESTICLE POST-MORTEM STORAGE ON GOAT EPIDIDYMAL SPERM QUALITY

OUENNES H, SAHI S, AFRI-BOUZEBDA F, BOUZEBDA Z

Laboratoire PABIOS. ISAV. Université Mohamed Cherif Messaadia Souk ahras. Algérie.

Abstract

The present study was designed to evaluate the effect of both temperature and storage time interval on the caudaepididymal sperm quality in bucks. This investigation addresses the pre-freeze/post-thaw quality of goat epididymal sperm as a function of testicle storage temperature (environment or +4°C) and time elapsed between animal's death and sperm recovery (0, 24, 48, 72 h) to establish the optimal protocols for the recovery and cryopreservation of epididymal sperm in this species. Testicles of 40 mature bucks collected at the abattoir were divided in two groups: half of the testicles (n = 40) were transported to the laboratory at environment temperature (E), whereas the remaining half (n = 40) at a refrigeration temperature (R) of +4°C. In the two groups (E) and (R), one testicle from each pair was processed after slaughter forming the time 0 groups (0E and 0R). The contralateral testicle was processed after 24, 48 or 72 h of storage, at the corresponding temperature. Sperm motility and kinetic parameters, viability, intact acrosom, HOStest and morphology were assessed in pre-freeze and post-thaw samples. Until 48 h post-mortem, both E and R temperatures are able to maintain very good pre-freeze epididymal sperm quality. After 48 h post-mortem, refrigeration temperature is fundamental to reduce epididymal sperm quality decay in pre-freeze samples. Therefore, when sperm cryopreservation is not immediately practicable, goat testicles should be transported and stored at 4°C up to a maximum of 48 h post-mortem to ensure an acceptable sperm quality.

Keywords

Cryopreservation; epididymal sperm; goat; cryobank; temperature

DOI: *10.46325/gabj.v7i2.372*

OVARIAN MORPHOMETRY AND CORPUS LUTEUM HISTOLOGY DURING THE ESTRUS CYCLE IN COW

BOUKENAOUI-FERROUK N[1,2], KASSOURI-MAOUCHE S[1], BESSA S[1], FERROUK[2]

1. LRZA, Université des Sciences et Technologie Houari Boumediene, Alger, Algerie.

2. Institut des Sciences Vétérinaires, Université Saad Dahleb Blida 1, Algérie.

Abstract

The aims of our work was to study the ovarian morphometric and corpus luteum histological changes during the estrus cycle in cow. After sampling of genital apparatus at the slaughterhouses of the wilaya of Algiers, the stage of the estrous cycle was determined on the presence and size of the ovarian structures observed. The morphometric results reveal a non-significant difference ($p>0.05$) in ovarian weight in favor of the right ovary and a significant difference ($p<0.05$) in ovary weight in favor of the ovary with a body yellow. A non-significant difference ($p>0.05$) in the weight of the ovaries is obtained between the different stages of the estrous cycle. The corpus luteum was present in 61.5% of cases on the right ovary. Histological analysis has shown that the tissue organization of the yellow body varies with the stage of the oestral cycle. In metoestrus, the number of small luteal cells is greater than in large luteal cells, whereas in dioestrus, the number of large luteal cells was higher. At the proestrus, the corpus luteum in regression was characterized by a cellular disorganization resulting in larger interstitial spaces, a decrease in the number of luteal cells and an increase in fibroblasts between luteal cells and in the septa of the connective tissue. In conclusion, the most important morpho-histological changes were observed more frequently on the right ovary. After ovulation, the high functional activity of the corpus luteum in the dioestrus stage was revealed by the presence of a high number of large luteal cells. In conclusion, the evolution of ovarian weight varies according to the stage of the cycle with greater functional activity of the right ovary. The number and size of the different cells of the corpus luteum vary during the luteal phase of the estrous cycle.

Keywords

Ovary; Morphometry; Histology; Estrus cycle; Cows.

DOI: *10.46325/gabj.v7i2.372*

SITUATION OF VECTOR-BORNE DISEASES IN ALGERIA

OUACHTATI R[1,2], ZAGHDOUDI M[1,2], AOUN L[1,2]

1. Département des Sciences Vétérinaires, Université Chadli Bendjedid EL-Tarf, Algérie.

2. Laboratoire ESSPRETCADS, Université Chadli Bendjedid EL-Tarf, Algérie.

Abstract

Vector-borne diseases have a health and economic impact. They require the establishment of a control and surveillance system in order to estimate and evaluate the risk of their introduction, especially in Algeria. In order to highlight the situation of these diseases in Algeria, an inventory of the diseases, their vectors, the species affected and the control and surveillance programmes was carried out. During our study we noted the presence of West Nile virus in Tinerkouk in 1994 and then it was reported in Timimoun, Jijel, Guelma etc., bluetongue and rift valley fever as well as the presence of their vectors Culex pipiens, Culicoides, Aedes. We also note the detection of plasmodium falciparum in the Algerian south and the presence of Aedes albopictus in the Algerian north, which increases the risk of introducing serious arboviroses such as chikungunya, dengue, occipital Nile fever and Zika virus fever in our country. The presence of these diseases in Algeria requires the implementation of a rigorous monitoring and surveillance plan, especially at the borders.

Keywords

Algeria; vector-borne diseases; epidemic; mosquito; vector; transmission.

DOI: *10.46325/gabj.v7i2.372*

IMMUNLOCALIZATION OF PROGESTERONE RECEPTOR IN THE UTERUS IN GOAT LIVING IN ARID ZONES IN ALGERIA

KASSOURI-MAOUCHE S[1], BOUKENAOUI-FERROUK N[1,2] , KHAMMAR F[1]

1., LRZA, Université des Sciences et Technologie Houari Boumediene, Alger, Algerie.

2. Institut des Sciences Vétérinaires, Université Saad Dahleb Blida 1, Algérie.

Abstract

The aim of our study is to examine the immunolocalization of progesterone receptors in the uterine wall of goats living in arid zones in Algeria. After slaughter, the genital tract of cyclic and pregnant adult goats are harvested at slaughterhouses in arid zones. Pregnancy diagnosis is made *post-mortem*. After collection, the uterus is fixed in buffered formalin for the realization of the immunohistochemistry technique. Our results show, in cyclic and pregnant goats, an immunostaining of progesterone receptors in the epithelium of the uterine glands with a cytoplasmic localization. On the other hand, in the pregnant goat the immunostaining is observed at the level of the luminal epithelium with a nuclear localization. The intensity of the labeling measured by the ImageJ software is most important in the pregnant goat ($p<0.001$) than in the cyclic goat. In conclusion, the intensity of progesterone receptor labeling in the uterus varies according to the physiological state of goats living in arid zones.

Keywords

Goat; Endometrium; immunohistochemistry; progesterone receptor; uterus.

DOI: 10.46325/gabj.v7i2.372

CONTRIBUTION TO THE STUDY OF RUMEN FOREIGN BODIES IN SMALL RUMINANTS IN THE REGION OF THNIET AL ABED IN BATNA

SAHI S[1,2], BENFIALA S[2]

1. Laboratoire PABIOS. ISAV. Univ. Mohammed Chérif Messaadia. Souk-Ahras, Algérie.

2. Département des sciences vétérinaires- Université Chadli Bendjedid d'El Tarf, Algérie.

Contact *:* sameh.sahi@yahoo.fr

Abstract

This work is a practical study to present the importance of rumenotomy, which remains the good solution for the extraction of foreign bodies (F.B.), and give consequences and therapeutic means. The examination of rumens of sheep and goats prevented from the slaughterhouse of Thniet al Abed in Batna and those obtained in veterinary clinic allowed to collect foreign bodies in the animals sacrificed in the slaughterhouse more than in the second case. The foreign bodies are variable in size, shape, volume and composition. They consist of plastic bags (100% of the cases), pieces of cloth, fibers and various strings. These different constituents can sometimes be united in a compact mass by a mineral deposit. The presence of foreign bodies in the rumen causes a congestion of the ruminal volume with a loss of weight and a development of the syndrome "animal eats but does not grow".

Keywords

Goat; foreign body; environment; sheep.

DOI: 10.46325/gabj.v7i2.372

UROLITHIASIS IN DOMESTIC CARNIVORES- CONTRIBUTION TO AN EPIDEMIOLOGICAL SURVEY (SÉTIF, CONSTANTINE, SKIKDA)

MESSAOUDI N[1], DjEMAI S[2], KERKOUB H[1], RAHMOUNI H[2], SOUALEH H[2]

1. Département des sciences vétérinaire, Université Chadli bendjedid EL-TARF.

2. Institut des sciences vétérinaire, université frère Mentouri Constantine 01.

Contact : massnzd@gmail.com

Abstract

Diseases of the urinary tract are frequently encountered in veterinary medicine, especially in carnivores. Urolithiasis is an integral part of the above-mentioned pathologies: it is the presence of stones in the urinary tract and represents a very frequent reason for consultation.

This work consists in carrying out a survey using a questionnaire in order to collect the maximum of statistical data to contribute a little to the enrichment of epidemiological information of these affections in domestic carnivores (dog and cat).

However, we note that this disease is poorly known and misdiagnosed by the majority of veterinary practitioners consulted, except for a few.

Keywords

Epidemiology; Carnivore medicine; Diseases of the urinary; Veterinary

EFFECT OF THE LACTATION PERIOD ON THE VARIATIONS OF SOME HEMATO-BIOCHEMICAL PARAMETERS IN ARBIA AND SAANEN GOATS IN THE SEMI-ARID ZONE OF NORTH-EAST ALGERIA (COMPARATIVE ANALYSIS)

Allaoua S.A[1], Zerari A[1], Daoudi F[1], Mahdi D[1,2]

1. Départ. des SNV, Université Larbi Ben M'hidi, Oum EL Bouaghi, Algérie.

2. Laboratoire EA, Université Badji Mokhtar, 23000 Annaba, Algérie.

Contact : sofia75amel@gmail.com

Abstract

The aim of this study is to highlight the usual values of some blood parameters (biochemical and hematological) in Arbia goats and Saanen goats reared in the semi-arid zone of North-East Algeria during the lactation period, and to study the difference between these two breeds with regard to these parameters. Ten goats (5 goats of each breed) aged between 1 and 5 years were chosen during the onset of lactation (4th week postpartum). Blood samples were taken; early in the morning and before feed distribution; from the jugular vein of each animal. The assays are carried out on the following biological parameters: White blood cells (WBC), Red blood cells (GR), Hemoglobin (Hb), Hematocrit (Hct), VGM, CCMH, TCHM, Total proteins (PT), Cholesterol (CHO), Triglycerides (TG) and PAL. A significant increase in the plasma concentration of PT and Hb was noted in SAANEN goats compared to ARBIA goats. On the other hand, we didn't found any significant difference in the concentration of TG, CHO, PAL, GR, GB, Hct, VGM, CCMH and TCMH between the goats of the two studied breeds. In addition, the SAANEN goat showed that mean values of several hemato-biochemical parameters are different from those found in the same breed in other regions of the world during the onset of lactation. These results encourage us much more to study the metabolic specificities of the ARBIA goat in the semi-arid zone in Algeria as well as those of the SAANEN goat in order to improve the productive performances of the local breed and to better use those of the imported ones.

Keywords

Arbia; Saanen; lactation; hemato-biochemical parameters; semi-arid zone; Algeria.

DOI: 10.46325/gabj.v7i2.372

EFFECT OF DIET ON EGG QUALITY

AMIRECHE D, BELAGOUNE A, ARZOUR-LAKEHAL N

Laboratoire PADESCA. UMC01. Institut des sciences vétérinaires de Constantine ISVK.

Contact : douaa.amireche@student.umc.edu.dz

Abstract

The aim of this study si to compare the effect of supplementing laying hens with different levels of linseed in their diet on laying rate and egg quality over a period of 8 weeks. Forty-eight 23-week-old Isa brown laying hens were divided into 4 groups corresponding to the control group and 3 groups receiving different levels of flaxseed supplementation. The groups were divided as follows: group 1; control, group 2; receiving 5% supplementation, group 3; receiving 7% supplementation, group 4; receiving 9% supplementation. During the experiment, each hen received 120 g of commercial feed daily. From 23 to 31 weeks of age, eggs from one laying day were collected weekly to analyze their quality. The parameters studied were: egg weight, white weight, white percentage, yolk weight, yolk percentage, shell percentage, shell thickness and yolk color. The overall egg composition (egg weight, proportion of yolk, proportion of white, proportion of shell and shell thickness) showed no significant difference between them, regardless of the diet of the laying hens, a significant difference was reported for yolk color,a proportional negative effect with the rate of linseed supplementation was noticed for group 3 and 4 on the laying rate.

Keywords

Diet; linseed; hen; quality; egg; laying.

DOI: *10.46325/gabj.v7i2.372*

USE OF GnRh IN OULED DJELLAL RAMS DURING THE NON-BREEDING SEASON

MEHALLAINE Z, DEGHNOUCHE K

Laboratoire DEDSPAZA, Départ. d'Agronomie, Université Mohamed Khider, Biskra, Algérie

Contact : zeyneb.mehallaine@gmail.com

Abstract

The objective of this study was to evaluate the effect of daily (long-term) use of GnRh on testosterone concentrations of Ouled Djellal rams during the non breeding season. Twenty rams aged 2-3 years divided into two groups: a control group having received no hormonal treatment and a second group of rams receiving daily doses of GnRh for 10 days. A blood testosterone assay was performed at the start and end of treatment. Scrotal circumference was measured before and after hormone treatment for all rams. The recorded results showed that after the first injection of GnRh (Day 1), the testosterone concentration is higher in the treated rams compared to the controls (7.05 ± 1.76ng/ml) vs (4.19 ± 0.75 ng/ml) p= 0.002 and reaches its maximum on the last day of treatment (day 10) in the treated group compared to the controls: (10.49 ± 2.37 ng/ml) vs (5.79 ± 1. 80ng/ml) $p<0.05$. The scrotal circumference after treatment for the treated and control group respectively (34.80 ± 3.02 cm and 34.12 ± 3.47 cm) $p>0.05$.

Keywords

Rams; GnRh; Ouled Djellal; Testosterone

DOI: *10.46325/gabj.v7i2.372*

OCCURRENCE OF PIROPLASMOSIS IN BOVINE BY BLOOD SMEAR IN ALGERIA

NABI R, TAIL G, ZIAM H

LBES, Faculté des SNV, Université Saad Dahlab, Blida, Algérie.

Contact : Optimistic.rania@gmail.com

Abstract

Bovine Piroplasmosis are tick-borne diseases due to protozoa belonging to two genera, *Babesia* and *Theileria*, while anaplasmoses are caused by intra-erythrocyte rickettsia, genus *Anaplasma*. These infections cause high economic losses in tropical and subtropical regions due to the decline in meat and milk production, the prohibitive cost of treatment, and high morbidity and mortality. Among these three diseases, tropical theileriosis remains by far the dominant summer disease of cattle in Algeria. This study was undertaken during the period between May to September in the northeast of Algeria (wilaya Tizi Ouzou). The blood of 52 cattle infested with ticks and showing signs suggestive of piroplasmosis were examined, and the microscopic examination of blood smears stained with Giemsa was made to observe the presence of intra-erythrocyte piroplasm. Moreover, the symptoms frequently observed were an average hyperthermia of 41.5°C (82.69%), icterus (76.92%), adenitis with significant hypertrophy of prescapular and precrural lymph nodes (38.46%), hypochromic type anemia (26.92%), hemoglobinuria (17.30%) and the presence of ticks (53.84%). Furthermore, an overall prevalence was determined at 51.92%. Mono-infections were dominated by *Theileria annulata* and *Anaplasma marginale* with a prevalence of 17.30%, followed by Babesia bovis 11.30%. The prevalence of mixed infections due to *T. annulata/A. marginal* was 5.76%. Females were more affected 59.09% than males 12.5%. As well as, the highest prevalence of 70.37% was recorded in older cattle (>3 years) compared to younger 29.62%, the variation is due to the inverse resistance to age and the immune response of l 'host. Montbéliards (55.55%) and Holsteins (40.74%) were more affected by piroplasmosis than the Brune de l'Atlas (3.70%). This study shows that *Theileria annulata* and *A. marginale* are the dominant parasites in cattle in Tizi Ouzou.

Keywords

Piroplasmosis; Bovine; Blood smears; Clinical marks; Theileria annulata; Algeria

DOI: *10.46325/gabj.v7i2.372*

STUDY OF THE EFFECT OF THREE PROBIOTIC STRAINS ON SOME GROWTH PARAMETERS IN RABBITS OF ITELV2006 strain

KADJA L[1], BOUAZIZ A[1], DIB AL[1], LAKHDARA N[1], GAGAOUA M[2]

1. GSPA Laboratory, Université Frères Mentouri Constantine 1, Constantine 25000, Algeria

2. Food Quality and Sensory Science Department, Dublin 15, D15 KN3K Ashtown, Ireland

Contact : louiza20132014@gmail.com

Abstract

Given the implication of a balanced microflora in the health of the host, the idea of modulating in a positive way the composition of the microbiota by using certain probiotic strains in order to improve the health status as well as to respond the objectives of animal husbandry has made its appearance in particular during the last decade. This study aimed to evaluate the influence of three probiotic strains (Bifidobacterium animalis subsp. Lactis BB-12, Lactobacillus rhamnosus GG and Saccharomyces boulardii CNCM I-745) on certain zootechnical parameters in healthy rabbits. This trial lasted 60 days and was carried out on 40 healthy rabbits from the ITELV2006 strain, divided into four groups including the control (C), the BA group, having received Bifidobacterium animalis subsp. Lactis BB-12, the (LR) group having received Lactobacillus rhamnosus GG and the (SB) group having received Saccharomyces boulardii CNCM I-745. The rabbits of the 3 groups received the probiotics for 30 days and then the latter were stopped for the last 30 days of the experiment. Zootechnical measurements of the following parameters: body weight (GP), average daily weight gain (GMQ), average daily consumption (CMQ) and feed Feed Conversion Ratio (FCR) were taken on D0, D30 and D60. . The results showed an improvement in most of the parameters studied in the three groups treated with probiotics, the best results of which were noted in the group treated with yeast (SB) with: a decrease in CMQ ($P<0.001$) and FCR ($P<0.001$), and a significant increase in GMQ ($P<0.001$) and body weight ($P<0.001$). We conclude that probiotics could be used as a growth promoter in rabbit farms that could help create a biotechnological alternative by replacing antibiotics and consequently reduce the emergence of bioresistance genes.

Keywords

Breeding; Growth Parameters; Probiotics; Rabbits.

DOI: 10.46325/gabj.v7i2.372

PROFIL EPIDEMIOLOGIQUE ET ANATOMOPATHOLOGIQUE DE L'ADENOCARCINOME NASAL ENZOOTIQUE CHEZ LES OVINS EN ALGERIE

SID[1,2] N, BELALMI[1] N.E.H, BENHAMZA[2] L, OUHIDA[3] S

1. Faculté SNV/STU. Université Mohamed El Bachir El Ibrahimi. Bordj Bou Arréridj.

2. Laboratoire GSPA. Université Frères Mentouri Constantine 1, Algérie.

3. Laboratoire d'anatomie pathologie CHU Saadna Abdenour, Sétif, Algérie.

Contact : nassim.sid@univ-bba.dz

Abstract

Enzootic nasal adenocarcinoma (ENA) is a chronic progressive transmissible tumor that affect sheep and goats. This disease is often sporadic but also can be enzootic . ENA is caused by beta-retrovirus: Enzootic Nasal Tumour Virus (ENTV). The objective of our work is to describe the epidemiological and anatomopathological profile of enzootic nasal adenocarcinoma in sheep in four wilaya in the North-East of Algeria (Bordj Bou Arréridj, Sétif, Batna and M'sila). A total of 235 flocks were surveyed and 21 cases were recorded from 2016 to 2018. The affected sheep showed the following clinical signs: persistent of nasal serous to seromucosal discharge, respiratory difficulty, exophthalmos and deformation of the frontal and lacrymal bones. The animals were euthanized and a necropsy was performed. Samples were preserved in 10% buffered formalin. The prevalence recorded at flock level was 8.51% while the individual prevalence was 1.99%. In female and male sheep, the prevalences recorded were 2.13% and 1.21% respectively. The average age of the affected sheep was 4.38 years (from 2 years to 6 years). The occurrence of cases seems to be higher in autumn (42.85%) and winter (33.33%) than in spring (23.8%) and summer (0%). The examination of the nasal cavities show the presence of uni or bilateral, friable, pinkish-white tumor masses, leading to the destruction of the ethmoidal volutes. The histopathological examination concludes the presence of an adenocarcinoma well differentiated. In the absence of treatment, isolation and slaughter of affected sheep remains the best way to control this transmissible cancer.

Keywords

Enzootic nasal adenocarcinoma; Sheep; Prevalence; Histopathology; Algeria.

DOI: 10.46325/gabj.v7i2.372

EFFECT CAROB-BASED SHEEP SUPPLEMENT TO STEAMING ON THE WEIGHT PERFORMANCE OF THEIR LAMBS

BOUHEDJA N[1], BENDEKOUM I[1], MEBIROUK-BOUDECHICHE L[1], LAGHOUATI W[2], ZALANI K[3]

1. *Laboratoire ESSPRETCADS, Université d'El Tarf, Algérie.*
2. *Département des SNV, Centre Universitaire Abdelhafid Boussouf, Mila*
3. *Département des sciences agronomiques, Université du 20 Aout 1955, Skikda.*

Contact : bn2000125@gmail.com

Abstract

Feeding behavior at the end of gestation in ewes, in particular covering their energy needs, greatly contributes to successful lambing and to ensuring a good start to lactation. The present study aims to compare the impact of two energy supplements (carob *vs*. barley) distributed by steaming on the milk production of ewes and the weight growth of their lambs. Fifty multiparous ewes from 3 to 4 years old, taken from an Ouled Djellal breed sheep farm, were divided into two groups and each received, in addition to ad libitum hay, an energy supplement at the rate of 500g/day /animal, consisting of 70% barley and 30% wheat bran, for the first group G1, and 70% carob and 30% wheat bran for the second group G2. Lamb weight measurements were taken at birth and then at 10-day intervals (from D0 to D50). The birth weight of the lambs is practically identical (3.79 vs. 3.75 respectively for G1 and G2) (P= 0.697). Similarly, the weights at D0, D10, D20, D30, D40 and D50 were not influenced by the type of energy supplement for the lambs of the two groups (P>0.05). In addition, the estimation of milk production by the equations including the weight change of the lambs from D0 to D50 showed similar results (1.03 vs. 1.06 l/day on average for G1 and G2 respectively) , which would undoubtedly explain the identical growth performance of lambs, given that at this period of their life, their diet is exclusively milk. Carob would therefore be a very interesting substitute for barley and could be integrated as an extra supplement in the diet of ewes at the end of gestation.

Keywords

Ewes; lambs; carob; weight gain.

DOI: 10.46325/gabj.v7i2.372

A COMPARATIVE STUDY OF THE ARTHROPOD FAUNA IN STORK, BARN SWALLOW AND COMMON PIGEON NESTS

SADEDDINE R, RIGHI S, DAGHRI K, SAIDANI K, BENAKHLA A

Abstract

An analysis of arthropod fauna collected from the stork, swallow, and pigeon nests was carried out during the summer of 2018, in three regions of north-eastern Algeria, namely Guelma, El-Tarf, and Annaba. The total number of nests examined was 40 of which 58% were infested with arthropods. Arthropods were less abundant and rich in swallow nests than in pigeon and stork nests, where greater dominance of mesostigmatic mites (78.71% and 72.41% respectively) was found.*Dermanyssusgallinae* was the most abundant (33.05%) and most frequent (73.33%) mesostigmatic mite in pigeon nests, while in white stork nests, uropodina mites were dominant (41.37%) with a frequency of 76.92% of the nests analyzed. In the swallow nests following arthropods were found: Psocodea, Hemiptera, Hymenoptera, and Coleoptera belonging to the class Insecta, and Isopoda belonging to the class Malacostraca. This study is the first comparative survey of arthropods occupying the nests of three bird species (white stork, barn swallow and rock pigeon) in northern Algeria. We hope that these data, which highlighted the richness of the arthropod fauna in the nests of these three bird species, will motivate further research aimed at both characterizing the arthropod community present in the different bird nests and determining the nature of the relationship between them.

Keywords

Arthropodofauna; birds' nest; white stork; barn swallow; rock pigeon

DOI: *10.46325/gabj.v7i2.372*

ZOOTECHNICAL PERFORMANCE OF BROILER CHICKENS (BIGFAST37 STRAIN AND ARBOR ACRES) IN THE REGION OF TÉBESSA

OUARTI K , BERAHAL M

PABIOS Laboratory, ISAV, Mohammed Chérif Messaadia University, Souk-Ahras, Algeria.

Abstract

The poultry sector in Algeria has reached a stage of development which gives it a place of choice in the national economy with 1.1% of national GDP and 12% of agricultural GDP. The objective of our work is to evaluate and compare the growth performance in two different strains of broiler Bigfast37 and Arbor Acres under the same improved breeding conditions both during the hot period and the cool period for a period aging of 56 days. The parameters measured were: feed consumption index (CI), mean weight (PM), mean daily gain (GMQ), food consumption (CA) and mortality rate (TM). We obtained respectively for the Bigfast37 and Arbor acre strains 2.4Kg and 2.38Kg with an IC of 1.53 and 1.87 in the hot season (at 49 days of age) against 2.75Kg and 2.28Kg, with as CI of 2.07 and 2.03 in the cold season (at 49 days of age). The analysis of our results shows that the period corresponding to the cool season is the most conducive to broiler breeding. Since the temperatures there are lower, their impact is reduced and the birds have more satisfactory zootechnical performance.

Keywords

Strain; Performances; Poultry farming; broiler; Algeria.

DOI: *10.46325/gabj.v7i2.372*

USE OF EXOGENOUS MELATONIN IN EWES AND RAMS OF OULED DJELLAL BREED DURING THE OUT-BREEDING SEASON

ADNANE M[1] , MIROUD K[2]

1. Département des sciences vétérinaires, Université Chadli Bendjedid El Tarf, Algérie

2. Laboratoire ESSPRETCADS, Université Chadli Bendjedid El Tarf, Algérie

Contact : adnanemaha@yahoo.fr

Abstract

To investigate the effect of exogenous melatonin treatment on the ovine reproductive behaviour, during the so called the sexual out breeding season, that usually matches with Spring, 84 adult ewes of Ouled Djellal breed taken randomly amongst a 160 females flock and 16 genitor rams of the same breed, were treated with respectively 1 and 3 melatonin subcutaneous auricular implants (Mélovine). The 76 non-treated remaining ewes (160 – 84) served as the control group. The rams had their scrotal perimeters measured before (PS1) and 47 days after (PS2) the melatonin treatment, before they were allowed to run with the whole females' flock. The analysis of the laming rates has not shown any significant difference ($p>0.05$) between the melatonin treated ewes and those of the control group (90.4 % vs 97.3 %) which proves that their sexual activity is not under photoperiod control. However, the analysis by the t test of the paired samples of the scrotal perimeters has shown a significant difference ($p<0.05$) between measurements before and after exogenous melatonin treatment in rams which proves its potential effect on daily sperm output. During the study period, no effect on sexual female activity has been noted. The use of melatonin is then more recommended in males than in females, at least in the breed followed up, apart may be from its use in heat synchronisation regimens.

Keywords

Exogenous melatonin; outbreeding season; ovine; photoperiod; scrotal perimeter

DOI: 10.46325/gabj.v7i2.372

ENDOMETRIAL CELLS MORPHOLOGY AND OESTROGEN RECEPTOR EXPRESSION DEPENDING ON ESTROUS CYCLE IN DAIRY COWS

BENBIA S[1,2] , BELKHIRI Yamina[2,3]

1. LBMBPC, Universitéde Batna 2, Algérie

2. Département de Biologie des Organismes, Faculté des SNV, Universitéde Batna 2, Algérie.

3. Laboratoire PABIOS. ISAV, Université de SoukAhras, Algérie.

Contact : s.benbia@univ-batna2.dz

Abstract

The goal of the present study was to evaluate the effect of the ovarian steroids on histo-morphorphometric changes in three endometrium compartments (LE, SGE and DGE) and to determine the distribution and expression of ER receptors in the same endometrium compartments (LE, SF, SS and DS) on the one hand and to establish a relationship between steroids receptors expression and morphometrics parameters. Reproductive tract of 50 healthy dairy cows were obtained from BATNA abattoir (Algeria). Based on macroscopic observation of the ovaries, animals were classified into two equal groups: follicular (n =25) and luteal (n=25). Height of cells epithelium (HCE), estrogene receptors (ER) expressions on luminal epithelium, superficial (SG) and basal (DG) glands were assessed using a morphometric and immunohistochemistry methods. The histological samples were obtained from four different sites for each reproductive tract: horn, body. Morphometric parameters (HCE, density, area and perimeter of SG and DG) were measured using both Panoramic Viewer and Image Pro-Plus version 6. ER expression was assessed using a immunohistochemistry methods. Our results show: Spatiotemporal changes of all morphometric parameters and ER were observed in the superficial compartment of the endometrium. In DG these changes were note observed. Dramatic spatio-temporal changes occurred in SG in all most studies parameters. Correlations were found between morphometric parameters, hormonal profile and steroid receptors expression.

Keywords

Cows; phase; follicular; luteal; ER; correlation; histo-morphometry; immunolocalization ; uteri.

DOI: 10.46325/gabj.v7i2.372

REASONS FOR SEIZURE OF BEEF AND VEAL AT SLAUGHTER ESTABLISHMENTS (EL OUED)

SAHRAOUI L[1,2], BENREZAK S[1]

1. Institut des Sciences Vétérinaires et de Sciences Agronomiques Batna1, Algérie.

2. Direction des services agricole El oued, Algérie.

Contact : leile.avi@gmail.com

Abstract

The current study was conducted to discern beef seizure reasons at slaughterhouses over a five-year period (January 2018 - June 2022). Based on the analysis of the slaughter and seizure reports during these years, the results indicate that the main reasons for the seizure of meat in relation to the monthly number of cattle slaughtered (average number: 633 head/month) are listed in the following decreasing order: tuberculosis (0.07%), pneumonia (0.06%), meat fever (0.03%), icterus (0.026%), cachexia (0.02%), trauma (0.017%), other (0.011%) and sepsis, cadaveric status (0.002%). Moreover, the monthly meat loss for each reason is shown as follows: tuberculosis (65.83 kg), peripneumonia (4.79kg), fever (40.38kg), icterus (31.66 kg), cachexia (12 kg), trauma (2.33 kg), sepsis (2.22kg), cadaveric condition (2.85 kg), and other (13.72 kg). These data highlight a huge public health issue since tuberculosis is classified as a zoonotic disease, requiring an urgent and effective control strategy as well as the reinforcement of preventive measures against this disease.

Keywords

Reasons; beef; seizure; slaughterhouse. El oued.

THE DROMEDARY CAMEL UNDER THE ALGERIAN SEMI-EXTENSIVE BREEDING SYSTEM: AN ANIMAL WITH A REMARKABLE DAIRY POTENTIAL

CHIKHA M[1], KHENENOU T, GHERISSI DE

1. Laboratory STV, University of Souk-Ahras, Algeria.

2. PABIOS Laboratory. University of Souk-Ahras, Algeria

Abstract

The dairy camel is an important source for people in arid and semi-arid regions. The present study aims to assess the dairy potential of 30 local camels, in early, middle and late lactation, quantitatively by weighting the milk of each camel and qualitatively by using LACTOSCAN milk analyzer. Monitoring was carried out with a semi-intensive camel dairy farm of TDAJEN daily plant in El Oued region. The means of total milk yield, lactation duration and daily milk production are respectively 2047.5 L, 455 days, and 4.5 L / day. A significant difference of the camel milk quality was recorded between different lactation stages. The peak of the daily production was observed during the middle of lactation (5.6 L). The fatty acid proportion was inversely proportional to the milk quantity. Therefore, the large size of fat globules in the udder during the late lactation increases the pressure inside the acini and decreases their secretion the lowest quantity. There was a significant difference in the percentage of fat, protein, lactose, salts, PH, density and solids -not-fat. Where, There is an increase in the percentage of fat during the lactation where the percentage in early, middle and late lactation were 2.16±0.53 % , 2.62± 1.43% and 3.44± 1.64 % respectively and a decrease in the percentage of protein, lactose, salts, ph, density and solids-not-fat in middle lactation 2.93±0.049% ,4.41± 0.13% ,0.647± 0.03% , 5.9± 0.03% ,27.805± 3.43 %, ,7.98± 0.44 % respectively leading milk to become more diluted. This study brings information to understand the quantitative and qualitative potential of Algerian camels reared under semiextensive breeding system.

Keywords

Camel; Dairy potential; El Oued; Quantitative; Qualitative

DOI: *10.46325/gabj.v7i2.372*

LACTIC FERMENTS OF INTEREST ISOLATED FROM ALGERIAN CAMEL'S MILK

ADDI N[1] , GUESSAS B[2], KIHAL M[2]

1. Université Ahmed Zabana Relizane, Algérie,

2. Université Ahmed Benbella Oran 1, Algérie.

Contact : *nasrine.addi@univ-relizane.dz*

Abstract

Lactic ferments are isolated from milk and have a strong acidifying power, as well as several biotechnological properties of industrial interest such as proteolysis, which makes possible to diversify the tastes of dairy products. Thus, strains including Lactococcus lactis sp. Lactis, Lactococus cremoris and Lactococus garviae, isolated from raw camel's milk, coming from Tindouf, Oued Souf and Adrar were targeted for optimization of a new culture medium, the objective being to improve the proteolysis activity and to select possible new strains of interest to be used in the dairy industry. The results show that the species of Lactococcus lactis have a very good proteolysis potential, and that the activity in question is at it's optimum after 24 hours of incubation at a temperature of 37°C and at a pH of 7.2. Among the different carbon sources, lactose and glucose are found to be best for strains, Casein and yeast extract are the best sources of nitrogen. Moreover, the combination of glucose (5g/L) with casein (5g/L) has proven to be the best.

Keywords

Camel's milk; lactic ferments; Lactococcus sp.; optimization; proteolysis.

DOI: *10.46325/gabj.v7i2.372*

INDIVIDUAL AND ENVIRONMENTAL FACTORS INFLUENCE PRE-WEANING LAMB MORTALITY UNDER INTENSIVE MANAGEMENT IN TISSEMSILT. ALGERIA

BOUDELAL S[1], HARKACHE A[2], DOUKHANE G[2]

1. Laboratory FAR, Institute of Veterinary Science, University of Tiaret, Algeria.14000.

2. Faculty of science and technology, University of Tissemsilt, Algeria.

Contact : *Boudelalvet@yahoo.fr*

Abstract

The pre-weaning mortality is the major factor affecting profitability in sheep industry. The present study was carried out to determine the main risk factors affecting lamb mortality in Tissemsilt area (Algeria).Various biological and environmental factors were evaluated. Data were collected from 2100 birth from 26 sheep flocks during the lambing seasons in 2019-2020 (September to April).The overall lamb mortality was 4.85% (n= 102). The risk of death is the highest in early age from birth to 48h postlambing (1.57%; n=33). The risk of mortality is higher in primiparous ewes and in those that lambing in cold season. It was found that lambs with low birth weight, twinning, the birth of male, and poor ewe maternal behaviour at lambing affect significantly the risk of lamb mortality. So, diarrhea (21.56 %), enterotoxaemia (10.78%) and pneumonia (7.84%) are the relevant causes of lamb mortality before the weaning period. These statements confirm that lamb mortality is a multifactorial disorder. Farm practices primarily focused on improving the care of pregnant ewes and newborn lambs may increase lamb survival rates and ultimately boost the profitability of sheep farming enterprises.

Keywords

Risk; Post lambing; Death; Causes; Survival rates.

USE OF HISTOLOGICAL TECHNIQUES FOR STRUCTURAL QUALITY CONTROL OF FRESH, FROZEN AND REPEATEDLY FROZEN FISH

GUELMAMENE R, ELGROUD R., BENNOUNE O

LAPSA, Institut des Sciences Vétérinaires et des Sciences Agronomiques,université Batna 1

Contact*:* *rahma.guelmamene@univ-batna.dz*

Abstract

In the fish industry, the term "fresh" implies that the fish has never been frozen, from the moment of its capture until its distribution to consumers, it is kept refrigerated. The objective of the present study is to exploit the capabilities of histological techniques in monitoring and evaluating the structural quality of muscle tissue from fresh, frozen, and repeatedly frozen fish. Twenty fish, chosen at random, were studied using the histological technique. Samples were fixed in 10% buffered formalin, then dehydrated and embedded in paraffin. The paraffin blocks, containing the samples, were cut, using a microtome (thickness of 5µm), then stained using hematoxylin and eosin (H&E) giving histological slides ready for examination. Under the light microscope, the fresh muscle showed no changes, except for some minimal microstructural variations, caused by the standard processing during the preparations for histological examination. While deformations of myocytes with empty sectors, optically, were detected in frozen fish: - Separation of muscle fiber bundles. Remarkable structural defects in double frozen muscle have been demonstrated, with total rupture of muscle fibres, namely: Rupture of muscle fiber bundles; endomysial ruptures; increase in intercellular spaces, and decrease in cell diameters; disintegration of the characteristic striation of the muscle cell; intracellular oedema and even degenerations. In conclusion, the use of bioimaging is sufficiently justified as a tool for assessing the degree of cellular damage caused by freezing. The histological technique is, therefore, a simple, economical, and competitive method for compositional accuracy and structural quality control of fresh, frozen, and repeatedly frozen fish.

Keywords

Fish; frozen; bioimaging; structural quality; histological techniques; control; optical microscope.

DOI: *10.46325/gabj.v7i2.372*

TOXIC EFFECT OF TOPIK 80 ON RABBIT REPRODUCTION MALE (*Oryctolagus cuniculus*) - PRELIMINARY RESULTS

REBAHI S[1], ALOUANI A[2], MEGUINI N[2], KHENENOU T[2]

1. Laboratoire STV, Université Mohamed-Chérif Messaâdia Souk Ahras

2. Département de Biologie, Faculté des SNV, Univ. Mohamed Chérif Messaâdia, Souk Ahras

Contact : s.rebahi@univ-soukahras.dz

Abstract

This study aims to evaluate the toxic effect of the herbicide Topik 80; on certain parameters of reproduction in the domestic rabbit (*Oryctolagus cuniculus*). The herbicide was administered daily to adult rabbits (5-6 months) at three doses different for four successive weeks. After the animals were sacrificed, the testicles were removed, the subchronic exposure to “TOPIK 80” under laboratory conditions induces a reduction in the live weight of animals (impairment of the general condition) as well as a reduction in the weight of the testicles and the epididymis in animals in the treated groups compared to the control group. The histological study of the testicles showed pathological alterations such as a reduction remarkable concentration of spermatozoa and a cellular malformation within the seminiferous tubules, these appear empty, atrophied and separated by spaces wide interstitials with the presence of apoptotic cells (Masson's trichrome staining), especially in the group treated with the highest dose of herbicide. The results clearly show the toxic effect of the herbicide Topik 80t; on reproduction in the domestic rabbit.

keywords

Lapin; Topik 80; toxicité; reproduction; testicule; spermatozoïdes

DOI: *10.46325/gabj.v7i2.372*

1st International Seminar on Animal Health and Production (1st SISPA)
Livestock diseases and population medicine in dairy cattle farms
October 11 and 12, 2022
University of Mohamed Chérif Messaadia - Souk Ahras

PHENOTYPIC CHARACTERIZATION AND PHYSICO-CHEMICAL STUDY OF THE MILK OF THE GOAT BREED "ARBIA" IN THE WILAYA OF TLEMCEN

DJAOUT A[1,2], BELHARFI F.Z[3,4], KOURICHI A[5], LARABI N[5], BENIDIR M[1], GAOUAR S.B.S[3]

1. INRAA. Division Agro-système Est. Sétif, Algérie

2. Laboratoire PABIOS. ISAV. Université Mohammed Chérif Messaadia. Souk-Ahras, Algérie

3. Laboratoire GenApAgiE, Départ. de Biologie. Univ. Abou Bekr Bélkaid, Tlemcen. Algérie

4. Laboratoire PpBioNut, Université Abou Bekr Belkaid. Tlemcen. Algérie

5. Départ. de Biologie, Université Abou Bekr Bélkaid. Tlemcen. Algérie

Contact*: djaout.amel08@gmail.com*

Abstract

Our study is based on a phenotypic approach of the Arbia breed at the level of the wilaya of Tlemcen on the one hand, and on a physicochemical analysis of the milk of this breed on the other hand. The baryometric approach addresses the characterization of the Arbia breed by the use of body measurements on 40 individuals (34 goats and 6 bucks), these measurements: HL, HW, EL, EW, WH, BH, SH, CP, HG, CD, SW, NL, BL, TBL, SIL, TL, PL, RW, IW and TW are respectively : 23.16±1.53cm, 11.51±2.13cm, 16.47±2.40cm, 7.30±0.63cm, 69.79±4.46cm, 71.40±4.74cm, 72.28±4.67cm, 8.58±1.11cm, 79.36±6.44 cm, 28.71±3.17cm, 16.65±2.80cm, 23.18±2.19cm, 72.57±7.14cm, 109.96 ±7.55cm, 64.24±5.26 cm, 12.30 ± 2.42cm, 15.59 ± 1.36 cm, 15.59±1.36cm, 21.28±1.84cm, 11.97±1.81cm and 16.77±2.75cm. This characterization revealed a phenotypic dimorphism between males and females, with very highly significant differences ($p<0.001$) for some of the body measurements used. The results of the PCA yielded 03 classes (n = 34, n = 05 and n = 01, respectively).While the performance aspect is carried out by physicochemical analyzes of 29 milk samples belonging to the individuals characterized, the analyzes F, D, C, S, P, L, T, S are respectively 56.90±20,24g/l; 3.086±3.62; 4.96 ±0.41; 7.73±1.78%; 27.35±4.01g/l; 4.21±0.61g/100ml; 19.18±2.77C °; 0.70 ± 0.09%. These characteristics give good milk quality.This work encourages us to move forward towards the large-scale exploitation of goat herds with a focus on the steppe level where cattle experiencing production difficulties.

Keywords

Characterization; Barymetry; Breed; Goat; Milk.

DOI: *10.46325/gabj.v7i2.372*

CHARACTERIZATION OF RABBIT FARMS IN THE REGION OF TIARET

TRIKI Z[1], TEFIEL H[1,2], CHAHBAR M[1,2], GAOUAR S.B.S[1,2]

1. Laboratoire LRAE, faculté des sciences et technologies – université de Tissemsilt.

2. Laboratoire GenApAgiE, Départ. Biologie, Univ. Abou Bekr Belkaid, Tlemcen, Algérie

Contact : *zoheir.triki@yahoo.com*

Abstrcat

This study aimed to better understand the characteristics of rabbit farms and the pastoral practices in the Tiaret region; The methodology adopted is based on farm characterization surveys. The questionnaires were administered to 63 farms in four regions of this wilaya. The results show that rabbit breeding is practiced as a secondary activity, the labor is strictly family; breeding is practiced by men 90.16% farms surveyed with an age group of 25-34 which constitutes the majority, the rabbit is reared only in 33.87% of the farms investigated; This breeding is practiced for most breeders with a system and traditional buildings in 84.34% and its breeding is dedicated to the sale and production of meat for home consumption only. Food is mainly based on waste kitchen waste and crop waste and few breeders use industrial pelleted feed. The management is carried out by the breeder himself and/or his family. Average age at first mating females is 6 months old and males are bred at 7 months or older according to breed; reproduction is done in a natural way with four (4) births per year and six to eight (6-8) young rabbits on average per farrowing, Failure to respect aspects zootechnics, genetics and health has been noticed. These results will allow stakeholders in charge of the promotion of farms in general and that of rabbits in particular by design programs and projects to improve more resilient livestock systems faced with the difficulties most often reported and which were faced by breeders such as diseases, mortalities, food and the lack of market experienced by the regions of study.

Keywords

Tiaret; cuniculture; characterization; traditional; typology; rabbit; breeding

DOI: *10.46325/gabj.v7i2.372*

EVALUATION OF THE EFFECTS OF FROZEN STORAGE ON THE MICROSTRUCTURE OF BEEF MEAT THROUGH FRACTAL DIMENSION METHOD

LAKEHAL S, BENNOUNE O, AYACHI A

Institut des Sciences Vétérinaires et des Sciences Agronomiques, Université Batna1

Contact : lakehalsaliha@yahoo.fr

Abstract

In this study, meat samples stored at -23 C° for 12 months were investigated to establish effective quality evaluation methods based on microstructure changes during storage. to evaluate quality changes associated with microstructure and biochemical changes of meat samples, fractal dimension was applied to observe porous microstructure due to the formation of ice crystals in frozen beef meat, as well as selected quality parameters were determined. Results showed that fractal dimension presented a decreasing trend with increasing of freezing time. Increased numbers of freezing time were accompanied by decrease in water activity, increase in pH, and a greater degree of lipid oxidation, as evidenced by higher contents of the thiobarbituric acid-reactive substances value. The results demonstrated that fractal dimension proved to be a novel and feasible method to evaluate the quality of meat in freezing processes.

Keywords

Frozen storage; Fractal dimension; Quality evaluation; meat; Microstructure

DOI: 10.46325/gabj.v7i2.372

METHODS OF IDENTIFICATION OF MOSQUITOES

DEKKICHE K[1], BENATTALAHM A[1,2]

1. Ecole Nationale Supérieure Vétérinaire, Rabie Bouchama, Issad Abbes, Oued Smar -Alger

2. Laboratoire HASAQ, ENSV, Rabie Bouchama, Issad Abbes, Oued Smar -Alger.

Abstract

Vector-borne diseases are a real threat worldwide, due to the lack of vaccines and treatment for some diseases. Among arthropod vectors, mosquitoes are described as the most dangerous insect on earth, resulting in an estimated 725,000 deaths per year due to their diseases transmitted to humans and animals. Accurate identification of mosquito species is important to distinguish vector species from nonvectors. Morphological identification remains the standard method but several molecular methods have been developed, such as PCR, sequencing and barcoding, environmental DNA, LAMP isothermal amplification and Maldi-TOF mass spectrometry. Initially developed to identify species that are members of a taxonomic complex, the most efficient techniques are now extended to broad species spectra. Each identification method has its strengths and weaknesses. It is in this perspective that our study aims to better understand the different methods used to identify the different species of mosquitoes. Consequently, their effectiveness through the evaluation of their strengths and weaknesses

Keywords

Mosquito; morphological identification; molecular method; vector transmission; efficiency

DOI: *10.46325/gabj.v7i2.372*

TEST OF THE ANTIFUNGAL AND ANTIBACTERIAL ACTIVITY OF SYNTHESIZED IONIC LIQUIDS ON FUNGI AND BACTERIA AFFECTING THE HONEY BEE *Apis mellifera intermissa*

HENNI A[1], CHAHBAR M[1,2], TEFIEL H[1,2], BOUNOUIRA Y[1,2], GAOUAR S.B.S[2]

1. Laboratoire LRAE, faculté des sciences et technologies – université de Tissemsilt.

2. Laboratoire GenApAgiE, Départ. de Biologie, Univ. Abou Bekr Belkaid, Tlemcen, Algérie

Contact : *asmahenni37@gmail.com*

Abstract

Recent years have seen a resurgence of interest in the application of ionic liquids (ILs) to extraction. Along with this growth of ionic liquids, there is great concern about the effect of ILs on biomass extraction. The aim of this work was therefore to study the inhibitory effect of synthesized ionic liquids, in particular poly Decationic, Decationic, New 3, Lithium imedazium, mono particle with Mn2, mono particle its Mn2 and Thia Cl-OH. Antibacterial and antifungal activities were realized against Paenibacillus larvae and Ascosphera Apis which are the main pathogens that affect the honey bee Apis mellifera intermissa after isolating and identifying and cause serious damage in our bee population. The results showed that the inhibitory effects of poly Decationic, Decationic, New 3, LI Thia Cl-OH against the bacterium (Paenibacillus larvae) and the inhibitory effects of poly Decationic, Decationic, New 3, Lithium imedazium, Mono particle with Mn2, Mono particle with Mn2 and Thia Cl-OH against the fungus (Ascosphera Apis) were non-extended with zero zone of inhibition in all the tests performed. This result represents the non-inhibitory effect of LIs on the fungus and the bacterium tested in this study.

Keywords

LI: Ionic liquid; Paenibacillus larvae ; Ascosphera Apis ; honey bee ; Apis mellifera Intermissa

DOI: 10.46325/gabj.v7i2.372

FEEDING PRACTICES AND PRODUCTION CONSTRAINTS IN JAPANESE QUAIL FARMING IN SOUTHERN ALGERIA

TOUAHRI A[1] , TEFIEL H[1.2] , ZIDANE A[3] , GAOUAR S.B.S[2]

1. LRAE, Faculté des sciences et technologies, Université de Tissemsilt.

2. Laboratoire GenApAgiE, Départ. de Biologie,Univ. Abou Bekr Belkaid, Tlemcen, Algérie.

3. LBRN, Faculté des Sciences de la nature et de la vie, Université de Chlef.

Abstract

Recently, in Algeria , an unconventional branch which has been added to poultry production : it is that of Japanese quail farming . A survey was conducted in three regions in southern Algeria in order to identify the food practices and production constraints of Japanese quail farms. The survey was carried out with 20 farmers from the regions (Biskra, Touggourt, and Ouargla). Data descriptive analysis was done using EXCEL 2007 tool focused on the determination of mean values, minima and maxima. Almost all the respondents (84.21%) used commercially-mixed Chicken feed while 15.79% used cereals, wheat bran, or homemade feed .About 75% of farmers give feed twice a day and 15% practice one feeding per day . Food rationing is practiced by 60 % of japanese quail farmers. 75% of respondents use use feed additives in the form of vitamins, phytotherapies or CMV. The most production constraints are the high cost of foods (47.05%), and poor hatchability of eggs (17.64%). Japanese quail farmers consider that the lack of awareness and information about the benefits of Japanese quail (34%) and the irregularity of local consumers demand for quail products (24%) as the major problem of the commercialization in this field. Thus , the results of this study revealed the existence of some gaps in the food practices and much constraints in production which inhibit the development of this new sector in animal production.

Keywords

Japanese quil; feed practices ; prodction constraints ;Southern Algeria.

DOI: *10.46325/gabj.v7i2.372*

CHANGE ON SOME HEMATOLOGICAL PARAMETERS OF LAMBS OULED DJELLEL DURING LACTATION ACCORDING TO AGE AND SEX

ZERARI A[1], MAHDI D [1,2], ALLAOUA SA, DAOUDI F[1]

1. NSV Department, Larbi Ben M'hidi University, Oum EL Bouaghi, Algeria.

2. Laboratory EA, Faculty of Sciences, Badji Mokhtar University, 23000 Annaba, Algeria.

Contact : zerariaichaeco@gmail.com

Abstract

Blood constituents change in relation to the physiological status of the animal; these variations are often caused by several factors such as age, sex, nutrition, breed, species, and environmental conditions. The purpose of present study was to determine Change on some hematological parameters of lambs Ouled Djellel during lactation according to age and sex. the twenty-four healthy Ouled djellal lambs (12 male, 12 female) were selected from the experimental station in Ain Mlila (36◦ 03` N. 6◦ 57` E), Oum El Bouaghi, Algeria. The blood samples were obtained at 42 and 105 day of lactation from jugular vein of each animals, into EDTA tubes at 9:00 am before the morning feeding. Hematological analysis involved the count of Red Blood Cell, White Blood Cells and total Platelet, haemoglobin concentration and Hematocrit percent by using automated hematology. The sex of animals did not affect significantly in all values of hematological parameters. Moreover, The results showed the mean levels of Platelet decreased in male and female lambs at 105th days compared to those registered at 42th day of age. A significant increase in the value of Hematocrit at 42 days than those recorded on 105 day old were only observed in lambs. In conclusion, the results showed the effect of age and sex of Ouled Djellal sheep on some hematological parameters during the growing period (suckling period). Hence, they can be useful for veterinarians in the diagnosis and prognosis of diseases appearing during this critical period.

Keywords

Hematological parameters; age; sex; lamb and ewe lambs; lactation period; Ouled Djellel breed.

DOI: 10.46325/gabj.v7i2.372

DIAGNOSIS AND PROSPECTS FOR IMPROVEMENT OF BROILER BREEDING IN ALGERIA: CASE OF THE WILAYA OF TISSEMSILT.

TEFIEL H, GADOUCHE A

LRAE, Faculté des sciences et technologies, université de Tissemsilt

Contact: *hakimtefiel@yahoo.fr*

Abstract

Our study was conducted in western Algeria (Tissemsilt) because of the importance of the modern and traditional poultry sector. Our study is carried out on 10 farms in the private sector, the farms were chosen on the basis of the availability of the breeders, our study was spread out from February to May 2020. Various practices were observed in the conduct of farms during our investigation, these are practices acquired through experience in poultry techniques, without solid scientific bases. 40% of the farms studied apply the safety distance between poultry houses, but 60% do not respect it, which promotes the spread of communicable diseases in space and time. 20% of farms have a footbath while 80% neglect it, which is an entry point for germs. 30% of farms have a place for storing corpses for later incineration, however 70% of breeders throw corpses everywhere which risks spreading disease. 60% of poultry houses show traces of rodents and other animals at risk of carrying diseases. 40% of farms equipped with temperature and humidity control cabinets. 60% of farms respect the crawl space. 40% of farms keep their litter dry to avoid the release of ammonia. 100% of workers do not change work clothes. 100% of farms do not have equipment for each flock. 70% of poultry houses do not have a clean delimited access. 40% of farms have smooth walls to avoid the accumulation of germs and dirt. The consumption index varies from one building to another ranging from 1.87 to 2.62. The aging period ranges from 50 to 62 days, depending on market demand. It should be noted that in some cases, the rearing period is extended because of the problem of marketing or price fluctuation which can influence the consumption index. The average cumulative mortality rate varies from one building to another, ranging from 3.45% to 14.22%. It is necessary to create market control infrastructures in order to organize supply and demand.

Keywords

Rearing conditions; Biosecurity; Performance; Broiler; Tissemsilt; Perspectives.

DOI: 10.46325/gabj.v7i2.372

DIAGNOSIS AND PROSPECTS FOR IMPROVING SHEEP FARMING IN ALGERIA: CASE OF THE WILAYA OF TISSEMSILT.

TEFIEL H, AISSA A

LRAE, Faculté des sciences et technologies, université de Tissemsilt

Contact : hakimtefiel@yahoo.fr

Abstract

This study aims to better understand the situation of sheep farming in the wilaya of Tissemsilt. The work took place with nearly 40 breeders during the year 2020, distributed in proportion to the degree of concentration of the farms in the different municipalities of the wilaya. The results obtained made it possible to estimate the livestock of the wilaya at 482,520 heads of sheep, of which the ewes were estimated at 292,400 heads, and the number of cattle is 19,400 heads and the number of goats is 53,279 heads. The results obtained also made it possible to estimate the number of breeders at 2,142 people, 100% of whom are male. The results of the survey revealed that breeders in the wilaya are primarily interested in local breeds, but there is a strong tendency for genetic improvement, given the frequency of breeds deemed more efficient and coming from other Algerian regions. Almost all (80%) of the breeders surveyed prefer the Oueld Djellal breed because of their reproductive performance, the hardiness in the different conditions and the weight productivity of this breed. The animals are kept in a free stall and are fed grass, hay, cereal and silage with a complementary ration made up of plant concentrates. From a health point of view, annual deaths are mainly due to pathologies such as gastroenteritis and dystocia and respiratory problems. Sheep breeding in the wilaya of Tissemsilt is characterized by poor economic performance. To improve these we propose improvements in the areas of training and technical and economic management.

Keywords

Diagnosis; Tissemsilt; sheep farming; survey; improvement; perspectives.

SITUATION OF ANTIMICROBIAL RESISTANCE OF ENTEROBACTERIA IN POULTRY FARMING IN THE REGION OF TEBESSA

MEHAMDIA D, LEKOUAGHET A, FERRAG FZ

Institut des sciences agrovétérinaire, Département des sciences vétérinaires, Souk Ahras

Contact : doniazed23@gmail.com

Abstract

Antimicroial resistance is a major problem in veterinary medecine especially for the poultry sector, intensive farming and the frequent exposure of poultry to bacterial infections, in particular those caused by Enterobacteriaceae, makes this sector the most consuming of antibiotics. , this massive and repeated use had led to the emergence of bacteria multidrug resistance and increases the risk of antibiotics residues in meat and eggs. The objective of this sudy is to determine the antibiotic resistance profile of some Enterobacteriaceae species isolated from the droppings of three types of poultry farming: Turkeys, laying hens and broiler chickens in the Tébessa region. 50 samples were taken from the droppings. Enterobacteria strains identified by Galerie API20E belonging to three species: E.coli, Klebsiella pneumoniae and Enterobacter cloacae. Antimicrobial susceptibility was determined by disk diffusion method on Mueller-Hinton agar, the results of antibiogram showed rates of 100% resistance to Penicillin V, Ampicillin, Amoxicillin/Calvulanic Acid and Cefalotin, fortunately all strains tested showed 100% sensitivity to Colistin. This high rate of resistance observed to the different groups of antibiotics mainly used in the treatment of bacterial infections in poultry implies the need to seek other biological substances with antibacterial effect capable of protecting poultry and reducing the use of antibiotics for better control the spread of multi-resistant bacteria.

Keywords

Poultry; Enterobacteriaceae; antibiotic; antibiogram; antimicrobiol resistance

DOI: 10.46325/gabj.v7i2.372

EFFECTS OF ANEMONE PALMATA LEAF EXTRACTS ON REPRODUCTION PERFORMANCE) SPERMOGRAM PARAMETERS (IN RABBITS) ORYCTOLAGUS CUNICULUS)

MEZIANI A[1], HAFID H[2], BOULAHBEL S[3]

1. Laboratoire des Biomolécules Végétales et Amélioration des Plantes

2. LRRNAMS, Université Larbi Ben M'Hidi Oum El Bouaghi, Algérie

Contact : asmasamsam901@gmail.com

Abstract

For centuries, plants and plant-based products have been used as a valuable and safe natural source of medicines for treating various ailments In Algeria, plants have been identified to have medicinal importance Algerian herbal plants afford the tradomedical practitioner best opportunities in the selection of herbs for various human and animal diseases. Anemone palmata belongs to family of Ranunculaceae is an important indigenous east Algeria herbal plants with unique medicinal properties commonly used throughout its area of Chebket Sellaoua (South of Oum El Bouaghi) Twelve sexually mature (*OryctolagusCuniculus)* rabbits were used to evaluate the influence of (*Anemone palmata)* on the reproductive characteristics of rabbits were divided into four groups and treated for 30 days with a leaf extract. Graded dosages of the extracts were assigned to the groups as follows: 50 mg/kg, 100 mg/kg, 200 mg/kg for groups B, C, D respectively.GroupeA rabbits served as control were given distilled water. Thereafter spermiogram (mass activity, progressive motility, live-dead and morphology, sperm cell concentration and speed) was evaluated. Rabbits treated with extracts of anemone palmata at 200 mg/kg body weight had the highest spermatozoa concentration compared with other groups A, B, C dosage 200 mg/kg highest sperm motility was observed compared with other groups .Oral administration of A.palmata extracts at a dose 200 mg/kg and after a histological study caused a increase in the number of spermatocytes and spermatids and mature spermatozoids and decrease in the percentage of empty seminiferous tubules

Keywords

Anemonepalmata; Ranunculaceae ;OryctolagusCuniculus; Spermiogram; seminiferous tube

DOI: 10.46325/gabj.v7i2.372

EVALUATION DE LA PREVALENCE ET LE RISQUE DE QUELQUES FACTEURS SUR L'ATTENTE PAR LA MALADIE DES ABCES CHEZ LES OVINS AUX ZIBAN, CAS : ZERIBET EL OUED

CHERGUI M[1], GHERISSI D E[2], HICHER A[3]

1. Département SNV, laboratoire DEDSPAZA université de Biskra Algérie.

2. Institut des sciences agronomiques et vétérinaires, Université de Souk Ahras, Algérie

3. Département Sc.Agronomique, université de Biskra Algérie.

Contact : moussa.chergui@univ-biskra.dz

Abstract

Caseous lymphadenitis or commonly known as "abscess disease", is a disease caused by the bacterium *Corynebacterium pseudotuberculosis*. It is characterized by the formation of pyogranulomas located mainly in the superficial lymph nodes. Other locations have also been reported such as the liver, kidneys, lungs, heart, scrotum and udders. The objective of this study is to determine the prevalence of the disease in sheep and to estimate the risk of some factors on this bacterial infection. To do this, clinical examinations of 7265 sheep (1150 males and 6115 females) of different ages (2121 young, 1049 sub-adults and 4095 adults) and belonging to 33 farms in Zeribet El Oued were carried out between January and May 2019 to look for signs of illness. The frequency and location of abscesses in affected animals are thus cleared up. The obtained results show that the overall rate of affected animals is 4.9% with a significant variation between farms studied (P<0.001). No farm is completely unscathed (rate of affected animals varies from 0.1% to 8.1%). The lesions are observed on the lymph nodes of different regions of the body, namely: the head, the neck, the pre-pectoral lymph nodes, the pre-scapular lymph nodes, the testicular bursae, the joints with various associations, the most frequent of which is: head-neck (29 % of cases). Young animals and females are significantly more affected (2.9% and 2.8%, respectively, P<0.01). The odds ratio of age and gender indicates that these variables are factors with a significant effect on waiting due to illness (0.53, CI95%= 0.42-0.65 for age and 0.63, CI95%= 0.49-0.82 for sex). The relative risk of infecting young animals and those of female sex has been estimated at 70%. The logistic regression model predicts 95% of the results and indicates that age (p<0.001) unlike sex (P>0.05) has a close relationship with the disease.

Keywords

Abscess; Risk factors; sheep; Prevalence; Zeribet el oued.

1st International Seminar on Animal Health and Production (1st SISPA)
Livestock diseases and population medicine in dairy cattle farms
October 11 and 12, 2022
University of Mohamed Chérif Messaadia - Souk Ahras

ESTIMATION OF THE STRESS RESPONSE TO SLAUGHTER IN CATTLE

SALHI S[1], AFRI-BOUZEBDA F[1], BOUZEBDA Z[1], BENIDIR M[2], DJAOUT A[2], GHERISSI D-E[1]

1. PABIOS Laboratory, ISAV, Mohammed Chérif Messaadia University, Souk-Ahras, Algeria.

2. Algeria's National Institute for Agricultural Research (INRAA), Setif 19000, Algeria

Contact : s.salhi@univ-soukahras.dz

Abstract

Slaughter is a stressor whose importance depends on the slaughter conditions and the genetics of the animal. It intervenes negatively on the organoleptic and sanitary qualities of the meat. Our study assesses the response to the slaughtering stress of 38 animals from two cattle breeds in Algeria: the Prim' Holstein (imported dairy breed) and the autochthonous (cattle) breed that were slaughtered without stunning, according to the Muslim rite. The physiological parameters are measured on the animal in pre-slaughter (body temperature, heart and respiratory rate) and on the postslaughter meat (pH, temperature and color), and at different times (2h-12h and 24h).The results for pre-slaughter tests for temperature, heart rate, and respiratory rate are 39.1 ° C, 62.4 beats/min, 28 breaths/ min for Prim'Holstein and 38.82 ° C, 70.4 beats/min, 25 breaths/ min for the autochthonous breed. For measures taken on meat: the PHu, temperature and color values are respectively 6.09, 12.5 ° C, dark cut meat and 5.9, 11.28 ° C, Dark-cut meat for Prim' Holstein and autochthonous breed respectively, indicating a less intense stress response in the local cattle population. Also, the results obtained as a whole show a stronger response to ante-mortem stress whose body temperature, heart rate and respiratory rate in young males are respectively: 39.40° C, 72.80 beats/min, and 21, 60 breaths/ min against 38.52 ° C, 60beats/min and 32 breaths/ min in older females. However, the impact of this response on the quality of meat is more pronounced in females (pH 6.24 vs 5.88), as well as the elderly (pH 6.12 vs 5.93). Generally; all the pH recorded on the carcasses; exceed the ultimate pH at 24 h post-slaughter and led to the expected effects (dark, firm and dry DFD meat).

Keywords

Algeria ; Cattle ; Genetic ; Response ; Slaughter ; Stress

DOI: *10.46325/gabj.v7i2.372*

COMPARATIVE STUDY OF THE ANATOMY OF THE POPLITEAL LYMPH NODEIN CATTLE AND DROMEDARY

FARES MA[1], KHENENOU T[1], RAHMOUN DE[2]

1. Laboratoire STV, Université de Souk Ahras, Algérie,

2. Laboratoire PABIOS, ISAV, Université de Souk Ahras, Algérie

Contact : *faresamin1995i@gmail.com*

Abstract

A macroscopic comparative study of the popliteal lymph nodes of cattle from Souk Ahras province and camels from the El Oued province in Algeria, the study was carried in Laboratory of sciences and technics of the livings ISAV Taoura, the anatomical and topographical examination results revealed that the bovine popliteal lymph node is pair and constant, located in a deep fatty mass between the biceps femoris muscle and the semitendinosus muscle, whereas the dromedary popliteal lymph node showed a pinkish staining, with a slight of whitish pigmentation. surrounded by adipose tissue and it was located on the caudal surface of the gastrocnemius muscle at the caudal part of the stifle joint between the biceps femoris muscle and the semitendinosus muscle, the sinus points were observed with accentuation in the lymph node of the dromedary forming furrows towards the interior giving the formation of multitude of conglomerates inside the organ whereas in the bovine we found that this feature was totally absent, techniques of measurement made it possible to give the linear indices of lymph nodes, it presented a length of 6.74 cm in the dromedary and 4.5 cm for the bovine, with a mass of 19.23 g in the dromedary and 13.28 g in the bovine, regarding the lymph vessels of the popliteal lymph node of the dromedary, a longitudinal cut was made on the organ followed by in situ injection infiltration at the periphery of the organ, a mixture of Indian ink and gelatin, has enabled us to see a wave-shaped image which proves the presence of the compartments within this organ, whereas in cattle, this image was absent, and replaced by a cloud image arranging all the contents of the lymph node which proves the absence of compartment within this organ.

Keywords

Anatomy; bovine; dromedary; lymph node; topography.

DOI: *10.46325/gabj.v7i2.372*

BIOEFFICACY OF AN ENZYMATIC PREPARATION CONTAINING BETAGLUCANASE ACTIVITIES IN CORN AND BARLEY BASED DIETS IN BROILER CHICKENS

AHMED LALOUI H[1], RAHMANI A[1], ZAAK H[1], KHELEF DJ[2], AIT-OUDHIA KH[2]

1. Laboratoire de Biotechnologie Animale, (C.R.Bt), Constantine, Algérie

2. Laboratoire HASAQ, Ecole Nationale Supérieure Vétérinaire, Alger, Algérie.

Contact *: hamzavet21@gmail.com / h.ahmedlaloui@crbt.dz*

Abstract

The objective of the study was to determine the effects of an enzyme preparation containing betaglucanase activities in corn and barley based diets in bresseer chickens. Weight gain, feed conversion and digestive tract weight have been also recorded. In addition, intestinal villus histometry was measured. Three groups each containing 50 broiler type chicks (ISA-15) of 01 day of age have been used in the experiment. The three corn and barley based diets were supplemented with and without a betaglucanase preparation as follow: 0% barley (diet 1; control), 20% barley + E (diet 2), and 20% barley without E (diet 3). In the control diet, the obtained zootechnical performance results were optimal and similar to those recorded in the group of chickens fed diet 2. A significant improvement in weight gain (84.6 g *vs* 63.5 g) and the feed conversion index (2.4 *vs* 2.7) was recorded in the chickens of this group compared to the chickens fed diet 3 devoid of enzyme. Indeed, in diet 2, beta-glucanase enhanced feed conversion. Intestine weight was increased significantly ($p<0.05$) in groups 2 and 3. Villi and crypt length, area, and villus perimeter increased ($p<0.05$) with supplementation in β-glucanase in diet 2. In general, the use of an enzyme preparation containing β-glucanase in a diet containing barley is possible and provides similar performance to conventional diets.

Keywords

Corn; barley; β-glucanase; zootechnical performance; broilers.

DOI: *10.46325/gabj.v7i2.372*

1ST INTERNATIONAL SEMINAR ON ANIMAL HEALTH AND PRODUCTION:

Livestock diseases and population medicine in dairy cattle farms

OCTOBER 11-12, 2022, Souk-Ahras, Algeria

1ER SISPA

Djalel Eddine Gherissi

1st SISPA Chairman

Dr. Djalel Eddine GHERISSI