

الجمهوريــة الجزائريــة الديمقراطيــة الشعبيــ

POPULAR DEMOCRATIC REPUBLIC OF ALGERIA

وزارة التعليه العاليي والبحيث العلمي

MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

المدرســة الوطنيــة العليـا للبيطــ

HIGHER NATIONAL VETERINARY SCHOOL
RABIE BOUCHAMA

16th International Days of Veterinary Sciences

CAMEL BREEDING:

Preservation and new challenges

November 16 & 17th, 2024

Topic 1: Breeding systems and welfare

Topic 2: Nutrition and diet

Topic 3: Genetics and reproduction

Topic 4: Diseases and prevention

Topic 5: Valorization, hygiene and safety of camel products









Important dates

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Abstract Submission Deadline
October 2, 2024

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Context

Algeria is the largest African country, with an area of 2,381,741 km2, 87% of which is occupied by the Sahara. The camel is one of the greatest riches and valuable resource in Algerian desert. Compared to other farm animals, Camel breeding remains marginal in Algeria, despite its potential and specificities.

Camel breeding plays an important role in arid areas, providing a wide diversity of goods milk and meat, wool and skin) and services (transportation, agricultural activities and tourism). This livestock breeding, long considered a survival of a bygone era, is of definite ecological, economic, social, and cultural interest.

It is through this dimension that these international veterinary days highlight the scope of camel breeding in North Africa. The diversity of its populations, the increase in its numbers, and the camel vocations are combined with new systems and give rise to emergence of camel sectors of commerce. Faced with the challenges of climate change, food security, as well as globalization and the constant evolution of market demand, animal production sectors must promote local know-how and adopt innovative technologies. Therefore, Algeria should count on the camel species as an important element of its national economy. These concern the conservation and genetic improvement of breeds adapted to severe climatic conditions, the control of reproduction, the adoption of an effective health plan and the diversification of livestock products.

Furthermore, camelid breeding remains neglected in development programs despite national and international efforts. In this context and with a view to updating and implementing conservation and sustainable management strategies for this species, it is necessary to integrate it into scientific research projects and the economic development plan in countries that have this livestock wealth.

Conference objectives

The purpose of this scientific event is to discuss the situation of camel breeding in Algeria and the world, identify challenges with the current breeding practices and proffers possible solutions. These international days will bring together experts, researchers, and professionals to share their knowledge, experiences and insights on the latest advances and discoveries through a debate on the camel sector facing the challenges of climate and socio-economic changes and the issues of food security. Practical and applicable recommendations will be shared widely with the relevant services, breeders, businesses, and the media in order to get one step closer to successful camel conservation in Algeria.

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Topic 1:

Breeding systems and welfare

When we talk about animal welfare, we are referring to the four aspects of an animal's life (environment, diet, health and behaviour) which all lead to the physical and mental well-being of the individual animal. The domesticated camel species still require specific care to achieve good welfare. It is important to ensure that dromedary camels receive balanced and nutritious diet, appropriate housing and handling. Camel breeding system differs from one country to another.

In Algeria, camel breeding is distributed over three agro-ecological territories, including the Sahara, the Saharan Atlas and the Steppe. Dromedaries are reared according to three existing breeding systems: sedentary, nomadic and transhumant. In Algeria, the Dromedary camel (*Camelus dromedarius*) herd is essentially extensive, depending on the availability of odder and watering points, and therefore the rain regime.

Topic 2: Nutrition and diet

The diet of the dromedary is based on the different types of Saharan routes and is the main element upon which an extensive camel breeding system is based. However, knowledge about the breeding and feeding of this animal is limited. In order to better manage camel husbandry practices, we need to develop a better understanding of the diet and breeding methods of camels. In addition, it would be essential to develop a program involving different countries to measure the energy, protein and other necessary nutrient requirements for camel breeding, growth, and racing.

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Topic 3:

Genetics and reproduction

The improvement of camel reproductive performance is influenced by three main drivers: technical set up of modern biotechnological protocols based on a deeper understanding of camel reproduction, improvement of camel farming management, and clear national strategies for implementing the development of improving camel stock (ie. performances control systems, identification of the animals, identification of the best reproducers). Camels have a large potential that is underutilized due to technical, logistic, political, and economic challenges. However, these challenges are not insurmountable, and much can be done to exploit the camels' potential. Genetic improvement is certainly promising in camels but would require collaboration of all stakeholders and deeper understanding of the potential of this exceptional animal.

Topic 4: Diseases and prevention

Camels are known for their ability to survive and cope in the harshest environments. One-humped camels "Camelus dromedarius" are an almost exclusively domesticated species that are common in arid areas which have made the pastoral communities more dependent on them to support their income and daily life. Dromedaries were thought to be resistant to most of infectious diseases commonly affecting livestock, but as more research was conducted, camels were found to be susceptible to a large number of pathogenic agents.

Limited resources, low levels of regulation, poor hygiene, high mobility of animals and herders, and lack of consistent veterinary care act as drivers for disease spillover. Many of the zoonotic pathogens of camels are a current or possible

future risk to human health and must be considered by medical professionals. Dromedary camels also act as a significant source and amplifier for vector-borne diseases.

Therefore, vaccination of camels, insecticide application, and consistent screening as well as food safety and hygiene practices will help control infection rates in camels and humans.

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Topic 5:

Valorization, hygiene and safety of camel products

Camels have been used as multipurpose animals to provide transport goods and people, leisure and sport, as well as milk, meat, wool, hair and leather. Camel hump is also used as a healthy fat for medicinal purposes. In Africa, dromedaries are considered as an important livestock species for milk and meat production.

Camel milk is notable for its diverse nutritional and therapeutic properties, such as antidiabetic, antimicrobial, and anticancer activities.

Furthermore, Camel meat products are receiving increased interest on a worldwide scale due to its high functional properties and nutritive values. In Algeria, cameline milk and meat are rarely processed and its by-products remain underdeveloped. The valorization of camel milk and meat products in desert and semi-desert regions faces many constraints that must be taken into consideration to achieve sustainable economic development.





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