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Joint Meeting FAO-CIHEAM Networks on Sheep and Goats and Mediterranean Pastures



Joint Meeting of the FAO-CIHEAM Network for Research and Development in Sheep and Goats (Subnetworks on Nutrition and Production Systems) and the FAO-CIHEAM Subnetwork for the Research and Development of Mediterranean Pasture and Forage Resources

Réunion conjointe du Réseau FAO-CIHEAM de Recherche et Développement sur les Ovins et les Caprins (sous-réseaux Nutrition et Systèmes de Production) et du sous-réseau FAO-CIHEAM de Recherche et Développement sur les Pâturages et Fourrages Méditerranéens

Efficiency and resilience of forage resources and small ruminant production to cope with global challenges in Mediterranean areas

Efficiency et résilience des ressources fourragères et de production de petits ruminants pour affronter les défis globaux dans la région méditerranéenne

Ecole Nationale d'Agriculture de Meknès, Morocco, 23 - 25 October 2019

BOOK OF ABSTRACTS – LIVRE DE RESUMÉS



Framework and objectives of the Meeting

The first Joint Meeting of FAO-CIHEAM's Networks is organised this year at Morocco's National School of Agriculture in Meknes. The event is of particular significance as it coincides with the 50th anniversary of IAMZ-CIHEAM. Secondly, it is the first joint meeting of the FAO-CIHEAM Network for Research and Development in Sheep and Goats (Subnetworks on Nutrition and Production Systems) and the FAO-CIHEAM Subnetwork for Research and Development of Mediterranean Pasture and Forage Resources. Thirdly, it addresses the efficiency and resilience of feed resources and small ruminant production in the light of global challenges in the Mediterranean region.

The small ruminant sector plays an important role in the agriculture and rural economy in different Mediterranean countries. However, farmers and shepherds find difficulties to earn a decent living or have a satisfactory lifestyle, due to many reasons: low product prices and high input prices, low productivity and capitalisation, harsh working conditions, social disregarding, lack of services in rural areas, competence for land or conflicts of use with different land management objectives... Productivity, profitability, and environmental and social benefits of this sector are mainly linked to grazing resources that unfortunately undergo continuous and often severe degradation due to the changes to which they are submitted. In some cases, they are subject to abusive and often excessive use and, contrarily, in others they are abandoned. The effects of climate change are already being felt, such as reduction in rainfall, rise in temperatures, successive years of drought or other climatic extreme events... This situation has led to a change from extensive grazing to farming based on supplementation. A correct management of these systems requires better knowledge of the "soil-plant-animal" system interactions and its integration with the socio-economic system. In order to prevent dire, irreversible consequences for the rangelands, animal-stocking rates must adjust to the forage production of the pastures. The resilience of small ruminant grazing systems requires an efficient management of forage resources in order to face climatic and social challenges.

The objective of the Meeting is to encourage the participation of and interaction between scientists, technicians and professionals to improve small ruminant productivity and enhance the conservation of pastoral forage resources in Mediterranean countries.

The Meeting is organised by the National School of Agriculture of Meknes (ENAM) under the aegis of Morocco's Ministry of Agriculture, Maritime Fisheries, Rural Development, Water and Forests (MAPMDREF), and by the Mediterranean Agronomic Institute of Zaragoza – International Centre for Advanced Mediterranean Agronomic Studies (IAMZ-CIHEAM), with the collaboration of the Food and Agriculture Organization of the United Nations (FAO) and the H2020 Project iSAGE (Innovation for Sustainable Sheep and Goat Production in Europe, Grant Agreement n 679302).

The joint meeting will last for three days, running from 23 to 25 October 2019, including a day's field visit. It will provide a framework for scientific and technical exchange. The scientific and technical presentations will be structured in different plenary and group sessions, with invited lectures and oral or poster contributions. The full articles will be edited and published in a special issue of the CIHEAM journal *Options Méditerranéennes*.

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Developing a toolbox for rangeland restoration/rehabilitation in arid environments

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Abstract. Rangelands are recognized for their importance and value in providing society with valuable products and ecosystem services. In such ecosystems, effective management is needed for sustainable plant growth and survival in a context characterized by rainfall unreliability, poor soil nutrient status and high uncontrolled grazing. Therefore, cost-effective techniques/tools for slowing down and eventually reversing this degradation are needed. This paper promotes identifying and combining various tools for degraded arid ecosystems as strategies aimed for rangeland restoration/ rehabilitation. These strategies are founded on science-based evidence and experienced practitioners. For arid rangelands, the preference of applying an isolated rehabilitation technology may not halt degradation since the heterogeneity of the geomorphology, even at micro scale, and the landscape requires very often the use of different tools. For instance, direct seeding in degraded rangelands needs to be combined with soil scarification, when the crust dominates the soil surface, to reactivate the soil water retention and increase seedling emergence and germination possibilities. To achieve this goal, rehabilitation options identified for a specific degraded rangeland need to be holistically integrated with land degradation indicators in a manual-style decision support system for the long-term sustainable production of rangelands in arid environments.

Keywords. Dry areas – Land degradation – Sustainable rangeland management – Restoration.

Développer une boîte à outils pour la restauration / réhabilitation des parcours en milieu aride

Résumé. Les parcours jouent un rôle écologique et économique très important et fournissent aux sociétés pastorales des produits et des services écosystémiques précieux. Dans de tels écosystèmes, une gestion efficace est nécessaire pour la croissance et la survie durables des plantes dans un contexte caractérisé par une aridité climatique et édaphique très accentué et soumis à une pression de pâturage élevée et non contrôlée. Par conséquent, il devient nécessaire de développer des techniques / outils rentables pour ralentir et éventuellement inverser cette dégradation. Cet article vise l'identification et la combinaison de divers outils pour les écosystèmes arides dégradés en tant que stratégies en vue de restaurer/réhabiliter les parcours naturels. Ces stratégies sont fondées sur des preuves scientifiques et des pratiques validées. Pour les parcours arides, le recours préférentiel à une technologie de réhabilitation isolée ne peut pas arrêter la dégradation car l'hétérogénéité de l'écosystème, même à petite échelle, nécessitent très souvent la combinaison de plusieurs outils différents. Par exemple, la plantation d'arbustes fourragers sur des pentes relativement raides doit être associée à une technique de collection des eaux pluviales, pour tenir en compte du caractère torrentiel des en milieu aride. Pour atteindre cet objectif, les options de réhabilitation identifiées pour un parcours dégradé doivent être intégrées de manière intégrale aux indicateurs de dégradation des terres dans un système d'aide à la décision sous la forme d'un référentiel technique pour assurer une gestion durable de parcours dans en milieux arides.

Mots-clés. Zones arides – Dégradation du sol – Gestion durable des parcours – Restauration.