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Changing existing production systems to meet the demands for certification of quality products

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SUMMARY – The project presented in the paper has been initiated in the region of Epirus after the past food crises in the EU countries and the increasing demands of consumers for quality and biological products. Epirus is located in northwestern Greece and is known for its traditional livestock farming, practised mostly in semi-mountainous and mountainous marginal areas. The objectives are to develop breeding programs for the local goats and sheep populations, raised in several districts of the Epirus region. The improved animals will be utilized as suitable genetic material for producing high quality certified meat and milk. Other objectives of the project are to adapt the production system to the demands of certification for quality and to organize the markets for the products. The creation of a breeders' association in collaboration with the relevant governmental authorities and the processing industry, will undertake the following goals: the recording and management of the herds, the normal supply of the market with meat and milk, and the promotion of the products. The market possibilities are prosperous, as the region has several large urban centres and attracts numerous tourists every year. The application of the project will contribute to the overall fair development of the region, as multiple benefits in the activities of the community are being expected.

Key words: Quality products, certification, breeders' organisation.

RESUME – *"Changements des systèmes de production existants pour répondre aux demandes de certification des produits de qualité". Cet projet a été entamé dans la région d'Epire après les dernières crises alimentaires dans l'UE et les demandes des consommateurs pour les produits de qualité et les produits biologiques. L'Epire est situé en Grèce du nord-ouest et est connu pour son agriculture animale traditionnelle, pratiquée la plupart du temps dans des secteurs marginaux semi-montagneux et montagneux. Les objectifs sont de développer des programmes pour les populations locales de chèvres et de brebis de la région d'Epire. Les animaux seront un matériel génétique approprié pour produire la viande certifiée et le lait de haute qualité. D'autres objectifs du projet sont d'adapter le système de production aux demandes de la certification pour la qualité et d'organiser les marchés pour les produits. La création d'une association d'éleveurs en collaboration avec les autorités appropriées et l'industrie de transformation, entreprendra les buts suivants : l'enregistrement et la gestion des troupeaux, l'approvisionnement normal du marché en viande et lait, et la promotion des produits. Les possibilités du marché sont prospères, car la région a plusieurs grands centres urbains et attire de nombreux touristes chaque année. L'application du projet contribuera au développement juste global de la région, car des avantages multiples dans les activités de la communauté sont prévus.*

Mots-clés : *Produits de qualité, certification, association d'éleveurs.*

Introduction

In recent decades the production of animal products in industrially developed nations has met food demand from urban centres by applying industrial agricultural methods, which resulted in increased animal produce supply. What these methods included was genetic improvement, better health care and the feeding of animals with rations rich in nutrients and energy.

Yet, the introduction of these new methods resulted to unwelcome side effects for both livestock and the environment. Together with an ever increasing output and more intense means of agriculture in the EU, public concern has led to a new understanding regarding the legal framework of the status of livestock, and introduced a new term, "animal welfare", which is used to characterize living conditions in the farm. Lately, there has been great interest for the development of sustainable animal breeding systems that satisfy environmental concerns while producing high quality end results.

Given the above, the current breeding systems and the genetic improvement of livestock has become a burning issue with economic social and moral implications. The Greek public is particularly

concerned since the country is a major importer of livestock products with up to 75% of beef imports. These concerns have also affected domestic livestock, even though most of local production is following more small-scale and environmentally friendly methods.

In this context, the local breeds of large and smaller ruminants can be seen under a new perspective, regarding their contribution in the shaping of agrarian income in marginal mountain areas. Consequently, the in-depth study of populations and their production increase, applied production methods, and the end-product improvement and certification becomes imperative. This needs to be done within a framework of maintaining the original characteristics of the breeds concerning their adaptability in local environmental and husbandry conditions.

The region of implementation

The mountainous and marginal regions of Greece constitute an excellent place for the production of livestock since they meet the necessary standards demanded by high quality, environmentally friendly products. These "necessary standards" are understood as climate, local vegetation as well as the adaptability of livestock populations.

The region of Epirus with its peculiarities in climate, soil and accessibility presents Greece's poorest agricultural income. Nevertheless, proper funding and technical support may alter this bleak situation. In livestock production, the region of Epirus has always had a strong tradition in the field and this is carried on today. This fact makes it an imperative for Greece's agricultural policy to develop a set of standards towards the production of quality certified agricultural products.

The livestock production of Epirus is defined by the following characteristics:

(i) Primary production is taking place in a natural environment minimally affected by contamination, pollution and other degradation factors.

(ii) Inputs in the production system such as feedstuffs are locally produced or of certified origin, hence being close to fulfilling the requirements of biologically certified products.

(iii) The local livestock population is adapted to its natural environment hence very resistant to disease and other pathogens, a factor that minimizes the use of pharmaceuticals.

(iv) The end products (milk, meat and other typical products of animal origin) can be supplied to the market with inexpensive, environmentally friendly means of production and transportation.

Methods of implementation

In the region of the project the activities of the managing team, under the guidance of the Animal Genetic and Breeding Group of the Dept. of Animal Production of the Faculty of Agriculture of the Aristotle University of Thessaloniki, will focus on the following list of topics.

Investigation of the current situation

The team will collect all the required information for the development procedures and the application of the certification system. More specifically:

(i) All relevant data for the in-depth of the current situation regarding the applied production and genetic improvement of the local livestock populations.

(ii) The geographic distribution and the economic value of the available genetic diversity. The results of this study will be used for the classification of local breeds and population.

(iii) The impact on socio-economic conditions in regions where the livestock is most likely to enter the certification process.

Whenever needed, biological material (tissue and blood) of the local populations so as to verify whether the population is in need of high priority conservation programs.

Data will be collected on the current situation regarding the processing and marketing of livestock products (milk and meat).

The above activities will be conducted through on-location visits of participating scientists in the flocks to collaborate with the farmers and local entities (administrators, cooperatives, public and private development corporations and individual farmers), especially in mountainous and semi-mountainous marginal areas of Epirus. The survey will be conducted through the use of properly designed questionnaires targeting farmers and local entities by trained agricultural scientists specialized in animal production. As mentioned before, the collected biological material will be examined according to recognized international methods, so as to specify the genetic distances between different breeds of livestock (sheep and goats) of Epirus.

Statistical analysis of collected data will follow, aiming to identify points that may need intervention in the current system for the development of proper animal husbandry and management standards (manuals-protocols), as well as standards for the certification of livestock products. The output of the genetic study of the breeds will be combined with the relevance geographical information and maps will be created to present the distribution of livestock and the production systems in Epirus. Furthermore, the collected data will also be used to conduct genetic, socio-economic and ecological evaluation studies with reference to the sustainability of the livestock production systems.

Design of the certification procedure

The results of the statistical analysis of the data collected during the first phase of the project will guide the next points of the certification process. More specifically:

(i) The specie(s) of livestock and the points of the production process for possible changes to the production system in order to apply the certification and quality assurance procedure.

(ii) The level of certification.

(iii) The type of organization that will monitor the certification system and the timeline of application for certification.

(iv) The creation of a committee that will undertake the task of organizing of a body that will monitor the certification system.

(v) A technical and coordinating committee that will draft the certification standards.

(vi) Define the structure and management system of Certification Agency.

(vii) Calculate the cost of introducing and applying of the management system for the production of certified quality products.

Draft of the standards for quality certification

The quality certification standards are the documents that will describe the requirements of the management system and the administrating procedures together with the general rules to succeed in creating the desired quality and service to the consumers. This is a fundamental tool for the establishment of the targeted system of quality assurance.

The publication of these standards will be conducted by a Technical and a Coordinating Committee that will be created during the previous phase of the project and will complete their task with the collaboration of the official organization for certification. This task will be accomplished in official collaboration with the farmers' organization and other dynamic elements of the region.

Design of the production chain

The elements of the production chain that will be designed are as follows:

(i) Description of the proposed production system.

(ii) Description of product characteristics.

(iii) Monitoring and control of inputs to the system (mainly feedstuffs).

(iv) Training-providing guidelines to local individual and bodies to ensure better preparation against future problems and the application of standards.

(v) Gathering feedback data.

Development of pilot branch-entities of farmers in regions where certification standards will be applied

The entities that will undertake the task of applying the certification process will be constructed according to the requirements developed in the second phase of the project. Also, the framework that will be included in the standards set by the agencies during the third and fourth phase of the project. The whole process will be implemented though workshops during which the results of the research and the advantages stemming from the creation of the agencies will be presented. In this context an important aspect is the advantages that derive from supplying the market with certified products.

Define a framework of collaboration with the certification organization

The entity after completing the previous phases will cooperate with the relevant certification organization so as to implement the procedures required to acquire the quality certificates.

Conclusions

The project presented addresses two problems. The first is correlated with organizing production and the genetic improvement of livestock populations in marginal and mountainous areas. The second is to supply the market with quality products of known and appreciated geographical origin.

The project presents a viable platform for the future of livestock production in Epirus-Greece and may set the precedent for the development and application in other regions of the country as well as for the other Mediterranean regions that face similar problems.