

NATIVE GRASSLANDS OF YUGOSLAVIA AS A POTENTIAL FOR “BIOLOGICALLY HIGH QUALITY FOOD” PRODUCTION - TO BE PRESERVED AND USED FOR THE BENEFIT OF ALL

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ABSTRACT

Natural grasslands are the base of the livestock production in the hilly-mountainous regions of Yugoslavia. Poor economic power of the owners of these areas brought about a complete dying out of agricultural production in these regions in the last few years. In the same time, the lack of financial resources made it impossible for the farmers to use the fertilisers, protective and other chemical agents which result in a high degree of environmental preservation. Due to current economic policy at this time the population has moved out and there is no industrialisation. The revival of agriculture on the hilly-mountainous regions is one of the imperatives of total economic development today. The recent problem of undeveloped and neglected hilly-mountainous regions turned out to be a lucky circumstance in the sense of environmental preservation as it provides new possibilities in keeping up with world trends. The objective of this study was to present the possibilities of natural grassland resources exploitation, and perspectives of biologically high value food production in the hill-mountain regions of Yugoslavia.

KEYWORDS

extensification, heathy food, native grassland, unpolluted area

INTRODUCTION

A great demographic instability and deep economic crisis these days in undeveloped Yugoslavia and a deficit in hilly-mountainous agricultural production, requires a very careful assessment. Solving of the hilly-mountainous agriculture revival problem in Yugoslavia within the solution of the complete economic situation is connected with the current state of European and world markets. On the other hand, Yugoslavia has an advantage in not repeating the mistakes in natural resources management of highly industrialised countries and the use of experiences in modern trends.

MAIN CHARACTERISCS OF THE REGION

In Yugoslavia, the hilly-mountainous region comprises 63.3% of the total area. In the hilly-mountainous region there are approx. 4 million ha of agricultural land and 1,860,000 ha of arable land. 2,100,000 ha of natural grasslands and 200,000 ha of sown grasslands provide a significant potential for the production of fodder. Atmosphere, water and soil in the majority of these areas are not affected by pollution by mineral fertilizers, chemical protective devices, and various industry waste materials. In this region, there are approx. 3,750,000 inhabitants, in around 5,100 rural settlements, 2,000,000 of which are engaged in agricultural production. Also in this region, 50% of cattle, 63% of sheep and 26% of pigs are produced in relation to the total Yugoslav livestock production. However, the territory of Yugoslavia is extremely complex and heterogenous regarding the climate, causing the specific floro-geographical situation and great variety and richness in vegetation forms and plant species. Flora of Yugoslavia represents the impoverished termosterial flora enriched by new species during the glacial and postglacial period.

SOME ASPECTS OF THE NATURAL GRASSLANDS FLORISTIC COMPOSITION

The floro-geographical specificity of Serbia (South section of Pannonian area, west and middle Moesian province, far east section

of Illyrian province and north of Searctic-Pind province) caused the variety of more than 1,000 grassland species from 48 associations, 16 alliances, 14 orders and 6 classes.

Based on the results of phytocenological studies and classification of species, we should particularly stress the presence of species whose medicinal characteristics in overground plant organs are available to farm animals through grazing and in hay. That number makes up 50% of total registered species in some widespread associations like *Agrostietum vulgaris* (Trenkovski, Dordevic-Milosevic, 1992). Effect is diverse - digestive, stomach antiseptic, expectorant, diuretic, purgative, sedative, antiscorbutic, tonic, antiinflammatoric, etc. In the grazing experiments (sheep and cattle) on such grasslands, extremely good health of the animals, good condition and excellent appetite and progress in fattening subsequent to termination of grazing period were observed.

The greatest number of so called useless or poor weed species on the natural grasslands in fact supplement the nutritive value of useful species through various vitamins and minerals which they contain. Besides, they also give a specific aroma to the obtained products, so that they can be regarded as specific, native products (the hard cheese from mountains Stara Planina and Homoljska, Pirot cheese, Zlatibor and Sharplanina lamb, etc.).

PRODUCTION POSSIBILITIES OF NATURAL GRASSLAND SURFACES

In Yugoslavia, the majority of natural grasslands of this kind belongs to the group of less intensively used grasslands. This means, 2 cuts are obtained and 2 cuts + 1 in the west region if the amount of precipitation is sufficient for the regeneration of grassfields. These grasslands should be used in following combination: for grazing and mowing, producing very often no more than 3.3 t/ha of biomass (Dordevic-Milosevic, 1991).

The possibility for considerable increase in yield on these grasslands without great expense exists (yield up to 8-10 t/ha, and on pastures 20-25 t of green mass). However, due to the present economic situation, financial funds cannot be provided, especially in view of the high cost of mineral fertilizers, used on the plough-fields for intensive utilization throughout Yugoslavia, although in a limited range. However, a real possibility for the carrying out of the most simple and cheapest improvement measures exists, starting with cleaning of soil from shrubs, anthills, molehills, etc., also fertilization with non-used organic stable manure and mechanical cleansing of weeds by means of utilization of new technology. In this way, on the majority of grassland types predominant in Yugoslavia (*Agrostietum vulgaris*, *Festucetum rubrae*, *Danthonietum calycine*, *Bromo-Cynosuretum cristati*, *Festucetum vallesiacae*, etc.) an increase of up to 189-200% of yield could be obtained.

SOCIO-ECONOMIC ASPECTS OF GRASSLAND MANAGEMENT

Producers in this area will not be interested in a new technology or improvement measures leading to an increase in production unless the problem of successful realization of products is also solved. Low

purchase prices, irregular payments, etc., have already discouraged producers in their intent to increase production. Their determination to produce at all in such conditions is more a matter of tradition than economic logic. Besides, excluding the large sheep breeding farms in hill-mountainous regions, production in this area is solely by private farmers, generally 50 to 60 years old. The level of technology they use is constantly falling and approaching the traditional level of farming used by their ancestors. Younger producers could be encouraged to use contemporary forage technology and to base their farm production on it if stable prices for their final products could be secured. It is, however, possible to achieve by means of intensification of the production of native products which, considering their high quality and possibility to be placed within elite-organic production, could make a good profit (Dordevic-Milosevic, 1996.).

INSTEAD OF CONCLUSION

Production of fodder from unused natural grasslands in Yugoslavia demands no great financial investments (suitable for Yugoslav economy), compared to plowed fields and sown meadows. An unpolluted environment allows, through ruminants capable of converting the grass to human food, the production of biologically highly valuable food in deserted hill-mountain regions where direct human food production is extremely expensive. From the economical point of view, low input and high output values, both in the economical sense and nutritive value, are the main characteristics of this production. By more rational gradual use of natural grasslands, including the application of limited agromeliorating activities (re-sowing, reduced surface cultivation, greater use of organic fertilizers, grazing-mowing systems, introducing improved domestic cattle breeds, production of milk and meat in the traditional way, and protection of market) a safer existence would be provided for the rural population in the hill-mountain region. This is a good opportunity to make considerable profit for investors, and it is a good way to use natural grasslands based livestock production, which is economically justified and ecologically sustainable, to solve some economical and social problems of reviving the hill-mountain region's rural population.

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