

**THE EFFORTS FOR SUSTAINABLE ANIMAL PRODUCTION
IN SLOVENIA****J. Osterc****Summary**

The Slovenians have been aware of environment protection. Consumers require sustainable agriculture and high quality agricultural products. Animal production is the most important agricultural branch in Slovenia. The article explains the term and importance of sustainable animal production. Sustainable cattle and sheep grazing have been in progress for 20 years. Financial supports were introduced for production of suckler cows, sheep, goats and mares in 1995, for which the interest is significant. In three years time the number of animals whose production is financially supported has doubled. In 1997 nearly 50% of cows that were not included in milk production (17% of all cows) were supported, and more than 50% of breeding goats and sheep too. Financial supports depend on the quality of farm lands and amounted to 22000 Sit on average per suckler cow, 2200 Sit per breeding sheep or goat and 8200 Sit per mare in 1997.

Key words: Slovenia, sustainable agriculture, livestock production, Slovenia

Introduction

The importance of healthy food has been more and more appreciated in Europe and so has been in Slovenia. People are aware that production of healthy food depends on quality of farming, which means type of farming. The type of farming significantly affects the environment and the quality of living. The quality of living now means the care for maintenance of fertile soil that can bear necessary and healthy fruits to ourselves and our descendants. Only such type of farming considers aspects of sustainability. Animal production is the most important agricultural branch in Slovenia. More than two thirds of farmers' income is yielded by animal products. Prices depend on quality of

Rad je priopćen na 6th Int. Symp. "Animal Science Days", Portorož, Slovenia, Sept.16-18, 1998.

J. Osterc, Univ. of Ljubljana, Biotechnical Fac., Zootechnical Dept., Groblje 3, SI-1230 Domžale, Slovenia, Prof., Ph. D., B. Sc. Agr.

products and this also on type of farming. Slovene animal producers should, therefore, look forward to quality animal production and products for consumers' sake. Quality products are also those products that are produced in sustainable way. Slovenian consumers mind environment and would prefer that food is produced in organised and healthy environment. Owing to the importance of animal production sustainable agriculture and sustainable animal production are alike in Slovenia.

Sustainable development and responsible conduct do not affect only agricultural but all natural resources. In the last decades we have witnessed tremendous damages in nature and natural resources. We are all conscious that we should change our attitudes towards nature. Governmental representatives from many countries met in Rio de Janeiro in 1992 and they signed Agenda 21, which is a plan for economically, environmentally and socially sustainable development. Few requirements from the mentioned Agenda affected agriculture. The leaders of the countries agreed to look for sustainable agriculture in their countries and that national development plans would have been ready until the year 2000. European Unit countries have been adopting documents for adjustments of their agricultural development to the requirements from Rio. Some countries have already enforced national programs (Austria, Denmark, Finland and Norway). A group of experts from EU put in their study for the agricultural secretary Dr. Fischler that sustainable agriculture would be taken in on most areas. In Slovenia sustainable animal production has become widespread as well.

Comprehension of sustainable agriculture

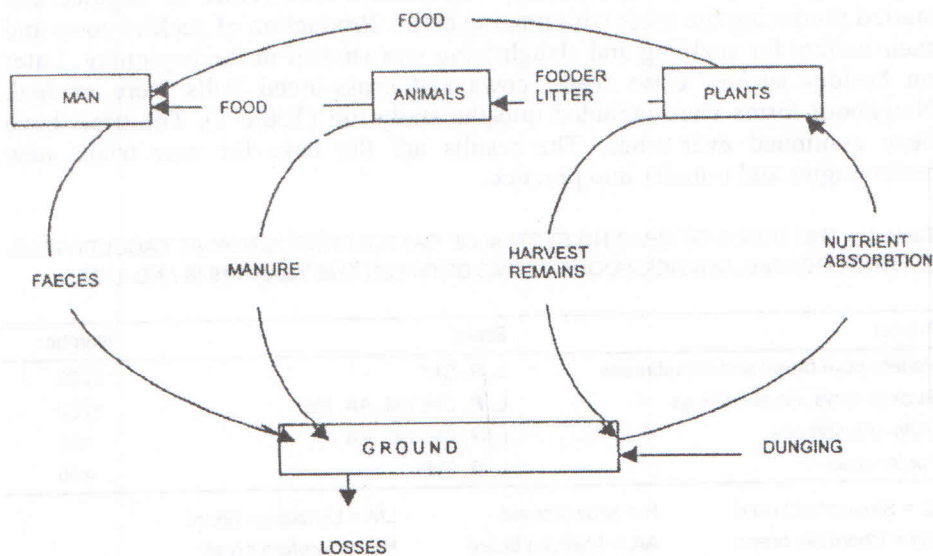
The principle of sustainability rules over nature. Nothing is lost, everything is useful and, therefore, included into the natural circulation of substances. When human beings interfere with nature they shall always have in mind the rule of natural circulation of substances. It can be said for agriculture too. In agriculture the rule of sustainability is followed so that we do not force nature and try to imitate nature even in intensive production. This pattern of agriculture is sustainable and follows the rule of sustainability.

The basic natural circulation of substances can be divided into three circles. The first circle represents plant production. Animal production joins this circle; it can be said that the circle is enlarged into the second one. The inclusion of human beings means the enlargement of two circles into the third

one. It means that sustainable behaviour cannot be limited to plant production only. Animal production should be sustainable as well as man's behaviour (the third circle). All three circles should follow the rule of sustainability. Everything that enters the circles should end in the ground. It is the only way to meet the closed natural circulation of substances that includes plant nutrients and maintains natural balance.

Animal production requires a lot of produced fodder. Particularly ruminants are important in sustainable agriculture. Of one third of land two thirds are covered by grasslands that can be used primarily by ruminants, partially by horses while poultry and pigs hardly need grass. Dry matter produced on fields, which represent one third of land, only a half can be used by man, while the other half is used by animals. Animals excrete most of the plant nutrients (more than 90%) in the form of manure. Owing to this and to organic matter in faeces, which are the base of humus, animal faeces maintain the fertility of land. In practice it has become evident that animal faeces should come to those surfaces where their fodder was produced. When this rule has been followed we can talk about sustainable animal production and sustainable agriculture. We should stress that sustainable animal production considers physiological and ethological requirements of animals more than conventional do.

Graph 1. - NATURAL CIRCULATION OF SUBSTANCES



Sustainability is very important in the countryside being it a condition for its maintenance and development. Only farmers who understand the principle of sustainability can modernise the farming and think about increasing the income by new sustainable produced products and not about leaving the country. The importance of sustainable agriculture should be appreciated also by consumers, hence they could understand that governmental supports to sustainable agriculture are necessary and that farming class should be respected.

Introduction of sustainable animal production depends on previous researches

Grassland represents two thirds of agricultural areas in Slovenia. Rolling and hilly country is covered primarily by grass. By using these areas cultural and population picture of Slovenia will remain unchanged. Ruminants and even horses can be produced on those areas; therefore experts as well as politicians shall support ruminant production. Systems of grazing are very interesting because they can be sustainable in comparison to other types of production. Grazing provides use of remote lands. Grazing is a fine tool for production of special quality products (local types of cheese and meat products) that can be protected and sold at higher prices (trade marks).

The beginning of research of sustainable cattle grazing in Slovenia started when the research on production of suckler cows began. The Zootechnical Department of Biotechnical Faculty organised a trial centre in Logatec and started producing the trials with grazing cattle. Production of suckler cows and their heifers for suckling and slaughtering was studied in the beginning. Later on besides suckler cows foster cows and cross-breed bulls were studied. Neighbour farms were included into the study too (Table 1). The trials have been continued ever since. The results are the base for new trials, new technologies and transfer into practice.

Table 1. - THE TRIALS OF GRAZING SYSTEM OF CATTLE PRODUCTION AT FACULTY TRIAL CENTRE LOGATEC AND NEIGHBOUR FARMS BETWEEN THE YEARS 1978 AND 1997

Animal	Breed	Number
Heifers-pure breed and crossbreeds	L, R, CH*	>200
Suckler cows, no.of calvings	L, R, CH, LM, AA, HE	>700
Bulls-crossbreeds	L, R, CH, HE, AA	>80
Foster cows	L, R, CH	>30

*L = Simmental breed
CH = Charolais breed

R = Brown breed
AA = Aberden breed

LM = Limousine breed
HE = Hereford breed

Our results from Logatec stimulated trials in the social state Kočevje, which was a part of business system Mercator, started in 1983. We studied grazing system of production of suckler and foster cows, their heifers and Friesian bulls and oxen (Table 2). Small ruminants, especially sheep, were included into the similar trials elsewhere in Slovenia.

Table 2. - THE TRIALS OF GRAZING SYSTEM OF CATTLE PRODUCTION AT MKGP KOČEVJE BETWEEN THE YEARS 1983 AND 1991

Animal	Breed	Number
Heifers-pure breed and crossbreeds	CB, CH, R, L	>200
Suckler cows-pure breed and crossbreeds, no.of calvings	L, R, CH, LM, HE, AA	>300
Foster cows-crossbreeds	L, R, CH, LM	>50
Friesian oxen and bulls	CB*	>3000

CB* Friesian breed

Government supports for production

After the independence in 1991, Slovenia apprehended that by sustainable agriculture and sustainable grazing on the hilly meadows the cultural landscape could be maintained. Nearly twenty years of experimental work has provided the means for such system of animal production. Hence in 1995 the government decided to support the same farming systems as the European Union countries did. Supports for production of suckler cows, sheep and goats (small ruminants), for meat production and horses were enforced. In Slovenia the production of beef breeds has not been in use because most of meat is produced by dual purpose Simmental and Brown breeds. Therefore the government has decided to support the production of the mentioned breeds if they are bred by suckler cows technology and if there are at least three cows in a herd. In horses all mares with stallions count regardless the breed. Table 3 shows that farmers are interested in such types of farming, and the number of animals that are supported have been increased. In 1997 50% of cows that were not in the system of milk production had the production supported (i.e. 17% of all cows in Slovenia) and 50% of breeding goats and sheep. Only a small number of animals, particularly suckler ones, belong to bigger farms that yield all their income by agricultural activities. Most animals are reared on the part-time farms that lack lands to yield all income from agricultural activities. On this kind of farms only one member of the family is employed on the farm,

therefore the less pushing system of farming, as beef production, is better than milk production. Also other Central European countries meet similar trends (Husemeyer, 1998)

Table 3. - SUPPORTS FOR SUCKLER COWS, SMALL RUMINANTS AND HORSES AFTER THE YEAR 1995

Year	Suckler cows	Sheep and goats for meet	Horses-all breeds
1995	15190	15349	-
1996	28214	25220	1370
1997	36162	32827	2353

Farmers' interest in grazing system of production of cattle, small ruminants and horses for meat is the result of supports. The supports represent an important source of income on the remote farms. This year the farmers will get between 18000 and 24000 Sit per suckler cow, 1200 and 2400 Sit per goat or sheep and 15000 and 25000 Sit per mare with regard to the conditions of the farmlands. In 1997 farmers obtained on average 22000 Sit per suckler cow, 2200 Sit per goat or sheep and 8200 Sit per mare. Supports for mares were lower last year than this year. The system of supports has been very interesting because it is the way to prevent overgrowing of remote meadows. Such types of farming are sustainable because the cultivable areas remain cultivated and the country inhibited. The products yield by sustainable farming are of better quality than traditionally farming products. Quality products represent a resource for other quality products that can be profitable. The income increases by selling the products as high quality products. For this more knowledge on all levels is required. A teaching objective in all forms of education system, from agricultural schools to faculties, should be to awake people to sustainable farming and to responsible attitudes towards environment (Earth, animals) and descendants. People should be taught to mind the environment. People in the European Union already do and so should we. The above mentioned tasks represent only the beginning of our duty we took upon by signing the documents in Rio de Janeiro in 1992.

LITERATURE

1. Keating, M. (1995): Agenda za spremembo s srečanja na vrhu. Agenda 21 in drugi sporazumi iz Rio de Janeira. Ljubljana; Umanotera, 79 s.
2. Husemeyer, C. H. (1998): Rindfleischerzeugung mit Mutterkühen und finanzielle Hilfen der EU. Workshop "Rindfleischerzeugung mit Mutterkühen in Europa unter besonderer Berücksichtigung von Mittel- und Osteuropa". Berlin, ICC, 16-19 Januar, 10 s.

3. Oltjen, J. W., J. L. Beckett (1996): Role of Ruminant Livestock in Sustainable Agricultural Systems. *J. Anim. Sci.*, 74: 1406- 1409.
4. Osterc, J., F. Ferlin (1996): Strategija razvoja slovenskoga kmetijstva in politika ohranjanja biološke pestrosti. Referat na seminarju: "Kmetijstvo, ki ohranja biološko raznovrstnost". Slovenski sklad za naravo, Ljubljana, 22 -23 febr., 6 s.
5. Osterc, J. (1997): Adaptation of the Slovene Agriculture to the System of sustainable Agriculture. Club de Bruxelles, Bruxel, 22 -23 Febr., 9 p.
6. Osterc, J. (1998): Economic and structural Impact of Changing (higher or lower) Intensity in Agriculture in Pursuance of the Goal of a sustainable Agriculture-Country Report of Slovenia. FAO-Gödöllő joint regional Workshop, 1- 5 April, 140 -152.
7. Osterc, J (1998): Prizadevanja za uvajanje sonaravnega kmetijstva v Sloveniji. Zbornik posveta Kmetijstvo in okolje. KIS, Bled, 12-13, 03, 1998, s. 67-74.
8. Working Group on Integrated Rural Policy (1997): Towards a Common Agricultural and Rural Policy for Europe. Bruxel, February, 1997, 130 P.

NAPORI ZA ODRŽIVU ŽIVOTINJSKU PROIZVODNJU U SLOVENIJI

Sažetak

Slovinci su svjesni zaštite okoliša. Potrošači traže održivu poljoprivredu i poljoprivredne proizvode visoke kakvoće. Proizvodnja životinja je najvažnija poljoprivredna grana u Sloveniji. U članku se tumači značenje i važnost održive poljoprivredne proizvodnje. Održivo napasanje goveda i ovaca odvija se već 20 godina. Financijska potpora uvedena je za proizvodnju dojnih krava, ovaca, koza i kobilica 1995. godine, za što postoji veliko zanimanje. U tri godine broj životinja čija proizvodnja ima financijsku potporu se udvostručio. U 1997. godini skoro 50% krava koje nisu bile uključene u proizvodnju (17% svih krava) imale su potporu kao i više od 50% rasplodnih koza. Financijska potpora ovisi o kakvoći zemlje gospodarstva, a iznosila je u prosjeku 22,000 SI tolara po dojnoj kravi, 2,200 SI. tolara po rasplodnoj ovci i kozi, te 8,20 SI. tolara po kobili u 1997. godini.

Ključne riječi: Slovenija, održiva poljoprivreda, stočna proizvodnja.

Primljeno: 12. 10. 1998.