

## ECOLOGIC BREEDING OF PIGS IN ROMANIA – MANGALITSA BREED

Assoc.Prof. Ph.D. Alexandrescu Daniela Cristiana<sup>1</sup>, Assoc.Prof. Ph.D. Cărătuș Stanciu Mirela<sup>2</sup>  
<sup>1</sup>Valahia University of Targoviste, <sup>2</sup>„Lucian Blaga” University of Sibiu  
alexdanaa@yahoo.com

### **Abstract**

*One of the general principles of ecologic production (in Romania we use the term ecologic instead of organic, biologic, natural) is that it deals with an activity related to the land. In the case of animal production, there should be an open space available for the animals to move freely, with a limited number of animals per area so that animal and plant production can be adequately managed. In this way, all forms of pollution are minimised, particularly that of the soil, ground waters and phreatic sheets. Suitable breeds and lineage for introduction must be carefully selected, taking into account their adaptability to local conditions, their vitality and their resistance to disease. Mangalitsa breed (Wooly pig) was formed after crossing domestic pigs with wild boar in late eighteenth century. Mangalitsa pig is called a pig fur, wool curly pig, the salmon pig or olive oil with four legs, a pig with curly hair etc. Mangalitsa breed is very resistant to harsh climatic conditions, very secured from disease and stress and at all claims for food and shelter. Mangalitsa pork meat is rich in fat, but cholesterol is less than ordinary pig. But it has a very tasty meat, wild boar like taste. It also called pig-salmon because it has a high content of unsaturated fatty acids like olive oil or fat salmon. Romanian farmers are now trying to recover the lost time and revitalize this breed by using newly created the Mangalitsa Pig Breeders Association.*

Keywords: ecologic breeding, pig, Mangalitsa breed, feeding, housing

### **1. INTRODUCTION**

The number of animals must be closely related with the areas of land available to avoid problems of erosion and excessive wearing of the vegetation and to allow the spreading of animal manure, with the aim of avoiding environmental damage.

All the animals in one unit should be bred according to the rules of the ecologic production system.

Animal production should contribute to a balance in agricultural production systems, satisfying the demands of the vegetation in terms of nutrients and enriching the soil with organic matter. In this way, it can help to establish and maintain interdependence of soil-plant, plant-animal and animal-soil.

Through the utilisation of renewable natural resources (animal mature, leguminous and forage crops), vegetable crops/animal production and pasturage systems guarantee the conservation and improvement of soil fertility in the long run, thus contributing to the development of sustainable agriculture.

Producers who aim to begin ecological production have to take two fundamental

aspects into consideration: firstly, integration with the land and, then, with the market. At the beginning, there will be a specific demand for what is ecologically produced and later, a new commercial opportunity, taking on brand names.

To reach this aim, ecologic producers must identify their market well and establish a demand for their produce before making any financial investments. Once they are sure of their market and have enough ecologically prepared land, they must also consider the technical aspects of production, commercialisation and management.

#### *Choosing breed*

First of all, suitable breeds and lineage for introduction must be carefully selected, taking into account their adaptability to local conditions, their vitality and their resistance to disease. [1]

There is no doubt that the best breeds for ecological production are native ones.

They are the only ones that have the rustic characteristics to adapt best in terms of disease, climate and changes in feeding due to the crop

rotations and utilisation of different products they are already used to.



Figure 1. Mangalitsa breed – blond varietie

## 2. MATERIAL AND METHODS

### *Breed description – Mangalitsa breed*

Mangalitsa breed (Wooly pig) was formed after crossing domestic pigs with wild boar in late eighteenth century.

Mangalitsa pig is called a pig fur, wool curly pig, the salmon pig or olive oil with four legs, a pig with curly hair etc.

It is a specialized breed for the production of fat and has five color varieties: blond, red, black, bellied swallow and gray. In Romania, it grows in small flocks in households for over 160 years. [5]



Figure 2. Mangalitsa breed – bellied swallow varietie

Their meat has more vitamins and lipid profile particularly for health.



Figure 3. Mangalitsa breed – different varieties

Mangalitsa breed is very resistant to harsh climatic conditions, very secured from disease and stress and at all claims for food and shelter.

## 3. RESULTS AND DISCUSSIONS

### 3.1. Productive features

A two years Mangalita pig weighs 140 kg and has a thick layer of fat 11-14 cm. on back. It grows in weight by the age of 4-5 years. At 11-12 months entering in breeding (reproduction). It has a prolificacy of 6-7 piglets may have an average daily gain in weight of 400 grams and meat percentage is 45%, which apparently gives the impression of meat with more fat.

Pig Mangalitsa grow extensively, it is more suitable for peasant farms, must graze, eat vegetable scraps and a large amount of weeds, so is the right breed for ecologic pig production system. [5]

### 3.2. Feeding

Mangalitsa pig ate any vegetable scraps, if you have a place near forests or grasslands to let it go out to eat what it found: roots, acorns, grass and others.



Figure 4. Ecologic feeding

Mangalitsa pig raising period is higher but the amount of food is the same as the common breed pigs.

### 3.3. Housing, habitation of animals

Another important aspect is that not needs a special shelter, is very resistant to cold and disease does not quite catch him, has a high immunity to disease. [1]



Figure 5. Ecologic habitation



Figure 6. Ecologic habitation

### 3.4. Meat properties

Mangalitsa pork meat is rich in fat, but cholesterol is less than ordinary pig. But it has a very tasty meat, wild boar like taste.

It also called pig-salmon because it has a high content of unsaturated fatty acids like olive oil or fat salmon.

But meat, is darker, appreciated for its appearance mottled given by intramuscular fat, tenderness and juiciness and flavor, low level of cholesterol, reminds rather of meat of wild boar than the swine breeds Europe.



Figure 7. Mangalitsa meat

Mangalitsa pork meat was tested for analysis at Larex laboratories, Food Research Institute (ICA) and the Institute of Food Bioresources (IBA). The results were spectacular.

The evaluation established that the lipid profile (the important fats for health), unsaturated fatty acids is 65%, almost the same amount found in olive oil, breast milk, walnut kernel or fat salmon.



Figure 8. Mangalitsa meat properties

Mangalitsa meat contains omega 3, 6 and 9 fatty acids and can be consumed by people suffering from cardiovascular disease, confirm the same institute.



**Figure 9. Mangalitsa meat**

Mangalitsa meat contains less water compared with meat resulting from intensively reared pigs in crowded spaces with many animals. Therefore, this pig it is recommended to obtain meat products based on drying and for making ham.



**Figure 10.**

**. Mangalitsa traditional and ecologic product fair in Maramures (northern Romania)**

### 3.5. Residue treatment systems

The quantity of excrement produced each day and its humidity varies according to the pigs body development, type of food, amount of water ingested and season. [2]

However, it can be said that growing animals produce a daily average of 5 to 8% of their body weight, with about 15% of this being made up of dry material. [3]



**Figure 11. Manure treatment**

The volume of these residues presents both a high potential in terms of fertilising nutrients, and in pollution if not duly treated and utilised.



**Figure 12. Manure treatment**

Environmental conservation is, and must be, a basic concern of any production system and should be a consideration present in any activity, particularly when it comes to handling animal waste and cadavers. [2]

As a priority, the waste should be used as organic fertiliser, always respecting the limitations imposed by the surrounding soil, water and plants. When this is not possible, waste must be properly treated so that it does not pose risk of pollution when returned to nature.

Ecologic farming has this concern regarding nature.



**Figure 13. Mangalitsa ecologic breeding**

In organic pig production, the units equivalent to 170 kg of nitrogen/year/hectare are:

- ▶ Piglets – 74;
- ▶ Reproductive sows – 6,5;
- ▶ Pigs for fattening – 14;
- ▶ Other pigs – 14;

Mention must be made of the fact that this applies only to the calculation of the maximum number of animals to assure that the limit of 170 kg of nitrogen/year/hectare from animal manure and does not affect herd size negatively in terms of animal health and well-being.

#### **4. CONCLUSSIONS**

Pig Mangalitsa, a breed once widespread in Transylvania seems to be appreciated again by Romanian farmers.

Romanian farmers have abandoned this breed since 1989, while some Romania neighboring

countries have intuited the the potential of this breed and now are among the largest exporters in the world of Mangalitsa ham at prices over 80 euros per kilogram.

Romanian farmers are now trying to recover the lost time and revitalize this breed by using newly created the Mangalitsa Pig Breeders Association. [4]

So far there is no question of exports, because the numbers are about 10,000 heads. Maybe, in two years can be reached in about 30,000 heads.

Farmers are content to sell meat in the country, through the restaurants from major cities, traditional products fair and retail chains. To make better production, the Romanian farmers created their own traditional products with trademarks.

#### **5. REFERENCES**

- [1] Alexandrescu Daniela Cristiana, Toncea Ion, Tehnologii ecologice de cresterea animalelor, Editura Valahia Press, ISBN 978-606-603-030-4, 2011.
- [2] Toncea Ion, Compostarea deșeurilor organice menajere, gospodărești și comunitare, editura Total Publishing, București, 2009
- [3] Vladut M., Popescu A., Agricultura taraneasca ecobiologica, Ed. Universul, Bucuresti, 2001
- [4] [www.madr.ro/agricultura ecologica](http://www.madr.ro/agricultura%20ecologica)
- [5] [www.rasamangalita.ro](http://www.rasamangalita.ro)