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ECONOMIC IMPORTANCE OF ENSURING THE WELFARE FOR FARM PIGS

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Abstract: *Lately it speaks a lot about ensuring animal welfare and about the influence of the environment on life and on animal performance. Pig farming depends heavily on the environment because pigs need all the elements for the comfort (enough space for sleep and movement, enough food depending on nutritional requirements for the animal category, water ad libitum, and health insurance) for growth and to deposit bonus. When these needs are not respected, pigs begin to lose weight and that affects the production and the economic efficiency of the farm. The purpose of this study is to provide necessary information that have an important influence on the production and on the economic efficiency of the farm when animal requirements are not met, but also to know and combat stress factors. The material is addressed to farmers and both to those who want to set up a pig farm.*

Key words: *welfare, daily average gain, food, growth conditions, microclimate*

INTRODUCTION

The work brings in the attention of breeders and those who are interested in swine operation, all the necessary technological flow, such that animals to benefit all necessary requirements that have an important role in ensuring economic efficiency and for submitting spore growth.

Pig farming in our country, is a very important economic sector, which is characterized by intensification of production and use of the entire production circuit in a single holding, the breeding system, motherhood, growth and fattening to slaughter products.

Pigs operation is of great economic interest, which is the main source of animal protein used in human food. The products of this assortment of meat have increased energy, and particular organoleptic qualities, making it to be preferred by consumers.

The growth and pig exploitation is a profitable economic activity, because they recover slightly any type of feed and industrial waste, they have a high fecundity and the increase growth is superior to other species and have the best yield to sacrifice.

Swine are less demanding, and if they have provided all necessary conditions, they rapidly accumulating increase growth, and resulting an accelerated technological flow and therefore an economic efficiency of exploitation.

Animal welfare refers both to ensure the necessary space for rest and motion, ensuring microclimate, proper feeding depending on the animals nutritional requirements and watering ad libitum, and ensure hygiene and isolation of infectious agents.

In the UK, the Council for Animal Welfare has drafted the 5 freedoms for animal welfare:

- Freedom from hunger and thirst
- Freedom from discomfort
- Freedom from pain and illness
- Freedom to express natural behavior
- Freedom from stress.

MATERIALS AND METHODS

This study presents the influence of ensuring the welfare of pigs in order to obtain quality carcasses with the aim to capitalize efficiently the holding. Since pork meat is preferred by consumers because of its distinctive organoleptic qualities, farmers must have in regard, beside the

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intensification of the production and ensuring all the elements needed to produce quality meat, because the pig is a sensitive animal to environmental factors.

Pigs should benefit, besides food, shelter and water, and of quiet and no noise to disturb his state. Stressed pigs gives an inferior quality and therefore, the farmer must take into account the physiological and ethological requirements of the animal. For the study were analyzed veterinary rules for animal welfare and livestock in a holding will be presented the technical and economic impacts of supplementing these conditions to improve animal welfare.

To ensure these welfare measures, the farmer should consider allocating space from a section based on the number of animals and age groups, to provide enough space for rest, lighting the shelter, eliminating noxious, avoid noise to not stress the animals, watering ad libitum and feed to be balanced in terms of nutrition for each age category.

RESULTS AND DISCUSSIONS

For welfare, housing and accommodation have an important role, animals needs shelter with enough space, made of quality materials that are not harmful, without sharp edges or protrusions to avoid injuring them and cleaning them rigorously and easily.

Table 1.

NECESSARY FREE TRADE FLOOR AREA FOR ONE PIG BY CATEGORY	
ANIMAL CATEGORY	FREE FLOOR SURFACE / piglet
Pigs with maximum10 kg bodyweight	0.15 m ²
Pigs with bodyweight between 10-20kg	0.20 m ²
Pigs with bodyweight between 20-30KG	0.30 m ²
Pigs with bodyweight between 30-50KG	0.40 m ²
Pigs with bodyweight between 50-85KG	0.55 m ²
Pigs with bodyweight between 85-110KG	0.65 m ²
Pigs with more than 110kg bodyweight	1.00 m ²

Table2.

PIG NEEDS FOR THE SLEEPING AREA	
SUPERIOR REQUIREMENT INDICATOR	INDICATOR FOR MINIMUM REQUIREMENT NEED
Rest area in higher welfare conditions must be dry at all times by using appropriate absorbent bedding material.	Buildings for pigs must be constructed so as to allow animals to have access to a comfortable rest area in physically and thermally, drained and cleaned properly and to allow all animals to rest at the same time.

The shelter must be kept within limits: air circulation, dust and pollutants levels, temperature and humidity.

Table 3.

THE LEVEL OF NOXIOUS IN THE SHELTER	
SUPERIOR REQUIREMENT INDICATOR	INDICATOR FOR MINIMUM REQUIREMENT NEED
Noxious level of higher welfare shelter conditions: -max. 10.5 mg / m ³ powder -max. 700 ppm CO ₂	Noxious level of mandatory minimum shelter conditions: -max. 15 mg / m ³ powder -max. 1000 ppm CO ₂

If natural light is insufficient or is not available in the shelter, then artificial lighting must be done according to the physiological and ethological requirements of the animal.

Table 4.

MINIMUM AND HIGHER REQUIREMENTS ON LIGHTING IN PIG FARMING	
SUPERIOR REQUIREMENT INDICATOR	INDICATOR FOR MINIMUM REQUIREMENT NEED
Superior lighting conditions: - Period exceeding 11 hours / day artificial lighting - 50 lumen illumination (at least one power 150W bulb every 33 m ² , between the hours determined by the commitment)	Mandatory minimum lighting conditions: - Minimum of 8 hours / day lighting - 40 lumen illumination (at least one light bulb with the power of 100 W at 42 m ² each)

Ord. 149/13.07.2012; Ord. ANSVSA no.202/2006

Food is an essential element of welfare, ensuring a good quality comfort food nutrition for good health. Animals must receive a nutritious food, properly balanced as required age, which is fed to them in sufficient quantities to keep them in good health and to satisfy their need for nutrients. The main objective is to establish the most accurate nutrition intake of nutrients and use them as efficiently as possible, so as to enable superior performance.

The pig is the animal that produces more meat quality at a reasonable cost, it is the animal that harness best the food. The profitability of pig breeding is determined primarily by rational and balanced feeding. Swine nutrition is a very complex issue that depends on many factors, such as race, sex of animal, age, degree of amelioration and breeding technology.

To provide the necessary nutrients, feed rations are calculated according to the physiological requirements of the animal and the group to which it belongs (mass group or gender group). For feeding pigs, providing essential aminos concentration is the most important basic requirement in achieving rations.

A food in sufficient quantities and poor quality induce loss of bioproductive performance, irritation, abnormal behavior and pathological consequences. In light of livestock for good quality products, for food safety reasons it is reasonable to eliminate stress factors that can have negative effects on meat quality at slaughter.

Table 5.

NUTRIENT REQUIREMENTS FOR GROWING PIGS DEPENDING ON WEIGHT					
Weight (kg)	5-10	10-20	20-35	35-60	60-100
Daily gain (kg)	0,300	0,500	0,600	0,750	0,900
<i>Energy and protein</i>					
Digestible energy (kcal)	3500	3500	3300	3300	3300
Metabolizable energy (kcal)	3360	3360	3170	3170	3170
Gross protein (%)	22	18	16	14	13
<i>Mineral salts</i>					
Calcium (%)	0,80	0,65	0,65	0,50	0,50
Phosphorus (%)	0,60	0,50	0,50	0,40	0,40
Sodium (%)	-	0,10	0,10	-	-
Chlorine (%)	-	0,13	0,13	-	-
<i>Vitamins</i>					
Beta-carotene (mg)	4,4	3,5	2,6	2,6	2,6
Vitamin A (IU)	2200	1750	1300	1300	1300
Vitamin D (IU)	220	200	200	125	125

NUTRIENT REQUIREMENTS FOR GROWING PIGS DEPENDING ON WEIGHT					
Weight (kg)	5-10	10-20	20-35	35-60	60-100
Vitamin E (mg)	11	11	11	11	11
Thiamine (mg)	1,3	1,1	1,1	1,1	1,1
Riboflavin (mg)	3,0	3,0	2,0	2,2	2,2
Niacin (mg)	22,0	18,0	14,0	10,0	10,0
Pantothenic acid (mg)	13,0	11,0	11,0	11,0	11,0
Vitamin B6 (mg)	1,5	1,5	1,1	-	-
Choline (mg)	1100	900	-	-	-
Vitamin B12 (mg)	22	15	11	11	11
<i>Amino</i>					
Arginine (%)	0,28	0,23	0,20	0,18	0,16
Histidine (%)	0,25	0,20	0,18	0,16	0,15
Isoleucine (%)	0,69	0,56	0,50	0,44	0,41
Leucine (%)	0,83	0,68	0,60	0,52	0,48
Lysine (%)	0,96	0,79	0,70	0,61	0,57
Methionine and Cystine (%)	0,69	0,56	0,50	0,44	0,41
Phenylalanine, and tyrosine (%)	0,69	0,56	0,50	0,44	0,41
Threonine (%)	0,62	0,51	0,45	0,39	0,37
Tryptophan (%)	0,18	0,15	0,13	0,11	0,11
Valine (%)	0,69	0,56	0,50	0,44	0,41

To ensure the welfare the food and the water should not contain any substances that could harm the animal. Watering is preferable to make at their discretion, animals having access to a suitable water source.

CONCLUSIONS

Given the above, the farmer must have regard to all the rules of ensuring the welfare of pigs to achieve qualitative and quantitative pork production. Today, we hear more and more about animal welfare and the meat from stressed animals, which does not have special features for consumers and therefore, the state is trying to help pig farmers with some minimum grant to improve animal welfare.

To ensure these rules, the state will provide a grant of 23.30 to 41.40 **Eur** / year to increase resting space for animals, from 15.80 to 19.10 **Eur** / year to provide 11 hours of light daily, from 4.80 to 5.40 **EUR** / year to improve the welfare conditions during transport, to reduce the quantities of pollutants by 30% will be offered a grant of 16.80 to 22.90 **Eur** / year and for increasing the sleeping space 7.20 to 15.90 **Eur** / year.

In conclusion, animal welfare is an important factor in the growth and exploitation of animals, contributing to economic efficiency of the enterprise.

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