MEASURES OF JUDICIAL LOCATION OF ANIMAL FARMS TO AVOID ENVIRONMENTAL POLLUTION

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Abstract:*The proper location of animal farms influences favourably the production processes, the comfort of the population from the areas near the vicinity of the farms, the health of the animals and the quality of the environment, being able to capitalize by systematizing activities at maximum level without major effects. For these reasons, for systematizing and organizing the territory, for the location of animal production units will be taken into account a number of social, economic, hygienic-sanitary, communication routes and existing resources in the area for production processes. Animal farms must be located below human settlements to prevent rainwater and manure, without having negative effects on environmental factors in the vicinity of these animal production units, which is inconvenient for the population from the area.*

Key words*: environment, farms, animals, pollution*

INTRODUCTION

For the safety of animal farms and the population from their vicinity, a series of measures must be implemented [3,7, 15]:

- reducing transmitters with effects on public health;
- of the environment;
- consumer interests according to the diversity of animal production.

The operation rules of animal farms must take into account ensuring human biosecurity and maintaining a normal balance of the environment, avoiding pollution with animal manure or other pathogens, zoonoses, which cannot be achieved without the implementation of risk management on farms environment that will include [1,5,9, 14]:

- measures and procedures regarding the production and safety of consumer products;
- general principles on animal feed and the quality of food obtained from them;
- management of waste and manure management resulting from the exploitation for animal production;
- rocedures to reduce the direct impact on the community near farms;
- procedures to reduce the indirect impact on the environment on the medium and long term;
- unaltered preservation of the floristic and faunal biodiversity of the area near the area of animal farms.

These provisions must be applied at all obtaining stages of animal production, of the primary processing, of the production obtained throughout the distribution chain, of animal waste and the environment [2,8]. The safety of products obtained in the farm and up to the consumer must be applied at all stages by establishing separate flows to achieve:

- the free movement of animals and feed for obtaining the production;
- animal products obtained in farms;
- trade in line with market demand and consumer needs;
- protection of the health and life of communities situated near animal farms;
- protection of the natural environment.

In the development and the implementation these safety principles, must be taken into account the international standards regarding the free movement of animals and food, feed, the location of farms around human communities, the quality of the environment, environmental risks, as effective means of achieving production objectives and ensuring protection against transmitters that can contaminate human communities, farms and the natural environment [4,10,12]. Environmental risk management will consider:

- ✓ the results of the environmental risk assessment;
- ✓ the opinions of specialists based on studies carried out in the area where the farms are located;
- ✓ factors for risk management;
- ✓ the principle if precaution;
- ✓ measures to ensure health protection and reduce the action of disruptive factors.

These principles applied on farms will help protect the interests of communities in the area of animal farms, consumers of animal products, information providers, those involved in prevention and ensuring sustainability in areas near farms by ensuring: safe food, reduction number of transmitters, healthy natural environment, efficient biosecurity management, appropriate environmental management regarding the pollutants [6,15].

MATERIALS AND METHODS

In order to achieve the judicious location of animal farms and ensure the protection of human communities and the environment in the farm area, for the maintenance of health and life, the risks were analyzed, based on the situation in small swine farms and information received from them, in order to protect the interests of communities and farmers and preserve the sustainability of the floristic and faunal biodiversity of the areas by maintaining a healthy natural environment. Following the evaluation of existing information on farms and when risks with harmful effects on human, animal and environmental health have been identified, we have proposed measures to improve risk management, in order to ensure a high level of protection. The proposed measures were proportionate to the effects of the risk and were intended to ensure the protection of health, by reducing the action of disruptive factors. These proposed measures should be re-examined over time according to the nature of the identified risk regarding human, animal or environmental health in order to reassess the risk of the transmission of contaminants and their effects on ecosystems.

RESEARCH RESULTS

Risk assessment, the development of procedures, measures, with an impact on animal farms or human communities, must be carried out in a transparent process of:

- ➢ consultation of communities;
- ➢ via organizations per product representative;
- ➢ organizations for the protection of life and the environment.

When suspicions are found on farms, human communities, in the areas regarding the existence of a health risk, depending on its severity, the authorities in the area will take measures:

- to inform the population about the nature of the risk;
- identification of the transmitter;
- restrictions to prevent and eliminate the risk to health regarding the health or quality of the environment.

Farms will be located in compliance with the rules imposed by law, keeping distance from communities, below them and the types of animal shelters, depending on age and category, will be designed to ensure appropriate conditions of growth and operation,

with good feed conversion rates, low manure production and the expression of economic potential in terms of economic efficiency. Shelters by design are intended to provide animals:

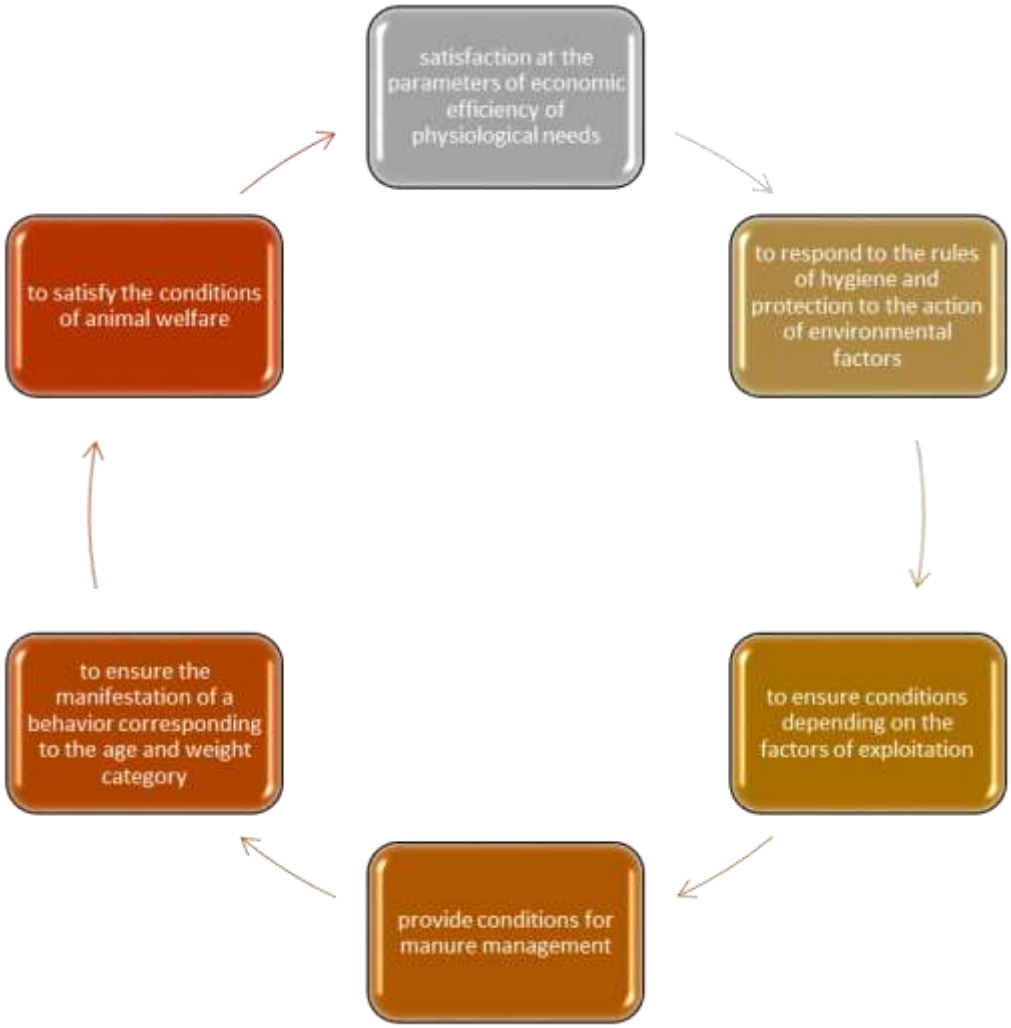

Figure 1. The purpose of animal shelters in ensuring welfare

Modern shelters must also meet other most important conditions in the case of professional farms, constitute rules for operation and development of environmental management permits:

- waste water from exploitation, shelters must be managed, by purification and not discharged into outlets, or on the ground;
- solid manure will be processed technologically and will be used as a controlled neural fertilizer depending on the degree of soil tolerability, and the groundwater level;
- to avoid air pollution in the vicinity of shelters, of the farm, manure will be evacuate through pipes into pits with lids or treatment plants for technological processing;
- the foundation of the shelters must not allow the infiltration of manure or water waste/rain;
- the floor in the shelter, solid or grilled, must have the appropriate slope for leak, to be elastic and disinfection interventions without degradation or corrosion;
- the walls of the shelters must be strong, dry and provide protection against environmental factors, to have smooth surfaces for easy disinfection after depopulation of a series of animals;

- to ensure the necessary comfort depending on the species and category will design the sizes of drainage channel, usable areas and manure quantities so that they can be properly managed without damaging the environment due to overcrowding from the farms;
- the water source must be sufficient according to the physiological needs of each category of animals, avoiding by the type of installations the waste and increasing the amount of manure that need to be evacuated;
- the land for the placement of shelters must be stable, free of harmful factors, and the canvas of groundwater to be found deep to avoid polluting it with manure.

In order to reduce the pollution of environmental factors, water, soil, air at the designing of the farms, new shelters or authorizing the existing ones regarding the environmental protection and preserving the biodiversity of ecosystems in the area of animal farms, the following recommendations to ensure biosecurity will be taken into account:

- reduction of transmitters by intensifying measures to protect the natural environment;
- informing the population in the area in case of environmental risks to avoid contamination;
- isolation of farms, of the area if the risk is major;
- providing specialist assistance in the event of major risks, avoiding the negative effects on the environment;
- adoption of area-specific measures to avoid pollution;
- elaboration of specific norms for farms.

The risk of contamination of the natural environment with manure, chemicals or microorganisms exists throughout the technological flow of the farm, the safety being threatened by biological factors, viruses, parasites, bacteria and chemicals, substances, drug residues, heavy metals. In order to reduce the pollution of the natural environment around the farms, in addition to their judicious location and in compliance with the construction norms that reduce polarization, we consider that a decrease of transmitters can be achieved through managerial measures specific to each farm by:

- developing standards to reduce the amount of drugs or other substances that end up in manure and pollute the natural environment;
- improving the quality of raw materials used in food and producing less manure;
- efficient management of manure, treatment of them before use as natural fertilizers;
- development of specific quality management systems for the natural environment through the use of: risk analysis, good practices regarding protection and quality assurance.

CONCLUSIONS

In order to avoid the population of the environment near the area of animal farms, with effects on local communities and the degradation of floristic and faunal ecosystems, they will be located in compliance with the rules on keeping distance from communities and types of animal shelters, depending on species, category and age, shall be designed in such a way as to ensure appropriate growing and operating conditions, with good feed conversion rates, the production of small quantities of manure and the expression of genetic traits according to the specialization of production. Shelters from animal farms must also meet a number of technological requirements regarding waste management that will be processed and treated in treatment plants before use to avoid air, water and soil pollution in the vicinity of the shelters. The performances achieved in the environmental

risk management process are determined by the entrepreneurial spirit of the farmers in ensuring the biosecurity of the farms, the maximum number of animals exploited in series and the efficient management of the manure from the animals. The effectiveness of environmental management is maximum, when a risk analysis is carried out regarding the degree of tolerability of the areas regarding the use of manure from farms as natural fertilizers and the effects on natural environmental factors.

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