



## ECONOMIC ASPECTS OF THE HUMANIZATION OF SOME PRODUCTION ANIMAL TECHNOLOGIES

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### ABSTRACT

Worldwide, in latest years the cost of foods is dropping and in some countries it reaches levels of 10% (of the gross income). This is mainly due to the increased supply of cheap food. But is this food good and safe? On the other hand, there is a tendency for an increased market of expensive foods, which are more nutritious, healthier, environmental friendly and produced with a consideration for the welfare of the livestock. There is a relation between the welfare of the livestock and its productivity.

The goal of the study is to explore the economic aspects of protection and humane treatment of the livestock in certain farming sub sectors.

To reach this goal, these points must be argued: an analysis of the impact of humane treatment of the livestock practices on the production costs; a conclusion and recommendation should be drawn on the increase in production costs due to the humane production techniques.

The methodology used to argue these points is: analysis and synthesis, the method of comparison, the expert opinion method, the method of modified estimates and etc.

The expectations about the results of the study are that the functions of protection and humane treatment of the livestock will play a significant part in the EU and Bulgaria. But a certain price has to be paid for them.

**Key words:** animal, animal welfare, cost, price, productivity

### INTRODUCTION

On a global scale food expenses have decreased and, in some countries, they have fallen to 10% during the last years. This trend is due, to a great extent, to the sale of cheap food. But is this food useful and harmless? Yet another trend has been observed – more and more consumers are buying more expensive food which is of more nutritious, healthier and safer to the environment and the animal welfare. There is a dependence between animal welfare and animal productivity.

**The aim of this study** is to investigate the economic aspects of the animal protection and the humane attitude to animals in some animal husbandry sub branches.

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### MATERIAL AND METHODS

To achieve this aim the following tasks have been completed: analyzing the influence of the humanization of animal husbandry production technologies on the animal products' prices; summarizing the conclusions and recommendations about paying higher expenses for the technology humanization.

**The methods**, used for task completion, are analysis, synthesis, comparative method, the method of expert evaluations, the method of the modified calculations.

The humane attitude to animals includes all the opportunities to ensure their good physiological condition such as a good living environment, corresponding to their biological needs – suitable premises and equipment, fitting to their physiological and ethological characteristics. The humane attitude includes also the relevant type of veterinary prophylaxis and treatment for

the corresponding animal species, rational management, professional care and attention to the animals raised, as well as implementation of euthanasia when necessary. This attitude aims at sustaining a high level of animal welfare.

## DISCUSSION AND RESULTS

A stable trend which has been observed in the European Union is that of life humanization. It has been manifested in the “human-animal” relationship as well. It is thought that the humanism cannot be focused only on the “human-human” relationship. This relationship is influenced by the dominant principles and behavior forms in the areas, external to it, such as the “human-animal relationship”. An inhumane attitude of man to the animals affects not only their relationship but the “human-human” relationship too. Thus a large scale philosophy of the humanization of production animal husbandry technologies has been created.

Our country, as a member state of the European Union, has to admit the principles of this humane philosophy and to implement them in its legislation. We can say that by following its tradition of integration or by approaching the European principles our veterinary system has implemented the main part of these requirements into its legal norms. These are the Law on the veterinary activity – Chapter 7, The Law on animal protection, the Law on Bulgarian Food Safety Agency, as well as a whole series of regulations, including requirements for the humane attitude to animals.

In this way the new legal acts generate a new function whose implementation requires considerable efforts. The humane attitude to animals imposes changes of some technological processes such as the type of breeding, use, treatment, transportation of animals as well as their slaughtering. Conditions during transportation are supposed to make animals feel more comfortable, but at the expense of bigger costs. Two criteria are opposed in this case:

- The owners’ motivating criterion – minimization of raising costs as a condition for achieving a maximum profit as the main purpose of the enterprise.
- The criterion about the humanization of technological processes, described above, which veterinary authorities must observe.

The problems, related to other processes, are analogical. This clash of criteria is not unknown in the veterinary practice. It can be solved on the basis of the experience, accumulated in the treatment of contagious diseases, but also new solutions must be sought.

It is a common fact that people give a considerable part of their revenues for food (from 1/3 to 1/5 for different countries, and according to NSI this percentage for Bulgaria is 40%). The production and offer of increasingly cheaper food results in some negative consequences: reduced and unstable farmers-producers’ revenues, worse food quality and safety, problems with health and the humane attitude to animals and damage to the environment.

Another trend has been observed along with this one – more and more consumers are looking for more expensive food: more nutritious, healthier and safer to the environment and the animal welfare. Studies show (McInerney, 1998, Layton, 2004) that consumers put on the first place food safety, followed by the humane attitude to animals and the environment friendly technologies. But, on the real market, under the conditions of supply and demand, the low price is the most important. These different type factors have to be coordinated in order to ensure efficient defense and humane attitude to animals in different sub branches.

### *A) Pig breeding*

In pig breeding the relation between the technological production process and the care for pigs has multiple aspects because the breeding process is a complex one. According to a survey made with pig breeders (Katsarov, 2008) their opinion is that the conditions of pig breeding correspond to the animal biological needs and the law in force. But another part of pig breeders, a smaller one, share their experience about the considerable increase in production costs, related to the area expansion, necessary for the raising of some pig breeds in order to meet the requirements for humane attitude to them.

There is a dependence between the animal welfare and their productivity whose model has been made by Bennet (1997) McInerney (1998), shown on **Fig. 1**.

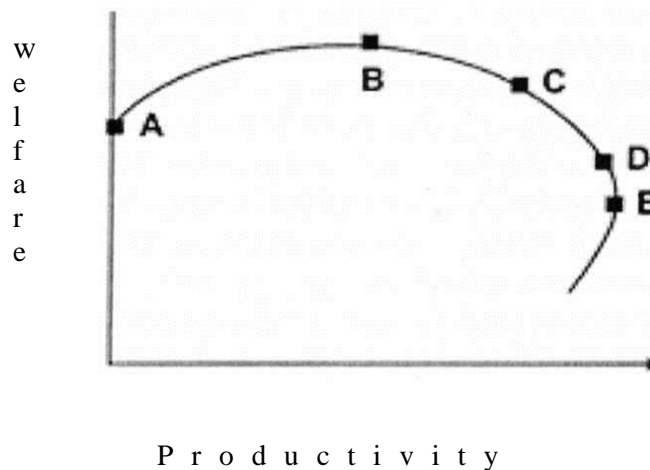


Fig. 1. Dependence “animal welfare – productivity”

If consumers begin using pigs at **point A** the practice shows that by reaching **point B** animals and people will take mutual advantage – production price is acceptable, animals are well taken care of and producers get satisfactory revenues. The highest productivity is reached at **point E**, but it is accompanied by a considerable decrease in care for and welfare of animals. A decision must be made – where is the optimal point on the curve between the **B and E** points where the production has to be carried out? If the preferences of society go to point **C** this means lower productivity, but higher welfare of and better care for animals. **The D point** level shows the lowest acceptable minimum of humane attitude to animals which makes high productivity possible. The curve between **points B and E** shows the decrease in animal care at the expense of the increased productivity which can be reached by restricting the feeding of pregnant animals (Whittemore, 1998), as well as by reducing the rations of all animals.

From the expert opinions and analyses in the field of pig breeding we can draw the conclusion that improvements in the pig breeding technology and the enhancement of their welfare can be achieved by an insignificant increase of the retail price, paid by consumers (McInerney, 1998). Capital costs in pig breeding represent about 10% of the production ones (Katsarov, 2008). If the area is increased and the equipment for the animals double the production costs will increase by 10%

According to a EU traditional premises for pregnant sows have been banned since

01.01.2013. The EU Agriculture council informs that in 2013 4% of pork producers will stop work and pork production will decrease by 5% during the next 3 years because of the prohibition of pig crates. The chairman of the French pig breeders group FNP – Jean-Michel Serres – warns that the prohibition means additional 650 Euros per pig which will lead to a lot of bankruptcies in the sector that is affected by negative trends nowadays.

In order to meet the standard requirements for humane breeding, transport and slaughtering of pigs producers will increase their production costs and this will lead to a fall in their profits, at least, in a short term prospective. A big percentage of the consumers will look for and buy low price products which does not stimulate the producers to make the improvements. These short term consequences can be overcome by subsidies, given by the EU and the state in order to implement the regulations on the defense of and humane attitude to the pigs.

#### **Poultry breeding**

On a worldwide scale the production of eggs and chicken increases every year. The biggest egg producers are China, the USA and Japan – they have a 50% share of the world production. The same countries together with Brazil are also the biggest chicken producers. The increase in the chicken products production is a consequence of the increased demand due to the fact that they are cheap and rich in animal proteins. Eggs are at one of the top places in the every day menu of people. They contain easily assimilated nutrients which make them useful for the children's

growth as well as for people suffering from different diseases.

A decisive factor for the development of the poultry raising sub branch in Bulgaria is its vertical integration of domestic firms. A number of farms develop their own production of combined forages as well of forage grain. The egg production firms have their own hatcheries, raise growing hens, sort out, mark and package the eggs. Even some of them possess their own shops. The farms producing chicken, have their own forage storage premises, they have their parent flocks, raise broilers in their premises, they possess poultry slaughter houses and their own shops. European requirements for poultry welfare, adopted by the Bulgarian legal system too, compelled the poultry breeders by the end of 2011 to invest money in new equipment where, by using new technologies, layer hens can be raised in a humane way. According to agro statistics data as of 2011 the operating poultry farms in the country are 120 where above 3 million layer hens are raised. In 80 of these farms with more than 1.3 million poultry the requirements for humane attitude are observed. The other 40 farms (having about 1.6 million poultry) were given directions about meeting the requirements by the time fixed.

Producers direct their attention to alternative technologies of raising, characterized by higher investments and a higher prime cost, correspondingly. According to the European Commission data in 2006 above 77% out of the layer hens are raised in cages; about 12% are floor raised on thick unchangeable litter, 8% are raised in the open and about 2% - in organic

farms. The trend aims at the decrease of hens, raised in cages.

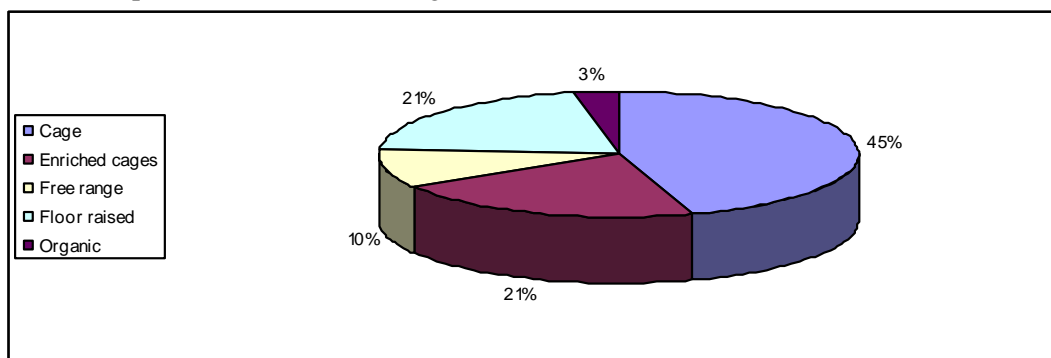
The cage raising was declared inhumane by the EU a long time ago.

As a member of the EU Bulgaria has ratified the common European law, including Directive 1999/74/EU of the Council from 19 July 1999 for establishing minimum standards for the protection of laying hens. The Directive foresees the withdrawal from use of the conventional unenriched cages in all member states of the EU by 1.01.2012.

The Union of poultry breeders in Bulgaria reports that until the end of 2006 30% of all eggs, produced are those, laid by floor raised and cage raised hens. In order to keep their business functioning about 60% of the producers have to dispose of the unenriched cages and to raise the poultry according to the new requirements.

In this respect all poultry breeders have to change the unenriched cages with enriched ones or with alternative systems for raising layer hens by 1 January 2012.

The European Commission presented statistical data for year 2010 about the cage prohibition. At the end of 2010 about 362.628.000 stock layers are reported in the EU. **Fig. 2** shows that approximately 45% of these are raised in traditional cages.



**Fig. 2.** Distribution of layer hen raising systems in the EU

Sweden, Austria and Germany banned the traditional cages before the deadline, set by the EU. Big differences among member states can be

noticed. On **Fig. 3** the status of 7 states- egg producers. They represent 80% of the whole EU market.

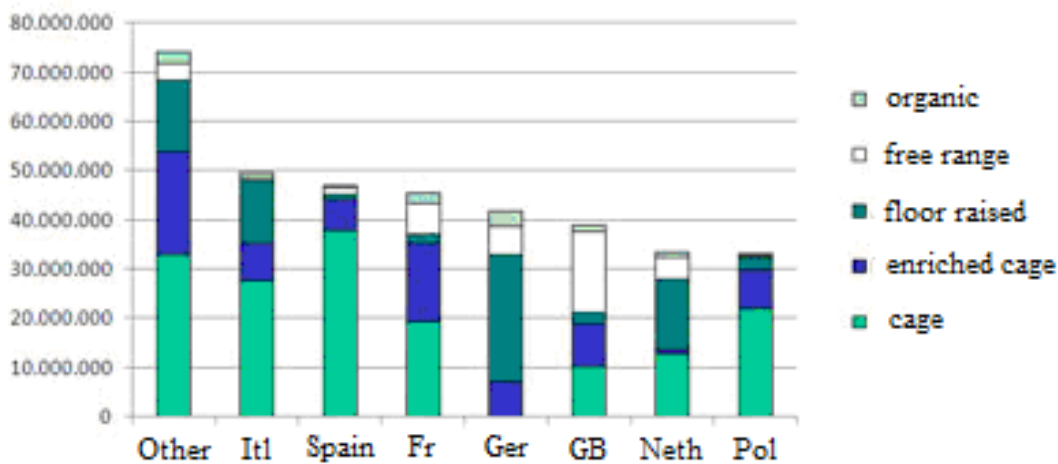


Fig. 3. Distribution of layer hen raising systems in different EU states.

Still the percentage of the stock layers raised in traditional cages is the following: Spain (81.4%), Poland (67.2%), Italy (55.9%), France (42.2%), The Netherlands (39.2%), Great Britain (26,1%) and the rest of the countries (44.6%).

In countries such as Spain, France and Poland the cage raising predominates. In the Netherlands and Germany most farmers have chosen the floor raising and in Great Britain the free range raising is common. We can summarize that the cage raising and the floor raising predominate in some countries, but the free range raising and the organic are on the increase.

In the framework of the more humane technologies the food costs for the poultry increase since the poultry, raised in a larger place, move more, consume more energy and need more forage. The waste production is bigger because the eggs go under the compulsory straw litter and are, more often, stumbled over by poultry itself. Dirty eggs are bought back at 5-8 stotinki (cents) and processed. This price is three times lower than that of the quality eggs.

According to experts of the Union of poultry producers in Bulgaria the investment, necessary for the enlargement of cages in farms for 60 000 hens can reach up to 4 million BGN – which can be done only with a state and European financial support.

A survey, made by the Four - paw eco foundation in 2010 showed that only about 10% of the consumers buy eggs from free-range hens which are more expensive by 10-15%. The increase in the production costs, made for the implementation of the humane technologies, should be undertaken not only by producers and consumers, but by the state and the EU too. Thus *the principle of the shared responsibility* will be put into motion – every participant in the process of humanization of animal breeding technologies will pay a definite price.

During the financial year 2012 Bulgarian agricultural producers have the opportunity to use over 1, 3 billion BGN of which 838 million European grants and over 500 million BGN from the national budget. 384 million BGN from the latter are given as additional payments and 116 million are state allocations - for the first time they include money for pig breeding and poultry raising. This money is granted for the implementation of voluntary commitments about humane attitude to animals in these two sub branches of the animal husbandry. (50 million BGN). The amount of the advanced payments has been increased from up to 20% to up to 50% of the approved subsidy value. The purpose is to facilitate the implementation of the investment projects on measure 121 Modernization of agricultural farms and on other measures. Measure 121 includes support of activities connected with the observation of the EU standards and to the improvement of conditions related to work safety, hygiene and the humane attitude to animals.

## CONCLUSIONS

The sales volume of the animal products depends directly on consumers' opinion about their quality and price. Their preferences are directed at the observation of requirements for animal welfare and humane attitude to animals, which includes greater freedom of movement and raising. In order to meet these requirements alternative raising systems should be implemented. Thus producers will adapt themselves to the consumers' requirements and in this respect the existing standards for the production technologies are changing.

The alternative animal and poultry raising can be defined as:

- a less intensive, but friendlier method compared with those, implemented so far;
- more adequate to the animal and poultry needs

The introduction of the alternative raising will lead to the following consequences:

- necessity for investments for premises reconstruction and installing of new equipment;
- decrease in the premises capacity as a result of which a need for their enlargement or for building new ones arises.

The dynamic changes of directives and regulations for animal breeding, particularly in the EU, are impressive. They are a result from different movements for animal rights protection, for nature protection as well as from consumers' requirements and social attitudes which cannot be neglected. On this basis we can make predictions that the factor "conditions of life" i.e. animal welfare will play a bigger role in the EU and Bulgaria.

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