

Research on Disease Prevention and Control Measures and Management Strategies in Pig Farms

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Abstract:

At present, China's pig breeding industry is developing from free stocking to intensive, large-scale and standardization, which to a certain extent, puts forward new requirements for the ability of livestock and poultry disease prevention and control. However, in the process of industrial development and expansion, there are management loopholes in the industrial supply chain from breeding farms to people's dining tables, and the livestock and poultry epidemic shows a trend of diversification. From the perspective of social governance in China, especially the first and second departments of social institutions have increasing pressure on the prevention and treatment of multiple diseases of livestock and poultry. Once the outbreak of livestock and poultry epidemic diseases occurs, it will have a great impact on the farms and the industrial chain. Therefore, it is particularly urgent to pay attention to the prevention and management of pig farms and do a good job in the prevention and control of infectious diseases. This paper mainly combines the actual situation in China's social transition period, analyzes the problems in the management of pig farms, and discusses how to prevent the occurrence of the epidemic, in order to provide some reference for the industry.

Keywords:

Pig Farms, Disease Control, Influencing Factors, Strategy

1. Introduction

In recent years, with the rapid development of China's agriculture, animal husbandry has gradually shifted from scattered stocking mode to industrialization, intensification and scale, which not only promotes the development of China's pig breeding industry, but also drives the regional economy and improves the quality of life of the people. However, large-scale farms have the characteristics of large-scale farms, many types of livestock and poultry, high feeding density, and diverse sources of raw materials, which puts forward higher requirements for the prevention and treatment of livestock and poultry infectious diseases. In 2020, the Opinions of The

General Office of the State Council on Promoting High-quality Development of Animal Husbandry pointed out that in the process of pig breeding, there is the problem of imperfect breeding management system, and the operation of feed, veterinary drugs, slaughtering and processing, harmless treatment and other links is not standardized, leading to the loopholes in the livestock and poultry epidemic prevention system. [1] Therefore, the scientific management of pig farms and the establishment of a disease prevention system are of great significance for promoting the healthy development of pig farms.

2. The Significance of Strengthening the Standardized Management of Pig Farms

China is in the transition period, with the improvement of people's living standards, the demand for high-quality, diversified livestock and poultry products is also increasing. However, with the rapid development of the aquaculture industry, it also faces many challenges, such as environmental pollution, animal disease and so on. In 2018, the country's output of pigs, cattle, sheep and poultry was 85.17 million tons, including 54.05 million tons of pork, 6.44 million tons of beef, 4.75 million tons of mutton and 19.94 million tons of poultry meat. China is not only a big pork producer, but also a big consumer. In the "consumer price index (CPI)", [2] pork has always been a high weight. Therefore, from the perspective of economics and management, "pork economy" can not be ignored, and the scientific and standardized management of pig farms is particularly urgent under the background of the new era.

First of all, the standardized management of breeding farms helps to improve the quality of livestock and poultry commodities and food safety. Secondly, the environmental governance inside and outside the farm helps to protect the ecological environment. Thirdly, the standardized management of the breeding farms is conducive to improving the quality of the industrial chain, increasing the income of farmers, boosting the implementation of the rural revitalization strategy, and forming a virtuous cycle.

3. Influencing Factors of the Standardized Management of Live Pig Farms

3.1. Farmers' awareness factors of disease prevention and control

Under the condition of modern market commodity economy, there is a potential value isomorphism between market economy and utilitarianism. Whether farmers, as market subjects, can rationally regulate their profit-seeking behavior is of great importance for the quality of participation in livestock and poultry products. Therefore, the irrational profit-seeking of farmers is the root cause of the weak awareness of disease prevention and control, and the pig breeding industry emphasizing yield and light quality.

At the same time, the farmers of professional and technical also limits the pig farmers in the selection of feed and veterinary drugs, vaccination, environmental management of normative problems, affect the pig disease prevention and control effect, and in the event of disease infection, farmers bear economic losses, even to the pig breeding industry and consumer market can cause greater negative impact.

3.2. Environmental management factors of breeding farms

Standardized feeding conditions are conducive to the large-scale development of the farm. The environmental governance of the pig farm is mainly divided into two parts: internal environmental governance of the farm and external environmental governance of the farm.

In the consideration of environmental management, the location of the farms is particularly important. The site selection of the breeding farm should be considered comprehensively, and pay attention to the interaction with the surrounding environment. For example, soil, transportation, water sources, impacts on residential areas, etc., should be taken into comprehensive consideration. Whether the external environment around the farm has the relevant convenient conditions affects the feasibility of opening the farm.

In addition, the breeding environment inside the farm is also very critical, such as the sanitation and disinfection of the pigsty is not in place, the breeding density is too large, the ventilation conditions are not good, producing a large number of dust and other floating objects, atmospheric turbidity and other factors, which is also the cause of the increase in the incidence of the disease.

3.3. Raising technical factors

The specialization of farmers is closely related to the degree of standardization of breeding farms. Farmers should have specialized breeding technology to understand or master the scientific disease control system. At present, China's breeding industry is generally faced with the problems of lack of professional knowledge and low technical level in related fields. Many farmers make roughage by themselves, resulting in the imbalance of nutrient proportion among varieties, which is not conducive to the growth of pigs. In addition, in order to meet the market demand for pork consumption, some farmers choose poor quality and moldy feed under the profit-seeking mentality, and at the same time, they will blindly add prohibited feed additives to promote the rapid growth of pigs, which reduces the resistance and immunity of pigs, thus bringing risks to breeding.

3.4. Veterinary drug factors

Veterinary drugs are essential for breeding farms. But if there is no regular veterinary guidance, it is likely to lead to irregular medication, leading to the occurrence of various diseases. However, at present, China's breeding industry practitioners in the purchase of veterinary drugs, such as whether to identify fake and inferior veterinary drugs, as well as the use of veterinary drugs, the preservation of veterinary drugs and other links are not standardized, often appear repeated medication, excessive medication and other phenomena. If excessive application of antibiotics, it will increase the resistance of pigs to drugs, resulting in secondary infection, resulting in the decline of autoimmune capacity. In addition, the residue of harmful substances in the drugs will also have an adverse effect on the growth of animals.

3.5. Factors of vaccination

In large-scale pig production, the vaccine can improve the immunity of animal bodies and reduce the incidence of multiple diseases. However, in the prevention and control of epidemic diseases, the vaccine management is not strict and blind, random use of vaccines.

Many farmers, due to cost considerations, purchase vaccines of substandard quality, not only fail the immune effect of the vaccine, but also bring many negative consequences to the body of pigs. Farmers' understanding of the immunization work is not sufficient, there are greater randomness and blindness, the one-sided view that the more vaccination, the better the effect of disease prevention, leading to blind vaccination. Some farmers do not implement the correct vaccination procedures, in the operation of vaccination is not standard. For example, in the use of vaccines, disinfection is not thorough, the same syringe and needle are used repeatedly, easy to cause cross-infection.

4. Scientific and Effective Epidemic Prevention and Control Measures and Suggestions

4.1. Improve the management awareness of the farm staff

In the process of farm operation, to strengthen the understanding farms the importance and urgency of epidemic prevention work, to enhance management idea, make full use of information technology, strengthen learning and training, increase the farm staff epidemic prevention knowledge reserves, set up a scientific and reasonable farm disease prevention and prevention management system, optimize the farm management level, stimulate positive external effects, improve the quality of the industrial chain.

4.2. Immunization procedures were strictly followed

In the formulation of the immunization program, it is necessary to have a detailed understanding of the pig antibody test results and the local epidemic situation in each pig farm, and comprehensively evaluate the test results of the epidemic antibody and the pathogen test results, and formulate the vaccination procedures that meet the local actual vaccination needs, so as to ensure the scientific and reasonable immunization work. After the vaccine, all the garbage and tools should be destroyed to prevent the spread of bacteria.

4.3. Attach importance to the breeding farm disinfection work system

In order to do a good job in the disinfection of the farms, we must pay special attention to the selection of fungicides and avoid the use of the same kind of disinfectant for a long time. Breeding personnel should choose appropriate disinfectants according to different pathogen characteristics. When using, be sure to carefully check the shelf life and concentration of the product, and pay attention to replace it with a variety of disinfectants. Pig farms suggest to install a set of special sterilization device at the gate of the pig farm, such as automatic spraying disinfection device. If there are foreign vehicles to enter, the spraying disinfection device can be used for comprehensive disinfection of the whole vehicle. If the farm fund is insufficient, you can also use manual disinfection, set up a disinfection pool at the gate of the farm. When establishing the disinfection pool, it should be considered whether the tires of the vehicle can be effectively disinfected. The water depth is greater than 0.1 meters, and the external vehicles have to go through the pool disinfection before entering. Especially in the season of high incidence of pig epidemic, in addition to all external vehicles should undergo strict disinfection treatment, the breeding personnel who have had close contact with external vehicles and external personnel should also undergo strict disinfection. In addition, outsiders

must be prohibited from carrying pork products to pig farms to avoid carrying external pathogens on pork products. When feeding, the tower is used as much as possible. Usually when the pig farm is built, the tower is built near the pigsty, so that the feed can be transported to the farm through the tower without letting other feed trucks in. In order to enter the farm, we must fully clean and disinfect the transport vehicles at the gate of the farm, and the transport vehicles into the farm, but also the farm shuttle car to send the feed to the warehouse, the new feed transferred to the farm to be sterilized, sterilization and then feed the pig in the farm. [3]

4.4. We will improve our ability to prevent and control epidemic diseases

The prevention and control of livestock and poultry diseases is the most fragile part of the national animal husbandry industry support system. The frequent occurrence of livestock and poultry diseases and the interweaving of various diseases are a prominent manifestation of the contradiction between the development and the security system of the animal husbandry industry in China. While developing the pig breeding industry, we should strengthen the system focusing on disease prevention and control. In the process of developing pig industry, to consider the whole industry development, disease prevention and control and animal product quality and safety of various aspects, guarantee will not affect the surrounding ecological environment, let the construction of animal husbandry support system can adapt to the modern development of animal husbandry industry, so as to enhance the level of disease prevention and control of animal husbandry industry in our country.

4.5. Scientific construction of breeding farms

Excellent feeding conditions are the key to reduce the disease incidence. First of all, pig farms should be well-ventilated, far away from chemical factories, residential areas and other livestock clusters to ensure clean water quality and fresh air. Cold and humid climates are bad for the growth of pigs, and can also induce a variety of conditions. The overall terrain of the pig farm should be open, gentle terrain and small slope. In addition, various types of pigs should be set up in separate feeding places, and special quarantine rooms should be set up to ensure the safety and health of the feeding environment. Around the pig farm, there should be farmland, orchards, vegetable fields, fish ponds and other matching infrastructure, to facilitate the rapid disposal of the excrement discharged from the breeding site, to avoid causing pollution to the surrounding environment. [4] Secondly, the internal environment of the farm should be actively created. Do a good job of daily cleaning of the piggery, the daily dung water, residual food residue and falling pig hair, dandruff and other garbage clean up, do a good job of piggery ventilation, keep it dry, to prevent the reproduction of bacteria. The pigsty environment should be frequently disinfected, and the standard drugs should be selected to realize the sterilization of pigs. In addition, attention should be paid to the pest control of Flies, [5] mosquitoes, cockroaches, mice and other diseases are the main carriers of infectious diseases, to do a good job of insecticidal, rodent control and other work, reduce the incidence of disease. [6]

4.6. Strengthen the management of feeding links

Scientific and reasonable feeding method is the main guarantee to ensure the pig production, which can make the pigs grow quickly and healthily. At present, there are many varieties of feed on the market, and farmers should purchase through legal

channels to ensure the health and safety of feed. To the purchased pig feed should be scientific, reasonable storage, take the initiative to do a good job of feed moisture, leakage and rodent work, in order to ensure the health of animals, regular inspection, mildew, insecticide and so on. According to the needs of pigs in various periods, appropriate nutritional combination should be carried out under the guidance of experts, so as to achieve balanced nutrition, improve the immunity of pigs and reduce the incidence of diseases.

5. Conclusions

In short, in the prevention and management of pig farms, we should strengthen the understanding of epidemic prevention of farms, pay attention to the potential problems existing in the large-scale development of farms, and incorporate scientific management into the concept of farm management. In practice, from pay attention to the comprehensive consideration of external environment location, farm internal environment improvement, feed, veterinary drug procurement and use of specialization, timely for the disease immunization put forward reference Suggestions, scientific prevention, prevention, prevention and control, promote the healthy and sustainable development of breeding industry.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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