

Current Status and Suggestions of Ecological Animal Husbandry in the New Era

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Abstract: The construction of ecological civilization was placed in a prominent position as early as the 18th National Congress of the Communist Party of China in 2012. It must be integrated with social, economic, political, and cultural constructions to build a beautiful China and reverse the continuously deteriorating ecological environment. This has nothing to do with people's well-being and the future of the nation is closely linked. At the same time, at the 19th National Congress of the Communist Party of China in 2019, General Secretary Xi Jinping once again proposed "adhering to the harmonious coexistence between man and nature", which shows that our understanding of natural environmental protection has deepened and our determination to strengthen the construction of ecological civilization has become firmer. In the new era, in order to promote the construction of ecological civilization, it is necessary to change the traditional animal husbandry model, vigorously develop ecological breeding, and implement the concept of green and sustainable development. The purpose of this article is to make a brief summary of ecological animal husbandry and make suggestions.

Keywords: New Era; Ecological Animal Husbandry; Current Situation; Suggestion.

1. Introduction

In the development process from primitive animal husbandry to traditional animal husbandry, in order to increase the output of animal products and increase the breeding density, it is not uncommon to use antibiotics, which slowly threaten the health of people. At the same time, the treatment of livestock and poultry manure is not timely and not standardized, incompletely lead to serious environmental pollution problems. In 2019, General Secretary Xi Jinping proposed at the 19th National Congress of the Communist Party of China to "adhere to the harmonious coexistence between man and nature", which shows that our understanding of natural environmental protection has deepened and our determination to strengthen the construction of ecological civilization has become stronger firm. The development of ecological animal husbandry by applying the agricultural cycle animal husbandry mode can realize the unity of economic benefits and ecological environment, which is of great significance to the development of ecological animal husbandry.

2. Definition of Concept

2.1. Ecological Animal Husbandry

Ecological animal husbandry is also a sustainable animal husbandry. It integrates the ecological niche principle of the ecosystem, the principle of food chain, the principle of material recycling and the principle of material symbiosis, and then uses modern animal husbandry science and technology and system engineering to integrate livestock and poultry and their survival. Environment and human social activities as an organic whole. Focusing on the development of animal husbandry, agriculture, forestry, grassland, animal husbandry, fishery, etc. should be adjusted to local conditions and rationally matched to build a modern animal husbandry production system with ecologically balanced development and a virtuous cycle of functions. Its characteristics that affect animal health and welfare are: (1) outdoor feeding (2) limited

use of therapeutic and preventive traditional medicines (3) organic feed (4) Incorporating biological cycles on the farm [1, 2].

2.2. Ecological Farming

Ecological breeding is based on strict compliance with disease prevention and control, food safety, animal husbandry production hygiene, etc., combined with modern advanced breeding and epidemic prevention technologies, comprehensively considering the characteristics of livestock and poultry, the impact of ecological environment and the process of manure treatment, to produce safe, Healthy farming of green, high-quality livestock and poultry products [3].

2.3. New Era

The new era of socialism with Chinese characteristics is a new historical orientation for China's development. On October 18, 2017, General Secretary Xi Jinping pointed out in the report of the Nineteenth National Congress of the Communist Party of China that "socialism with Chinese characteristics has entered a new era [4].

3. The Value of Developing Ecological Animal Husbandry

3.1. Solve the Conflict between Humans and Animals

As early as a long time ago, the contradiction between humans and animals competing for food has always existed. The development of ecological animal husbandry can improve the production and output efficiency of food, and appropriately improve this contradiction. At the same time, it can also optimize the living environment of livestock, reduce the occurrence of a large number of livestock and poultry diseases, and block the transmission route. At the same time, the quality and quality of livestock and poultry products are effectively improved, reducing the impact of metabolites produced in the production process of livestock products on

the ecological environment. destruction, so that man and nature live in harmony.

3.2. Realize Environmental Protection and People's Health

Ecological husbandry protects soil from erosion and degradation, improves soil fertility, preserves water resources and natural habitats, and reduces greenhouse gas emissions. Harnessing biodiversity, nutrient cycling, soil regeneration, and natural enemies of pests, and incorporating these natural products into agroecosystems, contributes to a future of healthy agriculture and healthy food for all.

3.3. Realize Rural Revitalization

Intensive agriculture is considered by some to pollute surface and groundwater, and to destroy landscape environment with many natural risks [5]. In addition, intensive agriculture mostly exists in plain areas, and the ecological cycle breeding industry can make small rural households use free-range farming at the same time, make the production mode change from extensive to clean, comprehensively utilize waste, and improve the production and living environment in rural areas.

4. Development of Ecological Animal Husbandry Abroad

Countries around the world have gradually explored characteristic ecological animal husbandry development models through their respective natural environments and natural resources, which are mainly divided into three types: the characteristic development model of the United States and Canada is the combination of intensive development of agriculture and animal husbandry; the characteristic development model of Australia and New Zealand is a grassland ecological animal husbandry with a balance between grass and livestock; the characteristic development model in Japan and China is an ecological animal husbandry with small-scale farming by farmers. The production of organic livestock products by American pastures is mainly through the intensive management model, and the livestock species that need to be raised, the production scale, the feeding method, the crop rotation and fallow system are determined from the market demand. Australia's grassland improvement and artificial grassland construction, suitable stock carrying capacity, pasture planting technology, etc. are the characteristics of its ecological animal husbandry development. Japan has a lot of people and little land, and its resources are extremely scarce. Therefore, the government attaches great importance to environmental protection and ecological breeding, and promotes the intensive, organized and ecological development of Japanese animal husbandry through legal system construction, financial support, application of environmental protection technology, and farmer training.

5. Domestic Ecological Animal Husband-Dry Model

5.1. Fermentation Bed Culture Mode

Housing conditions and the use of straw bedding in ecological animal farming may result in animals that are less stressed than conventionally reared animals [6]. This conclusion is the key to the growth of this technology. This

technology is to mix the feces produced by the animals with rice husks, sawdust, etc. in proportion, and add the microbial raw materials required for fermentation, and the feeding and feces treatment of pigs are carried out at the same time [7, 8]. The main principle is that the microorganisms (yeast, bacillus, etc.) in the organic litter can quickly degrade and digest the excrement of pigs. In this process, the purpose of deodorization can be achieved without manual cleaning. At the same time, a large number of microorganisms that reproduce and grow can provide inorganic matter and bacterial protein for the growth of animals. This technology can be applied to pig and cattle farming.

5.2. Biogas Generation Mode

Biogas is a by-product of anaerobic bacteria decomposing organic waste, usually composed of 60% methane and 40% carbon dioxide, and is a clean renewable energy that can replace natural gas for cooking, generating steam and hot water, or generating electricity [9]. Embedding a biogas digester between the circulation of livestock and poultry and plants can make the three into an ecological cycle as a whole. The excrement produced by animals enters the biogas digester containing biogas flora, and the flora decomposes carbohydrates, fats and proteins in the feces into biogas, biogas residue and biogas slurry. Biogas can be used for lighting, warming, and conservation in pig farms. Nitrogen, phosphorus, potassium and other elements in the biogas slurry can be directly supplied to plants to absorb and provide nutrients. Organic matter in biogas residues can also be absorbed by plants after being decomposed by microorganisms in the soil. After the plants are mature, they return to humans and animals as food and fodder, thus forming a hypercycle structure. Studies have shown that biogas generated from poultry manure can generate 280 MWh/day of electricity [10].

5.3. Forest Ecological Breeding Technology

This technology is to provide natural food and living environment for animal breeding in the original ecological environment of the current forest or mountain area, and the feces discharged during the growth of animals are equivalent to organic fertilizers, which are fed back to trees and grass, reducing environmental pollution and improving resource utilization. efficiency and reduce farming costs. Grazing reduces the use of environmentally and economically expensive concentrated feeds and efficiently cycles nutrients back into the soil, increasing pasture utilization can be economically, environmentally and socially sustainable [11].

6. Suggestions on Developing Ecological Animal Husbandry

6.1. Do a Good Job of Publicity and Change Thinking

National management personnel should attach great importance to the construction and development of ecological animal husbandry, promote ecological animal husbandry from a strategic height, conduct conscious training for farmers and herdsmen, change their outdated awareness of ignoring ecological environment protection, and improve ecological animal husbandry. The policy system and laws and regulations for animal husbandry and grassland grazing.

6.2. Combination of Planting and Breeding, Green and Low Carbon

Promote the integration of livestock breeding and agricultural planting in terms of spatial distribution; strengthen scientific research investment, break through key technologies of energy conversion and material cycle, and evolution technology of livestock house emissions. Scientifically select the development model, adapt measures to local conditions, balance grass and livestock, and cycle ecological animal husbandry models of agriculture and animal husbandry.

6.3. Fully Promote Market-oriented Development

Do a good job in the docking of production and sales, strengthen coordination and cooperation, organize and carry out order sales of ecological livestock and poultry products, and continue to expand offline and online sales channels such as livestock and poultry product development and mainstream e-commerce platforms. At the same time, through various effective media, taking part in agricultural product exhibitions, etc., vigorously promote livestock and poultry products, expand the market inside and outside the province, and fully promote the market-oriented development of animal husbandry and its products. Continue to increase efforts to further improve visibility and competitiveness. Increase brand building and promotion efforts. Accelerate the brand building of livestock products, enhance corporate brand awareness, optimize resource allocation, and make every effort to build a whole industrial chain system integrating breeding, slaughtering, cold chain distribution, and terminal sales.

6.4. Increase the Construction of Forage Bases and Lay a Solid Foundation for the Development of Animal Husbandry

Further introduce artificial grass planting, grassland improvement and subsidy policies, and fully promote grassland contracting work. In some areas with abundant pasture and no overloading, rotational grazing is carried out. Maintain biodiversity, delineate grassland nature reserves in areas with fragile ecology and rich species resources, and prohibit grassland destruction for afforestation. Handle the contradiction between forestry and animal husbandry well to achieve a win-win situation between ecology and animal husbandry.

7. Conclusion

Ecological breeding has great benefits for the welfare of livestock during production, as livestock live in a larger area and have access to outdoor areas. The above ecological

breeding mode is in line with the national conditions of our country with more people and less land. It reduces the pollution of livestock and poultry manure, replaces chemical fertilizers with organic fertilizers, reduces the cost of breeding, improves the production performance of livestock and poultry, and reduces the cost of livestock and poultry and livestock products. Pesticide residues can increase income for farmers, reduce the use of non-renewable energy, and reduce the risk of spreading zoonotic diseases. It is in line with the concept of ecological sustainable development promoted by the state in the new era, and provides an effective way for ecological farming and sustainable development in rural China.

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