

Diagnosis and Prevention of Common Diseases in Large-scale Meat Pigeon Breeding

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Abstract: This paper aims to explore the diagnosis and control methods of common diseases in large-scale breeding of meat pigeons. Through in-depth understanding of meat pigeon breeding industry, we have selected several common diseases, including enterotoxigenic syndrome, pigeon paratyphoid, avian influenza of squabs, pigeon plague and other possible diseases. Firstly, we give a detailed account of each disease, including its pathogens, symptoms, routes of transmission, and possible economic losses. Then, we provide corresponding prevention and control measures for each disease, including vaccination, environmental hygiene management, isolation and treatment of sick pigeons, and rational use of drugs. At the end of the paper, we summarized and prospected the prevention and control of these six diseases, and emphasized the importance of strengthening the awareness of disease prevention and control in the meat pigeon breeding industry and improving the level of breeding and biosafety. At the same time, we also call on relevant industries and scientific research institutions to strengthen research on diseases in the meat pigeon breeding industry to provide strong support for the healthy development of the meat pigeon breeding industry.

Keywords: Large-scale breeding; Meat pigeon breeding; Common diseases; Diagnosis and control

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1. Introduction

Pigeon meat is rich in nutrition, tender, delicious and with high nutritional value and medicinal value. According to the Compendium of Materia Medica, pigeon meat has a sweet taste and a gentle medicinal property. It has the effects of tonifying the liver and the kidneys, dispelling wind and detoxifying, promoting the secretion of saliva or body fluid nourishing fluids and moistening dryness, tonifying qi and blood, which is a high-level nutritional supplement. In recent years, with the continuous improvement of people's living standards, the demand for high-quality pigeon products is also increasing, which has created good conditions for the development of the pigeon industry. At present, the pigeon breeding industry in our country is in a period of vigorous development. However, in the current development process of large-scale pigeon breeding industry, due to the lack of in-depth understanding of pigeon diseases, insufficient attention to the prevention and treatment of pigeon diseases in the breeding process, and even the treatment time was delayed or serious consequences have arisen because many farmers do not find the problem in time. This paper expounds the diagnosis and prevention methods of common diseases in large-scale breeding of meat pigeons from several aspects, aiming to provide reference for the majority of workers of pigeon breeding industry to promote the technology in practice, and also provide certain theoretical basis for the healthy development of the pigeon breeding industry.

2. Enterotoxigenic Syndrome

Enterotoxigenic syndrome, also known as pigeon cholera and hepatic ascites, is an acute highly contagious disease caused by many pathogenic bacteria such as toxigenic *Escherichia coli*, *Salmonella* and *coccidia*. The sick pigeon is depressed, has decreased appetite or abstinence, has difficulty breathing, and produces yellowish-white or yellowish-green loose stools, which are black with bubbles

in severe cases. Enterotoxigenic syndrome, also known as pigeon cholera or liver ascites, is an acute highly contagious disease caused by various pathogenic bacteria such as toxic *Escherichia coli*, *Salmonella*, and coccidia. The diseased pigeon is mentally depressed, has decreased or lost appetite, has difficulty breathing, and produces yellowish-white or yellowish-green loose stools, which are black with bubbles in severe cases. The faeces of sick pigeons contain a lot of air bubbles and a lot of undigested feed. The disease can occur all year round, but it is more common in summer and autumn.

The disease is caused by toxigenic *Escherichia coli* and is often caused by poor feeding management and poor sanitation. The high content of protein and fat in feed and insufficient or deficient vitamins and trace elements can promote the reproduction and growth of pathogenic bacteria. The disease is not contagious, but it should be prevented early because it can infect flocks through the digestive and respiratory tract of pigeons. There are no effective drugs to treat the disease.

Treatment methods: (1) Select drug therapy according to the actual situation; (2) Strengthen the health management of the loft: clean the loft regularly and remove feces, dirt and other debris in time; Keep the loft dry and ventilated; Maintain a suitable temperature; Do a good job of disinfection in the loft; (3) Add electrolytes or vitamins to drinking water: Adding electrolytes to drinking water can improve pigeon appetite and improve digestion and absorption function; Vitamin can make the pigeon body metabolism normal, thereby enhancing the body resistance.

3. Pigeon Paratyphoid

Pathogen: *Bacillus paratyphi* is a Gram-negative, facultative anaerobic bacterium. The mycelium is slender and rod-shaped, with blunt rounded ends and flagella and with no spores, no capsule, which is in an irregular shape. Its resistance to the outside world is not strong and can survive for more than 2 years in the general environment. The disease occurs mostly in young pigeons, and 1 to 2 weeks old young pigeons are most susceptible to infection. It is mainly transmitted through the respiratory and digestive tracts, without seasonality, and can occur throughout the year. At the beginning of the disease, the diseased pigeon is mentally depressed, with reduced appetite, loose feathers, swollen eyelids, swollen neck, dyskinesia, paralysis or paralysis of the hind limbs, diarrhea, or discharge of grayish yellow or yellowish white feces, difficulty breathing, coughing, coughing sounds, and bleeding spots or ecchymosis on the skin of the eyelids and chest and abdomen. Young pigeons that have died of illness have swollen spleen with bleeding spots or ecchymosis on the surface; The liver is light yellow or yellowish brown with needle sized necrotic lesions on the surface; Gallbladder enlargement. Fibrous exudates are present in the chest, abdomen, and abdominal walls. Breeders should strengthen feeding management in daily life, improve feeding conditions, keep the loft ventilated and dry; The pigeons were vaccinated regularly.

Once a sick pigeon is found, it should be immediately isolated and treated, and medication should be used to control secondary infections and toxin poisoning. Commonly used drugs include penicillin, streptomycin, cephalosporins, ciprofloxacin, etc. Commonly used drugs include compound sulfamethoxazole sodium, norfloxacin, etc. Severe diseased pigeons should be disinfected by spraying disinfectant in their surrounding environment; At the same time, symptomatic treatment can also be used, using antibiotics such as gentamicin and kanamycin for treatment. In addition, it is also important to pay attention to the hygiene and disinfection of pigeons' drinking water.

4. Avian Influenza of Squabs

Avian influenza of squabs is an acute and hot infectious disease caused by influenza virus. It usually occurs from March to September every year, with the most cases occurring in squabs. The disease is mainly transmitted through respiratory and digestive tract. The symptoms of avian influenza of squabs are depression, loss of appetite, increased drinking water, dyspnea, drooping wings, bow shaped or cockscomb shaped wings, and loose feathers. The diseased pigeon showed no significant changes in spirit, appetite, drinking, and feathers, but decreased or abandoned feeding and weight loss. Sick pigeons often die suddenly. Treatment: antiviral therapy: intramuscular injection of influenza virus specific vaccines; Squabs with obvious respiratory symptoms can be treated with anti influenza virus drugs. There are currently two methods of medication: one is to use intramuscular injection of inactivated vaccines; Another method is to administer antiviral drugs orally. Interferon and vitamin C injection can be used for intramuscular injection of squabs with severe liver and kidney injury. Multiple antibiotics can be used to prevent the disease at the same time, but antibiotics cannot be used to prevent infection after the squabs comes out of the shell and before the feeding period.

5. Pigeon Plague and Pigeon Pox

The causes and symptoms of pigeon plague are as follows. The disease is caused by the pigeon plague virus, characterized by acute sepsis, and is an acute infectious disease. The clinical symptoms are mainly characterized by diseases of the respiratory system, digestive system, reproductive system, and circulatory system, with a high mortality rate and serious harm to the production of meat pigeons. The diseased pigeon is lethargic, unwilling to move, with elevated body temperature, difficulty breathing, increased breathing frequency, and

a clear nasal discharge. The sick pigeon has severe diarrhea and discharges a large amount of yellow or green loose feces. Due to a large amount of mucus flowing out of the nasal and oral cavities, it is also known as "nasal mucus disease". Prevention and control measures are as follows. The treatment of this disease should prioritize prevention. The breeders should regularly disinfect the pigeon house and regularly replace the bedding in the pigeon house. During the onset of the disease, Anpu Purified Drinking Water or adding electrolytic multidimensional solution to the drinking water can be used; Treatment can be given to milder diseased pigeons by intramuscular injection of 50 mg of amphotericin, 200 mg of gentamicin, 150 mg of doxycycline, 80 mg of lincomycin, 200 mg of azithromycin, and 100 mg of oxytetracycline per feather.

Pigeon pox is a common disease of pigeons, mainly caused by the pox virus. The pathogen of pigeonpox is the poxvirus, which is transmitted through direct contact or droplets. The symptoms of pigeon pox include pimples on the skin and blisters in the oral and nasal cavities. Pigeon pox has a significant impact on the growth and production performance of pigeons, and in severe cases, it may even lead to pigeon death. The methods for preventing and treating pigeonpox mainly include: vaccination is the most effective method for preventing pigeonpox. Shortly after the pigeons' hatching out, they can be vaccinated. Keeping the pigeon house clean and hygienic can avoid the spread of the virus. Pigeons that have already been infected with pigeonpox should be immediately quarantined to avoid the spread of the virus. For pigeons with severe illness, antiviral drugs can be used for treatment.

6. Conclusion

Through the research on the diagnosis and control of common diseases in large-scale breeding of meat pigeons, we can draw the following conclusions: enterotoxic syndrome, pigeon paratyphoid, avian influenza of squabs, pigeon plague and other diseases are common in meat pigeon breeding, which have a great impact on the growth and production performance of meat pigeons. Therefore, the prevention and treatment of these diseases is an important task for the meat pigeon breeding industry. Each disease has its own specific pathogen, symptoms, and transmission pathway, so targeted diagnosis and prevention are needed based on the actual situation. At the same time, environmental hygiene management and vaccination are also important means of preventing these diseases. In the process of preventing and treating meat pigeon diseases, the rational use of drugs and the isolation and treatment of diseased pigeons are also very important. Avoiding drug abuse can protect the growth and production performance of meat pigeons and also reduce the spread of pathogens. The large-scale meat pigeon breeding industry needs to strengthen disease prevention and control awareness, improve breeding level and biosafety level. It requires joint efforts from breeders, veterinarians, and research institutions to improve the disease prevention and control effectiveness of the meat pigeon breeding industry through technological means.

In general, the diagnosis and control of common diseases in large-scale breeding of meat pigeon is a complex and important task. Only through scientific diagnosis and effective control, can we ensure the healthy development of meat pigeon breeding industry and improve the economic benefits of meat pigeon breeding.

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