CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

Swine Influenza

Swine influenza (swine flu) is an economically important viral respiratory disease in pigs reported worldwide. Influenzas are caused by type A, B, or C Orthomyxoviruses. Swine influenza is caused by a Type A Orthomyxovirus. Subtypes of the virus are defined by hemagglutinin (H) and neraminidase (N) proteins of the virus. The most common subtype classifications of the swine influenza virus are H1N1, H1N2, and H3N2. Although mainly found in pigs, swine influenza virus has been found in other animal species and humans.

Transmission

Swine influenza is a highly contagious disease spread by direct contact, aerosolized respiratory secretions and fomites, including contaminated inanimate objects and people moving between infected and non-infected pigs. The introduction of new animals in a herd is commonly associated with disease outbreak. The incubation time is generally one to three days. Infected pigs may shed the virus for seven to ten days. The virus causes high levels of illness and low death rates. A carrier state may exist for up to three months and recovery from infection confers a limited immunity. Epidemic and endemic forms of swine influenza may occur.

Epidemic swine influenza has a rapid onset and may affect all age groups of swine. It is typically seasonal with onset occurring during extreme temperature fluctuations. Clinical signs may include coughing, nasal discharge, labored breathing, conjunctivitis, fever (>105°F), anorexia, weight loss, lethargy, and abortion. Most affected pigs recover without complications in five to seven days. Secondary viral or bacterial infections or complications with bronchopneumonia increase the risk of mortality.

Endemic swine influenza may result in annual outbreaks during the colder months of the year. The disease in sow herds may result in sporadic abortions associated with high fever or result reports of low conception rates due to early gestation abortion. Reduced fertility of boars may also occur due to adverse effects of high fever on the testicles and sperm. Nursing piglets may be adversely affected by reduced milk production in infected lactating sows.

Diagnosis

The diagnosis of swine influenza is based on clinical signs, gross and histopathologic lesions, and diagnostic tests. Infection may be confirmed by a variety of diagnostic tests to include serology, virus isolation, polymerase chain reaction, and ELISA. Detection of the virus is best from febrile animals within 24 to 48 hours of the onset of clinical signs. Optimal specimens are nasopharyngeal swabs or lung tissue from acutely ill pigs. Virus isolates can be typed to determine the H and N components. The information is important for determining the appropriate vaccine for use in the herd.

Treatment

Swine influenza treatment is supportive in nature: reducing stress, administering medications to reduce the body temperature, and ensuring comfort of the animal. Severely ill animals with secondary bacterial pneumonia may require broad -spectrum antibiotics and intravenous fluids for maintenance of hydration.

Disease Prevention

Swine influenza prevention is based upon good management practices to reduce the risk of introducing the disease. Good biosecurity practices, such as quarantining new pigs before placing in the general pig population, limiting visitors and traffic on your premises, and properly cleaning and disinfecting vehicles and equipment, should be consistently implemented. Swine influenza virus is readily inactivated by disinfectants. Commercially available swine influenza vaccines include H1N1 and H3N2 swine influenza strains. Use of these vaccines may reduce the levels of virus shedding by infected animals.

Risk of Disease in Humans

Although swine influenza viruses do not normally infect humans, human infections may occur. Cases most commonly occur in persons having direct contact with infected pigs. Seasonal human influenza vaccines may provide partial protecting against some, but not all, strains of swine influenza.

Consult your veterinarian for recommendations on swine biosecurity and herd health plans. Contact the California Department of Food and Agriculture (CDFA) Animal Health Branch (AHB) or United States Department of Agriculture (USDA) if unusual illness or unexplained deaths occur in your herd.

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For more information, please visit: www.cdfa.ca.gov/ah