

# NADIS Pig Disease Focus

## Swine Influenza.

Influenza in all mammalian species is caused by specific viruses that have the ability both to jump species and recombine to produce new strains that can then affect one or more species. The close proximity of people, pigs and ducks in Chinese rural society provides a natural kitchen where the viruses can be brewed up.

Prior to 1985, Swine Influenza (SI) had not been seen clinically in the UK although subsequently investigation have shown that one specific strain – derived from human beings (H<sub>3</sub>N<sub>2</sub>) – has been present in the pig population since 1968. This strain was first detected as causing clinical disease in 1986 1 year after the first SI cases caused by strain H<sub>1</sub>N<sub>1</sub> a pig specific strain. Subsequently a new strain appeared in 1991/2 which was a recombinant of the H<sub>1</sub>N<sub>1</sub> pig strain and an avian influenza strain and was designated H<sub>1</sub> 195852. Coming on the back of PRRS (Blue Ear) this strain was particularly severe. Furthermore through the 1990's new recombinant strains such as H<sub>1</sub>N<sub>2</sub> and H<sub>3</sub>N<sub>1</sub> have been detected in pigs.

The disease is now common throughout the UK causing sporadic disease in individual herds and occasionally across areas and in some farms can cause persistent problems for a number of months. Like human flu, it is more prevalent in winter conditions – where virus survival is good – although cases can be seen at any time of year.

### Clinical Picture.

In its classic form, SI is an explosive epizootic disease affecting all or part of a herd within a very close time frame. The virus spreads via aerosol and nose to nose contact and with a 24 hour incubation period, disease spreads rapidly.

Typically affected pigs will be very depressed, totally inappetent, have high rectal temperatures and exhibit an intense persistent dry cough; nasal discharge and inflammation of the eyes may be seen. Within a building of growing pigs up to 100% will be affected with the building taking on the picture of total inactivity but extensive coughing. The disease will normally run for 3-5 days in individuals which – provided they are not affected with secondary disease – will fully recover and continue to grow normally. Death from uncomplicated SI is rare.

Sows affected may lose their milk and infertility can result in sows around service or those within the first month of pregnancy. Abortion may occur in individuals associated with a persistently high temperature. There is a belief that the disease can cause infertility in sows otherwise unaffected i.e. clinical respiratory disease is not necessarily seen in infected sows. Affected boars can be rendered infertile for up to 6-8 weeks if they have suffered persistently high temperatures.

The rapid development and recovery from the disease is accompanied by a rapid fall off in virus excretion such that within 14 days of the last pig recovered clinically it is extremely unlikely that there will be any excretion. Survival of the virus in the

environment is short and therefore in the classic case the whole outbreak would be expected to disappear within 2-3 weeks.

However, particularly in association with H<sub>1</sub> 195852, persistent recycling of disease can be seen in nursery areas affecting pigs in the 5-7 weeks age bracket often in combination with PRRS virus – the so called “Blue Flu”. The disease is perpetuated by infection of younger pigs from those 1-2 weeks older as the maternally derived colostral protection wanes at 5-6 weeks old. Proper separation of age groups with all in all out management can break this vicious cycle of disease.

### **Spread of Disease.**

The disease can be spread by recently infected recovered pigs but for this reason the breeding companies in the UK usually adopt a policy of suspending sales from multipliers during an outbreak and for 3 weeks after the last case has been seen on the farm. This would usually give a 6 week shutdown.

The disease is believed to spread on the wind and experience indicates that it can spread many miles in this way.

In theory people can also carry and spread the disease and indeed stockpeople can occasionally suffer mild cases of pig derived influenza. The role of this method of spread is unclear and unproven. Birds may also act as transmitters of the disease from farm to farm.

### **Prevention.**

Attention to high standards of biosecurity, isolation of incoming stock away from the main farm and siting of the unit have parts to play in the prevention of many diseases in pig farms. The same applies with Swine Influenza if the disease is within an area it may be inevitable that it spreads to all or most farms. Bird proofing of indoor units is often very difficult and totally impossible in outdoor herds.

### **Treatment.**

There is no treatment available for influenza being a viral disease and in the absence of secondary infection none is needed. The pigs will spontaneously fully recover with 1 week. However, SI has the ability particularly in grower pigs to trigger other disease most noticeably *Actinobacillus pleuropneumoniae*. Indeed many of the explosive outbreaks of the latter have subsequently been shown to have occurred on the back of a previously unrecognised SI outbreak. In such cases rapid treatment with appropriate antibiotics is essential to reduce the potentially catastrophic losses that can result from this disease.

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