

## MANEJO DE LA SALUD DE LA PIARA: MONITOREO Y PROCEDIMIENTOS DE CONTROL SON CON FRECUENCIA INEFECTIVOS Y CONLLEVAN A MÁS ENFERMEDADES INFECCIOSAS

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Newly introduced infections at swine herds often become endemic as there is a continuous presence of infectious and susceptible pigs. Most of these endemic infections spread within the pig herd without signs of disease. As a result, the number of infections in commercial swine herds continuously increases, as there is no efficient strategy to control infections in swine herds. External biosecurity may be effective to prevent pathogens of being introduced within a herd, but when internal biosecurity is ineffective the number of infections present in the herd will pile up. This will inevitably lead to a higher incidence of infectious disease. The number of viral infectious diseases, which effectively can be prevented by vaccination, is limited, and the number of bacterial infectious diseases, which can be prevented by vaccines, is even more limited. In case of disease outbreak, the use of antibiotics in the near future will be limited and preventive use of antibiotics in most countries will be banned. Therefore, efficient internal biosecurity, that limits the spread of infections is essential, and has the potential not only to reduce, but even to block transmission of infectious agents: the cheapest and most effective way to control infectious diseases. Without infection, no infectious disease. But how efficient are our present methods?

Pig groups at swine herds are stratified by age, weight, sex, and production objective. This horizontal stratification, which is practiced in almost all herds in the world, is designed for labor and logistic efficacy. This horizontal stratification, however, is carried out by sorting pigs at various ages. Piglets are cross-fostered to get litters with piglets of an equal weight and size. Weaning pigs from various litters are sorted into groups of equal size, weight, and/or sex. This also occurs for growing and finishing sections. Sorting of pigs intensifies contact structures, and causes a broad spread of infectious agents, even when both infectiousness and infectivity are limited. These management-induced outbreaks are quite common with respect to viral infections like PRRSv and PCV-2. Also *Streptococcus suis* easily spread between litters, when litters are mixed, although the reproduction ratio for sow-litter transmission is rather low.

As the worldwide practiced system of sorting and horizontal stratification enhances the prevalence of all endemic infections in young pigs, double and triple infections often occur, and result in clinical features that are complex and even new syndromes originates that use orphan agents. Syndromes and complexes, like RDC (Respiratory Disease Complex) are a proof that young pigs are exposed to many infections at the same time. A PCV-2 infection only results in postweaning multisystemic wasting syndrome when other infections and PCV-2 infection are both present.

Why is pig sorting and horizontal stratification not omitted, as we know that we can control most major endemic infections by limiting contact structures? Monitoring “health” of pig groups is done by visual inspection, and those pigs that differ from the mean are detected as “not healthy”. “Health monitoring” is screening for absence of disease, and not absence of infection. How smaller the variation of individual characteristics, the more sensitive clinical inspection becomes. Without proper health scoring system farmers will continue their sorting procedures for pigs, which is the major thread for herd health.

In addition to sorting there are a number of procedures that play an important role in the spread of infections. “Feed back” of piglet diarrhea, or even aborted and dead born piglets, completely crashes the effect of any hygienic protocol that is used at the farm. In addition, insufficient educated and motivated farm workers can easily spread infections throughout the herd. Weaned piglets may infect themselves from biofilms present in water pipes, and iatrogenic transmission of infections, like HEV, may occur, but the worst scenario is when piglets, with growth retardation, are hold back and remixed with younger groups. Internal biosecurity programs with vertical stratification of pig flow offer a huge prospect with respect to reduction of health costs, improved health and growth performance. Carrying out these programs, direct and indirect contact structures are restricted to a minimum. Previous studies have shown that these programs are feasible, and also improve the net profitability of the farm.

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