



Animal welfare (+ intradermal vaccination)

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Quite a long time ago, when due to my job I spent all day at the farm, we talked with other professionals in the pig sector regarding the fact that, at some point, we would have to integrate more technology into pig production, bearing in mind that at that time robots were already used routinely in the manufacturing of cars, whilst on our farms, besides exceptions, the most technified businesses used forced ventilation at the most. Summarising, we clearly needed to implement technological tools and processes to help us out in our job, this being beneficial both for the welfare of our animals and ourselves, as the people in charge of the production of pigs.

Some years later, thanks to the creativity and the focus on production of some companies, technological innovation offers us a tool with a direct influence on the vaccination process on our farms, this being one of the tasks with a greater impact on the health status in our systems and that uses an important fraction of our staff's time.

Although we all know and accept its importance, it normally does not get the attention and dedication it deserves. In fact, during our daily routine we forget that immunisation has a great impact on the stability of the health status and on the performance figures. This vaccination process also entails, on the farm, a significant cost versus other health costs.

IDAL needle-free injection system

The interest of the company in the needle-free injection technology was caused by the search for tools that were more animal-friendly and that were not a vector for infections between the vaccinated pigs, because vaccination is an activity that is normally performed on all the population and where it is very difficult to keep good hygiene practices.

After years of trying several systems without success, this new IDAL vaccination system appeared, achieving exactly what we needed and also having, as an additional advantage, the benefit of being a digital instrument that provides valuable information to improve and efficiently control the vaccination process.



Before its implementation, this injection system was assessed by our Research and Development Department, to establish its efficacy with the vaccine used. This had to be evaluated, because this tool changes the intramuscular vaccination concept towards an intradermal vaccination concept, and this was new to us. In the trial performed, the results obtained in terms of feed conversion ratio, daily weight gain and animal losses showed no statistically significant differences in the group of animals with a traditional vaccination versus the ones vaccinated with the IDAL system, this validating its use. Also, in the same trial, specialists in animal welfare carried out an assessment that resolved that the vocalisations of the pigs vaccinated with the needle-free system were significantly lower than in the case of the pigs vaccinated with the traditional system, this providing an answer to the first of our goals regarding the obtaining of a benefit with respect to animal welfare.



Once this system was validated, we started the massive implementation of this equipment on the farm, where we were able to really assess the other practical benefits provided by this digital system, and besides the most well-known ones such as the avoidance of abscesses due to the infection caused by needles, broken needles found in the meat, and the transmission of infections among animals that have been vaccinated with the same needle, I want to highlight two facets that, in my opinion, contribute a lot to the vaccination process on the farm:

Accurate control of the number of vaccinations carried out

The system records the number of doses administered by each injection equipment, and at the end of the day or of a given period we can define the number of doses administered and the pigs treated, and therefore really control the vaccination process carried out. For instance, in the case of vaccinating at weaning, as in

our case, I can determine how many weaned piglets I must vaccinate per week, according to the weaned farrowing quarters, and compare that to the doses really used in those quarters according to the IDAL equipment and, in turn, the amount of vaccine doses used (the drop in the inventory) in comparison with the initial stock. We can follow the same process to verify the vaccinations administered versus the number of animals in the fattening quarters that must be vaccinated and the vaccine stock. This information is basic for those of us who work at the farms, because as a friend says: **“What isn’t measured isn’t controlled”**. In this way we avoid the problems with the inventory or bad vaccinations. How many times we have thought that we have a new strain of a virus because the vaccine does not work and we see outbreaks of the disease... But the first question is, has the vaccine been correctly administered?

A quicker and more efficient process

This injection equipment is the first one that I have seen with the appropriate speed to efficiently administer more than 1,000 daily doses per farm. We have even measured that the process is 30% quicker and more efficient than using the traditional multidose syringes, considering a greater speed when changing the flask and that there is no need for changing the needle after a certain number of injections.

In summary, I think that this kind of tools allow us to gradually improve our operational procedures, and also our pigs’ welfare and health. In this regard, it is important to use new technologies that may help us, but only once they have been proven and validated in our own systems.