Computers rule in the modern sow house

When you have issues such as high staff turnover, high staff costs and a need to be highly efficient in pig production then you only have one way forward – you have to rely more on automation and computerisation. To see how this is already a reality on some farms, International Pig Topics recently visited Holland, the home of Nedap to see their Nedap Velos system in operation.

This system is used for managing breeding sows and was developed hand-in-hand with pig breeders. The system centres around the feeding platform or station, which is the logical place to locate sow monitoring equipment as this is a position that the sow regularly visits and stays for some time.

With regular and more accurate monitoring it is possible to closely monitor the sow's performance and then to steer her towards the ideal.

The farm manager has key information at his fingertips.

Accurate control

So, what does Velos do? Firstly, it is a state of the art electronic sow feeding station that identifies each sow and then ensures that she gets the exact amount of feed to fit her production stage, age and condition.

The system is based on Velos' reputable animal identification technology. This combined with accurate data on the amount of feed given to each sow means that the breeder is able to accurately control growth, additional growth and body condition in each sow and in the herd as a whole.

Located at the exit of the feeding station is a heat detector that detects if a sow is in heat, marks her and determines when she visits the boar.

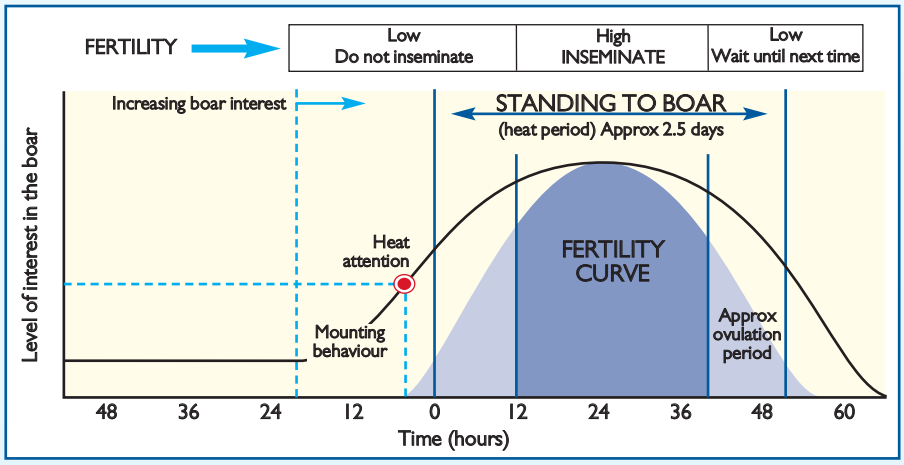
As can be seen in Fig. 1 there is an optimum time for insemination which will maximise piglet production. Farm staff do not have the time to check sows around the clock, but this system can check a sow every time she comes to the heat detector.

Therefore heat detection becomes more accurate in a greater percentage of animals and this, in turn, is reflected in fewer missed heats and greater reproductive efficiency.

There are two key components to the kit on the ground – the feeding station and the separation unit that all sows leaving the feeding unit need to pass through.

By having the right exit passageway from the station a sow can be returned to her group or can be directed to a holding pen for staff intervention – for example heat confirmation or insemination.

Fig. 1. Nedap Velos alerts you on time to when a sow requires inseminating.



Central control system

The central computer or central control system collects, stores and analyses all data collected from the sows and then decides appropriate management actions that need to be taken.

This central control system can be password activated so that additional data or instructions can be added or so that the system can be remotely accessed. The system also displays data with one click on a user friendly menu that takes you to the actual data you are seeking.

In addition, the system allows key strategies, such as feeding, to be adjusted but then, very importantly, this change is very

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The Velos system in operation on the farm.

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closely monitored to ensure that the desired effect is being achieved.

So, what practical issues are there in running this system? To find out we visited a 650 sow Dutch unit that uses 100% AI and is based on the group housing of sows.

Piglets are weaned at 25 days and either sold or sent to the farm's own, small (700 animals) fattening operation.

It is found that 60-70% of sows have taken their daily feed allowance by 11.30am and all have done so by 3.00pm. This means that the groups have specific and valuable rest periods.

Currently, sows are housed 50 to a pen which allows 2.025m^2 per sow. Some of the pen's floor is solid and some is slatted – this is needed to reduce ammonia levels, which is an important issue in Holland. In the first couple of days the sows familiarise themselves with the unit and this may necessitate a little training.

A feature the farmer likes about this new system is its robustness and its ability to withstand knocks and bumps but, more importantly, its accurate feeding of the sow, which saves feed and ensures the best performance in the farrowing pen and for the next insemination. In addition, its design facilitates easy cleaning of the station.

How is the system checked? Simple you give the programme a 'false sow'. In this system a transponder is used to trigger the system and the feed dispensed can be checked by weighing.

The great advantages of this system are that it is flexible, easy and robust. It is flexible in that it integrates mechanisation, automation and robotics into a single management system and it can easily grow with the farm by the addition of extra stations.

It is exceptionally user friendly and its hardware and software have been developed for pig breeders by pig breeders and it has been extensively trialled and tested in the field. It is reliable in that it is based on standard, proven software applications and is backed by a support team of specialists.

So, whether you have staffing issues that need to be addressed or you are looking for further efficiency in your breeding herd the Velos option should be at the top of your list for serious consideration. ■