

Review of Weda OptiMum:

# Optimal feeding of SOWS

The retrofit OptiMum dry feed system from Weda promises no feed is left standing in the trough – the secret to healthy sows and thriving piglets

*The farm we visited uses the OptiMum dry feed system. The sows were fit and healthy, the piglets were thriving. In addition, feed waste and labour were reduced to a minimum. Photos: Tovornik*

Feeding sows in the farrowing pen is an art in itself – too little, and the sows lose weight and produce too little milk; too much, and the feed is left sitting in the trough. Since it spoils quickly, the troughs have to be cleaned frequently whether you use dry or wet feed. What's more, the sows often make themselves ill as a result of overeating.

## Piglets gain up to 1kg extra weight

There are many advantages of feeding sows a liquid diet. Take the farm which we visited for this report; it has used a liquid feed system for its 900 sows for decades. As the farm was planning to replace the existing houses

by new purpose-built housing, all essential equipment on the farm came up for review. This prompted the farmer to get in touch with Weda, as a result of which he decided to convert one farrowing unit for 36 sows to the OptiMum feed system on a trial basis.

## Field trial facts

Nearly two years on, there are enough facts and data to make a brief comparison.

- Given a four-week suckling period during which the sows are fed by OptiMum, both the sows and the piglets are found to be very fit and healthy on the whole.
- On average, the 31 piglets weaned per sow per year weigh almost 1kg more than the 7.5kg piglets in the control groups.
- The troughs no longer need cleaning, which saves up to two hours of work every day.
- The number of sows suffering from milk fever is almost zero in the OptiMum group.



- The sows can eat several times a day up to the preset maximum amount.
- The OptiMum sows stay calm and relaxed throughout the day without being disturbed by the whooshing of the feed valves.
- If the sows aren't hungry, the OptiMum system will not dispense any food and the troughs remain empty.
- The sows tend to lactate slightly later when fed with OptiMum yet produce consistently high quantities of milk without the need for medication.
- The optional Smart.Light system allows farmers to check from their mobile phone whether the sows have eaten enough or too little when entering the pig house or from the office PC.
- The daily inspection of the 36-sow unit takes just three minutes instead of 30 minutes required for the control unit.

### Using a cell wheel and sensor

The core element of the OptiMum facility is a retrofit cell wheel which is arranged between the feed reservoir and the trough. The system also includes a motion sensor that is installed inside the dispensing pipe. The sensor monitors the sow's behaviour by detecting whether she is trying to get more feed from the pipe. This eliminates the need to enter data to an electronic device or keypad in the unit.

Instead, all that's needed is an electric line and a control line running from the cell wheel to the control cabinet in front of the unit and from here to the feed computer in



*The cell wheel meters and dispenses only a small and precisely defined quantity of feed.*



*The feed drops from the removable cell wheel through a funnel into the downpipe.*

### GOOD TO KNOW

- ▶ OptiMum dispenses the feed to suit the sows' feeding behaviour.
- ▶ The technology easily retrofits to existing dry feed systems.
- ▶ The system suggests enormous time savings, better animal health and a significant reduction in wasted feed.

the booth. This means that the equipment cannot be damaged by water during cleaning or by airborne ammonia.

By default the cell wheel initially dispenses one single portion for 20 seconds, i.e. 120 grammes of feed in our case. Then the system pauses while the sow feeds. If the sensor detects any activity by the animal indicating that she is actively seeking more food, a second portion is dispensed. This process is repeated until the maximum amount for this particular feeding cycle is reached.

Provided, the optional and so-called Aqua Level water valves are fitted, OptiMum can prevent the trough being refilled with water as the sow is feeding. So, instead of a thin gruel the sows get a tasty porridge in the trough. After feeding, the water valve tops the drinking water in the trough back up to the desired level. To maintain a dry trough, Weda itself prefers sow-and-piglet drinkers to combined feed-and-water troughs with water valves.

## WEDA SMART.LIGHT

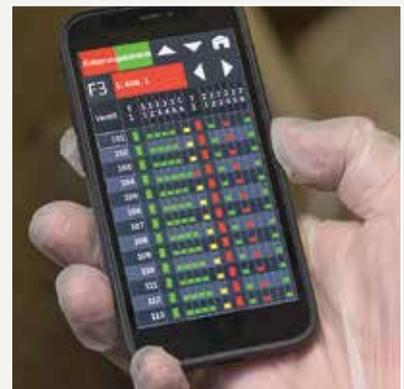
### An LED light on the feed pipe flags up sick sows

Weda supplies Smart.Light technology for both its liquid and dry feed systems as a simple means of monitoring the feed intake of sows. On entering the pig house, you are signalled by a yellow or red LED light on the feed dispenser whether there has been a low feed intake that may give cause for concern. Also, you can retrieve feed data from the last seven days by checking your smartphone while still in the pen.

The option price for SmartLight is around 25 euros per feeding station, if purchased together with OptiMum.



*Smart.Light makes it easy to monitor animals and their feed intakes.*



*Feed data from the last seven days can be retrieved via the mobile phone app.*



The sensor in the downpipe detects a sow looking for feed. More feed is dispensed only when the sensor is triggered.



The first feeding of the day can be initiated at the press of a button for easy animal monitoring and/or mucking out.

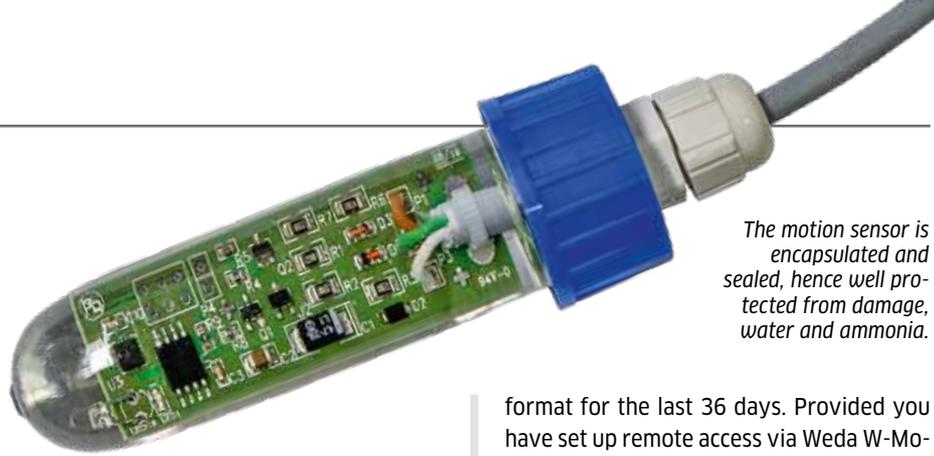
## Up to six feeding cycles.

The number of feeding cycles can be set to up to six. The farm we visited provides only two feeding cycles during the first six days after farrowing. This means that the nursing sows get up only twice a day to feed. As a result, peace reigns in the farrowing unit and losses due to crushing are kept to a minimum.

On day seven the number of cycles is increased to four, allowing the sows to satisfy their growing feed requirements. By this stage the little piglets have enough sense to get out of the way when their mother stands up.

## PLUS AND MINUS

- Easy to install
- Animal-friendly
- Easy to operate
- Time-saving
- .....
- ❑ Smart.Light is only an option
- ❑ OptiMum is not suitable for liquid feed systems
- ❑ Sows are slower to lactate



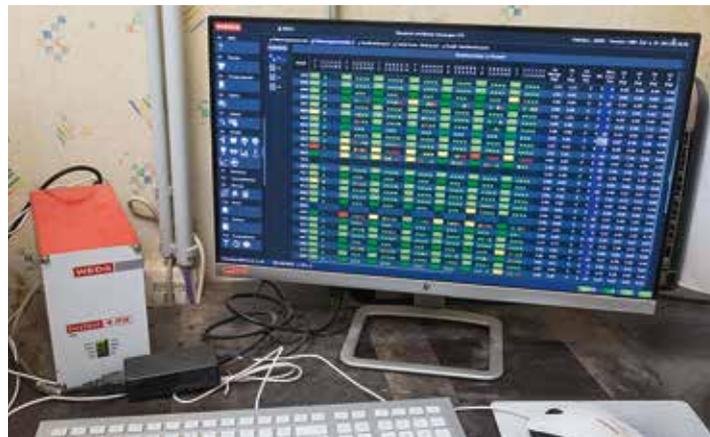
The motion sensor is encapsulated and sealed, hence well protected from damage, water and ammonia.

One really useful feature is the option to start the first feeding cycle in the morning by operating a switch at the entrance to the unit instead of allowing the system to start automatically. When the button is pressed, 120 grammes of feed drop into each trough. The healthy sows then get up and begin to eat - while the ailing sows usually remain lying down. The Smart.Light warning light (optional) also helps to identify sick sows. Combining OptiMum with a push button at the entrance to the unit makes the job even easier, because it's a great help when sows are standing when you enter the farrowing unit for mucking out, for example. What's more, if for some reason you can't start the feed dispenser manually in the

format for the last 36 days. Provided you have set up remote access via Weda W-Mobile, you can check data and adjust quantities on your smart phone while in the pen or from the comfort of your sofa.

## So what does it cost?

We asked WEDA to calculate the cost of equipping the farrowing units in a fictitious 400-sow unit with 96 feed dispensers. They quoted a price of 20,300 euros (excluding VAT and installation), which equates to 212 euros per feeding station. In addition to the Excellent 4PX OptiMum control system, the offer also includes two control cabinets each covering 48 dispensers, and 96 volume dispensers equipped with activity sensors. The optional Smart.Light equipment is priced at around an extra 25 euros per feed station.



The OptiMum software features clear graphics and links to the PC in the pig house via a control line.

morning, the system automatically dispenses the first portion of food at a preset time - now that's really clever.

## Control from the PC and mobile phone

It might not look like it from the simple equipment in the shed, but the dry feed system is controlled by a computer, or to be more precise, by the Weda Excellent 4 PX software. This program enables you to activate feeding cycles, enter the daily ration and set up feeding curves and feeding times. It also allows you to monitor the individual consumption - even retrospectively of course. Consumption can be depicted in a graph for the last seven days and in table

## Summary

Weda, actually a specialist for liquid feed systems, has added the OptiMum dry feed system to its product range which promises to optimise sow feeding in farrowing pens. The system improves the quality of livestock management and makes monitoring easier and faster. And since sows fed by OptiMum lick the troughs clean, all those hours normally spent cleaning the troughs are consigned to the past.

Weda Smart.Light technology provides effective livestock management for both dry and liquid feed systems.

**Martin Zäh (translated into English by trans-agrar)**