Magical mystery tour of Dutch equipment makers

The outcome is not yet clear, but this plant will be ready when the market asks for tailor-made products. Multi-flexibility is the key word for Jan Janssen of Dutch feed compounder SaWeCo and initiator of a unique cooperation between feed mill equipment manufacturers.

By Dick Ziggers

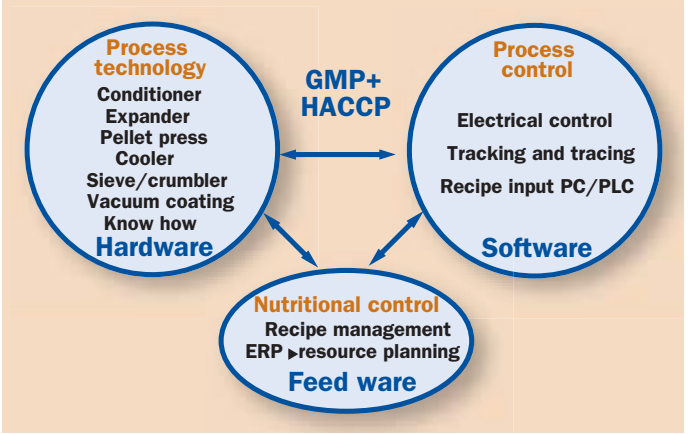
The end of October will be an exiting period for cooperative feedmill SaWeCo in Oirlo in the south of the Netherlands. By then the feedmill will have completed its 'total makeover' and should be attractive and ready for the next twenty years. "Our pelleting line was more than 20 years old and has never been adjusted to the changes in the market," says Jan Janssen, managing director of SaWeCo.

SaWeCo is a relative small player in the Dutch feed market with a production of 200,000 tonnes of feed per year, strongly focused on poultry feed. The cooperative has around over 200 members who participate in the financial profits on the basis of the amount of feed purchased. Feed manufacturing is the core business, but the cooperative also exploits a farm shop and is active in financial services and sells products to crop growers and to the horticulture sector. The orange-white coloured bulk trucks are a striking appearance in the southern part of the country.

"Already in 1998 I came up with a philosophy on how our feedmill should look like over ten years time," Janssen says. During a brainstorm session with Syntens – a Dutch innovation platform and network for small and average size companies – the idea was further developed and it was there that drier and mixer specialist Dinnissen, and later on process innovator Van Aarsen jumped in to further discuss the possibilities.

Janssen wanted to invest for the coming 20 years. "Our general question was: What can we do to make products that are not on the market yet?" This might sound strange, but he had a clear vision on how to innovate the feedmill and serve his customers. The main idea was to combine the most modern systems on the market into a flexible production line that could make meal, pellets, crumbles, expandate, extrudate and what have you. Janssen took several trips by airplane to visit feedmills and petfood plants in France, Germany and Switzerland, which already had implemented parts of the techniques he had in mind. The main goal was to develop a process that would deliver a product that would be better than existing products on the market and thus stay one step ahead of competition. From these observations and discussions with users the concept further developed and quickly resulted in the implementation in the feedmill.

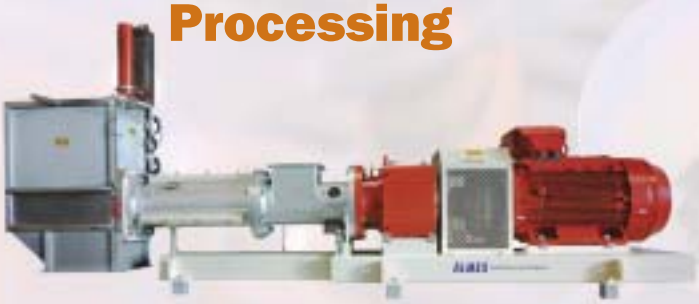
Figure 1 – The total feed for food management concept of Magi-Con



Magi-Con concept

To achieve the targets Janssen had in mind he needed partners that could further develop the ideas. Dinnissen was already involved in the process, but could not deliver all equipment. So the name Magi-Con was registered, which is an abbreviation for magnificent conversion or magical conversion. It serves as a type of knowledge platform for further development of innovative ideas in the feed industry. This platform will be further developed and marketed by SaWeCo, Dinnissen and Van Aarsen.

"We wanted to bring together parties that can stimulate each other and thus strengthen the final outcome of the ideas," elucidates Henri Michiels, technical and commercial director of Dinnissen. "If a company develops something new, promotes it, but then keeps it to itself, that is the end of the innovation, that is not our goal." adds Janssen. "The participants in Magi-Con are open minded and are focused on giv-



Within the MagiCon concept combining and utilising all the properties of the available equipment creates a processing system with maximum flexibility and versatility.

ing feedback to continuously improve. When we exchange information we can bring ourselves to a higher level," he says.

"Our company is focused on innovation and we to believe in information exchange. That is why we participate," says Harold Schroijen, head of sales support at Van Aarsen. "Our innovative background and our knowledge of process technology enable the partners to merge the individual machinery into a smoothly running process system."

Apart from Dinnissen and Van Aarsen other parties in the Magi-Con project at SaWeCo are Almex, specialist in expanding and extruding techniques and Imtech participates to supply the control systems. "We also talked to suppliers of micro-ingredients, because we know that they do a lot of research into application systems. So far they seem a bit reluctant to participate," Michiels says. The advantage of the current partners is that they have relatively little overlap in their product portfolio.

Flexibility

The system under construction at SaWeCo is using existing equipment, but is aimed at maximum flexibility. After the grinding-mixing unit the mash enters the Long Term Conditioner (Van Aarsen), which has a residence time of 1-4 minutes depending on the product that is requested. From there the mash can go to the expander/extruder (Almex) and/or the pellet mill (Van Aarsen C900) or directly to the dryer/cooler (Dinnissen, Pirouette). From here the product is transported to the Pegasus vacuum coater from Dinnissen for the addition of fat, micro-ingredients and temperature sensitive products in solid or liquid form. It is needless to say that the whole process is run on a first in – first out principle.

The uniqueness of the system is not so much its individual machines, although they are of the highest level of technology, but far more in the control of the system, which rests on a triad of concepts:

1. Process technology – the hardware;
2. Process control – the software;
3. Nutritional control – the feedware.

Within the system feed is more and more produced like food. Many parts of the system are already made of stainless steel to fulfil current and future hygienic demands. Within the boundaries of GMP+ and HACCP regulations this multi functional feed production process has several new features:

- High conversion of feed pellets / kibbles
- High energy feed pellets / expandates
- High palatability of feed products
- Homogenous dosing of sensitive additives
  - enzymes / antibiotic replacer
  - vitamins
  - dosing at non-critical points (at low temperature)
  - Maximum flexibility
  - Premium product quality

The European Atex rules are also kept in mind for preventing dust explosions. “We take preventive measures to make sure that dust explosions cannot occur,” Janssen explains. “This is contradictory to the mindset of legislators, who want to have facilities for extinguishing fires. It requires a lot of convincing power to change that attitude.”

Jan Janssen, managing director of SaWeCo: “With an open information exchange platform we continuously try to improve ourselves.”

Fast implementation

When Janssen was at full steam it took only three months to develop the concept, plan the implementation and have the orders send out to the contributing partakers. That was earlier this year and at 1st October the whole system will be operational. “This speed in itself is already an innovation,” Janssen says. “The Dutch intensive livestock farming is innovative and an example to many in the world, but in terms of innovation in feed manufacturing we are raken behind with some other innovative feedmillers elsewhere in Europe,” he adds.

SaWeCo presented their innovative concept to its member / customers at Magic Land, a regional fun park, to give the presentation a bit magical energy. The reaction was positive, but what the farmers interested more was that they will be able to receive feeds that will benefit to the profit of their farms. The official presentation to the Dutch market will take place later this year at a national exhibition. “The concept is clear, the output is there, and how we really operate the system, well that remains a bit magical,” Janssen ends.