# Swiss pioneer uses Dutch technology

Just under two years ago Bell AG opened their new hatchery at Aeschlen near Oberdiessbach in western Switzerland. International Hatchery Practice recently visited the hatchery and its owner, Paul Erb, to find out how the first two years have gone.

The business was established by Paul's father in the early 1960s and in its early days the hatchery produced both broiler and table egg chicks for the local area. Since then the business has grown into Switzerland's leading producer of broiler chicks.

## Catering for the Swiss market

Currently, some 95% of production is Ross PM3 and the remainder of the chicks are Sasso and destined for the Swiss free range sector. In a typical week approaching half a million chicks are produced.

***The roof of the hatchery in the foreground had to acquire a local flora and blend in with the surrounding countryside.***

The eggs come from some 20 small breeder farms in the area and all the resulting chicks stay in Switzerland.

When it was apparent that a new hatchery was the best way forward for the business the decision was taken to build on the site of the previous hatchery. This avoided many of the potential problems that can arise under Swiss planning rules and regulations when a 'greenfield' site is chosen for such a development. In addition, to use Paul's words, the old hatchery was 'a patchwork that hindered effective product flows and good hygiene practices'.

The key decision that then had to be taken was which incubators to put in the new hatchery. In coming to this decision Paul spent a lot of time looking at the options that were then available and evaluating how

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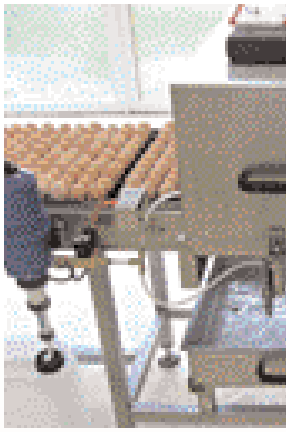
***Left, the staff entrance. Below left, hand washing facilities and, below right, the on site laundry.***

*Above, the egg store with each trolley of eggs clearly identified.*

*Eggs going into the washer/sanitiser. Note the pump.*



*The egg washer which was*

*Above, the setter room and, below, eggs ready for setting.*

*Inside a setter.*

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they would cope with the company's current and future predicted requirements. The decision was made to run with the then relatively new Smart technology from Dutch incubation specialists, Pas Reform.

This included their SmartSet setters, SmartHatch hatchers coupled to their SmartDrive incubator controls and SmartCenter hatchery information system.

## Project planners

In addition, Pas Reform were responsible for the planning of the project and the design of the hatchery, which encompassed product flows, flooring, drainage, ventilation, water, electricity and waste management systems.

So, why was the choice made to run with Pas Reform? In essence, Paul told us that this was because of several reasons, but key among these was the relatively narrow hatch window that the combination of the SmartSet setter and SmartHatch hatcher delivered.

This they were told would give them several advantages – all of which have now been delivered.

The first of these was improved hatchability. Today young flocks are hatching 2% better than their counterparts did before the new hatchery was built and an even better figure of over 3% is being achieved on eggs from flocks late in lay.

Today, the Ross PM3 is consistently providing an average hatchability of fertiles of 96% and the Sasso is delivering a figure of 97%. To date the best figure achieved is 97.55%.

In addition, the chicks that are produced perform better when they are placed on the farms. Typically, first week livability is 99.5% or better or, to put it another way, first week mortality is less than 0.5%.

"We give our customers a better product," Paul told us, "but, as is typical in 2007, we do not get a better day old chick price for supplying a better product – our benefits come from the better hatchability figures which give us more chicks to sell."

## Impact of high wages

In Switzerland good staff are hard to find and, if you can find them, wages are expensive. Therefore, another consideration was to look at minimising staffing levels. This has been

*A setter control panel.*

*The panel swings back to re*

*hes eggs from above . . .*

*. . . and from underneath.*

***Trays of eggs leaving the washer and going to the stacker.***

achieved by a level of automation that is unusual for a hatchery of this type and size.

This was a realistic option when one considers the cost of labour saved and the fact that the nature of the Swiss market means that it has some of the best day old chick prices in Europe.

## Hatchery automation

The hatchery automation equipment is focused on three areas. Firstly, the eggs which come into the hatchery on setter trays are automatically washed and sanitised and the trays are then placed in the same process on to the setter trolleys. Here the eggs are washed from above and below.

Secondly, three people do the whole process of candling and transfer. One feeds the setter trays containing the eggs into the machine and the empty hatcher baskets, a second checks all trays as they leave the candling/transfer unit and the third member of the team removes and stacks the filled hatcher trays.

Finally, the whole chick handling process is automated. The hatcher baskets are placed on to a roller conveyor and the chicks are manually removed and graded in a single action before being dropped down a funnel which feeds the chicks on to a conveyor which then takes the chicks through a counter and boxes them off.

Today, the whole hatchery operates with a team of 10 – five full time staff (of which three are family members) and five part time employees.

In a separate activity the remaining hatcher basket is transferred to a tipper where all the contents are tipped down a funnel into the vacuum based waste removal system. The baskets are then restacked and taken to the wash room. Here they go through the washer and are sprayed with disinfectant before moving into a holding room adjoining the transfer area.

## Single stage

The incubation process was a major change for the hatchery. In the past they operated a multi-stage incubation system, but now, with the new Pas Reform machines, they operate a single stage system.

Eggs are typically set after three or four days storage and the SmartSet

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***A setter trolley of washed eggs ready to exit the stacker.***

***One of the hatcher rooms (above and below).***

***eveal an inspection window.***

***Inside a full setter.***

***Special radiators maintain air temperature in the transfer room.***

***One person feeds empty hatcher baskets and full setter trays into the transfer machine.***

***All hatcher baskets and em the machine are checked.***

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setters effectively provide each trolley with its own controllable microclimate. This means the eggs on each trolley can be given the incubation conditions that will provide optimal embryonic development and provide the beneficial narrow hatch window.

## Beneficial modular design

The modular design of Pas Reform incubators helps meet this requirement. Each incubation section has a capacity of 19,200 hen eggs and is equipped with separate heating, cooling, ventilation and humidification.

These setters also have a reduced heating up time which impacts favourably on subsequent chick uniformity and performance.

These machines also have an increased cooling capacity, which is beneficial for today's high breast yielding breeds and, as is the case with Paul Erb's hatchery, when exceptional hatchabilities are being achieved. In effect, the SmartSet setters have an integrated heating and cooling system that provides an homogenous temperature distribution throughout the setter and this also impacts positively on the subsequent hatch window. Finally, the SmartHatch hatchers with their automated hatching system, or AHS, and the best possible hatcher environment also impact positively on uniformity of

***The basket washing facility.***

*npty setter trays leaving*

***The transfer points.***

***Paul Erb stacks hatcher baskets containing eggs ready for the hatcher.***

hatch. Paul explained to us how in the first few months of managing the new machines they had to fine tune the hatch windows and how the expertise of the technical team at Pas Reform was invaluable.

Bell AG and the Erb hatchery found that they could easily deliver the short hatch windows and improved chick quality and livability by integrating all stages of the incubation cycle through Pas Reform's SmartCenter Information System.

***All baskets receive a final sanitisation.***

## Integrated system

In addition to optimising the incubation cycle this system also integrates all the data from the automation systems, automatically alerts alarm events, provides preventative hatchery maintenance programmes and produces real time management reports for analysis and decision making by Paul and his team.

All of this is coupled to the SmartPortal which gives the hatchery an interactive web based customer support service from Pas Reform. This includes services such as hatching data analysis, troubleshooting, spare parts information and ordering systems and updates on the latest information and news from Pas Reform. ■