New Danish ventilation concept for turkey houses

Martinus Boersma of Markelo, The Netherlands was looking for a more rational way of rearing his turkeys.

In the search he came across a ventilation system from DACS A/S in Denmark who specialise in balanced ventilation systems for poultry houses. This made him realise that much could be done to upgrade his production.

Litter problems solved

Martinus often had problems with wet litter in his turkey houses. In the cold periods it was nearly impossible to keep a good in-house climate in the traditionally built turkey house with baffles on the side.

"Even though I was constantly adding new litter I always had to struggle with litter quality," Martinus told International Poultry Production.

"As a result of poor litter the birds often had health problems. To solve the problems I knew that I had to think differently. I came to the conclusion that it would not be possible for me to add value to my production if I did not do something radical compared to the traditional way of doing things in the business."

Profitable production

After series of talks and two visits to DACS in Denmark, Martinus was convinced that their balanced ventilation system was the ideal system for him to make his production more profitable.

"With the balanced ventilation system I am now able to mix all incoming air with warm room air before distributing the air evenly throughout the house and thereby eliminating draught, bird discomfort and wet litter. Due to the functionality of the system I am now able to keep a stable in-house climate no matter the outside conditions. A stable climate is essential for me to run a profitable production."

Rearing house

So far, the DACS ventilation system has been installed in one of three houses, and the idea is to use this house as a rearing house for both the males and the females.

When the turkeys are full feathered at week 4-5 the males are moved to the other two houses and the females occupy the whole house until kill at 16 weeks.

Change in layout

For more than 13 years DACS has made houses for turkey production just like a traditional house for broilers is built. It is a radical change in layout compared with the traditional way of doing things in the turkey business.

"We were convinced that with our ventilation system it would be possible to grow turkeys exactly the way broilers are grown. We made a test house in Norway 13 years ago which showed excellent results. Out of the 60 houses for turkeys we have made so far there has only been positive effects and a 15-25% profit increase per square meter production space compared to a traditionally built house," Niels Dybdahl from DACS A/S told International Poultry Production.

"With our balanced ventilation system we can keep a stable environment all year round. This enables the farmer to keep the litter dry which, from my point of view, is very important if you want to run a successful production.

Balanced ventilation

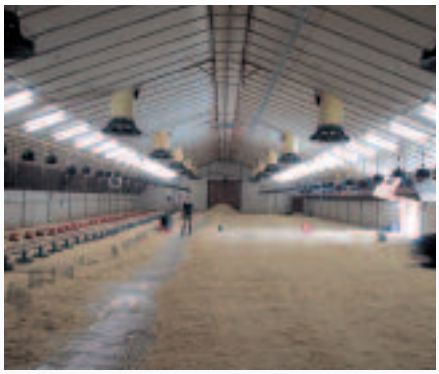
The ventilation system from DACS is a patented, balanced ventilation system. "The balanced ventilation system is a roof mounted system and can be adapted to any type of building without compromising the performance of the system which was also important to me since I would not compromise on this issue," Martinus told us.

The system ensures complete mixing of incoming air with warm room air, before

Continued on page 25

Continued from page 23
distributing the air gently and evenly, eliminating draft, wet spots, and bird discomfort. By mixing incoming air with room air the system significantly reduces heating costs and improves overall bird performance without any added costs. In the warm periods a centre venturi allows for vertical air distribution giving maximum airflow and air speed in the bird zone.

Studies have shown that the vertical air



distribution pattern leads to significantly higher cooling effect than tunnel ventilation systems.

The chimney based DACS ventilation system with its patented air flow pattern will provide unsurpassed in-house climate in climate zones ranging from -40°C to 40°C. In regions where outside temperatures exceed 40°, the system may be combined with evaporative cooling cells.

Where most other systems are designed for a certain temperature range, making it necessary to combine two or more systems to cover all situations (for example minimum, intermediate and maximum ventilation in a traditional tunnel ventilated house) the DACS system utilises the same fans for both minimum and maximum ventilation, thereby reducing installation and maintenance costs.

Focus on the birds

"Due to the mixing of warm room air with colder incoming air I have been able to cut my heating cost to one fifth of what it was before. Now my heating cost during the 16 week growth period is down to €5 cent per bird, and with an average of 12,000 birds per batch it is a fair bit of money saved just on heating.

"The stable in-house climate has had a very positive effect on the litter. Nowadays I never add new litter in the house during the growth period.

"The most significant change in the house is that I do not use rings for the day old birds. Not only do I save a lot of time and costs by not having to use rings, but the 40 gas brooders installed before have been taken out and replaced by four gas burners. Now I can put much more focus on the birds and I can see that this pays off well," Martinus concluded. ■