

Climate control is not an issue for larger houses

Climate control can be a major issue as broiler houses have become longer and wider; especially problematic in countries that endure very hot climatic conditions. Turkey's largest manufacturer of poultry housing systems, Tavsan, demonstrated to its customers that there is no need for concern.

By Wiebe van der Sluis

The trend has led to longer and wider housing. Poultry houses, in particular broiler houses, have been built according to a certain standard width and length to accommodate a common size flock. Various issues have stimulated growers to think about building larger units as well as houses that can hold more birds without jeopardizing their welfare and health. Through the use of modern technology producers are facilitated with a number of options. Tavsan showed farm and production managers of the country's largest poultry integrations, during hot summer days, that a house length of 180 metres and a house width of 28 metres does not necessarily negative-



Smoke trials showed that air is distributed quickly and efficiently over the whole house.



This 180 meter long house is controlled by a combi tunnel ventilation system.

ly effect in-house temperature and air quality conditions.

Home market first

Tavsan gathered these managers to counterattack rumours in the Turkish market that, due to their international success, they were pulling back from the home market. Owner and chairman, Cemallettin Bilgin of Tavsan Poultry

Equipment Manufacturing and Trading in Istanbul, invited them to attend a seminar and take a visit to his company and research farm. During his welcome speech he made it very clear to the large group of attendees that it has never and will never be company policy to neglect the Turkish market.

"It is our home market and the market that made us to what we are now," said Bilgin. "The Turkish market remains our first priority and for that reason we invited you all to learn more about what we do and what our plan is to support the Turkish poultry growers in their effort to become major and efficient food suppliers."

The use of modern technology is where Bilgin and his team are focussed on. For that reason they organised a seminar in which various aspects of efficiency improvements in broiler parent and broiler husbandry were put to the foreground. Kees Peter de Ridder of Jansen Poultry Equipment, gave a lecture on parent stock management and, in particular, the use of automatic nests. Jorg Rabbe, export manager of Lubbing, explained the importance of water quality for bird performance, but also for the optimal functioning of watering systems. Yakov Shovar of Ein Hashofet Orion Light Systems, highlighted the role of coloured light in improving bird performance. He emphasised that the use of dimmers and energy saving lamps



Controlled side wall inlets allow good air distribution during minimum ventilation.



Wide houses require air inlets in the ceiling to refresh the air in the middle of the house.

can dramatically reduce the cost of production. Results at Tavsan's own production farms have shown major advantages, especially in high daily weight gains and low feed conversion ratios.

Larger units

Agrotop representative, Gavriel Pelleg, took the lion share of the programme. During his talk, he not only explained the international tendency to build larger and closed poultry houses, but also gave an impressive demonstration on airflow in this type of housing. Tavsan has its own research farm outside Istanbul, not far from the Bulgarian border. In this commercial unit they grow broilers for the Pak Piliç integration. The site has three broiler houses: a conventional house of 150 x 14 metres (38,000 birds), a long house of 180 x 14 metres (49,000 birds) and a recently build wide house of 102 x 28 metres (>50,000 birds). The long house was depopulated just a few days before the demonstrations took place and had proven excellent results. Pelleg had been involved in designing the house as well as the climate control system. With the use of pad coolers, air inlets in the side walls and sufficient fan capacity, these houses can be operated in an efficient way. Trials showed that even during a very hot day (>30°C) the combi tunnel ventilation system could keep the in-house temperature at an acceptable level all over the house. Between the air inlet and the exhaust fans, a maximum difference of 2.3°C could be maintained. Through combining tunnel ventilation and the presence of air inlets in the side wall, producers can make use of both maximum and minimum ventilation. During the cold hours of the day, air inlets in the walls are used and the pads

at the end wall are closed by means of a curtain. Tavsan makes use of a special curtain, the "Roll Seal" which perfectly closes and insulates the huge surface of the pad wall.

Wider buildings

The absence of a sufficient air inlet surface at the end wall is a limitation



Cemaladdin Bilgin:
"The Turkish market is our first priority and for that reason we open the doors to show you our new developments in housing and environment control."



Roll Seal curtains are insulated, double covered, light and air tight.

to operate a tunnel ventilation system in long and narrow poultry houses. Through making the houses wider, this problem could be solved. This, however, created a new problem; during minimum ventilation, side wall inlets would not be able to make the incoming air reach the middle of the house. This issue can be solved, according to Pelleg, through creating air inlets in the ceiling, which proved to be a perfect solution. It not only solved the air distribution problem but it also demonstrated the reduction of cold-air drop problems since the incoming air was well mixed with the "hot" air beneath the ceiling.

Through conducting smoke trials in the wide house, Pelleg showed that similar or even better air distribution could be obtained in houses with this combi ventilation system, compared to traditional tunnel ventilation. Through measuring the air temperature, he proved that no big differences could be found at various points in the building. Although the demonstration was held in the absence of birds, the farm manager expressed that no differences have been seen in the presence of birds.

Attendees of the seminar showed great interest in these large houses and believe that future units will each house between 40 - 50,000 birds. When using this combi-tunnel ventilation system, this number should, according to Pelleg, be no problem and may even go beyond.

The inspiring seminar and demonstrations were well appreciated by Tavsan's guests and will lead to further discussions within the Turkish poultry industry on how to improve production systems to increased efficiency. ■