

Better performance with combi-tunnel ventilation



Skov of Denmark recently demonstrated the advantages of its state-of-the-art combi-tunnel ventilation system. NITSARA SRIHANAM reports that it is said to be able to provide the best possible climate for the birds throughout the batch.

P.P.M. Farm is a newcomer in the poultry business as it just started raising chickens in late 2006, in 18 tunnel ventilated houses.

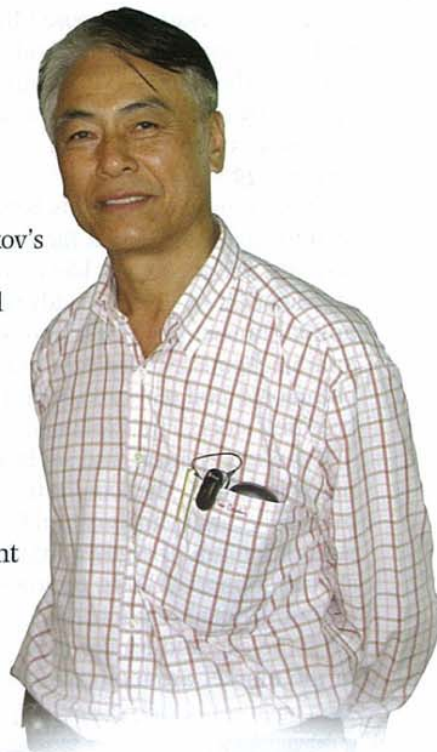
But owner and Managing Director, Dr Prayoon Liumsiricharoen, decided this year, to invest in Skov's combi-tunnel ventilation system, in an effort to correct the limitations of the existing pure tunnel system and offer better farm performance. He started off with two combi-tunnel houses.

Tunnel ventilation is a good system to maintain a constant cool environment for the birds. However, there are times during the production cycle when there is no need for cooling to maintain the optimum temperature.

In most areas, there are times when the ambient temperature for a shorter or longer period, will fall below the temperature comfortable for the birds. The combi-tunnel balances this.

This combi-tunnel ventilation system by Skov is a combination of pure tunnel and side mode ventilation system. It consists of two systems ventilating according to two different principles. During the hot season, the combi-tunnel ventilates as a normal tunnel system.

During the cool/cold season, where the tunnel principle does not apply, the combi-tunnel system takes over and channels fresh air in through smaller wall inlets that are ▷



Above: Dr Prayoon Liumsiricharoen, P.P.M. Farm's owner and Managing Director.



The most modern house.

placed in the sidewalls of the building. The air is let out through exhaust units in the roof or through wall fans.

Unlike the tunnel principle, a certain warming-up of the incoming air is ensured at minimum ventilation, as the air is directed up along the ceiling and is mixed with the house air before reaching the zone occupied by the birds.

The temperature lengthwise in poultry houses equipped with the traditional tunnel system may pose a problem, especially when the ventilation level is low, as it may take up to 10 minutes for the air to flow from one end of the house to the other end.

The temperature varies between the front and rear of the house and that is not favorable for the birds as it may lead to differences in performance from the front to the rear. It could also affect the FCR and final weight or flock uniformity.

"This combi-tunnel system is said to be better than the existing pure tunnel system. The differential between the front and the rear is minimal, and is only around 1 degree Celsius. I thank Skov for bringing this technology to us," Dr Prayoon said at the open day on his farm.

Tommy H. Krogh, Skov's Poultry Specialist, Asia, said trials at a farm in Thailand performed from November 2006 through to April 2007 showed that the production in Skov combi-tunnel-ventilated houses recorded a lower FCR and lower mortality rate.

"Although the price of a Skov combi-tunnel system (USD 37,000 USD) is approximately twice that of a normal tunnel system (USD 18,500 USD) for a standard house measuring 12 x 120 meters, the additional cost can be recovered in three to four years as a result of better FCR and the lower mortality rate," Mr Krogh said.

Uniformity is also improved with the combi-tunnel system, he said and this could result in improved profits for the integrator and the growers, claimed Mr Krogh.

Dr Prayoon commented that with the with better climate condition provided by Skov's combi-tunnel system, more birds can be raised in the standard house equipped with this system.

"We can rear up to 15 chickens per square meter compared with 12.5 birds in traditional houses. This means lower cost of production per unit," Dr Prayoon said.

P.P.M. Farm, however, still raises 12.5 birds/square meter, he said, adding that he will increase the density later.

The combi-tunnel ventilation system at P.P.M. farm has drawn positive feedback and Skov is optimistic about the product in Asia said General Manager for Asia, Thomas O. Hansen.

"We have had 34 customers and visitors from countries like Indonesia, Pakistan, India, Philippines and Belgium/Holland and 200 local customers and visitors here (at the open day of P.P.M. Farm). We plan to organize similar activities in future." ■

Special house features

P.P.M. Farm now has 20 houses, two of which are equipped with the Skov combi-tunnel ventilation system. These two houses are considered the most modern facilities in Thailand, thanks to two other features – the double-layer wall and the higher ceiling, revealed Dr Prayoon.

With the double-layer wall, the houses don't have air leak problems. The temperature therefore, can be easily adjusted to required levels even as low as 20 degrees Celsius. This normally cannot be achieved under the traditional single-wall houses, said Dr Prayoon.

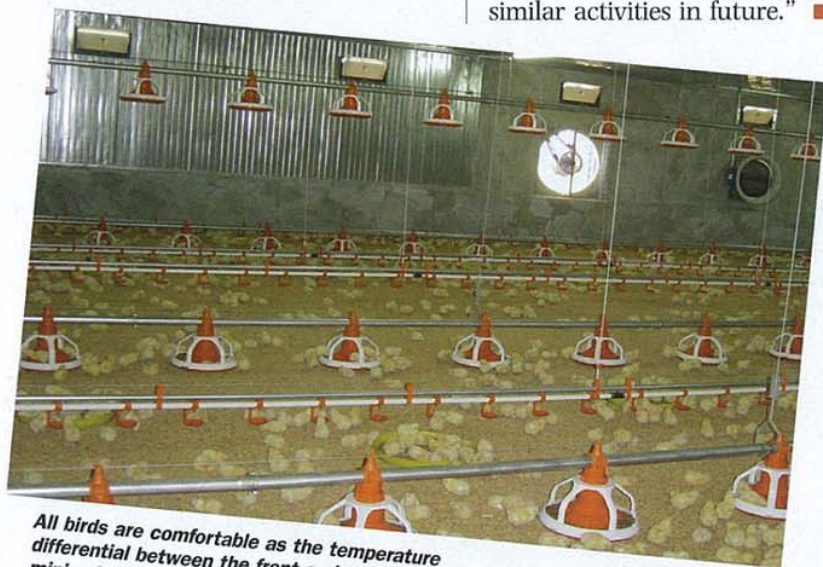
Also, the new houses have higher ceilings of 2.60 meters from the floor, compared with 2.10 meters in the old houses. Each facility houses 30,000 birds, compared to 21,000 birds each at the existing 18 houses.

With these characteristics, Skov's combi-tunnel ventilation system reaches its highest efficiency, said Dr Prayoon.

The houses, however, cost around THB 6.8 million a unit, compared with around THB 3 million for traditional single-wall houses, revealed Dr Prayoon.

The first placement of the birds at the new houses was in February this year. The birds were raised for 42 days then harvested when they reach 2.4 kilogram of weight. The mortality rate was around 2%, said Dr Prayoon.

P.P.M. Farm has a production capacity of 445,000 chickens per week. It is a contract grower for Sun Valley.



All birds are comfortable as the temperature differential between the front and the rear is minimal, around 1°C.



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