Organic piggery models for Finnish climate

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Organic Piggery in Finnish Climate has been a development project done by Agrifood Research Finland in cooperation with five other research, advice and design partners. The research has been funded by the ministry of forestry and agriculture in Finland. The aim of the project was to develop functional piggery lay-outs for organic production especially designed for Finnish climate. The results consist of both combination and fattening piggeries. The small size combination piggeries are for 40 and 64 sows. The fattening compartment is in the same building forming one solid unit. A large farrowing piggery is for 96 sows, and it is an independent building so that fattening unit can be added as an annex building. The most important part of a farrowing piggery is a farrowing pen and its layout. Five individual farrowing pens and one group pen are introduced.

Five fattening piggeries with 5 different maintenance concepts are introduced. The differences concentrate mainly on manure handling. Four models are based on straw litter systems and one is purely for slurry system. Straw is promoted because of its beneficial affects on animal behaviour and pen activity. The finishing pens are allocated for 20 pigs. There is 1 tube feeder for each 10 pigs. This is a proper dimensioning from animal behaviour's point of view. The pens have a precision dimensioning so that pigs between 30 and 85 kg have 1,1 m2 each and have access to exercise yard. The fattening pigs between 85 and 110 kg have 1,3 m2 each and no access outside because exercise is not compulsory for them during the last 30 days of finishing.

The buildings are principally well insulated and heated during the wintertime. Natural ventilation is recommended as an energy saving concept for all buildings. Still all models can be equipped with electric fans. One fattening piggery model is uninsulated. It is based on deep straw litter system. There are no traditions for pasturing in conventional effective pig production in Finland. Pasturing in organic system is recommended for dry sows yet there is no restriction for pasturing for all pigs.

The buildings are designed to be organic as well. The building materials should be natural, recyclable and can be safely terminated after use. The concrete is recommended for floors and for lower parts of the walls. The rest of the building frame, claddings and insulation can be made of wood. The roof cover can be metal sheet or bitumen felt. The heating system is based on heated water circulation and the energy source is local fire wood.

The share of organic pork production is approximately 0,7 % of all pork production in Finland. The consumers' demand seems is continuously higher than production. Still the farmers are cautious to invest on new production facilities. The reason is partly due to poor price from the market and partly the lack of efficient piggery models. These new models are supposed to promote organic pork production into a new phase. At least they assure a better animal welfare compared to conventional production environment.