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Trends in the production of feeding pigs

Technical developments in feeding pig enterprises aim at optimising the production system. Especially the pigs' natural species-specific behavioural requirements must be taken more account of. Thus, systems must allow enough movement space for the animals, a clearly laid-out living area, and possibility for development of social contacts between animals. At the same time, systems should reduce the risks of environmental pollution and permit pig performance to be increased.

Whilst pig production in Denmark and the Netherlands has concentrated more on part-slatted flooring for feeding pigs, on environmental-protection grounds the fully-slatted solution is currently preferred in Germany. With consistent all-in all-out systems, special attention must be paid to ensuring good insulation, heating and ventilation, optimum feed supply and good flooring construction.

Increasingly, feeding pigs in small and large group production systems are fed via fully-automatic systems. Depending on the piglet sources, the feeding curve is adjusted to the performance potential of the pigs so that nutrition can be optimised to take full advantage of performance potential and possibilities for environmental protection. Appropriate improvements setting new standards in such areas are exhibited at EuroTier 2000.

Ventilation technology

Feeding pig houses are normally ventilated with under-pressure systems. Air is drawn out of the interior and actively blown into the outdoor environment via fans. The comfort-temperatures for the growing feeding pigs can be adjusted to match the temperature de-

velopment in the housing so that the animals have as good an ambient climate as possible. In especially warm seasons when the outer temperature is notably over the comfort-temperature there can be difficulties in achieving this. Here, heat can be reduced through wetting surfaces in or outside of the building (sprinklers on roofs).

Feeding systems

Dry or wet feeding systems used nowadays are continually being improved. Compared with earlier variants, both have been substantially further-refined in their technology and allow nutrient-adjusted feeding in small or large group systems.

Among recent developments, the so-called sensor feeding, mainly applied in large group systems, has drawn a lot of attention. This system combines many advantages which has led to its acceptance, especially in the intensive livestock feeding regions of Weser-Ems and Westphalia-Lippe. Technical improvements in liquid feeding systems apply to the washing-out of tank, pipelines and feeding valves.

Another focal point is to be seen in the controlling software for the process which

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Fig. 1: Feeding pig housing – a good design solution



Fig. 2: Open-front house with moveable front covers for feeding pigs (Photos: W. Achilles)

allows improved adjustment to match performance level, the feed mix, and the different origins of the feeding pigs. BUS systems are used more, and the system's EDP adjusted to conventional PC standard.

Improvements were also expected for dry feeding systems enabling adjustments to be made for phase feeding and feeding according to the nutritional value of the rations. It can be seen that where a high proportion of manufactured feed is used, there's a tendency to use dry feed systems, but where on-farm mixing is done, then more liquid feeding takes place.

Developments in housing

Insulated housing has been standard for many years in feeding pig production. Despite this, housing concepts are increasingly being sought which enable the application of appropriate technical developments in new types of housing. Clear span housing within which departments and passages can be established through light-construction walls allow the translation of these demands. Clear span housing with conventionally-built slurry cellars compete with prefabricated systems with already-integrated slurry cellars. These new developments will be exhibited for the first time at Eurotier 2000. The extent to which these developments penetrate the market will depend on their cost-effectiveness.

A further tendency towards cost reductions features replacing as far as possible the

use of bought-in energy in heating end ventilation of such housing. This has meant that natural ventilation systems are increasingly being tried out. Apart from the direct necessity of comparing the animal performance between systems, it must be checked that these systems do not lead to increased ammonia pollution (six to ten times the air exchange compared with conventional housing systems) of the environment compared with that where bought-in energy is used. When such systems are practically applicable they can give cost-efficiencies of 4 DM per feeding pig.

Outlook

Pig feeding in Germany has achieved a high standard that is almost competitive with those of other European countries. Still to be improved when compared with international performances are daily liveweight gains in particular. Regarding technology, the optimising of feed rationing and the feeding system is critical. Sensor feeding, in particular, has brought substantial improvements in pig feeding. With regard to the sources of the pigs, these can be further improved.