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Housing solutions for piglet rearing

Increasingly, piglet rearing separates itself from the production chain and becomes organised as an independent link between piglet production and feeding enterprises. This development is the reason behind the BMVEL scientifically recording production on six piglet-rearing units over two years. The following summarises experiences and results.



Fig. 1: Standard in piglet rearing – large groups with wet feed automatics

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Keywords

Piglet rearing, model projects, results

In previous Landtechnik issues the scientific assistants have already comprehensively presented the results from five of the six investigated units. What conclusions can one draw in general for piglet rearing?

Feeding

The feeding system had an important influence on production. The system applied on respective farms must be decided individually. As far as possible, however, the feeding technique should be compatible with that of the subsequent finishing system. Wet feed tube automatics and sensor-controlled feeding will continue to gain in importance – in particular liquid feeding systems with sensor systems will establish themselves.

Maintaining good feed availability for the piglets means a reasonable animal:feeding place ratio is required. Sufficient feeding room means wrangling at the trough is reduced and weaker piglets can access their feed. In practice there are still deficiencies in this aspect. Classic feed rationing cannot be applied with the current sensor systems but restrictive feeding at the beginning of the rearing phase can be achieved though pro-

gramming intervals often into the interval feeding.

Ventilation and house climate

It is not necessary to challenge piglet capacity for adaptation to different temperatures. Uniform conditions are required, i.e., modest temperature curves.

Zone heating systems or constructionally separated microclimate areas can be regarded as better than entire room heating systems and microclimate areas are also desirable from ethological and energy-saving aspects.

The investigations showed that sufficient pre-heating before housing the piglets was important so that the young stock requirement for high temperature (~ 30°C) at this point is met. As rearing progresses, however, temperatures are often too high. Even just a few days after housing interior temperature can be reduced to ~ 22°C, so long as the piglets have on offer a warmer microclimate area.

Natural ventilation housing makes high demands on the health and condition of the piglets. Especially with hut systems selec-

Tab. 1: An overview of the recorded units

System	Characteristics	Investments ¹ [€/TP ²]	Labour-time [APmin/ TP ² • year]	Penning weight / mortality [kg / g / %]	Landtechnik- publication
Hut system with dry feed automatic feeders on straw	200 to 700 piglet groups 1200 rearing places	103*	91	8.9 / 420 / 2.6	Piglet huts outdoors: Landtechnik, 56 (2001), i.5, p. 355
Heated building with sensor feeding in short troughs „Spot-Mix-Feeding“	30-piglet groups 1620 rearing places	222	13.83	6.5 / 445 / 3.1	Spotmix feeding in piglet rearing: Landtechnik 57 (2002), i.3, p. 183.
Heated building with interval feeding at round trough “Rondomat”	100-piglet groups 1000 rearing places	207	19.8	8.2 / 427 / 2.2	Piglet rearing in large groups: Landtechnik, 56 (2001), i.4, p. 295
Heated building with lying boxes and wet feed automatics	70-piglet groups 1570 rearing places	210	52.8	8.6 / 410 / 1.5	Housing solutions for specialised piglet rearing: Landtechnik, 57 (2002), i.2, p.123
Rebuilt heated building with “Wedafütterung” sensor liquid feeding terung“	40-piglet groups 2200 rearing places	193	k. A.	6.2 / 436 / 0.9	Piglet rearing in large groups: Landtechnik, 56 (2001), i.6, p. 406-407
Natural ventilation house with dry feed automats and straw	75-piglet groups 1050 rearing places	128	31.9	8.75 / 446 / 1.58	Piglet rearing in naturally ventilated housing: Landtechnik, 57 (2002), i.1, p. 63

¹ Without mains connections

²TP = animal place



Fig. 2: Reorganising piglet groups unavoidably leads to ranking fights – but this, even with big groups is no problem with the right management

tion should be made with special attention to the animals' health stability. On average minimum housing age should be around four weeks.

Cooperation in piglet rearing

Within the context of work-sharing concepts specialisation in piglet rearing can be welcomed on economic grounds. Such systems, however, reach their limits when, as is often done at the moment, the rearing unit is supplied with piglets from more than three different production farms. This generally gives batches of piglets too heterogeneous, nor is this approach optimal from a hygienic point of view.

Moreover from a hygienic and medicinal aspect further problems, e.g. health and welfare ones, can occur through stress and undercooling during transport and there's also an increased danger of epidemic transmission through such systems.

Required here are modern solutions and the work sharing established on another organisational level. Advantageous is the cooperation of less synchronised units in the direction of piglet production, rearing and pig finishing. The reduction to one source of piglets in every case should be aimed for.

Large groups in piglet rearing

Large uniform batches of piglets market well. Large groups offering more scope for sorting according to sex and performance potential should thus be the aim. Large groups also offer advantages from the ethological aspect in that pen division into different function areas is easier. Large groups, however, make other demands on animal control and stock management. With them a sufficient standard of management is only

possible through intensive contact of the stockpersons with the piglets. Contrary to the general conception this seldom presents a problem in practice. In fact in many cases large pens are controlled more easily than conventional flatdeck pens.

However several basic rules apply in large group management. For instance, any handling of the piglets should always occur outwith the pen with a catch and sorting system including handling facilities recommended. Also very important with large groups is regular, thorough and strict sorting of the piglets at housing and during rearing so that disparity in sizes is avoided, meeting the requirements of both the feeders and welfare. Here, sorting should only take place within one age group and it helps the social infrastructure within the group if the weaker animals are taken out during these operations.

Even where large groups of more than 100 animals are workable, batches of 30 to 50 head will establish themselves because these offer the compromise between the above-mentioned advantages of large groups and those of small groups which includes easier management. The large groups are better sorted into smaller, uniform groups at the beginning of the rearing period, i.e. from 100 piglets into two groups of 50.

Welfare oriented production

While the former Pig Production Act has been replaced, many of the points are still applicable in practice through retained norms although there are exceptions in some federal states. Daylight as lighting source is to be welcomed from a physiological point of view. Where the daylight is not sufficient, artificial light sources – ideally a lighting programme – should be brought in to compensate. At all times of day the lighting should

allow the piglets to find their way around.

Usually piglets get enough water and feed in practical farming. But there should be more drinkers and trough space than in standard practice so that piglets always have access, even in exceptional circumstances such as disease outbreak or during short-term overstocking.

Piglets withdraw to specific locations for resting or dunging and the pen design must allow for this with possible separation of the function areas. These areas can be structurally supported, e.g., through microclimate areas and sight protection walls.

The occupational possibilities for piglets can often be improved in practice where generally the animals have not enough possibilities at their disposal. Objects such as chains or balls soon lose their attractiveness. Needed here is a wider selection of facilities and more imagination on the part of the stockpersons.

Importance of the BMVEL model concept

Once again the important role of practical farming in testing and development and also in the establishment of new housing solutions has been demonstrated. Especially decisive here are those units applying themselves to new systems with pioneer spirit. They have often to fight against opposition of the most different types, often find only limited acceptance and have to hand out as a rule a fair amount of „learning money“. This means their entrepreneurial spirit is all the higher along with often admirable invention.

It takes day-to-day application for sustainable proving of scientific theories, the identification of weaknesses and recommendations that are practically acceptable. Such has been the development with the above BMVEL model concept for piglet rearing. There's also the point that many practical piglet specialists have great depth of experience to offer. Scientists should take full advantage of this and apply it in their work and this is where the BMVEL model concept offers the best conditions. Science and practice can profit from dialogue and thus produce further contributions toward practical developments for welfare-oriented and environmentally-acceptable piglet rearing systems.

The comprehensive final report, as well as further information regarding the project, can be accessed on the KTBL homepage <http://www/ktbl.de/tiermvh/mvh99~01.htm>.