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Building requirements according to the Pig Production Hygiene Order

The Pig Production Hygiene Order has been in effect from June 12, 1999 and applies to pig units of all sizes. Included in the foreground are precautionary measures against disease spread including the protection of the herd. The construction and design of the housing must facilitate these measures. Hygiene, cleaning and disinfecting, as well as animal health, have increasing importance in the success of the farm business.



Fig. 1: Covered ramp with option for dividing and draining away from the house

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Up until now, hygiene regulations and building requirements within the Animal Epidemic Pig Production Order of July 29, 1988 have only applied to units with over 700 feeding pig places or with 100 sows in a closed system, or with 150 sow places.

Swine fever outbreaks in recent years, however, have shown that a substantial number of swine fever outbreaks occur in smaller units not implicated under the livestock epidemic protection regulations (table 1).

Additionally it can be taken that there are many causes of disease-spread in such circumstances (human traffic, neighbours, transport vehicles, livestock trading, contact with wild animals, eating and kitchen refuse).

The danger to pig production must, therefore, in the common interest be tackled through suitable actions [2]

- for protection against virus introduction
- for protection against disease spread on-farm and for early recognition of infections
- for protection against carrying disease outside of the farm.

Additionally, the example of swine fever has shown that clinical symptoms are often only weakly present so that additional control actions such as checking livestock performance, recording of mortalities, regular veterinary inspections of the herd and involvement of the regular vet in cases of non-thriving, fever (over 40.5 °C) and aborting are necessary and sensible.

Experience shows that successful action against disease is dependent on early recognition of symptoms. This also allows better control of disease spread.

In their own interests, many farms have adopted wide-ranging hygiene measures in recent years. In individual federal states such measures are supported through bonus systems within the livestock epidemic finance pool. But in order to protect the economic and health interests of all – and also to establish in law commonly-applicable hygienic and epidemic-prophylactic measures for all pig units in Germany, the Pig Production Hygiene Order [3] was put into effect on June 12, 1999.

This applies for all breeding and feeding pig production farms. Special requirements are graduated according to unit size. Addi-

Table 1: Swine fever outbreaks in small units [1]

Year	Number of swine fever outbreaks	Units with <700 pigs (as proportion of outbreaks)
1993	100	69 (= 69 %)
1994	117	88 (= 75 %)
1995	52	28 (= 75 %)
1996	4	2 (= 50 %)
1997	44	30 (=68 %)
1998	11	5 (= 45 %)

tionally, hygiene measures are also stipulated for outdoor pig herds.

Building requirements for all units

The pighousing and associated neighbouring accommodation must be in good repair. Correct cleaning and disinfecting measures as well as rodent control must be possible. This means, e.g., that interior walls must have smooth, water-repellent surfaces and indicate no rodent holes.

Disinfectant substances used must be tested by the German Veterinary Society (DVG) (look for the appropriate identification!).

Pighouse entrances and exits must be lockable.

Notices must be attached to pighouse doors with the legend “Pig herd – no entry without permission”.

Escape for pigs out of the housing must be impossible. Every unit must have access to a high pressure cleaner for cleaning of housing interiors and of vehicles. Housing and other accommodation must be suitably lit at all times. All units must have facilities for footwear cleaning and disinfecting. In general, the personnel and vehicular traffic on farm premises should be reduced to the practicable minimum.

Building requirements for units with up to 700 feeding places, 100 sows in a closed system or 150 sows for weaner production

Facilities for cleaning and disinfecting of footwear must be introduced at all pighousing entrances and exits. Additionally, facilities for changing clothes are necessary. Feed must be stored in containers or in suitable

areas. Feed silos that are inside the pig housing must be fillable from outside (outer filling point, with pipeline belonging to the farm). The loading of pigs must take place over a solidly-floored facility which can be cleaned and disinfected. The transport vehicle must have no direct contact with the pig housing. The floor slope must always run down from housing level (*fig. 1*)!

The positioning of the area for depositing dead animals should be designed according to the respective collection system. The facility for dead animals must be fully enclosed, without joint leaks, and easy to clean and disinfect. For carcass collection, the container must be positioned on the border of the farm premises so that knacker vehicles need not drive on the premises. Stainless steel containers have proved exceptionally suitable for this job (*fig. 2*).

Solid manure must be stored on the farm premises for at least three weeks, slurry for a minimum of eight weeks, before being distributed on the land. Exceptions to this rule are possible.

Building requirements for units with more than 700 feeding pig places, over 100 sows in a closed system or over 150 sows for weaner production.

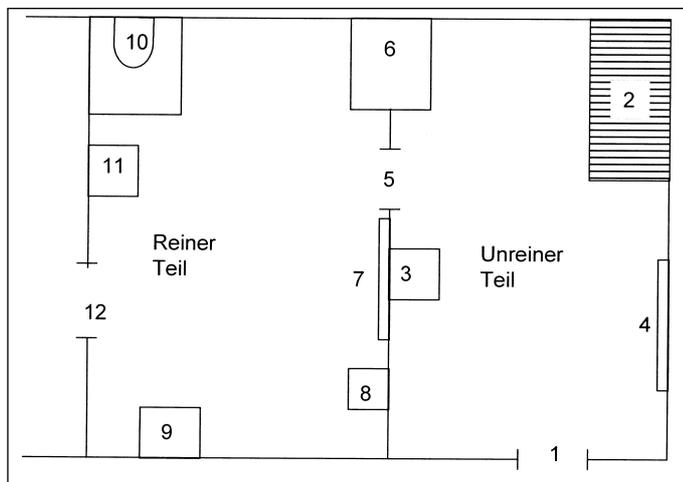
These pig buildings must be divided into departments. Pigs have to be kept apart from other animals. The unit must be fully fenced so that it is only possible to drive or walk on the premises through lockable gates. In individual cases, possibilities and actual situations will be taken into account. Here, reference should always be made back to the local veterinary office.

The fencing must be able to keep strange animals (including wild animals) off the farm building premises. Suitable here is a 1.5 m high, small mesh, wire netting fence. Entrances and exits must be kept locked. The facilities for the delivery and collection of pigs must lie outwith the pig housing and feature a solidly-floored area, a ramp or other farm-owned facilities, (container, trailer) with which the pigs can be unloaded or



Fig. 2: Stainless steel container on a solid surface for the depositing animal carcasses outwith the farm premises

Fig. 3: Groundplan of a sluice [5]; 1. Sluice entrance door, 2. Wooden frame for cladding, 3. Wash basin, mirror, towel holder, shelf for hand disinfecting bottle, 4. Heating, 5. Door to clean part of the sluice, 6. Shower, 7. Heating, 8. Cupboard for underwear, overalls, caps, boots, 9. Desk, PC, 10. Toilet, 11. Refrigerator for medicines, 12. Door to pighouse



loaded. The possibility that pigs can run back into the housing must be avoided.

Additionally, such farms must have clothes changing rooms nearby the pig housing. Such rooms must be used by all personnel, including the farmer, and visitors for entering and leaving the housing. Protective and street clothes must be kept apart.

In principal, changing rooms must be so positioned that the ways where pighouse footwear or where street footwear are used do not cross. In *figure 3* an optimum solution is presented for this. Minimum requirements for a changing room are:

- a wash handbasin
- a water supply for cleaning footwear
- separate storage facilities for street and pighousing clothes

Solid manure and slurry must be able to be stored for eight weeks. If an isolation pen is necessary this must be reliably separated from other housing (as far as construction, ventilation system and working systems are concerned). Extra protective clothing has to be kept in a specially-reserved room. This clothing is only for wearing in the isolation area.

Ramps are the optimum for loading (*fig. 1*). Feed silos must be fillable from outside the housing.

Outdoor production

Outdoor production of pigs must be officially permitted. The permission depends on the incidence of swine fever amongst indigenous wild pigs in a region and on the general situation as regards epidemics.

The farm must be identified with a sign legend: "Pig herd – no feeding or entry without permission."

The outdoor unit must be double-

fenced so that it can be entered only through entrances and exits. Escape of pigs, including piglets, must be prevented. The same applies to contact with wild pigs and other wild animals. A double fence with a minimum 2 m between each fence is mandatory. The exterior fence must be around 1.5 m in height and the bottom third must include wire netting (wild animal fence). Possible as interior fence is an electrified wire at around 25 cm high. The fence must also be built so that tunnelling underneath is prevented.

Loading must take place outside the fenced animal area and the loading facilities must be suitable for cleaning and disinfecting.

Outdoor production with over 700 places, over 150 sows and over 100 sows in a closed system must have a fully equipped changing room in the entrance area of the unit (container).

In general, the time allowed for building alterations to meet the new Order is until June 11, 2002.

Additionally, every farmer must be able to prove that his herd is cared for by a veterinary surgeon. Veterinary inspections should take place regularly, at the least once per feeding pig cycle and twice in the year.

Generally, the construction and the equipment must be so designed that every possible case of disease transmission from outside can be avoided.

Literature

- Books are signified with •
- [1] Bundestags-Drucksache 14/1070, S. 21
 - [2] Polten, B., und G. Bätza: Schweinehaltungshygieneverordnung. Dt. Tierärzteblatt (1999), H. 9, S. 904
 - [3] Schweinehaltungshygieneverordnung v. 7. 6. 1999, Bundesgesetzblatt 1999, Teil 1, Nr. 29
 - [4] • Plonait, A.: Schweinekrankheiten. Parey-Verlag, Berlin, 1997
 - [5] Markus, W., und C. Welpr: Reinigung und Desinfektion in der Schweinehaltung. Leitfaden für Landwirte, Tierärzte und Berater, (1997)