

Combined pasture and housing systems in Austria: indoor reared pigs are finished on the pasture

Description

This farm is a growing-finishing farm where the animals are outdoors on pasture all year round. A group of about 150 pigs is kept on approximately 3.5 ha of cultivated pasture, which is included in the crop rotation. The animals, a conventional breed from a local organic piglet producer, enter the system with about 30 kg and are slaughtered after 120 to 140 days with about 105 kg live weight. The pigs spend their first days on this farm in an indoor area with an outdoor run. Then they are moved to the pasture in small groups, to get used to the new area and the electric fence. About two weeks before slaughter, the finishers are moved to the indoor area again. All pigs are sold to an Austrian organic label production for free-range pigs.

Pasture management

The pasture is double-fenced with electric wires. The areas are part of the crop rotation system and are used for the pigs every 7 years. A clover/alfalfa/grass mix is cultivated on the paddock.

When a new group of pigs enters the system, the total area is divided into smaller parts and is gradually enlarged to prolong the access to fresh pasture. As the area is arable land without bushes or trees, shade is provided by huts and truck trailers (see picture right).

For each group, at least 6 ad libitum feed dispensers, each with 6 to 8 feeding places, are available. Water is provided by mobile water tanks (see picture right), each with two troughs, for about 15 animals at a time. The feed dispensers, huts, truck trailers, and mobile water tanks are moved once a week to distribute the manure evenly in the whole area.



Farm portrait

Location

Lower-Austria, Austria

Topography

Flatland

Farmland

107 ha: 95.5 ha crop land including 3.5 ha of cultivated pasture, 7 ha forest, 4.5 ha permanent grassland

Size of pig herd

200 growing-finishing pigs

Farming system

- Pigs bought from indoor production
- Growing-finishing on the pasture



Animal welfare

- Having access to natural soil, straw in the huts, large paddocks and a low stocking density, the animals can graze, root, wallow, explore and rest comfortably. During the summer time, pigs spend most of the day resting in the huts, the shadow under the truck trailers or in the wallows. Sunburns usually only occur when animals are new to the outdoor system or weather changes from cold to warm. In winter, pigs spend most of the day resting in the huts, nestled in straw.
- Due to the stable groups, several feeding stations, several wallows during the summer and the large paddocks, competition for resources can be avoided. If animals are injured or sick, they are moved to the barn to take care of them.
- A considerable proportion of the pigs already had short tails when they arrived on the farm. After moving to this farm, problems of tail or ear biting do not occur anymore.
- The farmer and his wife check on the animals daily. Due to this contact, the animals react with curiosity to unknown humans. As the animals are used to entering the truck trailers, transportation stress is reduced.

Environmental impact and productivity

- The paddocks are part of the crop rotation: they are either covered by vegetation (growing or re-growing phase) or used by pigs. A clover/alfalfa/grass mix is cultivated when the animals enter the system. As soon as all animals are sold, grain is cultivated for two to three years, followed by beans and a clover/alfalfa/grass mix. The vegetation cover ranged from 0 % to 80 %. Regular moving of paddock resources (huts, trailers etc.) guarantees a balanced distribution of manure over the paddock.
- The five pens of the indoor area are not cleaned regularly but only when needed. Soiling of up to 50 % of the indoor area was detected solely at one observation. As the animals spend very little time indoors, the amount of manure is limited.
- The farm has a medium level of carbon footprint (greenhouse gasses = GHGs) of 3.52 kg CO₂ equivalents per kg live weight of finished pig. The main contributors to the footprint were the purchase of weaned piglets and feed. Although the farm is largely self-sufficient for feed, the purchased feed is protein-rich and has a higher impact factor. As the pigs are mainly outdoors, emissions from manure are minimal.

Table 1: Animal welfare assessment

Welfare parameter	Assessment during project period ¹
Short tails ²	33 % of all animals
Tail lesions	On 1 out of 5 occasions <3 % of the animals
Skin lesions (scratches)	Not detected
Ear lesions	Always found in <3 % of the animals
Sunburns	On 2 out of 5 occasions <3 % of the animals
Respiratory problems	Not detected
Ocular discharge	On 3 out of 5 occasions <33 % of the animals
Eye inflammation	At 1 out of 5 occasions

¹Five assessment days during different seasons. All growing-finishing pigs on pasture and in the barn were assessed at group-level. ²In purchased weaners upon their arrival at the farm.



On the pasture, pigs have access to huts in which a bale of straw is provided. This allows, among other things, to keep the animals outdoors all year round.

Labour and cost

- The farm is a family farm with no employees.
- Feed is home-grown except for the minerals and the protein component (soy bean).
- As the pigs are on pasture all year around, the daily work includes examining the health and well-being of the pigs, controlling the fences, and providing water and feed.
- The indoor housing system with the outdoor run is relatively new and functional. It enables, for example, easy mechanical cleaning with a tractor.
- As pigs are outdoors most of the time, there is little cleaning work.
- The indoor area allows effective management of pigs:
- For habituation, grouping and health check when pigs arrive at the farm.
- For good meat quality, handling and sorting of pigs in the weeks before slaughter.

Table 2: Environmental impact and productivity

Productivity	Finishers
Average weight of bought weaners [kg]	30
Average duration of finishing period [days]	130
Average daily weight gain [kg / day]	0.58
Feed usage / finisher / day [kg / day]	3
Feed conversion rate [kg / kg gain]	5.2
Average carcass yield [%]	80
Average carcass weight [kg]	84
Average value per finisher [€ / kg CW ¹]	4.25
Average no. of finishers sold per year	900
Environmental impact	Finishers
GHGs ²	3.03
Terrestrial eutrophication [molc N] ³	0.177
Marine eutrophication [kg N] ³	0.083
Water footprint [m ₃] ³	0.034

¹Carcass weight

²Green house gases [CO₂ equivalent] per [kg] finished piglet

³per [kg live weight] finished pig (full life cycle)



Finishers are moved to indoor pens with access to an outdoor run 2 weeks before slaughter to make sorting them by weight and loading them into a transporter easier.

Take away lessons

- By including pigs as part of the crop rotation, this farm does not need additional fertilizer.
- The strategic use of indoor housing for short periods, e.g. when pigs arrive, depart or are sick, facilitates management tasks well on this farm.
- Growing-finishing pigs kept in a low-density outdoor system display healthy social behaviour, even though they were reared indoors and arrive with signs of tail-biting.

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