

Pig Case Study USA 2

Free-range pig production system, Holmes Farm, Creswell, North Carolina

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See also Pig Case Study USA 1

In 1998, markets for independent family farmers were shrinking in North Carolina with the growth of industrialized pig farming. Brothers Tim and Mike Holmes chose to leave pig farming altogether rather than contract with large-scale processors to raise pigs in confinement. In 2001, they returned to pig farming when Niman Ranch, California, offered them a market for pigs raised on pasture. The Niman Ranch program was a good fit for the Holmes brothers because the Animal Welfare Institute Husbandry Standards codified the way they already wanted to raise pigs and the higher prices paid by Niman Ranch enabled them to do so. (See Pig Case Study USA 1 for details of requirements of the Niman Ranch program and the Animal Welfare Institute).



Pregnant sows on pasture

The key welfare aspects for the pigs are:

- Caring and attentive management by the Holmes brothers
- Continuous grazing opportunities, with fibre promoting healthy bowel function
- Spacious pastures allowing freedom of movement, with ample room for sows to choose or reject who their closest companions will be

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Tim Holmes

The Holmes brothers keep pigs free-range throughout their life cycle in the moderate to warm North Carolina climate. There are separate paddocks for dry sows, farrowing sows and their piglets and market pigs that are surrounded by electrified fences. All sows have continuous access to rich pasture.

The pasture is kept in good condition by 'ringing' the sows with a single ring inserted through the septum. (Editor's note: Compassion in World Farming does not support this practice). Feeders and waterers are provided in each paddock. Wallows are provided in each large paddock for pig comfort in the warmer summer months.

The Holmes brothers produce around 1,500 pigs every year. They are good stockpeople who enjoy spending a lot of time with their pigs, with the result that the pigs are accustomed to, and not fearful of, people who visit the farm.



Farrowed sow with piglets on pasture

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- Exposure to the seasons, natural sounds and routine human activity, while remaining safe yet free roaming in their outdoor paddocks, helps ensure that the sows are calm and are not easily startled or fearful
- Shade and shelter during adverse weather conditions
- Availability of wallows for mud baths and heat tolerance
- Sunlight helps to destroy pathogens and fresh air contributes to respiratory health, which is important when antibiotics are not permitted in the diet

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Good stockmanship means the sows are comfortable with people. Note protective barrier on right-hand hut

Dry sows

The Holmes brothers previously housed both pregnant sows and finishing pigs in bedded hoop buildings, but after a hurricane blew some of them down in 2003 (no animal casualties), they decided to put the animals permanently on pasture and use the hoop buildings for straw or hay and machine storage. The moderate North Carolina climate makes this possible and the Holmes brothers found that continuous outdoor rearing is a good system both for pig welfare and economy.

A separate paddock houses the Holmes' Duroc boars. The half-Hampshire, quarter-Yorkshire and quarter-Landrace sows are mated with the Duroc boars year-round, yielding approximately 2 farrowings per year for each sow. The sows are normally culled when they are about 5 years of age and no longer care so well for their piglets. The breeding selection produces pigs well suited for the North Carolina farm, and the Holmes brothers have been able to avoid any major health problems without the use of routine antibiotics.

Farrowing sows



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Group farrowing pen, with individual huts. Note solar-powered electric fence around perimeter.

The key welfare aspects for the farrowing sows are:

- Small, stable family groups
- Ad libitum feeding of a corn-soy ration with mineral supplements, to ensure that sows maintain body condition throughout the lactation
- Comfortable farrowing in straw-bedded English arcs
- Two litters per year, rather than the conventional 2.3, helps to keep them in good condition
- Pasture vegetation provides natural materials for sows to gather for nest-building at farrowing time. Straw is also provided for nesting

Piglets

The key welfare aspects for the piglets are:

- The arc design protects piglets from accidental crushing
- Shelters are well-bedded with straw to give pigs a dry and warm nest at birth and through their nursing period
- The piglets are not subjected to teeth-clipping or tail-docking
- Cross-suckling by young piglets is discouraged and sow-piglet bonding is encouraged by the use of barriers placed up against the arc entrances. These also give new piglets extra room outside of the arc itself
- After about 1 week of age piglets are allowed to leave the farrowing arc and to have unlimited opportunities to mix with piglets from other litters. At this early age, mixing of young piglets can be done with little disturbance

- Pastures provide an enriched playground for piglet activities
- Pigs are fully accustomed to sow feeds and grazing before weaning
- At weaning, sows are removed from the farrowing pasture to a different pasture for dry and pregnant sows so that piglets remain in the familiar area where they were born, nursed and lived with their mothers
- Sows are not removed from the farrowing paddock until the piglets are at least 6 weeks of age, allowing piglets to develop their own immunities to disease after losing the passive immunity acquired from their mother

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Piglets running for wallow

Sows give birth in dense straw protected by well-spaced English arc shelters sitting on the pasture, which Tim Holmes says are much more effective farrowing huts than the A-frame and Porta huts that are favoured by some farmers. The arcs allow for good ventilation, and the extra floor space they provide helps prevent the sows from crushing their piglets. Body heat is well trapped in the straw-bedded hut, making farrowing possible all year-round. After an arc has been used once, the farmers move the structure to a new location and fill it with fresh, dry straw to prevent the build-up of pathogens.

Male piglets are castrated without anaesthetic within the first two weeks of their lives to prevent boar taint in the carcass later on. Holmes prefer castrating in the first week but, if there is a possibility for heat stress in the hot summer months, they castrate just before the pigs are two weeks of age. They say that the wounds heal more quickly if castration is done earlier rather than later. US slaughterhouses have been built to handle pigs that are 110kg or larger, beyond the point when boar taint can be expected to appear, and will dock farmers for bringing in lower weight pigs. Hence, castration of male pigs destined for market is unfortunately a universal practice in the US. Castration causes pain to piglets at any age, especially if conducted without an anaesthetic.

Lower litter size means that there is less competition at the sow's udder and therefore no need to clip the piglets' teeth. The enriched environments for the growing pigs means that there is no need to dock the pigs' tails.

The Holmes brothers find that their sows begin to regulate the frequency of nursings when the piglets reach about two weeks of age by making themselves less and less available. Piglets are thus encouraged to eat the sows' feed and become less dependent on milk. The farmers try to adhere to the saying 'Mother knows best,' producing healthy, happy pigs on their pasture.

Weaned, growing and finishing pigs

The Holmes brothers allow their pigs constant access to feed typically made from their own farm-raised, mostly non-GMO corn and soy (with no animal by-products). Nevertheless, they have noticed the animals usually prefer to graze on the pasture's green grass. Because the market pigs are not nose-ringed, they quickly destroy the pasture as they grow and become more active. Hay is therefore provided in addition to their feed to supply fibre and variety in their diet. Wastage from the hay forms a bedding substrate. The feed stations are situated on elevated slatted platforms to keep the feeding areas clean. Water is supplied continuously to drinkers in each pasture with irrigation hoses that do not freeze in the winter.



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Feed is always available for the growing pigs

The outdoor system's main welfare advantage is that it closely resembles the pigs' natural environment, and provides many opportunities for enriched natural behaviour. The Holmes farm is a wonderful example of this; the pigs are regularly seen foraging for greens and grazing and rooting in the soil. Young pigs can play in their paddock all day long, and they always have freedom of movement. The extensive paddocks means pigs have a vast area to move around in and therefore do not become aggressive. The brothers say that their favourite part about raising the animals is 'watching them run around and interact with each other.'

Keeping pigs outdoors takes care of the problem of manure, which naturally distributes itself on the pasture. The Holmes brothers test the soil each year for phosphorus levels that could cause pollution. So far levels have consistently been low enough. The farm itself smells remarkably fresh and predators have never been a problem in the area.



Shades and enrichment for growing pigs

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Free-range pig production system

Date of visit	2 May 2005
Certification scheme	Animal Welfare Institute approves farms selling to Niman Ranch
Number of sows	120 (13-22 per hectare)
Breed	Hampshire/Yorkshire/Landrace sows x Duroc boars
Food	Rape or millet on pasture, feed made of corn and soy
Average and maximum farrowings per sow	Average 10; no upper limit
Farrowings per year	2
% piglets stillborn	Less than 1%
% live born piglet mortality	15-20%
Average number of piglets weaned per farrowing	8.5
Number piglets per sow per year	17
Mutilations	Males are castrated. One septum nose ring placed in sows
Weaning age	Approx. 6 weeks, longer if necessary
Growth rate	630-635g/day
Food conversion rate	3.0-3.5:1 (depending on the weather)
Weight when sold on or slaughtered	approx 110-120kg at 6 months
Transport to slaughter	3 hours
Price to farmer	Approximately \$135 (110 Euros) per pig. Niman Ranch maintain a minimum price of \$42-45 (36 Euros) per 100 pounds liveweight, approximately \$1 (0.8 Euros)/kg. The quality premium above going market prices is approximately \$5-6 (4.5 Euros)/ hundredweight (9 Euro cents/kg)
Market	Niche (pork carcasses sold to Niman Ranch, Inc. of California, as premium meat)
Number of stockpersons	2 plus part-time help
Number of inspections	2 per day (minimum)
Health problems	No major problems
Other welfare issues identified	Mutilations