

# Boars with balls

**Until recently, pig farmers used to castrate all male piglets as a way of preventing boar taint. That was not pleasant for the animals or the farmers. Researchers at Wageningen UR have found alternatives.**

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**L**ook, you can see that the animals are perfectly calm,' says pig farmer Jaap Kreuger in Woerden as we peer through a dusty window into the pig shed. 'I have put 12 boars in each stall and I don't get any problems.' The animals, which weigh almost a hundred kilos, are lying in a relaxed pose on the heated floor or walking around peacefully. Occasionally one will chew on a roll of compressed straw that has been hung up in the corner especially for

that purpose. Although the animals have not been castrated, there are no signs of undesirable sexual conduct or aggressive behaviour. And there is hardly any boar taint in the meat.

Kreuger was one of the first pig farmers to stop castrating young piglets, in 2009. 'Castration started getting bad publicity and the supermarkets were accepting meat from uncastrated boars as long as there was no boar taint,' he says. 'And it saves an awful lot

of work if you don't have to bother with that operation.'

Keeping uncastrated animals has gone well for him. 'You never have serious problems provided the living conditions in the stall are right.' An added bonus for the farmer is that pigs that have not had the operation have an improved feed utilization of five to eight percent thanks to their male hormones. They grow faster for the same given amount of food. With a hundred million boars being





An employee at Vion Foods in Boxtel specializes in detecting boar taint.

**‘We really hope the EU will also have taken the plunge by 2018’**

bred for meat each year in the EU, that translates into savings in feed of thirty million tons, about six euros a pig.

#### **BACON IN THE FRYING PAN**

Male piglets have been castrated since time immemorial, mainly to prevent boar taint. ‘About 30 to 40 years ago, this odour problem affected 20 to 30 percent of the uncastrated boars,’ explains Gé Backus, a former employee at LEI Wageningen UR

and now director of DLV’s Connecting Agri & Food. ‘Castrating prevented this and also made the animals calmer.’ The pheromone androstenone along with the amino acid breakdown products skatole and indole are responsible for boar taint. This off-putting aroma is only noticeable when the meat is heated, for example when a slice of bacon is cooking in the frying pan.

But castration is unpleasant for the animals, although anaesthetics have been used since >

2009 following pressure from the supermarkets. Farmers are also not happy about the fact that they have to castrate thousands of piglets every year. Time for a new approach, decided farmers and the animal protection organization Dierenbescherming. Abattoirs and supermarkets were also interested in working on a joint solution. In 2005, the sector and Dierenbescherming agreed to put an end to the castration of pigs. This led two years later to the Declaration of Noordwijk, in which the parties agreed not to castrate any more piglets as of 2015. The EU moves at a rather slower pace: farmers' organizations, the meat industry and the retail sector have only expressed their support for a plan to stop castrations from 1 January 2018.

In 2009, Wageningen UR started research on the options for abolishing castrations while maintaining meat quality. This five-year project - Boars heading for 2018 – the final report of which was presented last February, was a collaborative venture between the Wageningen UR institutes of Livestock Research and LEI, pig farmers, abattoirs, breeding companies and Dierenbescherming. Backus led the research, including after he left LEI. The funding was five million euros, half of which came from the sector and the other half from the government.

Breeding programmes were started up to prevent meat with boar taint ending up in the supermarkets. Another priority was the improved detection of boar taint on the slaughter line. Researchers also studied consumer acceptance of the pork. In addition, about 70 pig farmers took part in a large-scale applied study of the behaviour of uncastrated pigs, the prevention of boar taint and farming factors such as feed and hygiene.

### **AGGRESSIVE BEHAVIOUR**

The abolition of castration can lead to more undesirable behaviour between male animals. And that would simply shift the wel-

fare problem. 'Uncastrated boars can exhibit sexual and aggressive behaviour, such as mounting one another and head-butting each other. That creates a great deal of unrest in the group,' says Carola van der Peet-Schwing, a researcher at Wageningen UR Livestock Research. 'If an animal mounts another one, the sharp claws can damage its skin. They can also develop foot problems if they slip during these capers.' Van der Peet tracked 70 farms to monitor this behaviour and the prevention of boar taint and to relate this to farming methods. The aim was to develop specific guidelines on how to successfully keep uncastrated boars.

### **WITH A SOLDERING IRON**

There have been a lot of changes over time. Pigs have developed a higher meat to fat ratio over the years, and boar taint is more prevalent in the fat. In addition, breeding programmes have cut the number of uncastrated boars with boar taint substantially. The three to four percent of boars that still have odour problems do not end up as fresh meat on the supermarket shelves. Specially trained experts test each carcass passing along the slaughter line by burning a piece of meat with a soldering iron. With their trained noses, they unerringly pick out boar taint. That meat ends up in cold meat products where the smell is not a problem.

The applied research clearly showed that ideal farming conditions can also reduce the incidence of boar taint. 'You need to tackle

**'I have to segregate a nuisance case like that a couple of times a year'**

the entire system,' concludes project manager Backus. 'As well as changes to the feed composition, with more chicory for instance, hygiene is important too. You can improve that with better manure removal and dry places for the animals to lie down.' Substances such as skatole and indole are in the manure and can permeate the skin, ending up in the meat.

With all these measures, the proportion of pork from uncastrated males in Dutch supermarkets increased from virtually zero percent in 2009 to 100 percent as of 1 January 2014. Consumers did not notice the change. While the consumption of pork throughout Europe fell between 2010 and 2013, partly because of the economic crisis, the decline in the Netherlands was below the European average.

### **REST, ROUTINE AND CLEANLINESS**

The results of the behavioural study at 70 farms showed that boars' behaviour varied hugely. At some farms everything went without a hitch whereas the animals exhibited a lot of undesirable behaviour at other farms. 'Yet it is certainly possible to keep uncastrated boars as long as the farmer takes certain things into account,' says Van der Peet. 'All aspects have to be perfect: rest, routine and cleanliness are the key.'

Good quality feed with plenty of amino acids reduces the risk of problematic behaviour considerably. In addition, having plenty of places to eat and drink and a plentiful supply of water curbs the competition and aggression between animals. But hygiene and health are also important factors in guaranteeing peace. So farmers need to put sick animals in separate quarters, for example, as their abnormal behaviour can arouse aggression in other pigs. Open barriers, for example with railings, around stalls give the animals a better view and stop them from being panicked. 'Shy, nervous animals exhibit more aggression towards each other,' says Van der Peet. 'So farmers can do a lot in the way they run the farm to make condi-





Uncastrated boars are loaded for transportation.

tions optimal and predictable, which can pretty much prevent all undesirable behaviour.'

Now that research has shown keeping uncastrated boars does not have to lead to problems, there seems to be nothing preventing the abolition of piglet castration in the EU. Yet there are still a few obstacles to be overcome. While consumer acceptance of pork from uncastrated animals is no problem in the Netherlands, important markets such as Germany and Italy are still reluctant. That is why about a quarter of the males in the Netherlands are still being castrated, all of them destined for export.

Backus explains, 'We are talking to foreign companies, social organizations and politicians in an effort to change the views of these export countries, and we are contributing our positive experiences in the expert group on pig castration set up by the European Commission. It all takes time but we really hope the EU will also have taken the plunge by 2018.'

#### **SEGREGATING NUISANCE CASES**

The Woerden pig farmer Kreuger has got everything nicely under control, with spick and span floors and clean, calm pigs. Even when we enter the shed, the animals do

not seem unduly worried. After eying us curiously, the pigs return to their daily routine. But then a commotion starts up in one of the back stalls. A somewhat thinner pig aggressively head-butts his fellow boars in the stall, which protest loudly. 'That could well turn into a problem pig,' points out Kreuger. 'I have to segregate a nuisance case like that a couple of times a year, but fortunately they are very much the exception.' When we close the shed door behind us shortly afterwards, peace soon returns. ■

[www.wageningenur.nl/boartaint](http://www.wageningenur.nl/boartaint)