

Tutto di Parma

“There is no better ham in the world than our prosciutto di Parma.” Gianni Giovanelli isn’t just saying that, he is convinced of it. He welcomes his customers at the Salumeria Rosi in the northern Italian city of Parma with a beaming smile. His shop has a mild and pleasant smell; it is a feel-good place. Gianni Giovanelli lives for ham, and pigs are the best animals in the world in his eyes. But does he know that they are not only the source of his ham but also valuable energy suppliers?

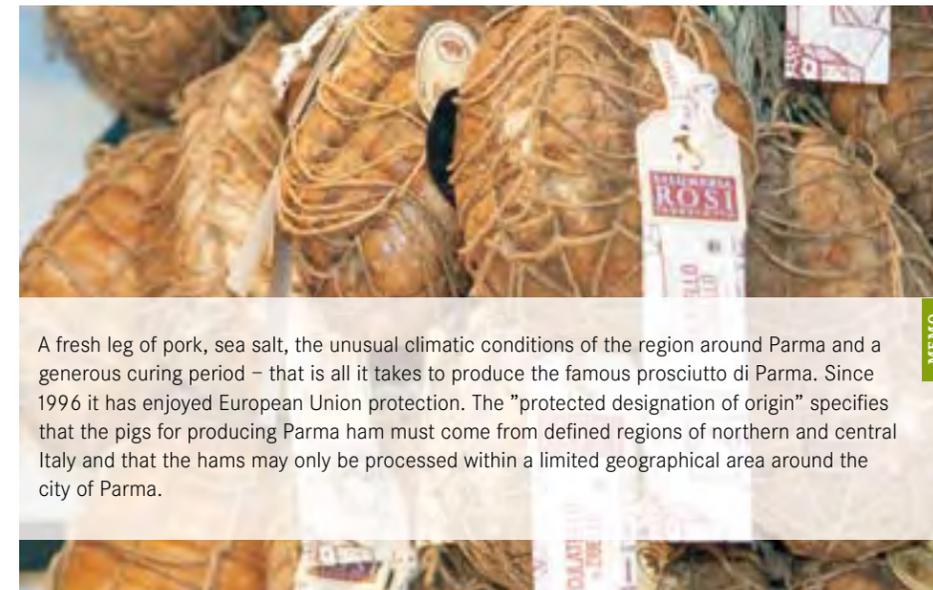
Food of life: Gianni Giovanelli has been selling Parma ham at the Salumeria Rosi for 24 years.



The northern Italian university town of Parma is a center of the Italian food industry. It is the home not only of Parma ham but also of parmesan cheese and the world-famous Barilla pasta.

A one-ham man. That might not sound quite fair on Gianni Giovanelli. But actually it is. Gianni Giovanelli lives for ham – to be more precise, for the pale pink, shiny, mildly spicy tasting prosciutto di Parma. He has been selling the northern Italian specialty in the Salumeria Rosi for 24 years. The shop and restaurant in the lively Via Farini in the center of Parma is a magnet for the town’s food connoisseurs. Parma has not only given its name to the famous local ham. Barilla pasta is also made here and – as the perfect complement – the much loved parmesan cheese too.

Carefully and with a smile on his face, he places the gossamer-thin slices he has just cut on the ham slicer onto a plastic sheet. Gianni Giovanelli loves his job – that is plainly obvious just from looking at him. “This here is my life,” he admits. Though he sees himself as much more than a purveyor of fine hams. “Maybe I should call myself a doctor,” he observes with a mischievous grin. He explains that he feels like a doctor advising his customers and showing them how to eat healthily. And his customers trust him. So much so that one of them even called from his holiday in New York for some advice



A fresh leg of pork, sea salt, the unusual climatic conditions of the region around Parma and a generous curing period – that is all it takes to produce the famous prosciutto di Parma. Since 1996 it has enjoyed European Union protection. The “protected designation of origin” specifies that the pigs for producing Parma ham must come from defined regions of northern and central Italy and that the hams may only be processed within a limited geographical area around the city of Parma.

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Special diet
How exactly they are kept can be seen in Moscazzano in the northern Italian province of Cremona. About an hour’s drive from Parma, it is where Pietro Beresago lives with his wife, their two children – and their pigs. When you drive into his farmyard, you are certainly not reminded of ham. No, there is none of that delicately spicy and mild aroma of the Salumeria Rosi here. On the contrary – the olfactory organs are assaulted.

You are greeted by thousands of flies buzzing around the yard. Here in Moscazzano is where pigs are reared. Two thousand of them. Only a few of them are pink like the picture-book piggies. The majority of these are more a sort of brown with pink patches. They stand crammed close together in a pen inside a gigantic shed. It is dark and noisy.

“We treat our pigs well,” Pietro Beresago states. Though they don’t actually belong to him. Pietro gets his pigs from a breeder when they are two to three months old. He rears them until they weigh 200 kilograms. Then the breed comes and takes them away in a big truck to be sold. While they are in his charge, Pietro’s main job is to feed the animals and make sure they all eat enough. He feeds them exclusively on, maize, grain, water and milk powder. They are not allowed to eat anything else if their meaty rumps are ever to be turned into the famous Parma ham. To find out how heavy the pigs are, Pietro doesn’t even have to weigh them. “Their feeding is computer-controlled. That means we always know exactly how much the pigs have eaten and can calculate their weight,” he relates. But he also has to check that each pig actually eats what the computer has allocated it. Every farmer’s dream? “No,” reveals Pietro. And his eyes begin to light up when he recounts how he dreams of one day driving over the fields in a tractor again – as he once did when his farm wasn’t so big.



10,000 liters of milk from 500 cows
Giovanni Bertoni has already achieved his dream. He lives a few kilometers away in the small village of Sospiro and owns a 300-year-old estate. It is a property any restorer would lick their lips over. Over 50 rooms with murals and decorations more like a church than a farmhouse. He has already had three of them restored and wants to move in here soon with his wife. The dream life? “Si!” is his decisive response and he quietly tags on another three “Si”s in confirmation. Here he is living his dream.



2,000 pigs live on Pietro and Andrea Beresago's farm. When they weigh 200 kilograms, it is time for their hind quarters to be made into Parma ham.



As well as slurry, maize and glycerin is fed into the digester tank as well. There, the mixture ferments to form biogas for fueling the combined heat and power plant supplied by MTU Onsite Energy.



Andrea (left) and Pietro Beresago (right) run the farm together. They started with only a few cows and pigs – and now their farm is one of the biggest in the Cremona region.

So far, however only 500 of his cows are accommodated on this estate. They produce 10,000 liters of milk a day – for the creamy milk foam on the latte macchiato that greets you with its rich aroma at morning breakfast. But Giovanni Bertoni has to work hard for those 10,000 liters. The cows have to be milked and fed twice a day, the cowsheds cleaned out and the farm maintained. Too much for Giovanni on his own. Not only does he have three farm hands, his two sons Sirio and Simone work here too. “Not entirely willingly to begin with,” Sirio relates. He wanted to be a rugby player and didn't have much affinity with life on the farm. But that has now changed. “I like the life with the animals and nature more and more,” the son reveals. And with a glint in his eye, he adds, “And every now and then you can get a day off. If you organize things properly.”

Biogas pioneers

Pig farmer Pietro no longer runs his farm alone either. His son Andrea works for him. Together, they have expanded the business enormously in recent years. “We started with 18 cows and two pigs; now we only have pigs because we earn more money from them.” Father and son are proud of one thing in particular. They were the first farmers in the region of Cremona to install a biogas plant. That was three years ago. Since then, they have been generating a constant 250 kilowatts of electrical energy using an MTU Onsite Energy Series 400 engine. They feed the electricity into the national power grid. The Italian government pays them 28 cents a kilowatt-hour – more than any other country on Earth. And with the heat recovered from the engine, they produce hot water for heating the pig pens in the winter. The biogas is made just a few meters away from the pens. In a large, green digester tank, maize slurry and glycerine is fermented.

The local government of the province of Lombardy backed the farmers' courage in making the investment by paying the interest on a loan of one million euro. Pietro and his son aim to have completely repaid the loan in ten years' time. Meanwhile however, they have already taken out a second loan, because a few months ago they started up a second biogas plant driven by a twelve-cylinder MTU Onsite Energy engine. The new plant also produces 250 kilowatts of electrical output. The advantage is that if one of the plants fails, the other can be stepped up to 370 kilowatts output. Consequently, the potential risks of failure are low because none of the valuable biogas is lost.



Alessandro Maiocchi (left), customer service technician at MTU Italia, services the CHP module regularly every 800 hours. He can also check the engine data via a remote monitoring system and advise Pietro Beresago (right) how to adjust the settings.

High-tech on the farm

The biogas plants have also changed the nature of their work. It is no longer just a matter of growing the food for the pigs and rearing them. They now also grow maize for producing biogas. The slurry from the pigs is now used not only as fertilizer on the fields but also in biogas production. Filling the digesters with maize, slurry and glycerine, measuring the temperature in the digester tanks and checking the engine data have all become an established part of their daily routine. Even though the farmstead with its gray brick buildings might not look like it from the outside, this place is full of high-tech kit. And Pietro and Andrea are more like firemen than farmers. “Most of it actually runs automatically. We only have to react if something is wrong,” Andrea relates. If they are worried about the figures from the biogas plant, they call their customer service engineer at MTU Italia. Alessandro Maiocchi can check the engine data, alter settings or send servicing instructions remotely via a special data link. “Working with Alessandro has been fantastic. He knows the system really well and has already given us lots of good tips,” Pietro enthuses.

Biogas completes the cycle

The Bertoni family has also installed an MTU Onsite Energy biogas plant on its estate. It produces 250 kilowatts of electrical output, which is fed into the national power grid. With the recovered heat from the engines, they clean out the cowsheds and warm the drinking water for the cows in the winter. “I want to be self-sufficient on my farm and also establish a complete cycle. Everything that is produced on my farm should be recycled,” Giovanni explains. For him, that includes the dung from his animals. He shovels ten cubic meters of it into the digester every day. To be able to grow enough maize for biogas production, he has bought extra land – he now runs 125 hectares. And there is more to come because the Bertoni family want to expand their farm. At present, they are building a new shed for 150 cows; and with more cows they aim to produce more biogas. “The power output of the MTU Onsite Energy engine is 370 kilowatts. We want to make full use of that,” his son Sirio elucidates.

A new calf is born on his farm almost every day. So he is often called upon to be a midwife too. His wife gives every calf a name because the Bertoni family are close to their cows. Giovanni Bertoni proudly shows off his bull, Cuzulo. He was born prematurely and, as a bull, would normally have been sold because he provides no milk. But his wife took him to her heart and reared him on a bottle. Since then he has always had special treatment – he has his very own pen as the only bull in the herd and watches over the cows.

“No room for sentimentality”

Pietro Bertesago has no such stories from his pig farm. In the past, when he used to breed pigs himself, his relationship with the animals was closer. But today they are on his farm for hardly any longer than six months – no time to establish a relationship. “There is no room for sentimentality here,” he observes while looking over the 800 pigs that are housed and reared in one building to ultimately end up as Parma ham on the counter of Gianni Giovannelli’s shop. As soon as he moves towards them, the timid animals run away. Only the flies are brazen and swarm around him in an instant. They appear untroubled by the acrid smell in the pig pens. When he talks about the future of his farm, Pietro becomes thoughtful. No, there was no future in pig farming, he was sure of that. You couldn’t make much money from it any longer. But he would nevertheless like to keep the pigs on his farm “for as long as possible” he says with conviction. But the future, that was somewhere else. “The future is in biogas,” father and son agree.

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Giovanni Bertoni and his favorite bull. Cuzulo was born prematurely and Giovanni’s wife reared him on a bottle.



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ONLINE



500 cows live on the Bertoni estate. 250 of them are dairy cows producing a total of 10,000 liters of milk – daily.



The aim of the Bertoni family is to use their biogas plant to process all the waste products generated on their estate. Slurry from the cows, for example, is used to produce biogas. The biogas powers an engine which generates 250 kilowatts of electrical power in a cogeneration power plant. The family uses waste heat from the engine to heat up their water.

**120 to 1,560 kilowatts:
The power range of MTU Onsite Energy biogas plants**

Plant designation	Electrical output	Thermal output
Series 400		
GC 120 B5	120 kilowatts	160 kilowatts
GC 150 B5	150 kilowatts	214 kilowatts
GC 192 B5	192 kilowatts	214 kilowatts
GC 205 B5	205 kilowatts	241 kilowatts
GC 370 B5	370 kilowatts	466 kilowatts
GC 390 B5	390 kilowatts	473 kilowatts
GC 400 B5	400 kilowatts	481 kilowatts
Series 4000		
GR 772 B5	772 kilowatts	394 kilowatts
GR 999 B5	999 kilowatts	510 kilowatts
GR 1165 B5	1,165 kilowatts	581 kilowatts
GR 1560 B5	1,560 kilowatts	788 kilowatts

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