

**FARMING WITHOUT SUBSIDIES**

**By**

**STEPHEN DUBE**

**2008 Churchill Fellow**

## Part One – Normandy & Brittany

My first visit, on May 8, was to see **Raynald** (born in 1949) and **Elisabeth Clapisson** at **Ferme du Manoir du Camp, St Crespin, Bas Normandie**, where they occupy 58 hectares including woodland, which accommodates 200 Angora goats. The enterprise started 20 years ago with goats from Australia, with others added later from South Africa. The animals are kept in three herds to avoid in-breeding. A few Toggenburg, Saanen, Chamoisee and other breeds are kept as part of a visitor attraction. There is also a farm shop selling mohair goods from socks and gloves to blankets, jumpers and shawls. Elisabeth knits for four or five hours a day.



Raynald's grandfather farmed here and he took over 40 years ago from his parents. It was a dairy farm, but when quotas arrived in 1984 they looked for something to complement the milking and chose the Angora goats. After he was diagnosed with angina, and then developed a shoulder problem they stopped milking completely about four years ago. The goats moved into the cow shed and the milking parlour was converted to a shearing shed. They still fatten cattle and grow around 25 hectares of cereal, but angora is their main enterprise.

There are 120 Angora goat farms in France, with a total of 5,000 animals producing about 15,000 kilograms a year – but France still needs to import 1,500 tonnes. All are members of a co-operative, Mohair de France, which is based in Castres in the south. The co-operative processes the mohair and finds artisans to make various items, but all farmers sell their own produce. The wool grows 1mm per day and the goats are sheared twice a year. The wool is highly prized, selling across the developed world but principally to Britain, Holland, Belgium and America. The Clapissons produce about 400kg a year.

The farm shop is an important element in an enterprise that attracts about one thousand visitors a year. Elisabeth said: "We started just with yarn and blankets, and then decided to have socks made. Now we sell gloves, clothes and soft toys as well." Elisabeth knits up to four hours a day, and has calluses on her fingers to prove it.

There are no subsidies available for goats in lowland areas like Normandy. Raynald said: "We would like the same subsidies that are available for sheep because we keep the countryside in the same way. It's a profitable enterprise and you could manage to live well just with the mohair

On May 9 I visited foie gras producers **Frederic and Armelle Leroy**, on the 80-hectare part-rented **Ferme de Crepeville, Criquetot sur Longueville, Normandy**. Like many farms in Wales Armelle brings in a salary - as a school nurse. Normandy is the largest region after South-West France for foie gras production. This traditional Christmas favourite is made by steaming a whole duck liver in a Bain Marie – a sort of double cooker - in the oven for 35-40 minutes, pressing the liver to squeeze out the

fat, which is later used to seal the pate, and can even be used for cooking. The foie gras is left in the fridge for three days and then ready to serve, sometimes with figs and washed down with Sauternes.

Frederic's grandparents were the first on the farm, arriving just after World War Two. His mother started producing and selling raw – uncooked - foie gras more than 20 years ago in order to make more from the farm. His parents were milk producers with 40 of the local Normand cows, but stopped milking in 1974 because it was easier to grow cereals than look after the cows. Frederic took on the farm in his own right in 1991, and started with pigs but gave that up in 1995 because the market slumped. He continues to grow rape, sugar beet and flax and now has 40 ha down to cereals.

The farm processes two thousands ducks a year, direct selling in the Saturday produce market at Dieppe and from the small farm shop. There is a special foie gras market in Dieppe just before Christmas and a produce market every Saturday. Frederic and Armelle are one of four foie gras producers around Dieppe, all individual farmers.

Frederic did most of the work on the purpose-built farm abattoir, processing area and shop that opened five years ago. The shop sells sausages, duck steak, chickens, guinea fowl, smoked produce - about one-and-a-half tonnes of magret [*breast of corn-fed duck*] every year - and a variety of pates and rillettes [*a different sort of prepared pate*], all reared and prepared on the farm. Two people help Armelle to kill and pluck the birds and another comes in two mornings a week to do the cooking.

They are going to open a *gites* - self-catering accommodation for tourists - in Frederic's grandmother's old home next door and plan another in a large old barn. This investment will take a long time to repay and includes buying property from relatives. The French system obliges parents by law to divide their estate equally between their children and is one reason why so many people in France still have a direct connection to the countryside, which in turn influences government policy. It's one reason why the government in France is much more supportive of farmers than in the UK.

The couple have two sons aged 16 and 14 and a daughter, Margot, aged 7. The boys are not interested in the farm, but Margot drives a tractor and may eventually want to take on the farm.

Frederic feels the Common Agricultural Policy is "OK at the moment because the price of corn has risen, but that situation is not going to last. We would prefer to have the price, not the subsidy."

The following day, May 10, I went to see dairy farmer and cheesemaker **Christian Villiers of Coupigny, Illois, near Amiens**, on the border of Normandy and Picardy, where the three departments of the Seine Maritime, l'Oise and la Somme meet.

Christian and his wife Danielle occupy 80ha of land - 30ha of pasture and 50ha of cereals. The corn, maize, wheat and oats are grown for the herd of 80 Holstein x Normand dairy cows, although the wheat is sometimes sold. The herd produces 600,000 litres per year and the Villiers buy in an additional 400,000 litres. All the milk is used to make the famous Neufchatel cheese, the oldest cheese in Normandy with a history dating back one thousand years. There are 30 producers of Neufchatel, making a total of about 1,600 tonnes a year. This is the fourth largest enterprise,

producing more than 130 tonnes a year, which sells in the main markets of France and is exported to Germany, Sweden, Uruguay and China. There is a producers' union, created in 1957.

Christian is the sixth generation of his family to produce cheese. He left school at 14 to help on the farm after his father died and has been making cheese since he was 18. Two employees now work on the farm and five in the factory.

"My mother bought this farm in 1961 and I started here in 1979. We also work another small farm. We bought a house at Oumale and converted it to a *gites* three or four years ago and we've just bought the house next door to do the same thing.

"We are now erecting a new cheese factory to modernise and double production. We are investing 750,000 euros and have a grant of about 15,000 euros from the region. That paltry contribution does not worry me because when you get subsidy it's because it's not economically viable. My enterprise is profitable."

The couple have four children but only one son is interested in the farm. "I don't know about the cheese factory because it's a lot of work and investment, and under Napoleonic Law anyone taking over the whole enterprise would have to pay off the other three."

Christian said: "The CAP is a lot of intensive work for not very much of anything. We have to write everything down like when we put down fertiliser. It's good to write it all down, but it would still be the same for the environment if we didn't, and no one is going to come and see if I really did put fertiliser on my other farm 20 kilometres away. They can check it, but they can't prove it.

"I don't like the CAP but you have to live with it. It's really important for the big cereal producers. They are the people who benefit from it. I get about 30,000 euros a year in subsidy for my cereals. Think what the big producers get.

"I could manage without anything from the CAP. There are 30 bureaucrats for each farmer at different levels and lots of them earn a lot more than me. The CAP is the milk cow of Europe for the bureaucrats, and we are the ones who are being milked.

"We're all right because we are in a rich farming region. I think the CAP does not do enough to help the mountainous areas where they really do need help and where people are leaving because they can't make a living. In the end there will be so few farmers left there that they will have to pay other people to keep the landscape and that will cost a lot more. Even in this area there are some parts where the land is no longer used because it's damp and not the best."

On May 11 I visited **Fabienne and Francois Demarais, of Ferme de Gremonval, Londinieres** near the river Eaulne, where a traditional dairy and arable farm has added wild boar and deer, and home processing to its repertoire. The farm is 110 hectares, of which 40ha are owned and the rest rented. A forest surrounds the farm in a horseshoe, and 40 hectares is used by Francois and Fabienne.

“It's a family farm where my parents arrived in 1938 and I took over from my father in 1975,” said Francois. “It was then a dairy farm with some arable and cereals.”

They diversified into wild boar in 1982:

“With the CAP imposing milk quotas, I thought that it would be good to get some value from the forest. So I fenced part of it and began to use it for wild boar. I now have 17 hectares for wild boar and 23 for deer. One year ago I set up a partnership with my son Edouard (30), and we also have another company for the milk and cereals. If we had not started the game farm I would not be a farmer now. We could not have survived.”



The dairy farm is managed extensively and has quota for 350,000 litres. The cows produce an average of 6,000 litres. About 20 male calves a year are slaughtered for veal, while heifer calves are reared as replacements. It's a closed herd of Holsteins, but Francois is preparing to expand the herd and is wondering whether to bring in some Montbeliard and Normande. All the milk goes to make Neufchatel cheese at the Danone milk factory.

A fully EC certified purpose-built on-farm butchery and packing plant, built in 2003, handles all the game and also processes the farm's veal and beef. The plant includes vacuum packing machine, pressure cooker and there are cutting and packing rooms.

The farm animals are slaughtered at an abattoir in Forges-le-Eaux, 28 kilometres away, but all the butchery and preparation is done here, and Francois kills the boar with a gun and then takes the carcasses to the abattoir to be tested for swine fever and trichinosis.

As well as Francois and Fabienne, the farm provides a living for their son Edouard, who lives six kilometres away and is getting married in July, and one employee. A butcher also comes to cut up the meat. Francois and Fabienne make the pates, having trained on two weekly courses in Rouen to learn the process. They make pate, *hure de sanglier* [meat mainly from the boar's head in its own jelly], *rillettes de cerf* [deer rilette], terrines with (bought in) mushrooms, cranberries or *pommeau* – a mixture of apple brandy and apple juice. They sell about 12,000 jars a year, and 80% of sales are at food fairs.

Francois was also highly critical of the CAP for encouraging certain crops, causing over-production and failing to safeguard farming in poorer regions. He said some big cereal farmers south-east of Paris bought land and farms in less favoured areas just to use as set-aside, so they could use all their good land for cereals. “The CAP should keep the traditional products in each region and not try to make farmers grow one thing or another,” he said.

“What I want from my business is a traditional way of life. I have not increased the size of this farm since my grandfather's day. It's still a farm that produces and sells to the consumer. I do that directly, just like my grandfather did.”

**Yves Bouquet** is a leading member of Confederation Paysanne, the union for smaller farmers. He lives in a 17th century house with an adjoining 16th century dovecote on 43 hectares on the outskirts of **Offranville, Normandy**. He grows wheat, rape and flax, sold through a cooperative. I met him on Sunday May 11, dragging him away from the annual bric-a-brac sale organised by volunteers in the town to raise money for small farmers in Burkino Faso. Of all the farmers I met he was the most critical of the Common Agricultural Policy, and believed subsidies should end completely.

His father came here in 1936 as a tenant and Yves was born and raised there. Last year he was able to buy the house and the dovecote and he is now doing up the dovecote as a *gites*. He used to raise beef



cattle but gave it up 18 months ago when the 2006 reform of the CAP decoupled the subsidy from production. “Now you are only allowed a maximum of three bullocks per hectare, but I can carry on getting the subsidy without raising the bullocks,” he said. “The subsidy I get is more or less the same as the profit I get from my land - between 15,000 and 25,000 euros.”

Yves says subsidies are no longer justifiable or necessary. The CAP was created to make ensure food supplies, but he said Europe now tries to produce and export cheaply. “They have taken away the quality of the product. They have ruined the peasant economy of the world, and half the world population are peasants. Today the speculators are taking over and are making people starve. And we are making the Third World countries produce things to feed us instead of feeding themselves. There are people in Senegal who can no longer afford to buy the fish that the catch there. It's not right from a moral point of view apart from anything else. We are pillaging the Third World. We can eat French beans out of season because they are grown in Kenya. “

He regards farming as “a good career”. But he said: “Young people are blocked by the cost of taking over a farm. Many youngsters can't set up as farmers because they can't afford to do it.”

We arrived in Brittany on May 16 and the following day we visited the 95-hectare farm of **Alain and Chantelle Le Disez at Pouégat-Moysan, near Morlaix**. Alain's grandmother was born here. Alain was a farm worker for eleven years and went to agricultural college and saved up enough to set up here on his own account. Fifty-four hectares are rented. Chantelle works in a supermarket.

The farm focuses on what Alain described as “natural production” - an extensive system for 75 suckler cows. The calves are raised on grass and Alain uses a lot of nitrogen-fixing clover in the ley. The cattle spend four-and-a-half months inside in winter, feeding on silage and hay produced on the farm. Alain said they use almost 1,000 big bales each year. On average 37 males are sold at two months in the local cattle market and exported to Spain and Italy for fattening. Thirty eight heifers are raised for meat or as replacements. Alain shares farm machinery with a neighbour. Cereals, mostly maize, are grown on 15 hectares.

He feels the CAP has worked against “natural” farmers like him and left him at a permanent disadvantage now that production-based subsidies have been replaced by a Single Farm Payment: “In the 1970s farmers were encouraged to produce a lot of maize, and were paid a subsidy of 300 euros per hectare for it. But I got only 60 euros for producing grass. I was right before the others, and now I'm effectively penalised. Somebody who switches from maize to natural production now would get the same subsidy he used to get.

“And when you grow grass instead of maize you have other constraints. You can only have 1.4 cows per hectare, but there are no limits with maize. It's the same with fertilisers. I was almost organic. I was doing what I did with very little in the way of fertilisers, and I got penalised for it.”

But Alain said he could not survive without subsidies. “It's possible that the CAP will disappear, but we need to support farming. People should wake up. We are on the verge of a huge shortage of food. In a few years' time my loan will be finished, but I'm counting on the CAP to help me get a little bit richer.”

A remarkable rural enterprise supporting an extended family is based on a 207-hectare enterprise, or combination of enterprises, centred on the **Auberge Le Puits de Jeanne at Pouégat-Moysan** in the **Trégor** region of Brittany. The name translates as “the inn of Jeanne's well”. Jeanne was the grandmother of Francois Thomas, the patriarch of the family. Her photograph hangs next to the well in the entrance lobby of the restaurant run by Francois' daughter Mireille and her husband Alain Scarella, a chef. Francois and his wife Christianne came here in the early 1970s with three dairy cows. When they ran into financial problems they converted barns to provide self-catering accommodation in 1972. More than thirty years there are sixty dairy cows, a flock of 200 breeding ewes, a chicken rearing enterprise producing 800,000 table birds per annum and a restaurant seating 120 people that opens every Friday, Saturday and Sunday.

As well as Francois and Christianne Thomas, the enterprise support their son Bertrand and his wife Catrin, a teacher and their two daughters; their daughter Isabelle, who works for a local newspaper, her husband Emmanuel (Manu) and their son and daughter; and second daughter Mireille and son-in-law Alain and their three daughters. Christianne is President of Suivez le Trèfle, the France-wide association of auberges and farm accommodation providers that specialise in local produce. A total of four people work the farm and four - Mireille, Christianne, Alain & one employee – work in the auberge. There are also a few part-time workers.

One hundred hectares are put to cereals - 50 of maize for the dairy herd and the rest is wheat, colza (rape) and oats, which are sold to a co-operative. Some maize is also sold to other farms. The rape goes for bio-ethanol. Bertrand said the price of cereals is increasing, so it makes sense to grow more.

One worker is employed to look after the 200 mostly Charollais-Roussin cross sheep. The Roussin is a local sheep from Mont St Michel. Half the lambs are sold for meat and some females are kept as replacements. The meat goes to the auberge and under contract to Leclerc supermarket.

Bertrand said farms are still getting bigger and he thought the number could halve in the next ten years: "A lot of people who started farming after World War Two are now retiring. In many cases their children don't want to continue, so the farms are sold and other farmers buy the land. These days you have to work harder to earn the same as you used to."

The reform of the CAP had not affected the family, but they say it would be simpler to be paid a price per hectare. "The problem with the CAP is that the system costs a lot of money to administrate. The CAP controls us and what we do. We don't want the subsidies, and if one day we don't receive them any more we will be able to earn enough money by what we do here."

Emmanuel said: "The world is hungry. I think the prices will continue to rise. If they do we can do without the CAP. I would prefer to earn money from what I produce rather than from the CAP."

**Christine Lancien**, breeder of **Ricki des Blés Noirs**, "*une vache incroyable*" – an incredible cow according to one show judge – is typical of many modern European farmers – educated, ardent and eloquent. Aged 53 when we met on her farm, **Gaec des Blés Noirs, Plounérin** in the **Côtes d'Armor**, Christine is a champion of the countryside as well as owner of the twice Champion Cow of France and Reserve Champion of Europe of 2007.

"The farm is my hobby and my profession, but over the last 20 or 30 years it reached a stage where you were almost ashamed to be a farmer," she said. "Now I think the time is coming when farmers will be proud of what they do again and will feel that they have an important part to play in society."

Christine's 130 hectare farm is rented, but the owner wants to sell and Christine thinks she will be able to buy. She has been here since the age of 16 and now employs one full time worker to run the enterprise, which also supports her redoubtable mother, the 77-year-old Victoire Rolland. Christine's husband, Christian, is a high ranking civil servant in Paris who returns at weekends. Their son Francois is a 23-year-old student and daughter Karine, 32, is a nurse.

The dairy herd of Holstein/Friesians numbers 80 milking cows, and there are also 120 calves, mostly looked after by Victoire, which are sold from two months to 18 months old. Crops include 40 hectares of maize and 15ha of wheat, all grown for the livestock. Christine has also sown 15 ha of a special variety of red clover to reduce the need for so much soya-based feed. Christine plans to follow the clover with maize. Harvesting is with machines bought with another three farmers through the CUMAR agricultural machinery cooperative - *Coopérant Utilisation du Material Agricole*. The farm produces 600,000 litres a year and the milk is sold to a company that makes ice cream.

Her champion cow Ricki, one of the best-known Holstein/Friesians in France, is her pride and joy: Eight years old and freshly calved when we were there, she gave 13,000 litres last year, at a time when she travelled 500 kilometres over five weeks for various competitions including the prestigious Paris championships.

Christine said the CAP has had enormous effects on farming and farm families. "It would be better to be paid a decent price for our milk rather than have subsidy. Thirty years ago the price of milk was the same as the price of diesel. Now diesel in France costs 1.49 euros and milk sells at the farm gate for 0.37 euros." She fully supports the CAP reforms, which she thinks will help young people to set up in business.

**Edith & Jean-Claude Hirrien** sell meat direct from the farm gate to supplement the income from their dairy enterprise at **Garlan, Morlaix**. This 70 hectare holding accommodates 55 dual-purpose Normand cows. They own 50 hectares, including 12 ha of woodland and rent the rest. Edith takes an equal share of the farm work – "like women have always done".

They started selling direct four years ago: "We thought that since we were putting so much effort into it anyway we should get the benefit from doing it. It was difficult at first. Sales were up and down and we have to spend a lot on advertising and publicity. Now we have our own website

"We were farming very intensively 10 years ago - 60% maize and 40% grass," said Jean-Claude. "We were into breeding and we had some of the best Normand cows in France. We won national championships on four occasions. Now we have reversed that system and we do 60% grass and 40%. We use no fertilisers at all on the pasture except for some beef slurry which is applied in February."

The cows give an average of 7,000 litres per annum. But having a dual purpose breed like the Normand produces an extra 150 euros per head compared with the average of the farms in Finistere. "We gain both ways - milk and meat." Bullocks are raised for 17 months before sale or slaughter, with some heifers kept as replacements for the milk cows.

Their change of farm management followed a decision to sign up for the French government's agri-environment scheme. "It meant a revolution in our thinking, a complete change," said Jean-Claude. "Six years ago we both believed in ethanol and we used set-aside land to grow rape for ethanol production. Last year we had 38ha of pasture, 12 of maize, 20 of wheat and barley and 7ha of rape for ethanol. But this year we have only three-and-a-half hectares of rape and we're going to stop it completely. Growing crops for fuel is a big mistake. It's almost a crime against humanity."

They like selling direct to the public. Edith said: "Farmers have a terrible reputation for polluting the land. By selling direct to the consumer you can talk to people and explain what farming is about and how hard it can be and what choices you have to make. It helps to improve the image of farming."

Jean-Claude and Edith feel the CAP has helped to keep some smaller farmers on the land. "Smaller farms like ours would probably have gone bust without it," said Jean-Claude. "Free enterprise would have won and there would have been huge farms everywhere. Things have been fairly smooth, thanks to the CAP. But while it's been a good thing to maintain a lot of farmers on the land in

Europe, but it's had a very adverse effect on the Third World. It's been cheaper for them to import our surpluses and that's been a disaster for them.

“There will be changes in the seven years to come. It's now a question of food security throughout the world. Two years ago that was not the case. Now it's an issue and that is going to change a lot of things. But I have a lot of confidence in the future. A farm like this feeds 120 people every day. In a few years' time it will have to feed 200. It's possible.”

**Jean-Jacques and Marie-Claude Picart** are firmly of the opinion that all work and no play would dull their lives and leave their family – they have two teenage daughters – impoverished. So they invested 150,000 euros in a robotic milking parlour in January, 2007. They have never regretted it.

“We bought the robot because the milking parlour was 21 years old and needed replacing. Working on a traditional farm is a lot of work and our idea is not to be completely exhausted by the time we retire. Being in the milking parlour twice a day every day of the year is a horrible commitment. Now it's easier to find someone to look after the farm when we're on holiday. It gives us flexibility and will enable us to expand to about 75 cows. This year we had 435,000 litres and we may produce about 600,000 litres within five to 10 years,” said Jean-Jacques

“There are farmers who spend 50,000 euros on another tractor which only works about 700 hours a year. We decided not to have another tractor but to buy a robot that works all day every day. It's like having someone without having to pay a salary.”

Jean-Jacques has farmed at **Lestrenec Luzivilly, Plouigneau** - formerly owned by his father and uncle - since November 1, 1984. “The robot makes economic sense because we save on other spending like vet costs and pesticides, so the average cost of producing milk is the same. The cows come in four or five times a day, and the robot records how much milk each quarter produces so we can see straight away if there's a problem.”

When they decided to buy the robotic milking machine they accepted that they would lose money: “Professionally we are prepared to lose it. But we were lucky because we now produce more milk and the price has gone up, so the profit is the same. We are back to where we were before we got the machine.”

The 105 hectare farm accommodates 60 Holstein milking cows and 20 Blonde d'Aquitaine suckler cows. Bulls are bred for beef - about 40 are sold each year - and heifers reared as replacements.

Like almost all farmers, the couple are critical of the Common Agricultural Policy: “The money goes mostly to the grain farmers. Not much goes to the people who need it and a lot goes to those who don't. The cereal farmers have a very strong lobby. The Queen and the Prince of Monaco received 1m euros in subsidy, but the people of the mountains where the land is more difficult get very little. If we want farmers to survive in the less favoured areas we have got to help them or those areas will go wild.”

The Picarts receive 400 euros per hectare, but they say some farmers in Brittany get 200 euros and some get 500. Farmers who bred bulls under the former system received large subsidies, and under the reformed CAP they still receive the money, even if they no longer breed bulls.

**Joel Leroux of Kerven, Pouégat-Moysan** owns two-third of the 55 hectare farm that has been handed down through the family for generations. His grandmother was born here in 1904, and he has increased its size since his parents' day, when it was only 25 hectares. He employs one worker.

"Until the 1970s 25 hectares was an average farm around here. Now I'm a small farm with a big quota that was introduced in 1984 and 45 milking cows," he said.

They yield an average of 7,500 litres per year on only small amounts of concentrate. The herd is fed maize in the winter and put out to pasture in spring. He grows up to 20 hectares of maize and five hectares of wheat, which is sold off the farm. He makes about 10 hectares of silage.

Joel said he could live without subsidy now that the price of milk has risen, but welcomed the financial security offered by the CAP, however much he criticises those who run it.

"It's hard to say whether the CAP has been good or bad on the whole. My parents made a living off a much smaller farm, but who would want to live like that. There was no comfort, no holidays, menial work all the time, no machines. It's still hard work, but when you like your job it's not that hard. Not everybody can afford to work from home, paid by everyone else.

Joel formed the locally-based CUMAR because he realised that he and his farming neighbours needed more machinery but could not afford to buy their own. He said: "It was very easy to get going. We started with three and now we are 20 in north-west Finistere. We were not the first to set up so we benefited from the experience of those who did it before. The organisation decides who uses the machinery at what time."

Joel is using a technique of bioelectronics developed by a hydrologist called Professor Louise-Claude Vincent in the 1970s that measures and aims to balance the internal biochemical/electrical environment – the biological terrain – of an organism. The theory is that the key to health, whether for plants or humans, lies in monitoring and controlling body fluids. The approach requires frequent testing with specialised equipment and scientific analysis. He has used it for ten years.

He explained: "Different types of plants need different conditions to grow. This system analyses the soil and uses algae and other products to alter its composition in order to produce the plants we want without the weeds that we don't want. When plants grow in the right conditions they don't get sick so we don't need pesticides or herbicides. It's the same with animals. If you avoid the conditions that allow illnesses to develop you avoid the illnesses. It's common sense. As always it comes down to money. It's not in the interests of people who sell us pesticides to develop the technique.

"It's much easier to avoid letting problems develop rather than deal with them afterwards. Organic farming can use these products, although I'm not organic. And if the plant is sound, the animal that eats the plant is sound," he said. Joel uses carefully blended liquid reparations to treat his soil and

says he now only needs to call the vet two or three times a year. Before, it used to be every week. The kit costs 5,000 euros.

“I'm not in favour of organic production,” he said. The reasoning behind organic farming is that there are fewer pesticides, but that's not the whole story. There are other things. If a plant is totally unbalanced it's not good for health. Organic products could actually be poorer in quality. There is less fat and more protein in milk from a cow that is in good health. Now my cows have less fat and more protein - and fewer visits from the vet. And some weeds that used to grow in my fields no longer grow.

## Part Two – Lüneberg & Eifel, Germany

Lüneberg, Lower Saxony

My first visit was to **Heiner Beerman**, a farmers' representative in **Landkreis Fallingbostal in Lower Saxony** for the Landvolk Mittelweser association of farmers, which has 1,600 members and 35 employees.

His family has lived on the farm for 450 years. The present house was built in 1750 and the family was able to buy the farm in 1848. Heiner's mother came from this farm and his uncle lived here until Heiner inherited when his uncle died childless. “We were fattening bullocks and growing corn to feed them. When the Wall came down beef prices plummeted so we gave up fattening cattle.”

Heiner became a lecturer in personality development and economics in Luxembourg, Austria and Germany. For five years he was managing director of an agricultural training school in Bonn. The farm became an arable enterprise worked by farm hands and Heiner lived here and worked in Bonn. But he suffered so much stress that he developed heart problems and had to undergo an operation

in 2000 and a heart bypass operation last year. Now half the land is rented to an organic farmer and someone else farms the rest. One of the barns has been converted into seven flats and his wife has a physiotherapy practice here. They started investing in wind turbines in 1994, which were heavily subsidised at first. One of his daughters lives on the farm. The other is a vet in a pharmaceutical company.

The GNP for farming is 2.3% in Lower Saxony and 4.3% of the population is employed in agriculture. The average age of those employed is 48. There are 66 biogas production plants - Lower Saxony has the second largest number of any county in Germany. Eight per cent of the income from the entire area comes from non food things like wind turbines, set-aside and biogas production.

The land is very poor – very sandy and does not hold water. Crops like potatoes and maize and so on have to be watered all the time. Half of organic farmers have to irrigate their crops. It's always been like that. But I used to have rye and rape. Set-aside is finishing and farmers are already in the process of counteracting that.

Heiner said: “Farmers here could not manage without subsidy. Pig farmers would not be too badly off but an arable farmer would not earn enough. The average income for a full-time farmer on an average farm of 100 hectares last year was 50,000 euros, with 30,000 euros from subsidy.”

The farm has a wood biomass heating system for the four homes on the site and a machine that makes wood chips for the system. The system has replaced one that used 10,000 litres of heating oil.

Herr Beerman took us to **Biohof Eilte at Großer Garten 6, Ahlden**, where **Heiner Helberg and Tino Bullmann** have a dairy farm, make organic cheese and other products and grow organic vegetables and make organic cheese on a 320 hectare farm that is still expanding.

Heiner was born here and worked for a short time with his father on what was a 60 hectare holding before taking over in 1981. The farm started to convert to organic production in 1977 and is now the largest producer of organic onions in Germany. They also grow potatoes and rye, along with peas, maize and triticale for the cattle. Most of the land is rented because it is too expensive to buy. Heiner said they might work 400 hectares next year as there is another farm in the next village who wants to link up with them.

He said: “We grow three main sorts of onions and some that we experiment with - one early sort that grows very fast, one mid-season and one late. We harvest from the beginning of September until October and sell to discount stores and supermarkets. Now we have suppliers coming from the Netherlands we have to look hard to find where to go. It's a very good year for onions this year because the weather has been so good, the soil was OK and we did the right things at the right time.

“We maintain fertility and health by rotation - every four or sometimes five years we grow onions - from 15 tonne to 50 tonne. This year we have nearly 50 tonnes from one hectare. It's normally 25 to 30. We hand weed at the start and later have a machine that burns the weeds between the rows.

Subsidy is 134 euros per hectare. Heiner said they could manage without subsidies, but many farmers could not manage if they grew only corn or rye and if they only had pasture and reared cattle. "It would be possible if you are growing vegetables and potatoes. Some years ago we needed the subsidy, but for the last three years returns are better for organic products. Somebody starting now would have to learn a lot about how to grow and he would need subsidy."

They produce 400 tonnes of maincrop potatoes in four varieties. One of these is Linder, a variety that brought Heiner into a legal battle with the European Commission: "They decreed that farmers could no longer grow Linder. I carried on and I was sued. We eventually came to an out-of-court agreement because the costs of the court case were getting astronomical. We have now applied to the Federal Species Office to have Linden re-adopted. It's a very good organic potato and it's very popular with consumers. It's good for eating and does not disintegrate."

The dairy side of the operation is run by Barney, a dairy engineer and friend of Heiner's, who said he came to the farm from Hannover to live in what was then known as the Jimi Hendrix commune. "We started making cheese 20 years ago for ourselves as a lifestyle thing," he said. The farm has 40 dairy cows and 25 water buffalo for mozzarella.

"We started making cheese commercially 15 years ago and now we process 700 litres of milk a day and we produce soft cheese, camembert, mozzarella, a hard cheese and a sort of feta from water buffalo milk. We go to eight markets a week so we need a complete range," said Barney

There are 10 full time employees and more part-time. One employee is a marketing specialist because the enterprise wants to cut down on markets and sell more wholesale. Three employees are involved in cheese making. Bull calves from the dairy herd are fattened for meat, and fed on nothing but whey for the first year.

New housing is being built for 150 cows, and the partners expected to be milking cows inside there by Christmas. They will stay in the sheds, but will also have free access outside. They are fed peas, maize and tritico and waste potatoes.

Another innovative farm is run by **Wilhelm and Sonja Dierking at Gilten-Nienhagen in Lower Saxony**. Wilhelm Dierking Beerenobst extends to 60 hectares, of which only 20 hectares is used to grow fruit, mainly blueberries and cranberries. The rest is forest or overgrown brush land. The land is almost pure sand. Wilhelm's father, Wilhelm senior, who died in 1962, began to convert what was formerly a traditional small farm with a few cows and pigs to horticulture. Germany has 1,800 hectares of blueberries and half of them are within 200km of here. This farm employs ten permanent staff and up to 50 seasonal workers.

The main business is propagating blueberry plants on a commercial scale. It takes three years to raise a plant to sell. They take soft wood cuttings in the summer and hardwood cuttings are taken in the



winter from the mother plant. These take two years to grow.

“We grow varieties from North America, Australia and New Zealand and since 2000 we have done our own breeding programme in association with a company from New Zealand. Soon we will have our own patented variety,” said Sonja, who speaks excellent English.

“ It makes sense to select under European conditions because people here have different ideas about taste. In Europe we care more about organics so we try to find varieties that are disease free but still have good flavours. Our first variety is now under testing for the trial stages for plant variety production. It has to be trialled for about eight in all sorts of climatic conditions. If the variety is still good after all these years it might be a good commercial variety. We're now in the third year of laboratory testing. The first two years we had good results. Our variety is called Poppin - it pops when you bite into the berry. It's a bowl bush with good growth, good sweetness and good flavour.”

The total production target is 1.5m plants in different stages of growth. 500,000 plants are sold each year, including cranberry plants. Four hectares of blueberries are in full fruit production, and there are five hectares of cranberries, of which one hectare is in full production.

Cranberries are a relatively new addition. The farm has just started to harvest and they were enthusiastic about the crop: “We planted in 1999 and have fields in different stages of age from young plants to some that are almost mature. It takes about three to four years to reach full production. It's not difficult to grow but it's difficult to control weeds. We can't spray anything because it would kill the plants, so we have to weed by hand.

“Demand is much bigger than we can supply. There are maybe four or five cranberry growers in the whole of Germany. Some people are doing half a hectare and some have already given up because of the weeds. If you do it, it must be one of the most important things for you. It's work first and then you.”

The berries go to the fresh fruit market. The first plan was to sell them for juice and jams but there's a good demand for fresh fruit. Present production is about 15 tonnes a year, at a cropping rate of about 20 tonnes per hectare. Harvesting is done by hand as machines lose 15% of the crop in the field. They go to the wholesale market and by post to customers who pick up the phone and order what they need for their kitchen.

“We receive 250 euros per hectare in subsidy. We did not have anything at all before the reform of the CAP and it's really not worth it. People come and you show them everything and the next day somebody else comes and you have to show them the same things,” said Sonja.

The couple have a son of 18 and a daughter of 16, but say they are too young to decide whether they want to carry on the business: “They can see us working seven days a week 52 weeks of the year and wonder why should they do that. But you never know. We don't pressure them. The cranberries are a bit of a Plan B for the future because we can do it with a handful of people when we are older.”

The farm has a 30m by 150m reservoir covered with plastic to collect water, which is aerated to remove the iron. As the soil is sand it is turned over so that the organic sand went down with the plants and the light sand comes to the surface. “If that does not work we have a beach.”

The next visit was to see the rare **Heidschnucken Sheep** at **Schaeferhof, Neuenkirchen**, near **Soltau**. Mattias Schuller is the shepherd. Ursula Timm was the guide for my visit.

The breed is 4,000 to 5,000 years old and they have been on the **Lüneburg Heath** as long as anyone can remember - probably for all of that time. The **Lüneburger Heide** lies between the Elbe and Aller rivers in northern Germany, and is a nature reserve of vast stretches of open land carpeted with heather. The sheep live on the shrubs that grow on the heath, and their grazing helps these plants to spread and bloom. Heidschnucken also eat the seedlings of tree that might otherwise dominate the area. There were 350,000 Heidschnucken sheep in this region 150 years ago. Now there are 120,000. Farmers still keep them commercially, selling the meat and exploiting the tourist potential.

The 70 hectare Nature Park was founded in 1909, the first in Germany. The park has seven flocks of sheep, a total of nearly 700 head. The stocking rate is one ewe and one lamb per hectare and when the park is full there are 1,000 ewes and lambs in the park and on farms. The nature park owns the land, while the sheep are owned privately. The arrangement is a perfect symmetry of farming and nature conservation.

Ursula said the soil is a meagre mix of sand and bog. The Heidschnucken succeeded here because it could make use of the vegetation and helped to fertilise the land for crops. Ursula said: "Before the invention of artificial fertiliser, the peasants would build special stables with two floors. The peasants would cut peat and pile it on the ground. The sheep were housed on the first floor, which was porous so that the excrement fell onto the peat. In the spring the peasants brought this mixture onto the fields."

The sheep lamb from February to the end of April. The first three days they are kept together and on the third day the ear tags are put in. They lamb indoors. Usually they only have one lamb, but the breed was crossed at some time in the past with Romanov sheep from Russia and the ewes often have twins. One ewe this year had four lambs. After lambing they are given to farmers who rear them on their own farms. It's a partnership arrangement where they receive things they need in return. The meat has a gamey taste and some is processed and sold at the park, but the carcass is too small for the commercial market. After one year the rams are sold to breeders across Germany. The sheep are sheared once a year, although young sheep are sheared twice. Because 70% of the wool is made of hair, which cannot be spun, it is made into felt.

The sheep are brought in every night. If they stayed outside they would leave their manure on the ground and it's too rich for the heath. This way it stays in the barn and builds up more and more and provides warmth in the night.

This is a special and delicately balanced landscape, and it's still possible to see that the ground is shaped in places like dunes along a coastline. Ursula said these were permanently moving in the past because intensive farming had denuded the land.

"The farmers were so intensive that there was only sand and a bit of heather left. When the wind came the dunes moved. In the 19th century they started to plant trees to stabilise the dunes. Local people said the trees disappeared because the salt industry in Lüneburg needed the wood but that's not true. The special fauna here can only exist because of what the sheep do and the sheep are only

here because of the health. It's an equal partnership. It's also important for Black Grouse. This breed all but disappeared in Germany. It was down to seven males and they needed clearings at the edge of woodland to breed. At the beginning of the 1900s they linked together a number of these clearings and there are now 45 breeding pairs.”

**Dr Henning Wrigge** is one of three farmers in **Mengebostel**, near the town of **Bad Fallingbostel** in Lower Saxony who came together in 2004 to produce electricity by constructing a biogas plant. Dr Wrigge, with his fellow farmers **Harald Meyer** and **Volker Schwesig** now jointly operate a biogas plant that can feed 420 kW of power into the grid.

“We were one of the pioneers with the courage to do it,” said Henning. “There were already biogas plants operating, but they brought stuff in to feed the plant. We were the first to use crops that we also grow. We use sustainable crops - maize and rye - together with cattle slurry.”

This was a bold venture. It cost 1.5m euros to set it up and there were no grants available to subsidise the investment. But it has enabled all the farms to expand. In 2003 the farms covered a total of 240 hectares. Now they farm 530.

“The others still have cows but I have stopped in order to concentrate on biogas production and I'm now full time here. It's such different work that we thought it would be better for one person to concentrate on running this part of the enterprise, but we are all in this together.”

They receive a fixed price for the electricity of 16c per W. Germany pioneered the idea of a fixed price for renewable electricity. The premium is paid by the electricity companies and the farmers sell to E.on. The price is guaranteed for 20 years, which made it possible for the partners to borrow the money.

The plant uses 18 tonnes of material per day - about half a hectare's worth, plus one tonne of rye every day. Henning joked that they have three to four million employees – bacteria - working in a "concrete cow". He said: “The principle is the same as a cow. If you can feed a cow you can feed a biogas plant.”

The waste liquid is pumped off and goes on the fields and has the same fertilising value as cow dung, but it does not smell because the gas has been extracted. Every half an hour more grain gets pumped in. It takes nearly 20 tonnes of material a day, and you get 20 tonnes out.

The turbine runs for 24 hours a day and produces heat that's enough to heat the four houses along the road. During the summer the heat dries firewood for biomass or for people's homes. There is an emergency boiler so the houses have guaranteed heat in case there's a breakdown..

The turbines are two adapted lorry motors. One has just been changed after two years and if it had still been in the lorry it would have driven three million kilometres. Henning said the village had a biofuel plant in the 1950s, but it could not compete with heating oil which was two pfennigs at the time. Now the equivalent price for heating oil is more than one million pfennigs.

Referring to the food versus fuel debate, Henning said there was such a surplus of maize in the area that farmers were unable to use it all for feed.

## Eifel

**Michael Horper**, aged 51, farms 549 metres above sea level at **Spielmannsholz near Uttfeld**, in the Eifel region of Germany, has also diversified into biogas production.

He said: "My son, Volker, aged 26 jumped me into running this. We were an ordinary dairy farm and the question was how we could continue. The first idea was to have 200 cows. But the quota is expensive. It would have cost several hundred thousand euros to buy the quota and we're not that crazy. Then we started to think about producing energy and in 2005 we set up this."

The whole complex cost one million euros - the generator alone was 330,000 euros. Michael said there were few grants available to help set up the system. He is paid 16c/KW for the energy - less than he pays for his own electricity from the grid.

The volatile gas rises into a dome on top of the fermentation tank and a membrane pushes it down into the pipe. At 40 degrees the gas is liquid so it goes through an underground pipe to a tank where it is separated from the water, which comprises 60% of the liquid. Sulphur in the gas is removed by coal filters before being cooled and dried. Then it goes into the turbine motor, which is an ordinary diesel engine. This plant produces 250KWh, and supplies 5,500 KW daily into the grid. The plant uses 500KW to operate - for instance to pump liquid and slurry up to the fermentation tank.

A normal household uses about 2.5KW daily and a house with four people uses between four and five kilowatts per year, so the plant is producing enough electricity for up to 500 households per year - and waste heat from the plant also directly heats four nearby homes.

"It's just like a normal power station but the fuel is organic material rather than anything else. Gas is produced through fermentation by bacteria in a 1,000 cubic metre tank that is heated by the bacteria to 40 degrees. We use five to six cubic metres of slurry with 12 to 15 tonnes of whole maize, grass or silage from grain like wheat or rye or even sunflower - any organic matter."

Michael spent another one million euros on the machinery such as specialist waste spreading, harvesters, which are also hired out. The special spreader alone cost 80,000 euros. The plant needs 150 hectares to supply the plant but the farm only extends to 40 hectares, so he rents the rest, buying in the maize off the field to supplement home-grown maize and sunflowers. He has a partner in the machinery business, which needs to service 500 hectares and four farms to make it profitable.

Waste from the biogas plant goes into a neighbouring tank and goes back onto the soil, and is much more environmentally friendly than slurry. The grass has to grow up to 5 inches before cutting and is never done on a sunny day in order to avoid evaporation. The waste is rich in potash and potassium, so Michael says all the land needs after treatment is a bit of lime.

He still milks 60 milking black and white cows, which are housed all the time, except for an exercise yard. He said he welcomed the imminent end of milk quotas: "With globalisation you have to move

around the market place in the real world. The dairy farmer in Europe does not need to be afraid. Everything that the state tries to regulate ends in chaos. The British are right to think that.”

Michael said his father had a few cows and a few pigs. His parents, now in their 80s, still live on the farm. “I borrowed two million euros altogether, and we had to do a huge presentation to the bank to convince them to lend me the money. Some of it has to be paid off within seven years, the rest in 20 years. I would do it all again if I had to. My next plan is to increase the herd to 70 and get a robotic milking parlour.

“Agriculture has changed completely. Here in the Eifel it's a very poor region, and the climate here has changed. We used to be very cold with hardly any summers. I could not grow sunflowers or maize here 20 years ago. Now it's very different, and farming is affected by these changes. Now it feels like the southern Mediterranean here sometimes in May and June, and we have ideal conditions in the summer with temperatures of 30 and 35 degrees but with some rainfall every week. The top farmers manage six cuts of silage every year between April and mid October.

“We have the biggest market in the world here in Europe and we can easily supply what it needs. Energy and food are very important and nature and tourism also has a part to play - lots of people like to come to Europe to enjoy the countryside. Poverty has vanished from this area - it's very different from 15 years ago. I really enjoy my life.”

Michael dismissed the food versus fuel argument: “We farmers have been led by the nose by the politicians for 30 or 40 years and I don't care what they say now. I produce what the market demands. I don't care about these arguments. This is a meat and dairy region and we have 50 biogas plants but we're still producing more milk and more meat and we can supply the whole country with energy. Progress has made it possible to do all these things. If we use all the potential we can swamp the world with food and whatever we need. Next year you will notice the grain prices will go down because of such a huge harvest.

“In a few years time we will manage without subsidy for the biogas energy production. I don't think we will get much subsidy after 201. Those who can manage will stay in business while the others will go to the wall.

Dairy farmer **Ferdinand Michels**, aged 40, who farms with his wife Maria at **Heckhalefeld near Winterspelt in Northern Eifel** has also diversified into a lucrative sideline in alternative energy production. The 60 hectare farm, located 425 metres above sea level in a quiet village of around 50 people, has a large family to support and dairying has become an uncertain enterprise. The couple have four children: Carina, 16, who is training to be a hotel manager; Thomas (14), Natasha (9) and Marko (8), who are all still at school. Ferdinand's father Johann died a couple of years ago, but his mother, Cecilia, still lives on the farm.



The photovoltaic solar panels were installed on the cattle barn when it was rebuilt in 2005. There are 176 panels producing 35KW/h. Ferdinand receives get 54c per KW when the current cost electricity from the grid was 18c.

"It's an improvement on my pension but it won't make us rich and it's expensive to buy," said Ferdinand. "It cost us 190,000 euros for the panels and we had only 15,000 euros subsidy. The cable to deliver the electricity to the grid cost 15,000 euros. We had to take out a loan to finance it, so the income goes to pay the loan and it will be 14 years before we see any real benefit. But the price we get is fixed for 20 years. We did it at the right time. Photovoltaic panel electricity now gets less than that – and every year it's being reduced by 5%."

Ferdinand has 90 milking cows yielding an average of 8,000kg a year and rearing his own replacements using AI. The lower yielding cows are put to a Belgian Blue bull to produce calves to rear for meat. These go to Holland after two weeks. The local butcher also takes some calves.

The farm consists of 60 hectares of pasture and four hectares of woodland. Half is owned and half is rented, including some in other villages. A neighbouring farm grows maize to see Ferdinand for cattle feed. There are many wind turbines in the area, including one on his land, which provides a small income.

The milk goes to the MUH farmers' cooperative, which covers parts of Belgium, Luxembourg and Germany, which pays 34c/kg. The most he ever received was 80c and the least – in May 2005 – was 25c.

Ferdinand spoke of a milk strike in May over the price paid for milk in Belgium. Most Germans and some Belgians took part. The strike went on for two weeks and cost him 7,000 euros: "We could not work at all and emptied the milk into the slurry pit. We lost the money and took part in demonstrations and blockades. It was amazing. One day the dairy was completely blockaded. One thousand farmers took part. Whole families were there with beds and sleeping bags. It was agreed

that the price cannot go down any more. At the beginning of the strike everyone laughed and said let them go ahead, it won't mean anything. When less milk went to the dairies it meant that they had to buy milk in. We dried them out and they could not fulfil their contracts.

“About two-thirds of famers in our dairy took part in the strike. In some cases it was 100%. And the price suddenly went up. We got 43p in August, and that was the fourth increase since the strike. Now it has gone down again. It's been worked out that we actually need 40c.

“Consumers were very much on the side of the farmers. Politicians got involved. Then the shops said we will give them 10c more. I never had that, but at the end of May they kept the price they had before otherwise it would have gone down 3c. So the price stayed as it was - it would have been much lower. At the moment there are still milk strikes going on.

He said the German association of dairy farmers was in favour of quotas: “If the quota goes everyone will try to get more cows and there will be too much milk for people to drink,” he said.

“Opinions vary within the farming community. Some say they don't want quotas at all, others like me want to keep them. The regulatory element is good because you can respond to the demands of the market place. If it's a free-for-all things might get out of hand and it might be more difficult to find dairies to take your milk.”

Ferdinand is confident of the future, but knows it will bring changes. “My parents were the main farmers in the village. They had 200 pigs and up to 1987 we sold 600 pigs a year until the local abattoir closed down in 1987. We were already doing milk and when quotas arrived in 1984 we had 60,000 litres. We rented a farm in a neighbouring village which had 70,000 litres of quota and my father and I worked the two farms together until he father retired in 1995 and I took over on my own account.

“When my father took over the farm in 1962 it was ten hectares and three hectares of wood. He had eight cows, eight heifers, one sow and three pigs. In 1963 he built a large barn and extended the house and made a bigger cowshed to get in more cows. In 1980 he built a pig rearing unit, but took it down in 1990 and built machinery barn. In 1982 he built another barn and shed, and in 1991 extended the house to create quarters for my own family. In 2003 there was a fire and the middle part of the house burned down. We rebuilt the house to improve the way we worked on the farm and took the opportunity to reorganise the working areas and install the solar panels”