

Helmut describes the farming methods as practical and simple: biodynamic preparations are spread over the pastures at least every six months. The preparations include the cow horn manure BD 500 and silica BD 501 as well as summer and winter horn clay and cow pat pit manure. Earlier the soil was limed as required, but this has not been necessary for the past 10 years. Originally most soils had a natural pH of 4.2 to 5.2 but this has risen to pH 6 with liming on the 60 hectares of non-irrigated land and to pH7 on the irrigated land. The pH rise on the 20 hectares of irrigated land has been influenced by the irrigation water that naturally contains calcium and other minerals such as magnesium and a trace of iron.

Irrigated pastures contain lucerne, red and white clovers, ryegrass, cocksfoot and naturally occurring herbs often regarded as *weeds* (such as dandelion, ribwort and sorrel). Hay is produced on the farm and fed out in drought conditions and also during cold and wet weather in winter. Biodynamic barley is purchased and fed out in the dairy.

Fresian heifers are first mated to Hereford bulls and the first cross calves are sold. The second matings are to Fresian bulls and the heifer calves are kept as replacements. Bulls run with the cows and calving occurs naturally all through the year.

Calves are kept on the cows for three days so that they get as much colostrum as possible; this gives the calves a good start to healthy growth. After three days they get fresh cows milk. Up to 10 weeks of age the calves are fed a little grain and hay before they are turned onto pasture, where they are kept in age groups. Helmut explains that although these calves may not grow as quickly as others in more conventional dairies, they build up strong bones and become very healthy animals. There are no problems with bones and hooves and the herd does not have mastitis. Furthermore there is no need for treatment for lice or fleas and preventative drenching is also unnecessary.

Homeopathic treatments allowed for organic farmers can be used on the cattle but are very rarely necessary.

Winter run-off from the buildings and bore water are filtered and used in the factory; no town water is used. Dairy effluent and factory-used water are mixed with biodynamic preparations, run through a system of *flowforms*, passed into a tank with an aerating agitator and finally sprayed over the pastures. All the factory waste water and the dairy effluent are recycled in this system. Not one drop of water at Paris Creek is wasted

All dams on the property are fenced off; bore water is supplied through troughs for the cattle.

CASE STUDY: PIGS

Miriam and Jack Neilson, *Pasture Perfect Organics*, at Ashford in central north New South Wales run free range Berkshire organic pigs on 220 ha.

The area has an average annual rainfall of 700mm and 69 ha can be irrigated from the river which forms one boundary of the property.

They run 107 sows with five boars, but are planning to double these numbers.

The Neilsons have one full-time employee but intend to employ an additional worker.

The pigs graze on native pasture with arrowleaf and white clover, medics and woolly podded vetch. Miriam and Jack direct drill barley and lucerne into the pasture: barley for winter feed and lucerne to last through summer. Pigs are moved from paddock to paddock on foot; no dogs are allowed. The pigs will follow the feeder wagon (if they have been on self-feeders) otherwise they are herded on foot. Miriam says it is best to move them early before

the day is too hot, or in the later afternoon and the success of the herding depends on the attitude of the herder. The pigs are turned out at 70kg.

At first the soil had a tough capped surface but was wet below that and so they deep ripped and improved the structure. The first fertiliser applications were organic guano based phosphorus and lime but in more recent years this has changed. Now the main application required is compost on the irrigated land: three tonnes of compost and minerals per acre.

FEED AND WATER

Irrigated land. The pigs are not usually turned onto the irrigated land until it dries out because they can compact the soil if it is wet. The irrigation is used to grow feed such as sorghum, mung beans and lucerne. Cockatoos and galahs are a problem in the sorghum and the scare guns have only moderate success.

The Neilsons produced organic vegetables for a while but gave up because of the extra workload and the need to freight the produce to markets.

Figure 50: Pigs at a self-feeder



Figure 51: In dry seasons, pasture is supplemented with grain.



Feed. Feed on the pastures is supplemented with self-feeders placed in the paddocks. The ration is mainly barley and can contain up to four per cent meat meal: the ration is higher in meat meal for *finishing off*, promoting less fat and more growth.

Silage is made from Triticale wheat or forage sorghum. The silage is added to the self-feeders for sows and piglets but it is spread onto a clean part of the ground for the finishers; the silage mixer has a conveyer belt designed for feeding out on the ground.

In times of drought (not much pasture) the pigs eat more grain. When they eat grain from the self-feeders they gain weight so quickly that they are turned out at seven months instead of the usual nine months of age; this is to keep the fat cover when dressed to a 10mm maximum.

Weeds: Pigs have been useful in keeping paddocks free from weeds; they dig up roots of bindii and they ripped up roots of the cotton bush and eradicated it.

Figure 52: A mobile water tanker

Water. Mobile water tankers in the paddocks are filled each day. Miriam is considering using a more permanent water supply with a pipe outside the paddock and a nylax tube or hose running into the paddock to connect to a bay or row of 20 nipples; pigs will dig and rip out a water pipe running underground.



Figure 53: Pig at the nipple of the water tanker



Figure 54: Pigs enjoy a wallow in hot weather



Pigs normally make their own wallow by making a depression area and rolling over in it. However in a very dry period it is necessary to dedicate an area of the paddock to wallows and water it. A wallow can hold a few hundred litres of water.

REPRODUCTION

Farrowing. Sows farrow twice each year and all pigs spend their lives outdoors and in the paddock, and this includes farrowing times. Stys are not used because Miriam found that even when they were thoroughly cleaned they could be a risk for disease. Mobile arched huts are provided and the sow is introduced to the hut when she is about to farrow; the sow stays in it until the piglets are weaned. The huts are moved so that the sow can stay in the area but Miriam manages them so that not more than 10 or 15 farrowing sows are in the one area.

Figure 55: Miriam at a farrowing hut. The blue container was recently used for the sow in the hut when Miriam assisted the farrowing



Miriam attends almost every farrow (day and night); she comforts the sow and attends to the piglets when necessary. The farrowing sows remain very quiet and Miriam can clip their hooves if they have not been on granite country and the hooves are overgrown.

The average litter size is 10, which is good for this breed. Miriam expects to produce seven finished pigs from each litter.

Figure 56: Examining a day-old piglet for teat formation

Some sows are much better mothers than others; Miriam selects for the better mothers. She also selects breeders with 16 teats, at least three pairs in front of the naval. Other traits used for selection include the length of the sow, depth of chest, conformation of the feet and even bottom line.



Boars run with the sows all the time, even farrowing time. Miriam notices that this practice keeps all the pigs content. The boars can keep working for more than five years and they are not detusked, but they are never a problem.

WEATHER

The good health of the pigs could be due to their being outdoors all the time and not continually crowded in a shed. It is very rare to have a sick pig on this property, but a long, wet cold period can cause problems. Likewise, very hot weather is not comfortable for sows and they tend to produce less milk and live in the mud wallow.

Figure 57: Mobile shelter for protection from extreme heat or cold



PESTS AND DISEASE

Foxes are a problem and are the main reason for using the farrowing huts. Foxes will predate on the piglets as they are born but the enclosed area of the hut deters the foxes from entering; sows can move in and out of the hut but the fox won't go in. However, if a piglet wanders out of the hut it becomes easy prey for the fox. A Maremma dog was trialled but it was not accepted by the sow, we presume that it was too much like a fox. A licensed shooter can kill foxes and the organic producer can obtain permission from a Certifier to use bait for foxes on farm boundaries: bait to be placed on the neighbours' side of the fence and neighbours are usually cooperative about the arrangement.

Feral pigs. Sows in a group tend to act to protect each other from feral pigs. However, since the Neilsons have been on the property the sightings of feral pigs have dropped to about one in three months.

Disease. Whilst vaccines are permitted for control of some diseases in organic systems, Miriam believes that vaccines may lower the immune systems of the piglets so that they are subject to other problems. Miriam does not use any vaccines.

MARKETS

Miriam and Jack decided to produce organic pork so that they could:

- have an enterprise with free range livestock
- market their own product.

The pigs are slaughtered at an organically certified abattoir. The pork is marketed directly to butchers and processors in Sydney and Brisbane; sales may soon extend into Melbourne.