

There is no problem with birds in the crops, possibly because of the small paddocks.

Water. The average annual rainfall is approximately 700mm and there are two dams that can be used for irrigation. The main use of the water is to establish crops because the pastures are rarely irrigated in order to encourage deep rooting plants. Moreover, a pivot irrigator would be impractical for the small tree-lined paddocks.

Markets. The two drivers deliver the products fresh from the farm to owner-operated supermarkets, health food stores, delicatessens and restaurants in Tasmania and Melbourne.

The Gretschmanns say organic methods are helping to heal our earth by returning vitality. And keeping air and water safe from pollution caused by toxic pesticides and food is a great way to protect the environment.

CASE STUDY: TASMANIAN SEAWEED AND ANGUS CATTLE

Stafford Heres at Marrawah in north western Tasmania harvests kelp and also runs organic beef. The region has a 762 mm average annual rainfall. Stafford is a member of the Minister's Advisory Council for organic production in Tasmania. Stafford's wife Margot, his father Kevin and his uncle Ian are all involved in the business together with a friend from schooldays who is frequently employed as a contractor. The farm products (including the beef) are certified by the National Association of Sustainable Agriculture Australia (NASAA).

Figure 40: Seaweed product ready for market

Figure 41: Kevin and Stafford in the bull paddock



Stafford grew up on the dairy farm on the property run by his father. Kevin observed that the dairy cattle selected the *stipa* (stems) of kelp that had washed up on the beach and he began to harvest it, chop it up and feed it out in the paddocks. When the family changed over to beef production they observed that the cattle continued to select the kelp and that they did well on it. This observation and the potential benefit from commercial production lead to *Marrawah Gold*, the seaweed extract. The dairy bails have become the production room and the packing site.

Figure 42: Processed kelp in a trough in the paddock



Uses of seaweed. The family has several uses for the kelp. A drench from the kelp is given to calves at marking, and at weaning it is given to both cows and calves. Kelp is fed out to the heifers in troughs during the winter months. Stafford says the kelp seems to boost the immune system of the cattle and keep them healthy and content; he very rarely calls a vet. During a recent mating time there was unusually low rainfall and sparse feed but 191 cows delivered 142 calves in three weeks; in spite of the stressful climatic conditions, the cows proved to be healthy.

Figure 43: Cows on pasture and hay bales in the background



From conventional dairy to organic beef. Kevin's dairy was a conventional operation but even in those days he used as many natural products as possible. For example he used conventional fertiliser in a half-and-half mix with dolomite and lime; he tried lime alone but it went hard and so he would mix it with dolomite and then leave it under cover for six to eight weeks to neutralise the acid before spreading it out. He found the extra work was worthwhile because of the good results in the pasture. Kevin has always been interested in animal nutrition. The decision to go out of dairy and into beef was made when Kevin realised that he would need a bigger dairy to be commercially viable and at that stage Stafford was ready to manage the farm and change the enterprise to Angus organic beef. Two hundred

breeders, heifers and sires run on 202 hectares; calves are sold in autumn so that they are not carried through the winter. Kevin uses rotational grazing, three days per paddock and he is continually in contact with cattle, including the bulls and so they are all quiet and easy to handle. Stafford says he developed his handling skills as a result of showing Friesians when he was a boy. The system is described as *closed* although sires are bought-in at times.

Figure 44: A young bull bred on the property



Figure 45: The two year old heifers kept as replacements



Pastures. The pasture is predominantly ryegrass and clover. It is top dressed with gypsum, dolomite and lime, kelp, fish oil extract and humate (a soil conditioner made from brown coal). The fish oil extract supplies nitrogen and the kelp extract and the humate supply minerals. Stafford no longer makes silage; he prefers to make good quality hay which he stores and feeds out as required.

Markets. The beef were sold on the conventional market but the local abattoir at Smithton has found an organic beef market in Sydney and they are now sold on both markets and some are sold to feedlots at 14 and 15 months. Abattoir workers have told Stafford that they can pick his cattle by the offal: liver and kidneys are in good condition unlike the offal from beasts that have been fed on pastures with high nitrogen inputs. More comment on nitrogen inputs was offered by an experienced oyster grower in the area who was driven out of production because bad farming practices caused a drop in the oyster production: disturbed wetlands (acid sulphate soils) caused sulphuric acid to drain into the waters and high applications of nitrogen leached into the ocean.

Stafford says there is growing interest in organic farming in his area *a lot of farmers now realise that if they want to hand on the farm to their kids then they need to change their practices and become sustainable, that is, organic.*

CASE STUDY: MUNGALLI CREEK—DAIRY, FACTORY AND TEAHOUSE

Nestled in the green rolling hills of the Atherton Tablelands, surrounded by World Heritage rainforest Mungalli's healthy cows graze on lush mountain pastures. As an A Grade Demeter certified bio-dynamic farm all of their products are produced without the use of artificial chemicals, colourings, flavourings or additives.

Figure 46: Mungalli Creek Dairy products



Michelle Bell-Turner's past work as an educator in biodynamic and organic production has been useful to her in her current role in market development at Mungalli Creek Dairy. Her partner Rob Watson and his brother Danny are at the core of this family business handcrafting