

Organic farming in the Falkland Islands. What lessons have been learned?

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Introduction

There are nearly half a million Merino type sheep farmed on about one million hectares of largely native pastures in the Falkland Islands. Farming in the Falkland Islands is largely organic for pragmatic reasons. The grazing is extensive due to poor soil fertility and arid conditions and there is periodic severe weather. Importation of agricultural inputs is expensive due to their bulk and the distance they need to travel from the UK or Australasia, and they can be difficult to purchase from nearby South America.

Apparel wool production, from Australian type sheep, and mutton, lamb and beef are the major agricultural commodities produced. In an attempt to capitalise on its largely organic production system a number of farms have become organic accredited under the Australian Certified Organic Standards (ACO). Until very recently this has made the Falkland Islands the country with the largest proportion of certified organic land in the world as reported in the International Federation of Organic Agriculture Movement survey (IFOAM).

While premiums for wool of up to 15% have at times been received, there is often disappointment when selling certified organic wool. The single abattoir does not have sufficient throughput to have an export beef industry, or to divide its current export markets for sheep meats into organic and conventional markets; so has not undergone the process of organic accreditation. Perhaps the wool micron, which is in the low to mid-twenties, is not the type of wool most desired by organic driven consumers.

How does Organics deal with production issues?

The organic accreditation largely prohibits the use of synthetic chemical products, or allopathic treatments. Essentially products are prohibited unless expressly allowed; a white list approach rather than a black list approach. As a consequence the normal armoury of dips, drenches, some vaccines and fertilisers are not available. The use of artificial hormones is also prohibited.

The consequences of electing the organic system of management vary for differing farm businesses but follow similar patterns.

Choice of Standards

The Falkland Islands chose an Australian Standard because the extensive lambing systems used are similar to Australian systems and lambs are not handled for lamb marking or docking until several weeks of age, a system inadmissible in many other organic standards such as the Soil Association of Great Britain. The difference in standards throughout the world is a curious anomaly. Some systems allow more lenient use of anthelmintics or antibiotics, an apparent contradiction exists in that the Soil Association insists on castrations using local anaesthetic (presumably a chemical) for welfare reasons. It would appear the word organic is not a definitive expression of a production system unless it is linked to a certification body. Under IFOAM agreements however a wool processor for example can use any IFOAM accredited raw product to

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produce an organic jumper, yet actual standards may well differ between different organic agencies, even within countries

If different organisations can manage the antibiotic, and especially anthelmintic usage, and still manage to keep organic status there is perhaps a role for the Australian Veterinary Association to work with the organic certification bodies in Australia to discuss these issues and perhaps develop some equivalent policies on medications between organisations.

Welfare

Most standards worldwide require that the welfare of animals is paramount, and if organic treatments and Integrated Pest Management (IPM) systems have not been able to control a disease such as parasitism, then an effective treatment must be used for the benefit of the animals. This is an important clause but perhaps a difficult one to enforce by a veterinarian without very clear guidelines as to determining when without evidence of deaths such treatment can be demanded.

Even under this situation there are many anomalies. For example the United States Department of Agriculture (USDA) Organic program allows for only fenbendazole, ivermectin and moxidectin to be used in the situation where a drench is necessary.

Despite this, animals treated in this way will lose their organic status permanently for meat production and must be placed in a quarantine area on the farm and away from all organic animals for three weeks or three times the length of the withholding period of the product whichever is greater. However providing one of these three products is administered these animals may then be used as breeders of organically certified animals. In the Australian Standards the choice of allopathic treatments is less prescriptive, however wool grown from sheep treated this way must be withheld for 18 months including a shearing, ensuring in effect all wool harvested then is actually grown without the chemical in the system.

Ectoparasites

The Falkland Islands has been free of lice and keds for several decades due to extensive and compulsory dipping strategies throughout the sixties and seventies. As a result there is now no need for chemical lice treatments. Blowflies are not unknown, but are quite rare, so there is no mulesing, and no chemical fly prevention to conflict organic or ethical standards. Whilst itchmite exists, the lack of access to chemical treatments on organic farms has not been reported as being an issue.

The significant lack of ectoparasites puts the Falkland Islands in a very strong position as a wool producer. Blowfly control in Australia, and lice control when needed, is limited to only one registered treatment product for organic farms and is a far greater issue to manage, relying heavily on shearing and crutching as the means of controlling flies and with mulesing being totally banned by the organics standards.

Internal Parasites

Worm control is often not practised routinely in the Falkland Islands, however a number of Falkland Island studies reviewed by the author in 2009 have shown the presence and detrimental effects of roundworms, and consequently sheep production responses to treatment. A resultant extension campaign by the Department of Agriculture, which also offers free Worm Egg Counts (WEC), has recently increased the awareness and treatment of worms on conventional farms.

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Organic farms however are not permitted to drench with synthetic anthelmintics, and whilst some organic alternatives such as cider vinegar have been tried, it is most probably the extensive grazing system (1 sheep to 2 hectares) that prevents overt parasitism on organic farms, and it is likely they are incurring a production loss as a result. It is also possible that under many decades of natural selection without drenches, the natural immunity of the local sheep is well developed, and there is evidence of this from comparisons with lambs born from imported embryos run in the same flocks. The National Stud Flock specifically selects for resistance to worms and buys semen from Australian flocks that are also trying to improve their flock's resistance to worms. In addition to this farmers are encouraged to wean early to prevent high worm contamination of lambs before they are put onto crops or "clean" pastures.

Claims that the rotational grazing systems practised on some farms are spelling ground for worm control are unlikely to be effective when climatic conditions and rotation intervals are considered, but this remains untested. Temperatures are always low compared to the high temperatures in Australia that lead to the reduction of L3 on pastures. Grazing management may however alter the grazing pattern and deposition of worms as set stocked paddocks are highly heterogeneous and subject to intense selective grazing.

Alternate grazing with cattle on a six month rotation was trialled in the Falkland Islands as a means for lowering contamination on pastures and proved to be a highly effective means of decontaminating heavily infected pastures.

Nutrition

The ability of native pastures to provide adequate protein and energy for the stock that require additional nutrition (finishing stock for the abattoir, young stock who need to grow to gain resilience to survive the winter, and pregnant and lactating stock) is limited. Greens provided by penguin colonies (with guano) and access to seaweed undoubtedly help, but a program of government assisted reseeds, sowing fodder crops or improved pastures, is targeted towards addressing this shortfall. Organic fertilizer options are limited for the organic farmers and production, and even establishment, on these largely unfertilized reseeds on the organic farms is very limited by very low P and N levels in particular. This consequently exacerbates the problem most Falkland Island farms have in trying to provide adequate nutrition.

Genetics and Reproduction

Genetic improvement using imported frozen semen or embryos is difficult due to the hormone ban. Using fresh semen and cervical AI in sheep with natural heat detection is about as involved as is allowed. There are however a number of improved sires available for purchase or lease so organic producers are not far behind in their genetics options compared to conventional farms.

Vaccines and Trace Elements

The use of vaccines and trace elements is acceptable in the ACO organic systems with the caveats that the disease or deficiency should be considered a threat, and that the product has not used Genetic Modification in its manufacture. Vaccination and trace elements are rarely considered necessary in the Falkland Islands, and whether this is the correct approach island wide may well need assessing, but this has at least not added any challenges to organic farmers. Determining the status of vaccines in regards to Genetic Modification status may not be as easy as it seems either.

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Consequences of being in an organic system

It would appear that some farmers accept a production loss to remain in an organic system. The cost of chemicals and labour savings can contribute to reducing costs and thereby increasing profit, but it is premiums that contribute the most, and it should be noted that organic accreditation in itself is a significant cost. Premiums for certified organic wool can sometimes be demonstrated but not always, and not predictably, to help compensate for the reduced production. Often the wool buyers do not even bother to collect the certification paperwork, meaning the wool can no longer be considered organic. Whilst this is frustrating for the business driven farmers, some are simply comfortable with the ethical stand they are taking. Taking a “Triple Bottom Line” approach is an important concept for them.

Certain business driven compromises have been made on some farms where the bulk of the farm is designated as certified organic areas and are used to grow wool and breed lambs. A farm might then select the appropriate quality lambs which are then drenched out of this and onto a quarantined “non-organic” area of fertilized crop where they are then finished for the abattoir, which is not accredited for organic meat anyway. Alternatively it is possible for wool to be considered organic so long as the animal has not been drenched in the last 15 months. This allows young animals to be drenched when it is most needed and then to return to the flock after their first shearing and become organic again by the second shearing. Good recording and animal identification is mandatory, but that is a good thing, and things like EID tags are making this even easier. It should be noted that such animals are not available for processing into organic mutton, but as it is not possible in the Falklands that is not an issue.

Recently a number of people have pulled out of the scheme. The lack of a reliable premium for organic wool; which may be the marketing, the micron of the wool, or the fact that wool is not an edible commodity and therefore not as critical that it be organic in the eyes of organic consumers, is cited as one factor. The loss of flexibility due to organics is also cited. In some cases this is production driven but in others it includes an ethical conflict such as effective rat eradication on islands, or weed control on extensive areas, which are good environmental outcomes, but not easily possible in an organic system. The original reasons for entry into the scheme were for many more pragmatic in origin than altruistic, so the loss of flexibility is less well tolerated than it might otherwise be. Plus the size of the properties being on the whole very large makes it impossible for them to use more labour intensive forms of weed control.

Lessons learned

Most producers would recognise that there are production losses involved with choosing to become organic accredited. The not inconsiderable costs saved on chemicals and labour administering them, and premiums received on products can make this an economically rational decision. Whereas planning for crisis avoidance is essential to running an organic farm some have mentioned it is not routinely practiced by conventional farmers who resort too readily to the use of a chemical to resolve problems they may have avoided with more careful planning. Possibly some lessons may be learnt from organic farmers about better planning of IPM.

For some the lack of a premium, or the onerous and apparently punitive constraints imposed, have forced them out of the system, however others find comfort in the fact that independent auditors have looked at their organic systems and agreed they are sound.

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Organic market premiums are often quoted, but to actually receive them on a consistent basis, or even receive a premium for non mulesed wools, is not always easy to achieve, or to measure. It is always important to research the markets and to have appropriate market access if the decision to become organic is to have a sound economic basis. This is perhaps more likely to be an issue in the broader wools rather than in organic food production, as it is neither consumed nor worn next to the skin. It is most probably more of an ethical consideration than a possible perceived threat to health.

Perhaps the biggest lesson learned is that people cutting out a treatment option without planning an alternative way of dealing with the issue through integrated pest management often face issues as a result. Surely if they didn't it would be fair to question such treatments on conventional farms. Successful organic farmers must understand the systems in which they operate and have organic management plans, which the standards demand anyway, for the healthy management of animals without the use of chemicals. Welfare standards must be maintained for farmers to retain their organic status so animals are not allowed to be untreated if this is deemed necessary.

There is also a difficulty in determining when the welfare clause is to be enacted, what level of sub-clinical or clinical loss does the decision not to give allopathic medication go from being an option to a requirement, and who is empowered to make this decision.

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