



Centre of
Expertise on
Animal Disease
Outbreaks

Report

Animal disease control measures can build agency and empower the island crofters

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Key Messages

Island-wide animal disease control is being actively discussed on Lewis and Harris, leading to challenges and solutions being identified. Plans to promote and actively move towards positive animal disease control is ongoing. The crofting townships have come together to mobilise the island to dip thousands of sheep against sheep scab. This positive collaboration has led to further action to consider other animal disease control initiatives, such as sourcing faecal egg counting machines to undertake tests on the island. The benefits of being on an island could help with animal disease control if this could be capitalised upon. The physical barrier of the water/sea could become a positive for the crofters and discussions with other livestock keepers and stakeholders on Shetland and Orkney have helped further their development of solutions. Although it is recognised that other islands have unique contexts, initial discussions have been welcomed. Whether the ferry companies can assist, has yet to be made clear. The crofters who joined our discussions believe control could be moved into their hands, and acquiring their own on-island dipping facility may be part of the solution.

Executive Summary

- Although the concept 'to keep the flocks safe' is generally well understood, accepted and adopted, a disconnect was identified with the term 'biosecurity'
- The idea that disease control should be at a community level is accepted; in some areas, how it could be achieved is being actively discussed
- The return of overwintering sheep from mainland areas needs careful management to facilitate their safe integration back into home flocks by controlling potential disease risks
- The introduction of tups is often difficult to implement whilst maintaining good disease control. Bespoke or 'best-fit' measures might be achievable
- Strict quarantine control for the whole island could allow the marketing of livestock as 'disease-free stock', which may generate a premium payment as seen in Shetland
- The primary use of fences, as reported by crofters, is stock management rather than disease control. Any advantages for disease control are seen as 'bonus'
- The island market is unfairly impacted by global influences
- Paperwork involved in official subletting has been identified as a barrier to carrying out practical croft maintenance, including disease control
- A social stigma around bringing disease to the island prevents open discussion around sheep scab control
- Roundworm control was mired in confusion; more training and a clearer demonstration of the benefits were identified as areas helpful to be covered in future
- Newcomers to crofting on the island appreciate peer-to-peer knowledge exchanges and mentoring by experienced crofters
- The mindset about animal disease control has changed and agency has grown, empowerment is a legacy to be built upon
- Collaborative working has begun to be seen; it would be welcomed if it became 'the norm' again
- Crofting's future is mixed, but people describe it as a 'good' way of life and an important heritage to be passed to new generations

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What does biosecurity mean to you?

'Biosecurity,' and what it means was explored at the workshops (Kyle et al 2022, Hardy et al 2024) and further explored in the interviews. Most crofters interviewed had taken part in the workshops, which gave them the chance to further reflect. There still appears to be confusion on what 'biosecurity' means and a disconnect between the term and the understanding of the measures that could be, or were already, implemented.

"I don't know I haven't really thought about it, as in biosecurity, it was just when the word started coming up."

"Just trying to protect your sheep from invasion of disease I guess, trying to keep them as healthy as possible and keep them away from I guess outside influences."

"Cleaning trailers, disinfecting"

The crofter here would prefer a closed flock, but use of the common grazing is fine. "...*my flock is pretty closed really. I don't...well they go on the common*". There is an inherent trust in common grazing users in their township and the biosecurity measures they have in place. However, this could be a problem if other crofters don't adhere to the same level of disease control. Another crofter interviewed belongs to a township where the community actively manages the situation together. The common grazing committee for this specific Township operates the grazings as one closed flock and all sheep are dosed and dipped together. It is understood that community action reduces the risk of disease spread. The crofters accept flocks mixing, but by working collaboratively disease can be controlled.

"We've got a closed flock between us all and they're all decent crofters, so they're all treated and drenched and looked after, so it's a closed flock between us."

"Well it means that you are controlling inputs and outputs and you're taking care to ensure the stock that you have is as healthy as you possibly can and you're applying scrutiny and preventative measures to any stock that you buy in"

The weakness here is that in this township sheep from different townships with different biosecurity measures have access to the same grazing areas due to lack of fences, introducing an element of the unknown, as the mixing flocks might have been treated but this is not certain. This makes sheep from other grazings a concern for some crofters. Returning animals (those that have been away on a different holding or on the mainland) in particular also a risk that requires management.

"how you protect your flock from risks and threats to animal health and yeah I think the main thing that sticks out for me when we talk about this is how...just how difficult it is in our contextThere's a lot of individual sheep keepers keeping small numbers of sheep and they're mixing all the time and we have very little control over what sheep people bring in and what they do to those sheep when they come in, where they've come from."

One crofter noted their area of concern was the growing trend to introduce non-native and rare breed or pedigree animals. These tend to be traded and moved more frequently, increasing potential exposure to disease risk.

"those breeds tend to be connected with a lot of movements around the country, across the whole of the UK and that does worry me a wee bit that we're sort of exposing ourselves to areas that we maybe haven't been that exposed to in the past."

In some cases, crofts have been inherited from family members, but the new owners do not live in the area. These owners don't join common grazing meetings, or township activities such as dipping and dosing. Some crofters use these distanced crofts as an isolation area, where new livestock or livestock returning from overwintering can be held. This raises concerns around the introduction of disease. The idea of trust within the community and taking an island approach to disease management might address some of these concerns.

There are several crofters that have access to uninhabited islands, where sheep mixing is not a problem and the main biosecurity measure is isolation via physical barriers (i.e., the sea). Sheep on these islands are managed as a single flock, although with separate owners.

"Well biosecurity, well to me it means healthy land and livestock. Healthy livestock and good quality land being maintained. Well in terms of healthy animals as far as we're concerned, we're doing the required amounts of chemicals into their systems, to prevent fluke and other diseases."

The term 'biosecurity' might need to be further explained, particularly in the context of animal disease control. The idea that this control needs to be at least at a community level, if not an island level, could be adopted.

Disease

Sheep scab on the island

Some of the townships were reluctant to accept that there is sheep scab on the island. The latest project has seen testing of blood samples to identify areas where sheep scab is an issue. These interviews were performed before samples were taken. There was initially a belief that sheep scab was 'not on the island', amongst some crofters. The vet communicated the scale of the problem, but islanders were reluctant to believe their vet. No livestock keepers have acknowledged the presence of sheep scab, people have not heard from 'the authorities' of an official notification that any areas have a problem and therefore the general feeling was that no problem existed. Islanders hadn't 'noticed' signs of sheep scab which may be because the cases were sub-clinical or because of a lack of skills in disease detection. Some crofters would welcome training, but it would need to be accessible – not mainland based.

One barrier to acknowledging the problem is social stigma around being the 'one to bring disease to the island', with the community potentially reacting poorly.

"I think there might be a certain amount of embarrassment, or you know fear of being chastised by the community if you had it, it's like having nits or something you know. You don't want to admit that it's you."

"I think there's a stigma around it that's possibly...some people would be keen to cover it up and not be open about it and that's what will lead to more problems and that's what I hope out of this project that it will just create a lot more discussion and openness about it."

Sheep scab outbreaks still evoke a sense of fear, an idea of 'not in our back yard'.

"It has been in neighbouring areas, some other parts of the island you just get a wee bit on edge when that sort of happens, and you certainly don't want it to come anywhere near us."

"First impression it's just a disgusting disease isn't it in that respect. Yeah and it just makes you mindful of it, to be aware of it yeah, be more aware of it."

Dipping can be problematic. If the township dipper is in disrepair and there is resistance to spending money to get it repaired the only option is to use a neighbouring dipper. Timing for this can be an issue, especially in years where getting a dry period of weather to dip is problematic. Although sheep keepers are aware of the problems of dipping on wet days, sometimes the effort of gathering and the availability of labour, force treatments to be made in adverse conditions. For some, injectables can be an alternative option.

"I prefer to Dectomax® them and use the Fly Off because I knew I'd done the good treatment, whereas some of these guys were dipping them and it was wet days.....if you're dipping in the rain you're wasting your time I think anyway."

The crofters who attended the workshops felt the discussion and information offered was useful and was well received. Additional information and a second chance to discuss disease issues would be welcomed.

"Even though we've been on the workshop with yourselves on scab and would I go on another one, yeah definitely. It's easy going, information is good, so yeah definitely 100%"

Help with sheep scab was welcomed and the blood tests were identified as useful. People care about the health of the island's sheep. Economics are however a barrier. Some people's sheep keeping is marginal and the extra cost of blood testing would make sheep keeping unfeasible.

"I think the ones that have done it are interested in their sheep, so they care about like the health of all...like the island flock."

Crofters are concerned about sheep scab because of the difficulty of gathering all the sheep from the common grazings. In many cases sheep are left behind and these may be able to re-infect treated flocks.

"we never get 100% clear gather, there will always be some that are left behind and then they would start reinfecting is what I would see as happening."

Following repeat dipping interventions the number of sheep dipped has increased. Islanders are aware of people that, although reluctant to dip in the first year, have dipped in subsequent years. Although the initiative is still in its infancy, momentum is growing. The outlook for the continuation of the dipping is good.

"...the general consensus seems to be that dipping was a success."

"We're getting good positive feedback as regards people are seeing a difference in their sheep and dipping traditionally...dipping...plunge dipping was always good, it was good for the animals, it gave them a bit of a bloom."

Newcomers to sheep keeping have welcomed the collaborative action to control sheep scab.

"Well, everyone got dipped last year, but November time, which was fabulous that the mobile was used, so I understand that's coming back this year from Skye. So that's definitely something we'll be partaking in"

Crofters hope for a future where disease control is under their control. For example, a mobile dipper on the island would give them a degree of freedom, in terms of being able to be flexible when they dip and being able to respond promptly to incoming animals and potential outbreaks. Not all sheep arrive at the same time, although trends in movements can be identified. An island dipper would allow crofters to make decisions and give them ownership of disease control rather than having to wait for a mainland dipper. Reliance on mainland services

makes islanders vulnerable to weather events, issues beyond their control, and price fluctuations in dipping services.

"going back to the dipping, one of the things we're looking at for 2025 is getting a mobile dipper for the island. It's the way forward....long term it's getting our own dipper on the island and see how we go with that."

Roundworm control

Knowledge on dosing to control roundworm was mixed. Crofters rely on peer-to-peer knowledge exchange, e.g., if someone has a flock health plan, they share this advice.

"The guy in my office said you can't just pick one and use it all the time, you need to keep switching brands or else they become immune to it."

There appears to be confusion about roundworm and fluke and help in identifying issues was acknowledged as required. Some people might want to perform faecal egg counts (FEC), but training is an important first step.

"Yeah, I would learn...I'd like to learn more about that yes, you know, I could have time to learn more about that yeah, sure."

One crofter mentioned using SCOPS and followed this guidance. Although others didn't see the benefits of the time and effort involved in FEC and would like to see evidence that changing their practice would result in cost savings or improved productivity. Discussions on the pros and cons of better roundworm monitoring and anthelmintic efficacy testing were had at the workshops. Some crofters dose every few weeks in the summer as a routine treatment to prevent any worm problems.

Worm control for some is more of an issue than scab, they are vigilant for scab but have little knowledge on worm control.

"I'm only going by symptoms if they're scouring I'm assuming they've got something."

Funding for two FECPAK machines, which allows on-farm FEC testing, and appropriate training was made available, and some crofters have learnt to use it. The testing is based on a subscription basis and since the end of the project the fees have been taken on by one of the crofters and they are offering to test samples for others.

"So I kind of put the word out. Did anyone have any concerns? Were they gonna be drenching soon? Do they want to know if there's a burden or not? Yeah, I just explained that. And I've got this machine and we get these results and people are quite happy. "

Diagnosing disease

The islanders use a peer-to-peer network to help diagnose disease, e.g., family members, knowledgeable neighbours, and work colleagues (out-with crofting). Knowledge is also gained from the internet and watching videos. The internet can be useful, but it's not as useful as talking to local livestock keepers who have local knowledge, can give historical context and can help with the unique location that can influence disease and its outcomes.

"It's not necessarily having a Google what's best for. X type of you know is what works locally, I think because there's so there seems to be so much on the market it's quite confusing."

Currently the emphasis is on treating disease but some discussion has been around preventing resistance to treatments. A more progressive approach would be to test the animals on the island and those that come onto the island to establish what issues exist and then target only those needing treatment. This approach would be easier once sheep scab is under control. Crofters were advised about the Preparing for Sustainable Farming scheme, which provides financial support and expert advice for on-farm testing and were shown where to find further information.

"Yeah go for it and we'll have it for fluke...fluke, worm, foot rot, lime control, the lot. Livestock health and animal health type plan you know. "

Some crofters are already considering how this could be achieved.

"So treating isn't...treating is important but actually what we need to know is do we need to treat or what do we need to treat for. So right now there isn't any form of sampling to see what disease could be carried in these animals so that's a problem we need to address and try and move forward with blood sampling and things like that."

Lessons seen during the visit to Shetland by island representatives have been discussed and how to get that level of control is on the crofters 'wish list' for the future.

Disease control

Importance of fences

One commonly promoted measure in many biosecurity guidelines is fencing and often double fencing (up to 3m apart). Crofters explained that the strip nature of the crofts means double fences are not feasible. To double fence would require significant resources whilst losing a substantial area of land. Several crofters offered reflections on the main purpose of fencing, to control stock or disease. One livestock keeper described that they maintained fences for stock control.

"No I wouldn't really count the fence for biosecurity, its more just for stock proofing."

This reduced their workload for gathering sheep and capturing escapees, which without a good sheepdog was a problem. Good fences were also seen as a necessity to keep tupps contained and ensure they aren't serving hoggs and ewes out of season. Other sheep getting in didn't seem to worry them unduly. To them biosecurity was a bonus of good fence maintenance.

"I don't have the facility to go and gather 2 or 3 sheep from a big area particularly easily, so if my fences keep them in [good condition] then that's easier for me and it has health implications and biosecurity bonuses as well."

Even if the fences are well maintained the sheep from neighbouring crofts can rub up against fences and make contact with sheep on the next croft. Because of the opportunities for nose-to-nose contact, due to the lack of double fences, and sheep mix in township grazings, a crofter commented 'it's just a different way of doing it'.

In some areas where few people still keep sheep, unused crofts are sublet. This is an official procedure that requires ratification by the Crofting Commission, which can take over a year. This delays repair work on fences.

In the meantime, the crofts are grazed to maintain the land, and fences are 'bogged' to make them stock proof. In some townships, portions of the common grazing are fenced with padlocked gates to prevent mixing between grazings, '*nothing can get in or out*'. In other areas, there are no fences on the common grazing,

Fencing the common grazings has become an issue relatively recently. Prior to 2001, the Sheep Annual Premium Scheme made payments per head of sheep. The 2001 amendment was part of a broader shift in agricultural support, moving from payments per animal to area-based payments. This change was influenced by concerns that the scheme might not be environmentally sustainable. The change resulted in fewer sheep being kept and a reduction on grazing pressure, especially on common grazing. This resulted in less hefted sheep – a management practice where sheep graze specific areas with knowledge of the area passed down from ewe to lamb over generations. Hefted sheep have less need for fences; they graze the traditional areas, which makes gathering easier, as they don't tend to roam. As hefted sheep are removed, new ones can move onto that area, potentially from another township, making the flocks mix more (a problem for disease control). Equally, it makes gathering your sheep more complicated as you need to search further for your flock.

"Literally, once you get onto the hill the animals can walk to the other end of the island."

"They tend to be hefted; they were hefted but there's less and less animals on the hill now so they are starting to...because the heft has been taken off the hill another heft have started moving onto that area you know."

In the past the village land has been fenced as you get help with that (up until now),

"The collective land, so the grazing share, the village land is...most cases the village land isn't bad its quite well fenced. Normally because you get very good subsidy...well you have until recently, god knows what's going to happen"

Now grazing committees are beginning to collapse due to financial constraints of holding monies. Villages where the grazing committees have collapsed have no fences. There is also no discussion on collective management actions and the few that still actively croft can do whatever is best for themselves. On the other hand the larger townships have more robust discussions as well as also more people to maintain infrastructure and actively croft.

"43 shareholders and we have probably oh...a dozen more active crofters so that's a lot, that makes for quite...it makes for quite a colourful arrangement."

Sublets and seasonal lets have poor fences because of a lack of responsibility for unclaimed land. The question of who is responsible arises frequently. People with a let are reluctant to fence as its viewed as adding value to land they don't own.

Movements

Movements are often contained within a township; this process would lend itself to disease control at a community/township level.

"So we've got a lot of mixing and a lot of different movements around the village, but it's also quite contained within the village. There's not a huge amount of comings and goings from...between townships, and the moor itself is...even though it's open and there's no fences."

The idea that the flocks are mixing and should be considered 'as one', disease control measures need to be at a community level, ignoring this can lead to disease spread.

"potentially the village is my flock as well because they are mixing, so you know if you were turning a blind eye to what...obviously there's not that much you can do, but if you went who cares what anybody else does I'm going to do this, your sheep are kind of mixing; so if something came in its quite likely that you or others are going to be affected by it."

The decision to send sheep to the mainland is seen as a necessity for some trying to 'do the best for the animals', along with buying the best fodder and high health tupps. Although these are important for maintaining the health of the flock, it is a problem for disease control, unless isolation or quarantine and monitoring are used. One crofter interviewed mentioned that their sheep are overwintered on the mainland together with other Lewis sheep, which are then dipped along with the farmers' own sheep. Although it was also noted that this is not always the case, some of the sheep going to the wintering farms aren't dipped. They are treated with injectables before travelling, dosed and kept separate on their return to the island.

"...there probably wasn't an issue as much as there is now with scab on the island. I suppose now there are a lot of sheep mixing or a lot of sheep coming home and that's probably increased our risk."

Some crofters take advantage of the Ewe Hog Scheme, which gives a premium for over-wintering ewe hoggs. However, due to the lack of grazing on the island, ewe hoggs are over-wintered on mainland farms, most often on the Black Isle. To prevent bringing back disease to Lewis, because ewe hoggs are not hardened to the island climate, and for economic reasons, they are often transported directly to Dingwall mart and sold. Not all crofters do this, and some take over-wintered animals back to their crofts. The disease control of these returning animals is a challenge. Along with the movement of tupps, these are two big sources of disease coming to the island. Tup movements could be managed by the individuals transporting the animals back to the island. Prime tup sales on the mainland are the main source of the incoming tupps. A small number of crofters transport all the animals to Lewis. The crofters transporting animals could require incoming tupps to be treated as a condition for allowing them onto the island. This would need to be supported by a contractual agreement between the purchaser and transporter.

"So actually, we do have control because there's a lot of tupps coming and a lot of different producers involved, but actually the transport home it's a limited number of people who are taking it home. So we had this discussion in Shetland,"

Quarantine measures

Tupps are bought from traditional mart sales, both on the island and the mainland, or purchased privately, from island or mainland sellers, online and via Facebook. Some livestock are transported in joint trailers or shared haulage. In some areas these animals are introduced to holdings without any disease control measures whereas others are isolated when they arrive. Tupps are bought from further afield, e.g., Dingwall mart, to bring in different genetics to improve the breeding. This can increase the risk of bringing in disease if control measures are not in place.

"So, you're looking for new blood as much as possible and you have to balance that with the risk of bringing something in which you might not want obviously, no breeder does. That could include things like scab or also more congenital diseases or anything like that."

Crofters often choose to buy in tupps from trusted island sources. They are looking for good genetics, and tupps that are proven for breeding.

"The people we're buying from we would tend to trust, we do it on trust basically, we're not looking for evidence from them that they've actually dipped the tups."

It's often difficult to achieve good disease control measures and crofters recognise reaching a 'gold standard' might be impossible but understand that it would be beneficial to reduce disease risk. Bespoke or 'best-fit' measures might be achievable.

"Like I think trying to reach a kind of gold standard with this is going to be difficult and more probably impossible. But if people could just realise that they could be doing a wee bit more then we're just...this is all about risk and about reducing risk"

Some Townships run village tups and anyone can add their ewes to the field for tupping, this is useful for those that have small numbers and don't want to keep a tup. This is another area of flock management where mixing of the flocks occurs and whole township flock management would be best to help disease control.

Many do have a quarantine routine that functions effectively if everything goes to plan. If, however, a problem is encountered, e.g., a tup dies or experiences fertility issues, a new tup is sourced quickly from the mainland and there isn't time for quarantine. Not sourcing a tup would mean no offspring and a significant economic hit. The producer weighs up the potential risks and, in most cases, goes with the risky option of bringing in livestock without a quarantine period.

"Tups I think would be the main time that...the main spread of everything would be...one of the main spreads of everything is tups."

If there was a health scheme in place and tups could be sourced from the island, the risk would be decreased. If there were strict quarantine controls for the whole island, then animals could be marketed as coming from disease free stock, which could result in a premium payment.

Not all sheep keepers use quarantine procedures when bringing home tups and acknowledge it. They have struggled in the past to understand that this would lead to the spread of disease, as one crofter describing another's actions here,

"This guy blatantly sat there and said we don't do anything, we just let them go out of the trailer. We just let them go to the ewes. We've never had a problem. Of course he's had a problem, of course he's had a problem"

But crofters are seeing a growing acceptance of quarantining new tups among sceptics, and they are heartened by the change and willing to push forward to see what else can be achieved

"But we are winning, we are winning them over you know. We're getting there..."

The continual building of agency and support for crofters to take ownership of their situation is leading to a lasting legacy and increased empowerment.

Island context

Water as a boundary

Being on an island can have a negative impact on livestock production. Higher costs for resources (e.g., handling infrastructure), buying in services, and poor arable land means that fodder needs to be bought in. Both straw

and hay need to be sourced from the mainland and transported to the island, negatively affecting market prices (see later, Markets). One positive that islanders are beginning to identify is that isolation from other producers could work in their favour, as the remoteness lessens the exposure to animal diseases and reduces risk.

"The physical distance that such a negative impact on us in many ways can be a, you know, a big bonus for us."

Being on an island has advantages but many crofters don't benefit from these, possibly because of the many livestock introduced from unknown sources, without testing and treating, which creates a risk of introducing disease.

"We're in a good environment, it's loads of fresh air. You know, it has a lot of advantages going for it. Unfortunately it's an island, but it's not, it's not an island. For myself, or just one or two, it's an island with a lot on. You know, and they squander the natural, the natural abilities of the place to resist disease because they will go down South, they will go everywhere, bring animals on"

There is a gradual realisation that the sea is a natural boundary that could be used effectively, as seen on Shetland, for disease control.

"So what would be good is if we could have some kind of health scheme in the Western Isles, similar to what they do in Shetland, ... and things like that, you could get scab out of the Western Isles. And we already have these physical barriers, so we had some kind of system in place where you could do when they came into the islands then you know, that's it. Problem solved and you wouldn't have to do dipping within the islands"

There is an appreciation that islanders need to have control of the health status of animals moved onto the island, via testing and treatment on arrival. This would reduce the effort required to maintain disease control in the long term. They are also aware that disease control will need to be a continual process, even if scab can be eradicated, because newly acquired stock from the mainland may reintroduce it.

"But also I can see it drifting back, if it's not, if the focus is not held out to the front there, it'll just revert back. Yeah. But I mean to say. If it were me. I'd say you know you shut the borders down."

Markets

The Stornoway livestock market is a small market in Lewis which attracts a small number of buyers. This can affect the price the sellers can achieve, whereas a fairer price is expected at mainland marts,

"The problem being you go there (Stornoway) and it's very uncertain what you're going to get. In Dingwall you'll get a fair trade on the day... So my problem with the local mart is you're not guaranteed a fair price on the day. For us in Dingwall, I'm not saying you'll get a good price but you'll get the going price if you know what I mean?"

Island markets are often heavily influenced by external factors, such as changes in global commodity prices or shifts in demand from larger mainland markets. These fluctuations can have a disproportionate impact on island producers, who may not have the resources or flexibility to adapt quickly. If they are selling in the island market, the sellers need to accept the price on the day, regardless of external factors that might impact the price they receive.. It is often impractical to delay attending the sale, as they need to clear the animals off the land for winter due to a lack of grazing and additional fodder. If animals are sold at an off-island market there are few options to withdraw animals to wait for a better price, due to the distances involved and a lack of access to fields on the mainland to hold livestock until markets recover. Storms can also impact the price of livestock, the ability

of buyers to get to the island, and purchased animals' to be transported to mainland markets. The islanders recognise the need to change their practices and diversify,

"I said no, I have to. I have to, you know do things better and take advantage of everything that I've got already."

One option identified by a crofter is 'future proofing' by investing in a butchery. This is a long term investment as they will need to re-organise their infrastructure and undergo training to ensure they have the necessary hygiene certificates. Also, it means changing their production system, breeding a more productive meat animal, increasing capacity to provide produce, breed more consistent individuals, adhere to regulations around antibiotics and treatment use, etc. Livestock producers battle with rising costs for inputs and falling subsidies, but they recognise that if there is pressure put on food production and maintaining supply, as there was during COVID, they can continue to produce food and feed their communities. Recognition of this would be appreciated. What this 'recognition' might look like requires discussion, potentially in terms of help with additional costs, a different subsidy to recognise additional costs for the islanders.

"in an island context where we face so many more challenges in terms of costs and how difficult it is to, you know, access markets, access a range of services even you know things that people who will carry out, fencing and things. And you know there are there are lots of challenges in place that if there's not a recognition for the difference in costs. I buy hay when I go out with my hogs in the autumn, I buy hay on the Black Isle from some crofters. And we get the same subsidy set up. In fact, everything's the same, and he's telling me, oh, yeah, I just sold my lambs for £120 a head. And I just looked across to Dingwall which is like 10 minutes. And it's like it's just not an even playing field at all. And that is recognised in the support system. So that is... That's one big concern. It is thought to be financially viable. On the one hand. But on the other hand, and it's a threat for a lot but an opportunity in a crofting. Context is the opportunity to have food security and sustainability in a world where, what is happening with the food supplies we're like, well, we're OK"

Social impact

Mindset

"...changing the mindset is difficult"

Historical practices are a challenge as the behaviour has developed over long periods of time, often passed down through many generations, spreading through townships and neighbouring areas. However, there has been a change in mindset following the visit of some of Lewis and Harris crofters to Shetland. Before this, crofters doubted that a level of control would be possible. Slowly, there has been an acceptance that some degree of control is possible.

"I mean as regards the scab we were up in Shetland, brilliant people, brilliant system, we can't...we won't be able to replicate what they do. Firstly, we've got 3 ports of entry which isn't the end of the world.....we'll never use the containers that they use in Shetland, our animals will always come across in livestock trailers and things like that. That's never going to change because our longest journey is only 2 1/2 hours. So we haven't got so much control over it but we can start to try and make a difference but it's not going to happen overnight and if we start now...."

There is a feeling that together they can make a difference, the interventions have helped to educate people around the need for disease control. The success of the initiatives has resulted in a willingness to come together.

"Yeah it's getting better, there was people who just couldn't do it for reasons, whether it was their health or they just weren't here. I mean we dipped sheep of people...the owners were in Malta working. We gathered...we went to the hill and gathered their sheep and took them to the dipper and dipped them you know so there wasn't many people who couldn't dip. There were some genuine people who...there were genuine reasons."

The agency that has been built has led to empowerment, seen in the number of sheep dipped and that new people have joined the initiative after seeing the success of the first round of dipping. There is also a willingness to try new things as seen in the 'fight' to get FECPAK machines working (see below). The equipment has proved challenging to operate in areas with limited internet connectivity, but the crofters have set about making it a success.

"So hopefully, we'll get everybody onboard. It's all about educating and it's all about getting everybody onboard, bit by bit we're getting there. We are taking people onboard, the dipping, the mobile dipper works very well and we didn't do everybody, we didn't get 100% but we dipped up to 28,000 sheep you know so...in a couple of weeks so it was good."

Changing the mindset of the community is the long-term goal of some, in the hope that this will lead to changes in disease control and bring collaboration within and between townships. It's recognised that this is a distant hope,

"We're thinking maybe this year if scab is going to happen again how could we do it better. I mean it was perfect in some places, other places it needs to be tweaked. So the management hasn't changed hugely but if that's going on our head our thinking is changing slightly. But we haven't moved...we haven't...we haven't changed the management much but our thinking is starting to change."

Collaboration

"We're fighting independently which doesn't fix the problem, if everyone fights on their own terms then we're not coordinated."

"Some people wouldn't comply and do dipping, but they were never going to. Some are separatists and like to keep themselves aloof. The traditional families they have plenty of crofts and no need to collaborate and join in, never stepped into the village fank and no intention of ever doing so. Some are small operators and don't see the need."

"It's a little bit better since you came up because certainly all the sheep in the township got dipped, you know which is reassuring."

Everyone is looking out for each other's livestock, especially if the croft land is away from the house, or if livestock are on the common grazing. For example, during lambing time, everyone watches out and helps each other

"when it is lambing time, we're very conscious of that on the whole... Everybody's got their eyes open, you know, even for the postie who does his daily rounds, who's also a crofter. They'll say there's one and you know it's, you know, far away. It's just up there type thing. So we do have eyes on them."

Once livestock are on the grazing, treatments tend to centre around gatherings, when all the livestock are brought into the fanks (handling areas) together. Once animals are gathered, some crofters will remove their

animals to their in-bye land, whilst others will opt to collaborate. They will discuss what diseases are a priority and whether treatments are necessary, and then livestock are treated together. This way the labour and treatment costs are shared. This collaboration helps with disease management as all the animals are treated and everyone knows the treatment has been carried out, and dates and dosage can be recorded. This practice can be useful for all but is particularly helpful for new crofters. It is often seen as a form of mentoring the new crofters,

"...anything that's happening just now our sheep are all piggybacked with small gatherings. And that's two different ladies that have sheep there and ours are part of that as well. So everyone's gathered up there and treated. Was getting treated at the same time as other peoples'..... I'm just learning, so I just wait to hear what everybody else is doing or any particular problems that anyone else is having."

Townships come together to send livestock to market. The township will organise a gathering and arrange for the lambs to be consigned to market. Collectively, paperwork is completed to ensure all movements have been recorded. Newcomers are helped to understand what is required.

"And we had to fill out some paperwork for transport through the book we had. So I think somebody actually done that for me. But I did have a book. I've got a holding number and everything else."

Getting the FECPAK machines running has been a challenge but by working together crofters are making progress. They are working towards a common goal and want to achieve results.

"So we're moving forward, So we're now...we're making progress, we've now actually got them up and running and we're now kind of teaching ourselves to...how to do the samples."

One of the local crofters is offering to help people understand roundworm burdens with the use of the FECPAK machine.. Helping people to be better informed ensures they can make effective decisions about disease control for their animals

"I'm just putting it out there that it's an indication of what's going on your animals. Or your croft."

The impact of the workshops was mentioned as a positive legacy that can be built on going forward for both animal disease control and for bringing communities together to strengthen collaboration. Helping to build agency and empower the crofters to help themselves.

"The workshops you guys put on and I think that's really good, cause it put everyone together as well and tries to get everyone on the same page, even though some people that are, this is the way life and this is the way they've always done it, and they're the ones that's going to be difficult to you know to think about. Well, we got diversity here and there."

The positive feeling left by the interventions are a starting point and the crofters have now the opportunity to turn things around,

"Where we are now it's a case of we have to...the ball's in our...the ball is...it's up to us and we can't...we might never get it right but we have to attempt to start the process. "

Future of Crofting

.the positives

When asked how they perceive the future of crofting several interviewees identified an increase in interest from youngsters, with more teenagers interested in keeping sheep. Some examples include: A local shearing course had mainly teenagers attending; the mart had an increase in youngsters with sheep attending and more young handlers entering stock judging than seen for many years. The thinking of the crofters in general was that, although they are being told crofting is declining, they see an increase in younger people becoming involved.

"There's young crofters, it's an initiative. There were some posters in town recently, anyone 30 or under. So well younger than me. And it got a really good turn out."

A branch of a 'young crofters' group is being established,

"Young Crofters', we're get that up and running in the island. We've never had anything like that. So two of the sheep producers are trying to instigate that, we're trying to start a branch but we wouldn't run it, we would get the youngsters to run it how they want. So that's a new thing."

"you just have to go to South Harris and look around about you. What's happening down there? Certainly no Croft houses. So the future worries me a wee bit. "

The crofter refers to expensive houses being built with no crofting ability. The new owners are from the mainland, looking to live in a beautiful area, but without integrating into the townships and adding to the communities.

There are fewer sheep on the common grazing, but when there were premium payments per head, the common grazings were massively overstocked, and sheep were in poor condition. Since the payments have stopped, the numbers have decreased and less people keep sheep. It's maybe wrong to conclude that crofting is declining, but maybe a better balance has been found with more manageable numbers that the land can sustain.

One crofter described why he still crofts and encourages his children and grandchildren to continue to croft,

"I get a huge feeling of uplift, of wellbeing, of being at home with nature and...oh it's impossible to describe, you are at one with nature most of the time until something goes wrong. But most of the time you are, and its refreshing."

"I'm not talking about pounds, shilling and pence because heaven knows that's pretty poor. But you know in terms of their personal satisfaction, and it is a way of life which has got so many aspects of leading culture to it that its staggering that it's so misrepresented."

Crofting is a way of life working together as a community, the social aspect brings the crofters together and breaks the isolation,

"...we still work together and still do all these communal activities it's really important for a community and social aspect, crofting here is not an isolated thing.....connection with your neighbours, and we have to work together for it to work."

Crofters traditionally did this together; they recognised that the work was labour-intensive, but by coming together it could be completed. Whole families would be involved, and it was a time to socialise. Families would bring picnics, drink tea and coffee and chat together. With the organised dipping, people had the opportunity to

socialise. Whilst the mobile dipper was being used, townships gathered around the fanks to chat. This is described by one crofter,

"...you had something that probably hadn't happened in places for 20 years, we actually had 10-15 people, 20 people at a township fank stopping for lunch and actually having tea and sandwiches out of Thermos flasks and stuff which that's how it used to happen. All that stopped so we actually had that happening so that was...do away with the disease and all that but actually it brought something...it brought a bit of communal work back yeah so that was quite good."

Keeping sheep is often a cultural experience. One crofter talked about it as an opportunity to spend the day with fellow crofters communicating in Gaelic, whilst working together.

The number of active crofters has diminished in some townships, and this has been observed as the administration needs become greater and too burdensome for some of the crofters, especially the older members. The subsidies are not applied for and getting grants becomes difficult and the sheep aren't making profit so gradually they stop keeping sheep and are no longer actively using the common grazing. Those with succession plans are more likely to encourage youngsters to take over. We see a cycle of new younger sheep keepers.

"I've been the Township Clerk for quite a number of years now and I used to do a lot of the paperwork for some of the older crofters and the paperwork just became so burdensome for some of them that the first thing they would do was just not to bother with the subsidies and applying for grant aid and so on. And then eventually the flocks would just diminish and disappear."

...and the not so positive

There is an issue with how crofts are used. Some of the crofts are no longer being actively farmed, which means the croft remains unused and potentially neglected. The occupiers could arrange a sublet, which involves paperwork. This option can be attractive for locals who are not considering moving as it can ensure the Crofting Commission does not '*investigate their activities*'. People who are not local aren't so keen as they are often waiting to see if Crofting rights change.

"...anyone who's local is not interested in subletting because they don't know what's around the corner, they don't know what the next set of rule changes will be. So they just do seasonal lets so you (a crofter taking on a let) have absolutely no stability whatsoever."

Crofters could also organise a seasonal let, which is less onerous, but the person taking on the let is likely reluctant to make changes as they don't know if they will retain access into the next season. This is often used as a short term solution, for an emergency. Crofters needing additional land are wary of seasonal letting unless the arrangement is with someone they 'trust' not to take advantage of them. An inactive croft can require maintenance, e.g., fencing, draining, or general land management. The person taking on a let, however, can't get grants or financial aid if the let is not an official sublet, as it requires official recognition.

"Now I can get grants from the Department to do other people's fences but only if I've got permanent sublet. If they won't give you a permanent sublet you're on a seasonal let then it's not happening"

Permanent changes made to crofts increase their value. The fenced, well drained land is more appealing, gets a better price and sells quickly. Owners can be tempted to sell improved crofts and the person responsible for the changes is moved on.

"I know guys who have fenced crofts and they've got 3 months after the fencing is finished and the families have gone thank you very much for that and then sold the croft, the tenancy. Well now its stockproof you know. "

"And we've had other crofts in the township previously as well, but what happens is what's tended to happen is I improved the crofts, I spend money fencing an effort fencing and doing everything and then they get taken off of me. So I'm to the stage now where I'm thinking now that this is not going to happen anymore. It's just,you know, and the thing is, is the people that take the croft that get the croft after me are just are just doing nothing and they're just, you know, hoovering up the improvements I've made and then gradually the crofts will revert to where they were when they picked up so....."

As mentioned earlier, less sheep are seen on the common grazings, due to fewer active crofters and reduced sheep numbers, this might be thought of as 'better for the grazing' leading to 'improved grazing' due to the reduced pressure from the livestock. However, 'under grazing' can have a detrimental effect on the quality of the grazing.

"people might think well there's more grazing but actually it's not because the grazing goes black so the sheep are better than they were like 30 years ago when there was a lot more stock on the hill and under grazing is as bad as overgrazing you know."

The term 'black' is used to describe common grazing, once predominately heather, that has been under grazed and where 'black' grass/weeds are now beginning to predominate. These areas are less attractive to sheep and the flock moves to find healthier grazing. This causes mixing with other flocks, making gathering difficult and disease control a challenge. Alternatively, crofters choose not to use the common grazing, which compounds the issue. The predominance of 'black' grass/weeds is also observed on the machair (sandy coastal common grazing areas) when sheep grazing is restricted by estate owners, in the view of the crofters, to encourage flower growth. The crofters believe this is a misconception and under grazing results in less flowers as black weeds predominate. By increasing the grazing of the machair at certain times of the year, flower growth could be encouraged.

"Some of theestate on what we call the machair, the sandy soil, they don't want sheep there in the summer because they want the flowers to grow. But what they don't realise is actually the flowers don't grow so there's less flowers...I still do graze a wee bit but there's less flowers there now than there used to be when it was more grazed because it's under grazed, so it goes black and then the grass just chokes the flowers. But unfortunately the mainland owners don't understand this you know."

Conclusion

Since the interventions (i.e., sheep dipping and roundworm control) began, crofters are more actively considering island-wide animal disease control including discussing challenges and solutions. Plans to promote and move towards greater control are ongoing. Townships have come together, mobilising the island to dip thousands of sheep over multiple years. Experience of this positive collaboration has led some to consider other diseases that need addressing, and an acknowledgement that being on an island could help with disease control if this capitalised upon. Meeting stakeholders from Shetland and Orkney is helping further the development of solutions. A growing number of crofters believe control could be put into their hands, and acquiring a dipping facility may be part of developing better island-wide sheep disease control.

References

Kyle, C., Burgess, S., Hardy, C., Lamont (Stephen), K., Bartley, D., Melville, L.. (2022). Understanding the perception of biosecurity measures surrounding sheep scab disease and round worm control on the island of Lewis and Harris. <https://doi.org/10.5281/zenodo.7867863>

Hardy C, Bartley D, Burgess S, Mahon N, Melville L. Reflections on disease control measures for sheep keepers, following interventions on the islands of Lewis and Harris. <https://doi.org/10.5281/zenodo.11284397>