

THE WOOL PRESS

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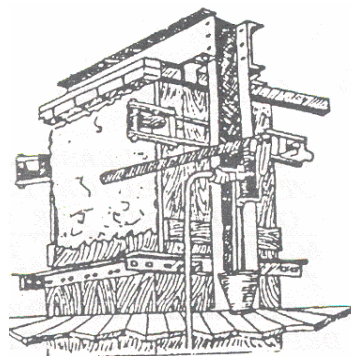
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EDITORIAL

Welcome to the latest edition of the Wool Press. Winter hasn't been too harsh (yet) and come next month your thoughts will be turning to shearing yet again. Don't the seasons fly by?

So what delights do you have in store in this edition? It starts off a bit dry with an article from Zoe about keeping records. Yes, I know that isn't the most exciting of topics but it's a good idea to get into the habit of keeping reliable records – you never know when they might help you out of a hole. Zoe's article is followed up by a rather brilliant (ahem!) short piece by yours truly on Pre-lamb shearing; I note from a later article by Andrew that we'll be pre-lamb shearing at Saladero this year. You can find out how to tune into all the new BFBS satellite frequencies on pages 7 to 9; I hope you get a really good reception. Now from page 10 through to 14 inclusive is a rather lengthy article by Dr Matt McNee. Don't be put off by its length – it is definitely worth the read. Matt thinks there might be a place in the Falkland Islands for growing "weeping grass" – *Microlaena stipoides*. It is a species which has demonstrated resilience to environmental change – which could be of benefit as the Falkland Islands get drier and warmer in the years to come. At this point it would be appropriate to say thank you for Matt's contribution to agriculture in the Falkland Islands and to wish him well in his new position in France. As previously mentioned Andrew has written his usual update about what has been happening at Saladero and you will see the results of the recent scanning that has taken place there. He says he is looking for a lambing percentage of 80% at Saladero this year. Is that being too optimistic?

At the bottom of page 17 you can read a short biography of our new Agricultural assistant, Richard Chivinda. He hasn't been with us for very long but he appears to be settling in well. Following that is a short article by Naomi Cordeiro (née Baxter) and she reveals the good news that Bleaker Island remains rat free 2 years after the rat eradication programme was carried out. Finally, if you are thinking of growing some potatoes remember that you should be planting seed potatoes rather than ware (eating) potatoes. The former should be disease and pest free whereas the latter might not be.

Wishing you all a very successful start to the new shearing season. I'm off for a few weeks of annual leave and to give a speech at my daughter's wedding. Isn't she lucky?

Steve Pointing

Senior Veterinary Officer

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DOG DOSING DATES FOR 2021/2022

| Date | Drug |
|----------------------------------------------------|--------------------|
| Wednesday 6th January 2021 | Drontal |
| Wednesday 10th February 2021 | Droneit |
| Wednesday 17th March 2021 | Droneit |
| <u>TUESDAY 20th April 2021</u> | Droneit |
| Wednesday 26th May 2021 | Droneit |
| Wednesday 30th June 2021 | Drontal |
| Wednesday 4th August 2021 | Droneit |
| Wednesday 8 th September 2021 | Droneit |
| Wednesday 13 th October 2021 | Droneit |
| Wednesday 17 th November 2021 | Droneit |
| Wednesday 22 nd December 2021 | Drontal |
| Wednesday 26 th January 2022 | Droneit |

Regular weighing - it is important to keep a check on dog's weights to ensure correct dosage is being given.

All dog owners are responsible for worming their own pets. Please remember to contact the Veterinary Office and confirm this has been done. After normal working hours, please leave a message or email.

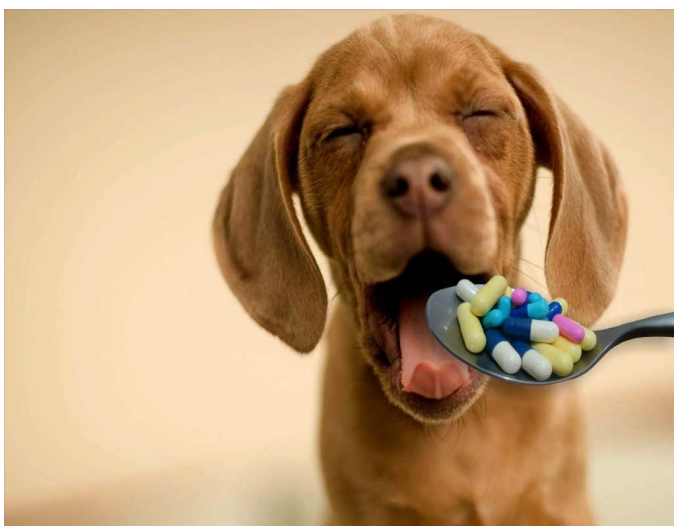
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**SEEN ANYTHING STRANGE
LATELY??**

**IF SO CONTACT THE DEPART-
MENT OF AGRICULTURE ON
27355
OR VETERINARY SERVICES ON
27366**

**BULLS
FOR
SALE
OR
HIRE**



Bulls for sale or hire from Blue Beach Farm. 100% Angus, fertility tested, bred for excellent growth, reproduction and flavour from Waigroup Angus New Zealand and further selected on the farm to thrive on native Falkland pastures by indexing progeny at 200, 400 and 600 days. Please let us know soon as we will not keep bulls if they are not required.

Traceability and record keeping – what's that all about then?

By Zoe Fowler

Given the current world wide pandemic most people are familiar with the terms 'tracing' and 'track and trace'. Following the course of a disease by tracing the movements, contacts and symptoms of infected people or animals is one of the main features of epidemiological investigation. It's how you figure out the incubation period of new diseases (ie how long it takes from exposure to causative organism before you show symptoms), how exactly it might be spread (ie is it spread just by close contact with an infected person or animal or can it travel on boots and tyres or can it survive in faeces left in the environment and so on) and tracing also highlights who or what needs to isolate to stop the spread of an infectious disease. We are all thinking about covid-19 tracing currently but the need for traceability of movements is why the vets make such a fuss about animal movement certificates. Should an infectious disease be suspected or diagnosed on a farm it would be essential to know what animals had moved on and off in recent days or weeks and actually, with regard to Foot and Mouth and other serious and highly infectious diseases, you would also need to know what people and vehicles had been in contact with that particular farm. It is common practice for visitors at many types of establishment, including farms, to have to sign in and out so there is a record of what vehicles and personnel have been around. I'm not suggesting that you all rush out and get a notebook and stand at the farm gate but making a note of known movements in the farm diary eg 'Owen collected bales today' or 'vet here castrated horse' is so simple but it might well be an essential note in controlling the spread of a serious disease. Referring to animal movement data would be one of the most essential parts of our response to a disease outbreak which is why it is really important to send those pink forms to us as soon as an animal movement has taken place. You can post it, email it or just take a photo and message it through – anything is better than the form getting lost under a pile of paperwork or lingering in a booze box for weeks or months on end. You can keep your copy of these forms, either as the sender or receiver of stock, as a quick and easy record or cross check of animals moved to or from your farm (to help balance the numbers) and as a record of what has been sent for slaughter. One of the veterinary services main projects in the year to come is to finalise a fit for purpose disease outbreak plan.

Animal identification forms an integral part of traceability, for movement purposes, but also for farm biosecurity, genetic tracing and livestock recording. One of the drivers for individual cattle identification is the fact that cows that develop BSE (mad cow disease) may have produced offspring that are more likely to also develop the disease (which is fatal to humans that may contract it from eating affected meat). In UK, animals born and/or raised in the same cohort as an animal suffering from BSE will probably also need to be slaughtered and compensation paid. We are lucky enough to have only had one case of BSE in the Falklands in an imported cow, and she and her one offspring were destroyed, but should it rear its head ever again we need to know for our own national public health and for export markets, that at risk cattle are all culled to protect consumer safety. Even in areas where consumer safety is not an issue, you need to record offspring and animal identifications so you know who produces the best lambs in your stud flock, who hasn't had a lamb for 2 years and which cow always throws bull calves with only one testicle (and get rid of those last 2!). It's not just for livestock; indiscriminate breeding of dogs for example with no real recording of parentage can lead to inbreeding and the perpetuation of genetic problems (heart disease, hip dysplasia and retinal degeneration to name just a few).

OK, so far so obvious, but what about that little tick box on the bottom of the animal movement certificates that require you to 'tick if no treatments given'. Traceability in food production is an essential element in ensuring food safety. Food safety law requires Competent Authorities to be aware of, and to be able to provide information about, good hygiene practices and about hazards that may arise in primary production. Primary production is you guys! 'Primary production' is defined as the production, rearing or growing of primary products including harvesting, milking and

farmed animal production prior to slaughter..... The piece of legislation that defines primary production also goes on to state that examples of such hazards in primary production and the measures to control them include (among others).....”(d) the correct and appropriate use of veterinary medicinal products and feed additives and their traceability and (e) the preparation, storage, use and traceability of feed.” We have to take several samples of various tissues from animals passing through the abattoir each year, testing for residues from antibiotics, wormers and steroids (likely to have been given by man) to heavy metals or pesticides that may be a result of environmental contamination. Consuming any of these residues may make people sick or cause antibiotic resistance. This is why we need to know what withdrawal periods are to ensure we are not slaughtering for consumption any animal that may have received a veterinary treatment that may still be present in the animals’ tissues. Under our Livestock and Meat Products (Hygiene) Regulations primary producers are required, by law, to keep records about the following:

28 Record keeping

(1) A person who owns or is in control of animals must keep records of—

(a) the nature and origin of feed fed to the animals;

(b) veterinary medicinal products or other treatments administered to the animals, dates of administration and withdrawal periods;

(c) the occurrence of diseases that may affect the safety of the meat and products of animal origin;

(d) the results of any analyses carried out on samples taken from animals or other samples taken for diagnostic purposes, that have importance for human health;

(e) any relevant reports on checks carried out on animals or products of animal origin; and

(f) the name and contact details of any final consumer to whom small quantities of fresh meat are supplied and the amount and type of meat

If this appears alarming, don’t worry! Looked at simply it means you just need to write down when you give medicine to something, but you should also record the batch number of the drug (in case of product recall etc) and the withdrawal period. This can (and should) be provided by us. The same goes for feed, drenches and agricultural chemicals that are purchased directly by you – keep labels or invoices or anything that gives you the date of purchase, batch number and expiry date – what if the manufacturer discovers it is contaminated or unfit? You don’t want it going into your animals. You should note if you have anything sick, if you’ve spoken to or seen us and any results we’ve sent you. These requirements are not just for the food markets. Wool buyers are increasingly likely to require wool to come from farms following better welfare and environmental practices and clear record keeping and traceability on farm is a feature of the RWS.

Moving on from primary production; food production establishments such as the abattoir or fishing vessels also need to keep detailed records of whom they receive packaging or additives from and the use of further ingredients is recorded in case of alerts and recall. It’s essential for allergy information to know what else is going into their product. Lot numbers or bar codes need to identify where that food came from, when it was killed and processed/frozen and to whom it was sold. This is especially important in the event of poor bacteriology results or unsatisfactory residue tests. The traceability section of the EU legislation starts by saying “The traceability of food, feed, food-producing animals, and any other substance intended to be, or expected to be, incorporated into a food or feed shall be established at all stages of production, processing and distribution” and this is essential not only for food safety but to guarantee all product markets now, and in the future.

Pre-lamb shearing – is it a bad practice or does it have beneficial effects for some farms?

By Steve Pointing

The next shearing season is just around the corner so set out at the end of this article are the shearing dates and recommendations for when cover combs should be used – as outlined in the Sheep welfare code.

The start of the shearing season is 15th September and it is possible to pre-lamb shear on this date and shortly after and still lamb down at the end of October/beginning of November – so you are complying with the recommended shearing dates. If you do choose to pre-lamb shear then it is recommended that you do so at least 30 days before the first lambing should occur. However, some of you would like to lamb earlier than that and in order to pre-lamb shear more than 30 days in advance of lambing you would have to start your shearing earlier than September 15th. It is possible for you to do this provided you have made the necessary provisions for safeguarding the welfare of your ewes. What does this mean in practice?

- Only using cover combs.
- Ewes must be in good body condition and have access to reasonable feed (this needs to have been planned for in advance).
- The ewes must have access to a camp with good shelter post shearing.

The subject of pre-lamb shearing was raised by one farmer in the lead up to this year's Farmers' Week and his question particularly related to whether there was any link between pre-lamb shearing and abortions. The answer to that question was "No" provided that the pregnant ewes are handled carefully.

So why do some farmers choose to pre-lamb shear their ewes while others are very firmly set against the practice. What are the potential advantages?

- Increased birthweight of lamb – provided ewe has access to sufficient food and a reasonable body condition score (BCS) at the time of shearing.
- Easier access to the teats for the new born lamb (perhaps consider crutching rather than full shearing initially).
- A recently shorn ewe will seek shelter from the cold taking her lamb with her – BUT this pre-supposes that the ewe and lamb are in a camp with adequate shelter available.
- A better fleece - as giving birth and the subsequent lactation period is a major stress to the ewe's body often resulting in a "weakness" in the fibre for a period of time. This weak spot will occur midway along the shaft of the wool fibre when the ewe is eventually shorn – whereas, from a commercial point of view, it would be better to be nearer the end of the shaft as should be the case with a pre-lamb shorn ewes.

As with any system there are potential disadvantages too:

- If you haven't properly planned for the lambing season (whenever it may occur)
- If the ewe has insufficient food to meet her own nutritional requirements let alone having to nurture a growing lamb.
- But the above is true whether you pre-lamb shear or shear at the more usual time of year – it might just be a bit more critical for those ewes shorn at an earlier date.

So what is the take home message of this short article?

Pre-lamb shearing can be advantageous on some farms but, in order for it to be successful, your management practices must be properly planned for in advance of the shearing and lambing periods in order to avoid the potential for a serious animal welfare problem.

Shearing dates (as found in the code of practice for the welfare of sheep)

- Cover combs – 15th Sept – 31st Oct
- Flat combs – 1st Nov – 28th Feb
- Cover combs – 1st March – 31st March
- Exemptions can be granted
 - ◊ Earlier for hand shears
 - ◊ Later for stragglers
 - ◊ Shouldn't be routine for the main flock
- Weather forecast and sheep chill factor should be taken into account when beginning shearing
- Slaughter off shears permissible all year round
- No shearing 3 weeks before and 6 weeks post lambing



FALKLAND ISLANDS GOVERNMENT PUBLIC SERVICE ANNOUNCEMENT

Changes to BFBS satellite frequency

BFBS are asking that Camp residents retune their BFBS satellite set top boxes to a new frequency. This must be done before Friday 20 August, otherwise services will be lost.

The change is necessary for technical reasons and has been imposed on BFBS by regulators in North America, as there is a single satellite serving North and South America including the Falkland Islands.

There are no changes required to dishes, just a change of settings and a retune of the BFBS set top box.

No changes are required by users receiving services from Sapper Hill, which includes Stanley and the surrounding area, as this will be undertaken centrally by BFBS engineers. Issues experienced by Stanley residents relating to the Sky News test in March will be addressed in due course. Changes are not required to any KTV set top boxes or MiPlayer.

BFBS have produced a guide showing how to make the necessary changes which can be found by visiting <https://www.fig.gov.fk/commercialservices/camp-satellite-changes> or by requesting a copy from Lynn Brownlee by email to lbrownlee@sec.gov.fk or by telephone to 28430. If you have any problems having followed the guide, please contact BFBS engineers at MPC on 32179.

Changes to be made to the Camp radio transmitter sites will be carried out by KTV in due course.

Instructions on pages 8 & 9

RETUNE INFORMATION FOR VIEWERS UNDER SES6

To retune your BFBS Technisat Receiver please follow these instructions:

On the BFBS Technisat Remote Control

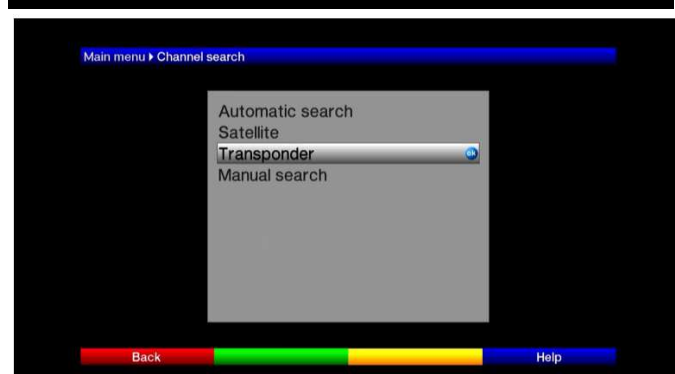
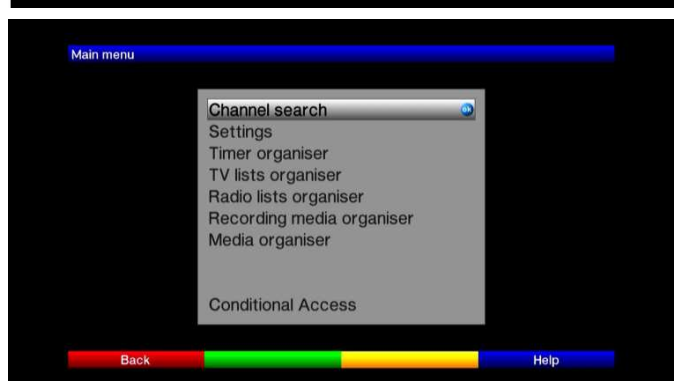
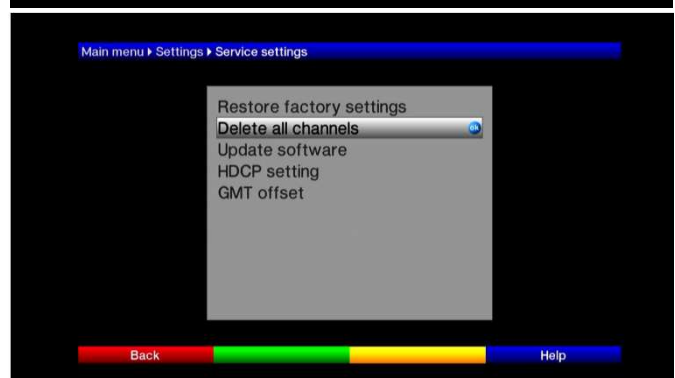
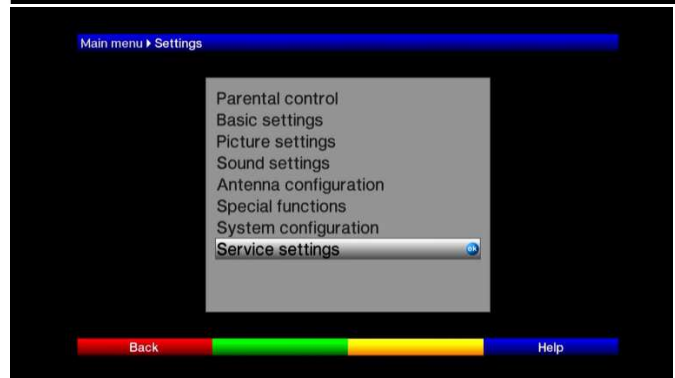
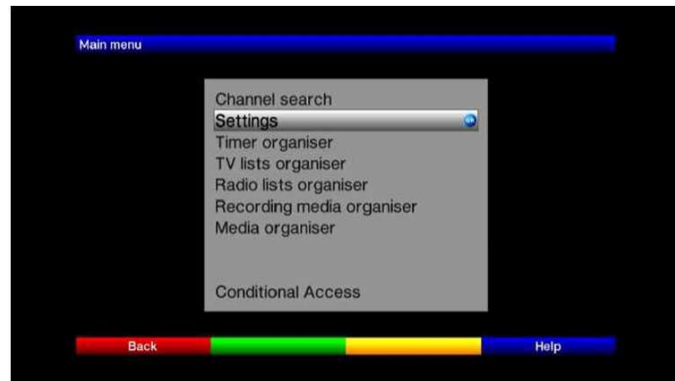
1. Select **Menu**
2. Select **Settings**

3. Select **Service Settings**

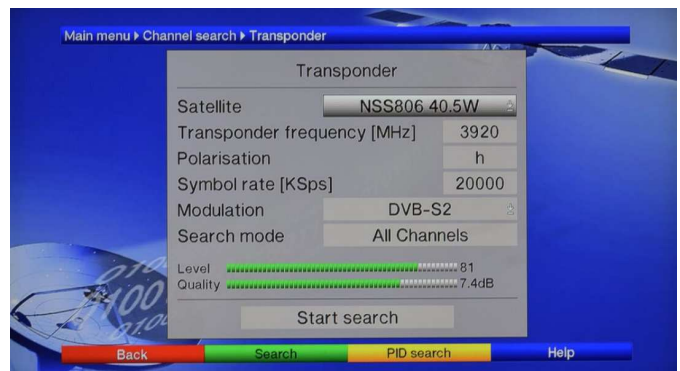
4. Select **Delete all channels**
5. Select **Yes**
6. Press **Back** on the remote twice

7. Select **Channel search**

8. Select **Transponder**



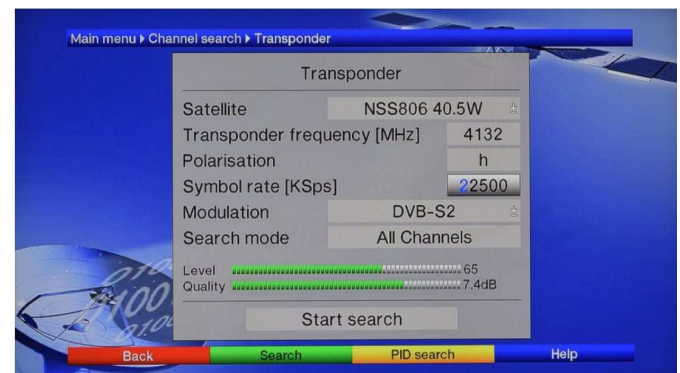
9. The first screen will look like this



10. Use the navigation arrows and numeric keys to change the Transponder frequency to 4132

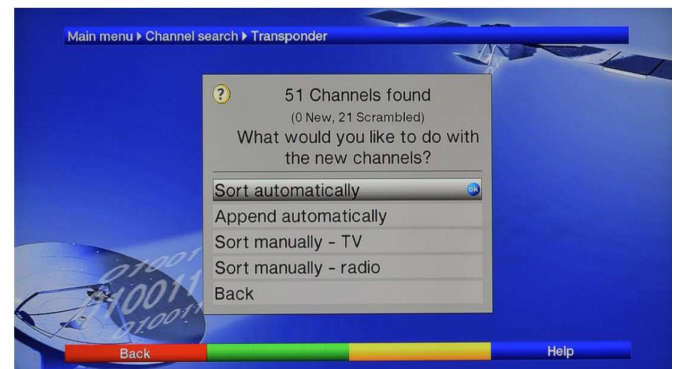


11. And the symbol rate to 22500



12. Select **start search**

13. Press OK when dialogue prompts you to Sort automatically



14. Press **Back** 3 times to return to normal viewing

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bfbs

Weeping Grass: A wild-type grass species intrinsically adapted to marginal environments and climate variability.

By Dr. Matt McNee

“I am regularly asked what plant species could be grown in native camp?”

I think it's necessary to explore the potential of cultivated “wild” type grasses. These are more representative of natural populations than domesticated varieties which have been deliberately modified by breeders in some way.

Every time we use a commercial pasture cultivar from New Zealand and Australia we are subject to the breeding objectives of those countries. The traits that breeders focus on like disease resistance or seed yield may not be very useful to the ranch-style livestock farming systems of the Falkland Islands.

When breeders manipulate traits they may inadvertently reduce the fitness and persistence of the species compared to their “wild” type parents⁸. Also, the productivity of many species is reliant on high fertiliser inputs. These species are not suitable for low-input pasture systems¹⁰.

These are just some of the reasons why our attention should potentially shift towards naturalising cultivated “wild” grass species with demonstrated resilience to environmental change.

Yes, it is true that “wild” grass germplasm is often in short supply, seed yields can be low and the price point can be high due to extra requirements with harvesting and preparation. It does need to be demonstrated how these species can be procured, increase profit or reduce risk, and be established at a suitable cost⁵.

Finding innovative solutions is, to my mind at least, why there is an agronomy portfolio at the Department of Agriculture. Yet, the resources are barely sufficient to approach these questions in a meaningful way. For the most part, all we can do is procure seed and give it to farmers to try. This is hardly a plan for the future of the islands livestock systems.

This article is a call for action: for a **Low-input Pasture Agronomy Program** based on modern farmer-centric participatory selection approaches and the learnings from research and development initiatives like the Native and Low-input Grasses Network (NLIGN) or grassland associations like STIPA Native Grasses in central NSW (<https://www.stipa.com.au/>).

Initiatives like NLIGN had the intention to devise “practical and economic management systems that can be implemented by graziers”¹⁰. Decades on, it would be worth re-visiting this in light of advances in technology such as the improved capability to harvest native seed on farms (e.g. <https://www.grassgrabber.com.au/>).

This is the first article in a two part series. Here I introduce a promising “wild” type grass for native camp. In the next edition of the Wool Press I will describe the environment where we have sourced some seed in Australia and discuss how an agronomy program might be scaled-up to identify and evaluate species on farms in conjunction with the Department's Farmer-based Research program.

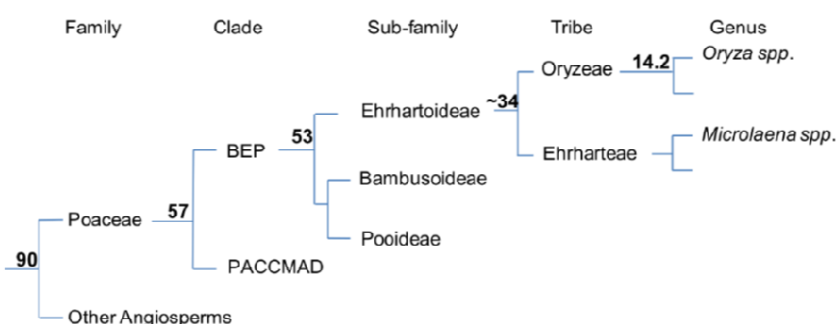
Microleana Species (Weeping Grass)

All farmers on the islands should be familiar with the Poaceae family of flowering plants. It includes over 10,000 species, some of which are a major feature of the islands flora (e.g. *Poa flabellate* or Tussac). The Falkland Islands pasture guide lists 26 perennial species from the Poaceae family many of which have been introduced. All but one of these (Whitegrass) belongs to the sub-family Pooideae of the BEP clade (see Figure 1).

One cool climate genus in the Poaceae family is *Microlaena* Sp. This genus contains 10 species and is commonly referred to as Weeping grass or Meadow rice grass. One of these, *Microlaena Stipoides* has attracted much attention due to its resilience to grazing. Its' natural range is usually described as Australia, New Zealand, Papua New Guinea, Indonesia and the Philippines, yet it has become naturalised in Chile, South Africa, North America and with a scattering throughout the United Kingdom.

M. stipoides is described as similar in appearance to common wheat grass (*Elymus* sp.). In the Falklands we have *Elymus* couch (*Elymus magelanicus*), which has big seed heads like weeping grass. It can be quite commonly seen on coasts in the Falkland Islands where sheep can't graze it. The limited distribution of *Elymus* couch suggests that, unlike *M. stipoides*, it doesn't tolerate grazing.

Figure 1 The evolutionary relationship between *Microlaena Stipoids* and cultivated rice. SOURCE: Shapter, F.M., et al. (2013).



As the common name (Meadow Rice Grass) indicates, *M. Stipoides* shared a common ancestor with cultivated rice about 35 million years ago. Rice (*Oryzeae*) belongs to the Ehrhartoideae sub-family as does Weeping grass (Figure 1)⁹.



Figure 2 Fact sheet for *Microlaena Stipoides*. Source: <https://www.stipa.com.au/native-grasses-identification>

Therefore, *M. Stipoides* has ancestors of moist habitats and it is often found in shaded, high fertility, grazed situations, or beneath tea trees in New Zealand. However, *M. Stipoides* has radiated into much drier habitats like South Africa, some with winter rainfall only. The annual rainfall regime for this species is reported at 200mm to 2250mm.

The mean annual temperature for *M. Stipoides* is 9°C a few degrees higher

than the Falkland's average of 5.6°C. Once established it is tolerant of temperatures as low as -8°C and as high as 45°C. In the higher altitudes of Australia it survives a mean -6.95°C of the lowest temperatures. Changing temperatures and rainfall do not appear to threaten this species, with sufficient internal variability to withstand significant climate change³.

Figure 3 Photos of *M. Stipoides* panicle, leaf, seed and rhizomatous growth habit. Source: <http://www.evergraze.com.au/library-content/microlaena-holbrookchiltern/>



Table 1 A comparison of Weeping grass and Kentucky Bluegrass from the Poaceae family

| ORIGIN | | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Common name(s) | Weeping grass Meadow rice grass | Smooth-stalked Meadow Grass Kentucky Bluegrass |
| Species | <i>Microlaena Stipoides</i> | <i>Poa pratensis</i> |
| Family | Poaceae | Poaceae |
| Clade | BEP | BEP |
| Sub-family | Ehrhartoideae | Pooideae |
| Tribe | Ehrharteae | Poeae |
| Species type | C-3 (cool climates) | C-3 (warm temperate climates) |
| CLIMATE | | |
| Preferred Avg. Temp coldest month | >0°C and <18°C | >0°C |
| Preferred Avg. Temp warmest month | >10°C | >10°C |
| Mean annual temp | 9°C | 15.5 - 32°C |
| Mean maximum temp hottest month | 15°C (lower limit), 41°C (upper limit) | 31°C |
| Annual rainfall | 200mm (lower limit), 2250mm (upper limit) | No information found |
| Humidity | Is found in sub-humid and semi-arid zones | Best adapted to low humidity |
| DEVELOPMENT TRAITS | | |
| Growth habit | Variable, from prostrate to erect | Upright, Herbaceous, mat-forming |
| Dormancy | Persistent perennial pasture plant, slow winter growth | Dormant during summer drought conditions. Slow growth in low temperatures in spring and autumn. |
| Height | 0.7m, but often much shorter, seed-head to 15cm long | 0.9m |
| Germination | Seeds take 7-15 days to germinate depending on soil temperature. Very slow germination if the soil temperatures are below 10°C. | Follows a chilling period |
| Establishment | Slow | Slow |
| Persistence | <15yrs | Very long lived |
| PRODUCTIVITY TRAITS | | |
| Grazing value | High | High |
| Palatability | Good | Good |
| Digestibility | 56-80% | |
| Crude Protein | 11.3-26.9% | 7.0-17.5% |
| Dry matter yield | Equal to or better than other grasses considered to be high producers | Low |
| TOLERANCE TRAITS | | |
| Soil pH | Highly acid tolerant. | Has low tolerance for pH<5.5. Prefers pH 6.0 to 7.5. |
| Aluminium | Tolerant | Sensitive |
| Drought | Tolerant | Moderately tolerant |
| Cold | Tolerant | Very Tolerant |
| Frost | Tolerant | Tolerant |
| Heat | Tolerant | Moderately tolerant |
| Shade | Tolerant | Light shade (prefers high sunlight). |
| Soil drainage | Prefers free draining soil | Prefers free draining soil |
| Soil texture | Widely adapted | Medium |
| Reported special tolerances | Infertile and shallow soil, maritime exposure. Tolerance of glyphosate | Unaware of any |

This grass has several traits that are promising to its adaptation to the Falkland Islands environment. Some of these are,

- 1. Tolerance to very acid soils and aluminium.** It prefers pH <6.5 with an increase in its frequency as acidity decreases. It can be established on a wide variety of soils provided pH is below 5.5. In Australia it is reported to be naturally more abundant on acid soil down to a pH of 3.9.
- 2. Ability to use vegetative spread as well as both sexual and asexual reproduction.** This may make populations of *M. Stipoides* more resilient in the longer term. In Australia, research suggests that seedling recruitment is high enough over time to produce a diverse population of individuals within pastures which supports the resilience of the species ⁴. Importantly, these wild grass populations are retaining their diversity even in highly disturbed areas. In fact, plants occurring in areas that had been subject to disturbance by farming were also more genetically variable and hence flexible than those that occurred in undisturbed or natural conditions.
- 3. Drought tolerance.** Perennial species can be dormant in response to different environmental cues like temperature. One environmental cue that has attracted a lot of interest from scientists is summer-dormancy as a response to water-deficits. This has been reported in *Poa* species ⁷. This is thought to be an effective way that grasses survive drought and/or high temperature stress. However, the cessation of grass growth and slow recovery in 'summer-dormant' species presents a problem for farmers who must feed their livestock within a short 'warmer' window of opportunity each year. Poor or seasonally variable pasture recovery of grazed 'green' pastures is often commented upon by farmers in the Falkland Islands. There are likely many contributing factors to water-deficit conditions like increasing soil water-repellence and over-grazing impacts on plant root growth / exploration of the soil profile.

M. stipoides may be a very useful plant for grassland systems with highly variable rainfall. It is described as a persistent perennial, shown to survive and persist despite severe water deficits. Importantly, it is shown to quickly recover growth following water deficit conditions ⁶. In regions with highly variable rainfall it has adapted to stay in a vegetative state rather than devote internal resources to reproduction ¹. In some water-limited environments *M. Stipoides* is known to remain green all year round. There are many ways that *M. Stipoides* might achieve this.

A large genetic diversity in leaf growth³ (e.g. 1.5mm to 11.0mm blade width, 45-200mm blade length) may prove to be a very useful morphological adaptation for the Falkland Islands. Adaptations to leaf morphology (e.g. size, shape, cuticle thickness, stomata) influence gas exchange and can be important for the internal regulation of water in plants. This is particularly relevant in windy conditions where evaporative demand is high. The fact that weeping grass can have a more prostrate growth habit may also help in this regard.

There is also evidence that weeping grass takes up more nitrogen and phosphorus under drought conditions than other species. This was demonstrated in conditions of low available soil P ². This could prove to be a significant competitive advantage over other species in the low soil P environment of the Falkland Islands.

- 4. Tolerant of moderate to heavy grazing.** This species can be grazed heavily in spring. Its prostrate growth habit and underground growth are key reasons why it withstands pressure. However, like most pasture grasses, rest periods in drier conditions can maintain or increase populations. Leaf production and reproduction are improved by rotational grazing.
- 5. Tolerates heavy shading in spring.** If established in native camp, *M. Stipoides* may be partly shaded by white-grass or other species.

6. **Responds strongly to increased soil fertility and the use of legumes.** This species could be a good companion to Maku Lotus or clover on the Falkland Islands.
7. **Does not need fertiliser, but is responsive to nitrogen and phosphate fertilisers.** When managed as a re-seeded pasture there is evidence that *M. Stipoides* can be just as productive as commercial cultivars of ryegrass and cocksfoot in high input systems.

Management

- Autumn establishment is generally preferred
- Can be dry sown and broadcast. With dry sowing, seeds have been shown to remain viable for 3 months until water becomes available.
- Rates depend on seed size, but rates would commonly be about 3-5kg/ha or 0.5g/m² if broadcast.
- Grazing by sheep when the seeds are mature has assisted seed dispersal
- If *M. stipoides* is sparse, then absence of grazing in February or March will encourage seed production provided soil moisture is available.
- Is tolerant of glyphosate herbicides. Spray-topping can be used to control weeds competing in a weeping grass pasture.

Potential downsides

- Slow starter
- Needs to be kept short by stock as rank growth becomes unpalatable
- Doesn't like water-logging
- Germination is very slow if soil temperatures are below 10°C
- Very expensive seed which may be difficult to source. Its financial viability really depends on how well it voluntarily colonises the native grasslands. It will depend on the development of cultural practices to harvest and distribute seed from a small initial population.

Conclusions

The Falkland Islands needs a modern, well-funded **Low-input Pasture Agronomy Program**. Such a program would necessarily evaluate "wild type" grass species like *Microlaena Stipoides* with farmers, to improve livestock nutrition and adapt to climate change on the Falkland Islands. *M. Stipoides* germplasm offers some promising traits that should be investigated on farms. The Department has sourced some seed for on-farm experiments in the Farmer-based Research Program. To adapt to a 'drying climate' the islands will need a well-resourced agronomy program.

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Saladero News

By Andrew Bendall

June - July 2021

Weather! As I wrote the last wool press article, Saladero was getting snow in late May, which ended up hanging around for over two weeks. Although it was very settled weather with little wind, it did start affecting the ability for stock to forage for feed.

All in all I think most stock fared quite well with minimum weight and condition loss.

Preparation!

2021 lamb crop, what's it going to be? Well we now know the potential with scanning results in.

| Joining | | | | Scanning | | | | | |
|----------------------|------------|--------|------------|------------|-----------|------------|-----------|------------|-------------|
| Year | Tally | Weight | C.Score | C.Score | Drys | Singles | Twins | Total Lbs | % |
| 2013/14 | 50 | 54.1 | 2.8 | 2.5 | 2 | 39 | 7 | 53 | 106% |
| 2015 | 72 | 56.2 | 2.9 | 2.6 | 1 | 63 | 7 | 77 | 107% |
| 2016 | 140 | 51.8 | 2.9 | 2.6 | 5 | 112 | 24 | 160 | 114% |
| 2017 | 158 | 51.9 | 2.9 | 2.7 | 6 | 146 | 7 | 160 | 101% |
| 2018 | 145 | 49.5 | 2.9 | 2.7 | 2 | 138 | 4 | 146 | 101% |
| 2019 | 205 | 42.5 | 3 | 2.8 | 33 | 169 | 2 | 173 | 84% |
| Blue Beach | 15 | 58.9 | 3 | 2.8 | 0 | 11 | 4 | 19 | 127% |
| | | | | | | | | | |
| Total Joined | 785 | | 2.9 | 2.7 | 49 | 678 | 55 | 788 | 100% |
| Total Scanned | 782 | | | | | | | | |

As seen above all the ewes had been in, weighed & condition scored at joining and condition scored again at scanning. Given the snow mentioned earlier I'm relatively comfortable with the slight loss in body condition across the board knowing that we have a planned feeding regime over the next 2 months leading up to both pre-lamb shearing and set stocking for lambing.

The 2018 born ewes that were joined as shearlings last year but didn't rear a lamb have been given a second chance along with those not joined at all. The two dry 2018 born ewes were not joined as shearlings, which mean all those shearlings that were joined, got in lamb and reared lambs are now in lamb again.

The unusually high dry rate in the 2019 born shearlings was largely within one joining mob which had a dry rate of 16% vs the other joining mobs of 3-5%. Reasons for this could be, either a dominant ram preventing either ram from doing the job or a group of ewes separating themselves off from the mob for a few of days within the camp and missing getting joined - a risk with single sire joining groups and relatively high ewe:ram ratios. Taking an account of joining mob 5 where we had 16% drys, neither body weight or body condition of the shearlings were a factor in the other shearlings that did not get in lamb.

An observation from the above information as well as being well documented is that potential lambing percent is very live weight sensitive along with body condition and age of animal.

So what's our target lambing percent? Glass half full it's got to be 80%, nature inherently takes 20% of that potential in natural losses, so our aim will be to feed the ewes as well as possible in this last trimester to promote lamb birth weight, udder & colostrum development at lambing while holding ewe body condition.

If during the next 60 days while the ewes are being break fed, we see a decline in BCS, we will take off the lighter ewes along with expectant twins and run them separately with the aim of lifting their body condition.

The next 60 days is all about setting up not only next year's production but the potential life time quality of the 2021 lamb crop wool production which is predominantly determined in the last trimester of pregnancy.

We have made the decision to pre-lamb shear, to enhance the quality of our wool clip. We will endeavour to catch a period of settled weather in the later part of September to shear before set stocking into camps that have been spelled for 7 months.

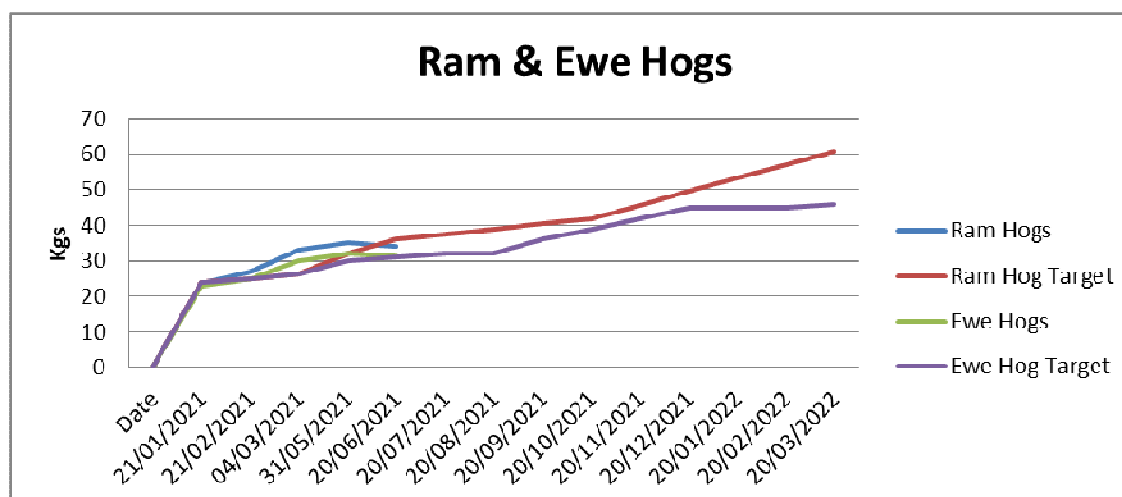
Management of Hogs;

Young Stock – The forgotten age group, yet they represent our future production and income!

As has been written in the previous wool presses, here's quick summary of the hog's performance over the summer and autumn.

- Lambs weaned 21st Jan (70-105 days old at 23.6 kg)
- All lambs achieving above 120 grams a day weight gain in February
- March saw these gains drop to an average of 100 grams a day
- All lambs drenched at weaning (21st January) and again in late February.
- All have had individual faecal samples taken early June & drenched.
- Drench tested at 10 days (three different drenches were tested, all effective)
- Abamectin (oral), Combination (oral) & Doramectin (injectable)

The graph below represents the weight gains made over the last 8 months of the hogs.



A small dip in weight gain in June is of little concern for several reasons;

- That they went through that period of snow affecting feed availability.
- They were being put under quite a severe worm challenge (+800 epg)
- That we had them at good weights and condition prior to winter and know that they will bounce back in the spring.

Worm Burden

What's it costing us in loss of weight gain in our young stock? Possibly more than we think!

We have tracked both weight gain and FEC counts in the hogs over the summer and autumn and have taken individual FEC samples from them all in June. These results are now being analysed to see if there are any correlations between;

- Sires used
- Body weight and weight gain
- Body condition scores at different times
- Paddock selection
- Stock management

Further individual FEC samples will be taken again from all hogs in October or November. In our quest to find and breed a “Fit for Purpose” sheep for the Falklands an animal’s ability to have a good resilience and strong immune system to act as a defence mechanism to health and environment challenges while still remaining healthy and productive is of paramount importance.

An interesting observation on how management can have a significant effect on worm burdens. The FEC counts from the ram hogs that have been rotating around a combination of camps containing both old re-seeds and whitegrass, continued to rise through May. Whereas the ewe hogs FEC counts have gone down after being pushed into camps without any greens, making them forage amongst the whitegrass. Thus meaning they are not picking up the infected larvae from the short fine grasses on the greens. Remembering that today’s worm count is a reflection of where they were grazing 3 weeks earlier.

Saladero Management;

While the DoA is in the process of employing an interim stock manager, FLH continue to provide management support through Macaulay Davis to cover three days a week employment. He will be working alongside the DoA staff throughout this time.

WELCOME TO RICHARD

I’m Richard Chivinda, born and bred in Harare, Zimbabwe. I did my primary and secondary education in Harare which is the Capital city of Zimbabwe. I finished my High school in 2007 and enrolled (apprentice) at Mazowe Veterinary college, for my studies in animal health under the ministry of Agriculture and Mechanisation from 2009-2011 and did my attachment/ intern at Harare Provincial Veterinary offices as a trainee veterinary technician attending livestock cases such as heart water, Blue tongue, Botulism, Gas gangrene, Anthrax, Theileriosis, Black leg, foot and mouth etc.. Mostly tick borne diseases.



In 2011 after completing my college course my Dad advised me to take a course in demining and it was a three weeks course and stayed home for some time for the employment rate was very low. In 2013 I applied for a Job on a farm (Irvine’s farm) which specialises in poultry production and I worked there for two years as a hatchery tech and it was a good experience.

In 2015 I was attracted by Safelane Global demining company (BACTEC) which led me to be in the Falkland Islands as part of the demining team with a contract which ran up to 2020. It was quite an experience though dangerous and working in arduous and very harsh conditions.

After my contract with the demining company ended (Falkland Islands mine free) I applied for a job in the automotive spares at FIC 4X4 and they hired me though I didn’t have any experience in automotive spares but John Pole-Evans my supervisor was always there to assist me. It was a very challenging and exciting experience.

Here I am now working as agriculture assistant with a bit of knowledge of the Islands in terms of weather, terrain and wildlife for I have been here for quite some time now.



Department of Agriculture *Webpage*
Falkland Islands Government
www.fig.gov.fk/agriculture



Bleaker Search

By Naomi Cordeiro

All the rats on Bleaker Island were eradicated in 2019. Two years after the bait was set, Sammy and his handler Naomi went out to see if there were any traces left and whether the eradication had been successful...

It is unclear how rats originally found their way to Bleaker. Some locals say the Cassard wreck at the south end brought the rats in 1906 and this is perhaps corroborated by Cobb's diary which mentions "rodent-proof stores". Others claim the rats came later, perhaps around the mid-80s but we may never know for sure. Regardless, by 2019 they had spread all over the island and had a devastating effect on the wildlife.

Sammy first visited Bleaker a year before the eradication and was able to identify that the rats were in fact spread right across the whole island, not just around the coasts. They also found that rats were using Magellanic penguin burrows as nests. Soon after their visit, the rodent eradication on Bleaker took place, in May 2019. The island was covered in a grid with bait stations and baiting lines set every 100m. The dedicated eradication team was led by Sally Poncet and the whole project was supported by funding from the FIG Environmental Studies Budget with bait donated by the South Georgia Heritage Trust.

The wait to see whether the baiting worked has been a long but hopeful one; as Nick says, more than one Cobb's wren has been spotted along with a noted increase in tussac birds, typically a good sign that rodents are not present. Monitoring stations and chew sticks have not been marked by rodents to date, and bird surveys are being done by Sally Poncet and Ken Passfield which corroborate the anecdotal bird sightings noted.

This May, two years post-eradication, Sammy and his handler travelled out to Bleaker to see if they could help find any small pockets of rodents that had either not taken the bait during the eradication or that had swum back since the eradication took place. Rats are excellent swimmers and with Bleaker's Cassard Point only 800m from the mainland it will always be a risk.



Sammy and his handler spent their three day trip covering as much of the island as possible. All areas of fresh water were thoroughly searched as rats need fresh water to survive and are often found in and around ponds and gullies. The settlement and tussac areas were given a good going over and the good news is Sammy found no live rodents. Interestingly, even after two years, there was some residual odour in the old rodent dens and in old wooden sheds where the rodent smell would have been absorbed into the wood. Sammy has different reactions to older odour and fresh live scent so we were confident he was not smelling any active rodent presence.

This isn't the end though; for an island to be declared completely rodent-free best practice says to wait a full three years post-eradication to confirm with constant monitoring and detection dog checks. So, Sammy and Naomi will head out again in 2022 for a final check.

Monitoring stations have been placed around all the high risk areas such as Cassard Point and the jetty, and these are checked regularly for any rodent sign. Additionally, the rodent dog team check any cargo that goes to Bleaker (as they do for any inter-island cargo that goes to rodent-free islands around the Falklands) and conduct regular inspections of Concordia Bay and any yachts heading there. All these measures will help to protect the fantastic wildlife on Bleaker island from rodents for years to come.

This Inter-Island Biosecurity project was supported by funding from the Environmental Studies Budget and the Rendell family.

Importing Potatoes?

Many diseases have been unwittingly introduced to the Falklands by people planting ware, instead of seed potatoes.

- Ware potatoes are the type we buy to eat
- Seed potatoes are the type we plant

Ware potatoes can carry all kinds of diseases which might not make them bad to eat, but if released in to the soil, could harm subsequent crops of potatoes and other vegetables.

Seed potatoes on the other hand, are produced in very controlled and clean environments from germ stock which is guaranteed free from diseases.

If you're thinking about importing seed potatoes to start planting soon, make sure you're not bringing in any unwanted diseases by following the Seed Potato Import Health Standard Rules.

Firstly, apply for an import permit for seed potatoes from the DoA (costs £4.20).

The potatoes **MUST** be certified British seed potatoes and additionally must have been produced under the 'Safe Haven' scheme and bear the red tractor logo (see image). These can be bought in most garden centres and supermarkets.

The potatoes can either be brought back with you after a trip to the UK or can be sent by air-mail directly to the DoA where a phytosanitary inspection will be performed to double check that they are pest and disease free, before they are passed on to the customer.



Importing quality seed potatoes is easy and cost effective. The greater choice of seed potatoes available in the UK allow people to experiment with new varieties and find new strains which will thrive in our soils.

For full details, or to apply for a personal seed potato import permit, contact the DoA.



To apply for an import permit, contact:
biosecurity@naturalresources.gov.fk
Or call: 27355

**SEEN ANYTHING
STRANGE LATELY??**

**IF SO CONTACT THE
AGRICULTURAL
DEPARTMENT ON 27355**



PUZZLE PAGE!

Numbergrid puzzles are a special kind of logic puzzle, where the goal is to uncover the pattern of black squares hidden within a grid. A series of numbers is provided for every row and column which defines that row or column's sequence of black squares. "1,4,1", for example, means that there is 1 black square, followed by an indeterminate number of spaces, followed by 4 consecutive black squares, followed by another indeterminate number of spaces, followed by a final single black square.

Each puzzle has one and only one unique solution, and each can be solved using only pure logical deduction - guessing and trial-and-error methods are never required for these puzzles.

[illegible]

LAST EDITIONS SOLUTIONS

| | | | |
|------|----------|---------|-------------|
| 1938 | Mathew | PLX-819 | Juice press |
| 1961 | Harmony | JTR-500 | Toaster |
| 1965 | Michael | SPR-413 | Cutlery set |
| 1971 | Daniella | VGN-789 | Blender |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4 | 1 | 8 | 9 | 3 | 6 | 2 | 5 | 7 |
| 6 | 5 | 3 | 2 | 1 | 7 | 4 | 8 | 9 |
| 2 | 9 | 7 | 8 | 4 | 5 | 1 | 3 | 6 |
| 8 | 6 | 9 | 1 | 5 | 3 | 7 | 4 | 2 |
| 7 | 4 | 5 | 6 | 9 | 2 | 3 | 1 | 8 |
| 1 | 3 | 2 | 7 | 8 | 4 | 9 | 6 | 5 |
| 3 | 2 | 4 | 5 | 6 | 9 | 8 | 7 | 1 |
| 9 | 8 | 6 | 4 | 7 | 1 | 5 | 2 | 3 |
| 5 | 7 | 1 | 3 | 2 | 8 | 6 | 9 | 4 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7 | 4 | 9 | 1 | 2 | 3 | 8 | 6 | 5 |
| 6 | 8 | 2 | 7 | 4 | 5 | 3 | 1 | 9 |
| 3 | 1 | 5 | 6 | 9 | 8 | 2 | 7 | 4 |
| 1 | 9 | 6 | 3 | 5 | 4 | 7 | 8 | 2 |
| 8 | 2 | 3 | 9 | 1 | 7 | 5 | 4 | 6 |
| 4 | 5 | 7 | 2 | 8 | 6 | 9 | 3 | 1 |
| 5 | 6 | 8 | 4 | 7 | 2 | 1 | 9 | 3 |
| 2 | 3 | 1 | 8 | 6 | 9 | 4 | 5 | 7 |
| 9 | 7 | 4 | 5 | 3 | 1 | 6 | 2 | 8 |