

The United Kingdom Falkland Islands Trust

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1992 NEWSLETTER. No. 1

WHAT IS THE UKFIT? (by Nigel St. G. Gribbon, Chairman). It is a Registered United Kingdom Charity, formed in 1981 before the Argentinian invasion. The trustees, under the Presidency of The Rt. Hon. Lord Strathcona and Mount Royal, are dedicated to assist the Islands' population by conducting beneficial projects which are not provided normally by Government. At the same time, the trustees keep in close touch with H.E. The Governor and Government officials, including FIDC and the Agricultural department. UKFIT has no working connection with the former local Falkland Islands Trust or The Falkland Islands Foundation, now merged to form Falklands Conservation.

WHAT HAS UKFIT DONE? In earlier days, UKFIT sponsored training of potential secretaries in the United Kingdom, the education of a Falkland student at The Atlantic College in Britain, continuing support for the Falkland School Science Programme, and contributed financially towards repair to the Cathedral, towards the 1991 Falkland numbers on Operation Raleigh, and towards initial refurbishment of the Cape Pembroke Lighthouse.

WHAT IS UKFIT DOING NOW? In 1984, the trustees decided to make agriculture their major interest. They introduced the concept of organic husbandry as a research programme to assist with the improvement of the low value of the grass for sheep grazing due to the poor fertility of the soil. Mr David Stickland, Managing Director of the Organic Farmers and Growers based in Suffolk, and Dr Jim McAdam, of the Northern Ireland Department of Agriculture, well known in the Islands, willingly joined the Trust as consultants and project activists. The former visited the Islands in 1991 and the latter has visited on a regular programme throughout recent years. David Stickland plans to visit again during early July 1992 when he hopes to be able to speak to those attending the Sheep Owners' Association Annual Meeting and be available to discuss ideas and problems.

HOW IS UKFIT DOING ITS WORK? With the aid of several farmers in the Falklands, as directed by Jim McAdam and advised by David Stickland, UKFIT started by organising trials to test the value of kelp and to manufacture the product locally using equipment developed in Britain. Trials with the product are being conducted on various sites. Then followed the logical research into tree establishment by a range of planting methods to provide shelter on the farms. UKFIT gave a presentation of its work and ideas for the future at the Falkland's Seminar in Cambridge in April 1991. After Nigel Gribbon had given a general description of the achievements and problems faced, Jim McAdam and David Stickland gave their view as to what should be tackled next to achieve a coordinated agricultural programme. The presentations were well received.

HOW IS UKFIT FINANCED? The Trust works from the income from its capital base which has been provided by donations in both the pre- and post-1982 periods. This funding has been supplemented by donations for specific projects, such as the tree programme by FIDC and the grass trials by help from The Standard Chartered Bank. The Trust continues to look for sponsors to allow further development work. A significant amount of money has been spent on agricultural equipment to allow farmers to undertake the projects in hand.

WHY THIS NEWSLETTER? Having worked without undue publicity since its inception, UKFIT now seeks a broader understanding amongst the farming community so that other farms can become involved and participate on their own accord. Whilst UKFIT has the capability to give good advice on some developments in the agriculture sector, it now needs an expansion of knowledge

and enthusiasm in the field for the general benefit of all concerned so that full advantage can be taken of it. Further issues of this Newsletter will carry details of progress being made, together with scientific details of the trials in question to stimulate the necessary interest.

WHO ARE THE FARMING CO-OPERATORS? *Soil Evaluation:* Previous Participant: Marshall Barnes (Dunbar). *Grass Project:* Previous Participants: Alisa and Tony Heathmans (Estancia); Terry Clifton (Sea Lion Island). *Current:* Rodney Lee (Port Howard); Jimmy Forster (Bold Cove); Malcolm Ashworth (Beckside Dairy). *Grass Trials:* Gerry Hoppe & Steve Howlett (Dept of Agriculture). *Tree Project:* Tim Miller (Market Garden, Stanley) includes the Digester; Tom & James McGhie (Keppel Island then Pebble Island). *Tree Trials:* Nigel and Shirley Knight (Coast Ridge); Lyn & Tony Blake (Little Chartres). *Grass & Trees:* Simon Miller (Keppel then Stanley) includes the Digester. *Land for Trees:* Ron Binnie (Fitzroy).

WHAT OF THE FUTURE? Based on its nine years of agricultural research and development programme, UKFIT has prepared a paper giving its ideas on how organic husbandry might be dovetailed into a general farming policy for the Islands so that some of the scientific improvements and ideas taking place in biological husbandry in the Western World can be known and used to the benefit of Falklands agriculture. This paper has been circulated to the Falklands' Government. Details included are already known by the Agriculture Department and will be circulated in a final paper, as appropriate.

HOW DOES THE TRUST WORK? Trustees meet approximately every other month in Falkland House, London by courtesy of the Government Representative, Miss Sukey Cameron, who is invited to attend meetings, David Stickland and Jim McAdam also attend all Trust events. Minutes of Meetings are circulated to those either concerned, or interested, in both Britain and the Falkland Islands. Day-to-day work following Trust meetings is co-ordinated and actioned by the Chairman (Nigel Gribbon), the Secretary (David Ainslie) and the Administration Secretary (Doris Dodson). The President (Lord Strathcona) is consulted on all policy matters and actions as they occur apart from attending Trust Meetings.

FALKLAND ISLANDS GRASSLANDS. (by David Stickland). There is a need to improve both the quantity and quality of grass in the Falklands. The use of artificial fertilisers is uneconomic. So how to do it?

The Trust's approach has been to use biological methods rather than chemicals. Farming is an economic and biological business and chemicals should be used once the biological conditions are optimised. This applies not only to the soil's physical state, but the correct activity by micro-organisms as well. This is why one of the first things the Trust did was to estimate the number of aerobic and anaerobic bacteria in the Falklands soil. We found almost no anaerobic bacteria, and low numbers of aerobic bacteria, and we are hoping that the liquid seaweed being produced at Stanley will provide some plantfood and also increase the number of aerobic bacteria. If this proves the case, then the application of seaweed fertiliser would improve grass growth.

IMPROVING NUTRIENT VALUE. (by David Stickland). Grass of relatively high nutrient value can only be achieved from soils that have a full complement of elements and trace-elements. Unfortunately too much of one can often lead to too little of another. So when an effort is made to raise to correct levels an element or trace-element that is short another imbalance can inadvertently be created. Using biological inputs generally avoids this problem, as they tend to be broken down by bacteria and other agencies only as the plants need them.

There is only a certain amount of plant food available in the soil at any given time, and increasing the stocking rate per acre will merely spread the nutrients more thinly due to the increase in animals. Assuming the fertility is not available, then more nutrients must be made available for an increased number of stock to be healthy and produce profitably.

THE DIGESTER. The digester at Stanley, operated by Mr Tim Miller, is really a trial plant to see

what can be economically made from available seaweed. Chopped up seaweed is put into the tank at the right moisture level and anaerobic bacteria break it down into mainly a liquid, some solids and methane gas. This process can go on indefinitely, if required. The small plant at Stanley will not produce much solid or methane but it is producing a useful quantity of liquid. If the product proves beneficial to crops there is no reason why each farm with seaweed available should not have its own digester. And, of course, if any other raw material should be available in sufficient quantity it can also be used once the bacteria are acclimatised to it.

If the crop trials are successful, a much larger digester can be installed to produce increased quantities of liquid. Also, more solids as compost would be produced and the methane would be able to be burnt to provide gas for heating and cooking.

LAND EROSION. (by David Stickland). Land erosion is a worldwide problem, and normally occurs where trees or other plants have been cleared in areas of heavy rain, thus allowing heavy runoff to create huge gullies. In the Falklands, it is different being in the form of areas of flat land that have lost their few inches of peaty topsoil. But it is just as disastrous to the farmer. I appreciate that there has been much thought and discussion about land erosion in the Falklands. It is a problem. Being a newcomer to the Falkland scene I hesitate, as yet, to suggest how it should be corrected. In fact, I do not know what to suggest at this stage. But it is something that we in the Trust are going to give much thought to, again with a biological approach. Maybe we will be able to set up some trials at various sites to see if we can help find a solution.

THE NEED FOR TREES. (by Jim McAdam). Falkland Islanders have been interested in growing trees in Stanley and in the Camp for many years. Although it would be undesirable to clothe large areas in coniferous woodland and tall forest giants will not be grown in the Falklands, there is a need for shelter for stock and gardens and to improve the visual appearance of Stanley. Now that flocks are smaller and the national sheep flock is going to be substantially upgraded from improved stock imports, the need to reduce losses is all the more important. Strategically placed shelters around clippy pens or in ewe camps could be used over the critical times of lambing and shearing to make a very significant impact on lamb survival and on sheep recovery after stress. Stanley is developing rapidly, and with new housing and small industries appearing there is a need to landscape the town. Trees are widely recognised as the most natural way to achieve this. With many new small settlements appearing, trees have a further shelter and landscape role. The need for trees is there - the next stage is to establish and grow them. An explanation of the tree development programme follows.

THE TREE PROGRAMME. (by Jim McAdam). There have been numerous attempts to grow trees in the Falklands in the past, most of which have failed for a variety of reasons. The Trust has decided to concentrate its resources on tackling the problems of establishment and, to a lesser extent, determining the best species to grow. F.I.D.C. financial assistance for this part of the work is much appreciated.

Trials have been planted at three sites, Fitzroy, Keppel Island and Fox Bay (representing as wide a range of soil types as possible) to investigate the effects of planting technique, shelter and fertiliser on establishment and early growth.

A range of improved strains of willow have been tried, and some of these have shown remarkable promise.

Macrocarpa is the tree traditionally associated with the Falklands landscape. Forest scientists in New Zealand, where macrocarpa is widely used as a commercial forest species, have been selecting seed from 'elite' strains of the tree which show promise for fast, high quality growth. The Trust has purchased some of this seed and is raising trees for comparison with local macrocarpa. Tree trials are, of necessity, long term but initial results from all these trials are very encouraging and will be published locally.

The close co-operation of Tim Miller at the Stanley Nurseries is an important factor in the development programme. 3,000 species (soft and hard wood) have been planted up to mid-1991 with an approximate survival rate of 70%. Planting continues.

SCIENTIFIC RESULTS. (by Jim McAdam). The Trust has been engaged on programmes of research into potential for biological husbandry in the Falklands, the use of kelp extracts for fertiliser on grassland and trees and on the establishment of trees in a wide range of situations.

All of these programmes have been approached on a proper scientific basis with trials replicated, the results statistically analysed and chemical analyses carried out in recognised laboratories.

Early results from the grass trials have shown a response of re-seeded pasture to seaweed extract which was limited but greater than the nitrogen value of the material itself. Such products are reported to gradually improve soil structure and fertility so the grass trials are proceeding over a number of years to see if a significant response can be measured in re-seeded and native pasture. The importance of reducing import costs and utilising a 'natural' local product make this area of research particularly important.

Already there have been significant results from the tree trials, eg: trees planted in pits with organic compost and protective sleeves have established better than those which were slit planted. As this ambitious range of tree trials proceeds, interesting results are continuing to emerge.

ACHIEVEMENTS OF THE NURSERY. (by Jim McAdam). Falkland Islanders' interest in trees and shrubs is clearly evident from the expansion in the range and number of plants available for sale at the nursery. Tim Miller has put a lot of enthusiasm and hard work into developing the nursery and is now expanding into larger scale crop production, particularly potatoes.

Tim has been cooperating closely with the Trust - by supplying most of the trees for the various trials referred to earlier; by siting one of the tree establishment trials to the west of the market garden; by raising over 1000 macrocarpa seedlings as part of the trial to assess approved strains of this popular tree; by siting the Trust's prototype kelp digester at the market garden and testing the product on his potato crop; by comparing a range of strains of eucalyptus trees for shelter; by growing organic vegetable seed for possible export to UK, by generally assisting with the maintenance of the infrastructure of the Trust's trials.

Farmers are well aware that little is known about growing and raising most tree and shrub species in the Falklands and Tim's efforts have been pioneering in this field.

TUSSAC GRASS. (by Jim McAdam). The potential value of Tussac grass to stock and wildlife in the Falklands is very clear. Over the years the area of Tussac grass has become greatly reduced and there is an interest in re-establishing the grass in coastal areas. Previous research has been carried out on some aspects of the planting and early growth of Tussac and the Department of Agriculture has an active ongoing programme. It has been recognised that its susceptibility to pests and diseases is a limiting factor to successful growth of establishing and maturing plantations. Little is known about the types and biology of insect pests which live in and on Tussac grass bogs.

The Trust is planning a collaborative research project to document and describe these pests and to carry out trials which will attempt to quantify their effect on Tussac growth. This work has long been recognised as a serious gap in our knowledge of Tussac grass.

PARTICIPATION. (by Lord Strathcona) Agricultural effort is a long term effort: we intend to see our experiments through to conclusion. In so doing, we are keen to work with the Department of Agriculture and farmers. So please let us know if you disagree with what we are doing, or observations that you feel would be helpful. We have had great cooperation so far, mainly because Jim McAdam seems to know everybody, and such cooperation makes everything that much easier. But, as our tasks range more widely, we will welcome any involvement farmers might like to make.

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TRUSTEES. President: Lord Strathcona and Mount Royal;
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