



ARGOS RESEARCH NOTE: NUMBER 1, JUNE 2004

Background to the ARGOS Programme

ARGOS stands for the Agriculture Research Group on Sustainability. This research group is an unincorporated joint venture between the AgriBusiness Group, Lincoln University and the University of Otago. It has been formed to undertake a six year research programme aimed at comparing different land management (farming) systems in the lowland sheep / beef, high country sheep, kiwifruit sectors and in selected maori-owned farm land. The Research Programme commenced in October 2003 and is funded by the Foundation for Research, Science and Technology and some industry partners. This Research Note is the first of a series about progress made in the research and key outputs achieved. It is mainly dedicated to introducing the Industry Sectors involved in ARGOS and describing how we have gone about setting up the research programme. Future Research Notes will focus on the research team, research design and research results.

The research builds on previous research by the University of Otago that has systematically monitored and analysed developments in novel technologies, such as organic or Integrated Management systems in New Zealand primary production. The ARGOS programme will provide evidence of the economic, environmental and social effects of different farming systems, and focus attention on farmers as innovators.

This is because for the sectors studied in the ARGOS Programme, a key driver to farm operation is market demand – i.e., access into higher value supply chains which are demanding a higher standard of proof of the relative sustainability of the farming system. The intention is to empower farmers to make more informed decisions through an increased understanding of social, economic and

ecological issues that can affect their business. We will identify the best management practices to enhance the sustainability of individual farms, their

cohort and the sector. A cohort in the sense of this research programme is a group of like farms, e.g., organic. Work through the Field Research Managers will assist in the enhancement of the value chains and quality assurance systems. The research programme involves the ongoing monitoring of a wide range of sustainability indicators on different production systems i.e:

- Production indicators (e.g. yield, quality)
- Environmental indicators (e.g. water quality, soil, energy use, biodiversity)
- Financial indicators (e.g. net profit, production costs)
- Social indicators (e.g. demographics, labour use).

Where appropriate, the programme will also explore novel management interventions which may enhance the sustainability of current practices.

The Lowland Sheep and Beef Sector



The sheep and beef farms have been a little more elusive to match properly. This is due to the geographic spread of the farms and large variation in soil types/ climate and geography of the south island. However, we are nearing completion of the process with the aim of having 36 sheep and beef farms. There are three different production systems, comprising 12 conventional, 12 integrated and 12 organic lowland sheep and beef cattle farms to be included in the Research Programme.

Dave Lucock is preparing the baseline reports for each of the participating farms. True monitoring (environmental, social and economic) begins in Spring 2004.

The Kiwifruit Sector

ARGOS has confirmed the Kiwifruit Orchards to be included in the Research Programme. There are three different production systems, comprising 12 Integrated Management (Zespri Green), 12 certified organic Hayward growers and 12 Integrated Management Hort 16A (Zespri Gold) orchards. They are situated in 12 clusters of 3, with one of each of the 3 types in each cluster. This is to minimise variation in climate, geography and soil types. Most of them are situated in the Bay of Plenty, but a cluster in Motueka and a cluster in Keri Keri complete the group.



Interviewing of the kiwifruit orchards in the Bay of Plenty (BoP) has already started. This will provide the basis for some of the data being incorporated into the baseline reports being prepared for each participating orchard.

Participants stand to benefit significantly through:

- Identification of management approaches that will enhance the sustainability of their production systems:

- Access to a wide range of orchard information collected over several years. This information will be analysed by different specialists and compared to the performance of other participating orchards, production systems and industries;
- Identification of novel management interventions for enhancing sustainability;
- Involvement in discussion groups and other forums to share information (voluntary).

Previous experience with other industries indicates that the performance of participating orchards will be significantly enhanced due to the focus and attention they receive. Dr Jayson Bengé is preparing the baseline reports for each of the participating orchards. True monitoring (environmental, social and economic) begins in Spring 2004.

High Country Sheep Sector

A review of the high country and further consultation with stakeholders has led to a change in the original research design. Now, the focus is on 12 high country farms moving into more sustainable farming practises and the associated value chains. This has a better fit with the overall research programme. Farm performance will be compared with historical performance on the selected farms, within the group and with the lowland sheep/beef "clusters".

Ngai Tahu

An adjunct study of Ngai Tahu land holdings encompasses a variety of types of farming. Subsistence economy and the market economy with regard to Maori owned land in the South Island (Ngai Tahu land) will be studied. It is hoped to identify indicators of resilience for maori land owners. This work will be exclusively showcased in a Research Note in the future.

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