



# Canterbury Commercial Organics Group

## Newsletter

Issue No 20: July 2002

### Contents

<i>Item</i>	<i>Page</i>
Mid-winter dinner	1
Canterbury Organic	2
BHU Workshops	3
Report on field day	4
New Enterprises	6
Research Reports	7
Advertisements	12

<i>Coming Events</i>	<i>Date</i>
Mid-winter dinner	3 Aug
BHU Soil Workshop	20 July

The Newsletter is published three times per year by the Canterbury Commercial Organics Group, a non profit charity run by volunteers. Advertisements and submitted articles are most welcome.

Individual articles in this newsletter, unless copyrighted, may be further reproduced and or disseminated without permission, as long as the source is acknowledged. We ask that copies of the whole newsletter are not made or distributed and that all readers subscribe to help fund the group. Subscriptions: \$10/yr email copy, \$15/yr posted.

#### **Contact:**

Mary Ralston  
Back Track  
RD 12 Rakaia  
Email: kem@xtra.co.nz

[www.organics.org.nz/ccog/  
ccog.html](http://www.organics.org.nz/ccog/ccog.html)

## Mid-winter feast is on again! 3<sup>rd</sup> August, Ladbrooks Hall, 6.30 pm.

It won't be exactly mid-winter, but we have lined up two excellent speakers for an informative and entertaining evening. Please bring something delicious to share for dinner and a gold coin donation to help pay for hire of the hall. CCOG will provide tea/coffee.

Our first speaker will be **Tim Jenkins**, Manager of the Biological Hubandry Unit at Lincoln University. Tim is a soil scientist/microbiologist by trade and was formerly involved with product development for Jenkins Biolabs (probiotics and biostimulants) and manager of Soiltech (working with comprehensive soil tests and sustainable fertiliser recommendations). His particular research interest is the establishment and enhancement of microbial technologies for improved sustainable agriculture.

Tim will talk on "Re-creating the BHU - one year on". Much has happened since Tim started at the BHU late August 2001. Hear about the experimental trials and the difficult trials. But mostly about the successes!

Also speaking will be **Jon Manhire** who is very well known in organic circles, having been involved with the organic sector since about 1984. He helped establish the Organic Product Exporters of NZ (OPENZ) and is currently its Executive Director. He is also co-convenor of the Organic Federation of NZ (OFANZ) with Brendan Hoare (from Soil and Health). OFANZ is the peak industry body for the organic sector. Jon is a Trustee for the BHU Trust and is a consultant with the Agribusiness Development Group.

Jon will speak on the work he has done (and hopefully will continue to do) in Niue with organics. Niue is a small island that is looking at organics for a range of reasons. Jon developed a feasibility plan for the island which was funded by the NZODA - MFAT. Jon will also update us on various OFANZ developments and if time permits, the Waitakere City organics cluster which he is involved with.

Tim and Jon are both great speakers and have a wealth of knowledge to pass on. There will time for questions and discussion. This will be a great evening – don't miss it!

**Date:** Saturday, 3<sup>rd</sup> August, 6.30 pm.

**Bring:** Something for pot luck dinner, gold coin donation

**Directions:** From Christchurch the easiest way is to take Halswell Rd into Halswell, go past the school; this meets the Akaroa Hwy. Turn right off this into Leadleys Rd, then left into McDrurys Rd. This takes you into Ladbrooks where the hall is easily seen.



Canterbury Organic is a non-profit incorporated society, established in November 2001 to act as a regional organic certification body for Canterbury domestic organic producers. Canterbury Organic is run on a democratic basis by the producer members in order to keep it accountable to those to whom it provides certification services. We are working to promote the brand with retailers in the Canterbury area.

## Background

The need for a high level, yet low cost, organic certification service for domestic organic producers was identified by the Primary Production Select Committee in its report on organics early 2001, as current certification agencies cater predominantly for exporters who need to be certified to overseas market standards.

In late 2000 the Ministry of Agriculture and Forestry awarded the Soil & Health Association of NZ a budget to commence development of a new system for certification that would allow organic producers, from home gardeners through to commercial producers of organic produce to become certified at a much lower cost. This is being administered throughout the country by regional bodies, of which Canterbury Organic is one. A National Coordinating Committee has been established to promote nationwide consistency.

## How does Canterbury Organic operate?

This new certification system differs from existing certification services in that it is based on a peer review process carried out by growers within grower groups or 'pods'. The workings of each 'pod' is carefully documented during the peer review process of inspecting each members' property for its organic status according to the production standards. This documentation is then thoroughly gone over by a trained inspector.

Spot checks on properties will certainly be a key part of the verification process to ensure its integrity. Those who do not want to be part of such a 'pod' system can be individually certified, but at

greater cost. Because of the pod system, we can keep certification fees down to \$250 per property while for individual certification this will cost \$450. We are investigating a cheaper scheme for home gardeners. We are also investigating providing group manager services under the BIO-GRO group certification scheme.

## Workshops

Canterbury Organic is committed to ensuring producers have access to high quality information about organic systems and practices. We run regular workshops and demonstrations aimed at meeting the needs of Canterbury's organic producers.

## How do I join?

If you are interested in your property being certified by Canterbury Organic, please contact us and we will issue you with the appropriate certification forms. We can also assist you in becoming part of an appropriate grower pod in your area if you want to choose that certification option.

There are currently five pods in the Canterbury area. They are Rangiora, West Melton, Christchurch Community Gardens, Banks Peninsula and Geraldine. For more information about these, or about starting up a new pod in your area, just contact our office.

Alternatively you may wish to join Canterbury Organic as a non-producer supporter for \$30. You will receive our quarterly newsletter, containing pod updates, other organic news, and information about upcoming workshops and field trips which you will be entitled to attend as a member. Your support will assist with on-going administration costs.

## Who is Canterbury Organic?

Canterbury Organic is made up of organic growers, retailers and interested supporters of the certified organic movement in Canterbury and New Zealand. The committee members are Tremane Barr (Chair), Robyn Patchett (Vice Chair), Hugh Mingard (Treasurer), Matt Morris (Secretary), Vanya Maw, Jim & Eleanor Jolly, and Sue Cumberworth.

For more information about Canterbury Organic, please contact Matt Morris at [ogct@environment.org.nz](mailto:ogct@environment.org.nz); or any of the other committee members.



---

## Workshops for Organic Growers at BHU

**Workshop 1: Testing Soil, July 20,  
10 am - 4 pm.**

The BHU (Biological Husbandry Unit at Lincoln University) will run practical full-day workshops in organic farming and growing at the BHU, part funded by MAF Sustainable Farming Fund. These workshops are a fantastic opportunity for all Canterbury organic growers to learn valuable new skills and information.

The first workshop ("TESTING SOIL") is July 20th 10 am to 4 pm. This will be on methods for, and interpretation of, soil tests and plant tissue tests. It will also include diagnosis of problems by observation and soil quality assessment; also methods of measuring organic matter and soil biological activity. There will be a nominal charge of \$10 per family to assist with costs of the workshop. You can bring along your own soil and plant tissue test results if you have some.

The second workshop will be "PRUNING FOR THE SMALL HOLDING" on fruit and nut tree pruning - date to be advised. We are interested in hearing back on your priorities/wishlist for workshops.

**Contact Tim Jenkins or Mark McGrath at  
jenkint2@lincoln.ac.nz / work phone 3253684.**

### Directions

Enter Lincoln University through Gate 2, go down Calder Drive and take first right up Farm Road, past nursery and cricket grounds, straight through at the intersection into the Horticultural Research Area (Biological Husbandry Unit signposts begin). Follow the road round to the left following the BHU arrow. Park in the areas indicated and walk straight down the track following a further BHU arrow.

### FURTHER PLANNED WORKSHOP TOPICS

#### Composting

Practical technologies for large scale composting. Actual construction of a large scale windrow compost. Analysis of potential compost inputs, their relative value and sources. Setting up of fermentation systems as an alternative to hot composting including an ability to manage odour.

#### Worm Farming

Relevant earthworm theory and identification. Actual setting up of worm beds and worm baths. Options in worm farming including contract growing and end product use/sale. Discussion and advice on fertiliser value of vermiculture products.

#### Fertiliser

Discussion of the different fertiliser options for organic and sustainable farming. Strategic use of fertiliser and overcoming some of the potential limitations in choice of fertiliser under organic certification. Specific points would include strategies for meeting short term establishment requirements of phosphorus demanding crops, predicting and enhancing response from reactive rock phosphate, assessing nutrient requirements and sustainability of potassium nutrient budgets under organic systems. Will involve practical application of fertiliser and observation of comparative fertiliser trials.

#### Liquid Fertilisers and Biostimulants

A discussion of the benefits and limitations of foliar fertilisers and biostimulants including an objective presentation of research results. Recommendations for maximising likelihood of success with this potential part of a fertiliser programme.

#### Biodiversity

The importance of Functional Agricultural Biodiversity (FAB) in sustainable farming. Practical ways of enhancing biodiversity including choice of species and potential benefits of each of the species available. The workshop would include a multipurpose shelterbelt planting and propagation of herbaceous plants suitable for attracting and feeding beneficial insects. Demonstration of beetle banks for improving predatory ground beetle populations and general advantages of biodiversity present in existing and developing BHU systems.

#### Pest Control

Organic pest control methods. Organic theory including root causes and systems approaches to pest control including biodiversity, enhancing natural predators and parasites, providing balanced plant nutrition through to choice of organically certified pesticides and home remedies. Major pest types looked at will include caterpillars, aphids and slugs.



## **Tree Crops**

Discussion of the tree crops of potential in Canterbury and relative merits. Tree establishment techniques without herbicide and with organically certified herbicides. Realistic examination of income potential and ways to maximise income.

## **Marketing**

Methods for direct sales, value added marketing and general methods for turning small enterprises into economically viable ones. Introduction to marketing for export. Examples of BHU projects and experience in marketing organic produce demonstrated.

## **Export Marketing**

Potential for exporting of produce. Discussion of access to overseas markets and helpful contacts. Case studies given for a variety of size of operations.

## **Commercial Herb Growing**

Introduction to a variety of herb crops. Growing, harvesting, processing and marketing.

## **Weed Management**

Weed control techniques from systems based methods through to organically certified herbicides. Appropriate use of cultivation, minimal and zero tillage potential in an organic system. Use of flame weeding. Control of perennial weeds. Weed management with livestock. Weed management in orchards.

## **Pastures and Herbal Leys**

Selection of pasture species and cultivars for optimised animal performance including animal health. Inclusion of deep rooting plants, and plants rich in certain trace elements. Maintaining good levels of nitrogen fixing plants, especially clover and enhancing the persistence of forbs (e.g. chicory and plantain) in a grazed pasture.

## **Animal Health**

Organic methods for improving animal health from nutrition and conditions through to organically certified remedies.

## **Market Garden Production**

Annual planning for market gardening. Fertiliser programmes, weed control and vegetable selection.

## **Arable and Broad Acre Horticulture**

Economics and agronomy of broad acre growing. Attention given to Lincoln University/Heinz Watties Kowhai Farm.

## **Stock Management**

Good animal husbandry including identifying ill-thrift. Understanding worm burden. Feed and paddock planning. Fencing design and construction.

## **Meeting Certification Standards**

Requirements for organic certification under the options available. Identifying the gaps between current practices of attendees and certified organic status. Assistance with writing of applications.

## **Equipment Options and Access**

Identification of required equipment for small farming operations. Accessing this equipment new, secondhand, leased or borrowed. Prioritisation of equipment purchases. Appropriate cultivation techniques. Tractor maintenance. Innovative machinery and tools in use at the BHU. Information on accessing health and safety/first aid courses.

---

## **Field day report – Jackie and Brian Clearwater's organic dairy farm, Peel Forest**

A small and enthusiastic group met at the Clearwater's organic dairy farm on April 14. It was a beautiful sunny autumn day but ironically many of those present would have preferred it to be raining! Such is farming.....

Jackie and Brian Clearwater, and their children Sam and Rose, have a 110 ha farm at Peel Forest milking about 150 cows. They had been dairying (sharemilking) for many years on other farms in Canterbury before buying their own property and farming organically. They both have a background in horticulture and Brian "woofed" in the UK. They've had a long standing interest in organics and sustainability; they feel that sustainability should be promoted as a farming goal, rather than urging everyone to become organic. As sharemilkers they didn't really have the oppor-



tunity to “go organic” as there is a lot of pressure to keep up high production levels.

However, under their current regime, they have a much lower stocking rate, and use rock phosphate, elemental sulphur and other more “natural” fertilisers rather than soluble nitrogenous fertilisers. There is also an emphasis on the pasture supplying a better balance of nutrients and to this end a mix of pasture species are used, such as red and white clovers, chicory, plantain, fescues etc. This system lowers the incidence of disease such as mastitis and foot problems and thus they have a much lower use of antibiotics than conventional dairy farmers.

The small herd size also means they have better hands-on management than would a farmer with a herd size of 500 and so can manage any problems early. There are however still some problems with mastitis and they have had good success drenching with cider vinegar as a tonic and have used colloidal silver. They will look at herd testing next year – this is a procedure where a sample of milk is taken from each cow four times a year and analysed for fat and protein levels, production level, and somatic cell count. The somatic cell count is an indicator of infection. Herd testing is an expensive procedure but a valuable way of identifying which cows are performing best, and which ones may be prone to infections etc and so may have to be culled.

When they bought the property the Clearwaters were leasing a farm at Carew – they began using organic methods from the start at Peel Forest, however they didn’t start the certification process until they moved onto the property some time later and found that Bio-Gro wouldn’t acknowledge the time spent under organic management before the initial inspection. So they have become certified organic with Certenz, which has standards that takes into account time spent under organic management prior to applying for certification. Certenz also had a different approach to the use of antibiotics which they felt was more realistic – under Bio-Gro a cow’s milk could not be sold as organic for one year after antibiotic use. However they have adopted some of Bio-Gro’s practices, such as the use of a quarantine area for cows treated with antibiotics.

Currently the milk goes into the big vat with all the “conventional” milk but later this year the Clearwaters plan to build a processing plant to process milk and yoghurt on-site. They are keen to develop a small niche market rather than selling a bulk commodity to the supermarkets and have

recently begun experimenting with yoghurt making with the help of an Iranian friend. They hope to supply health food shops and organic co-operatives. This change will mean they will need to milk all year round (currently they dry off the cows during winter).

Last year the farm (like most of Canterbury) was under serious drought stress and this has prompted the Clearwaters to look at irrigation – they have investigated wells and hope water can be found which would take out the uncertainty from their operation. Last summer during the drought they were only milking 50 cows but were still very short of feed.

Over lunch the group tossed around many ideas, including the potential of EM (effective microorganisms) on the Clearwater’s farm. Use of EM could help reduce fertiliser use without compromising response. This would fit well with Jackie and Brian’s emphasis on sustainability.

CCOG would like to thank the Clearwaters very much for their hospitality and wish them all the best for their goal of supplying organic milk and yoghurt. We look forward to becoming consumers of their organic dairy products!!

---

## Good feedback for organic arable discussion group

‘Enjoyable’ and ‘a good learning tool’ are two comments of feedback about the organic arable discussion group, which has now been running for 15 months in Central Canterbury. The discussion group is part of a technology transfer project funded by MAF’s Sustainable Farming Fund. While its target audience is broadacre organic arable and process vegetable growers, organic pastoral farmers have also gained benefits.

The aim of the project is to enhance the financial and environmental sustainability of group member properties through the sharing and provision of up-to-date technical information.

Group members have visited each other’s properties discussing seasonal and topical issues. They have heard guest speakers on a wide range of topics including soil and earthworms, fertilizer, biodiversity, growing and marketing, weed control, foliar sprays and EM.



The project will continue for another year. Growers interested in finding out more should contact Sue Cumberworth at The AgriBusiness Group, phone/fax (03) 322 7388, email [sue@agribusinessgroup.com](mailto:sue@agribusinessgroup.com) or Anthony White at Heinz Wattie's, phone (03) 349 1637, fax (03) 349 5688, email [anthony.white@heinz.co.nz](mailto:anthony.white@heinz.co.nz).

---

## New Enterprises

### OGCT Wholesale

During the last year, the Organic Garden City Trust has been actively exploring the possibility of starting a trading arm to support the different projects undertaken. We decided to set up an organic wholesale warehouse/distribution hub.

We believe that this venture has a real potential and we would like to invite CCOG Growers to contact us a.s.a.p, as we need to secure our supply of organic produce. We also want to help you pre-allocate the market for your produce and plan for the future.

We hope to be able to

- assist CCOG growers by acting as a sales outlet for your produce
- assist growers in transition
- ascertain that customers receive a steady supply of produce they want, through our communication of customer needs back to CCOG growers/producers
- raise the profile of organics in Canterbury through active distribution of organic produce.

Please contact Nicole or Alex on (03) 365-5038, or email [ogct@organics.org.nz](mailto:ogct@organics.org.nz) to discuss the possibility of doing business together.

---

## The FreeRadical Pie Co.

Calling organic growers! Of broccoli, pumpkin, kumara, spinach, silverbeet, potato, cauli, fruits (especially berries), nuts, spices, grains, cheeses, and what have you... The FreeRadical Pie Co. is a small, young company based out of Lincoln about to supply our super-tasty vegetarian pies to the greater Christchurch area. We would like to be 100% organic. Our goal is to make organic, vegetarian-friendly food affordable and conveniently available.

The FRPco is Glenn Bell and Justin Tucker. We are recent graduates of Lincoln and Canterbury Universities who believe in sustainable living, green business, and strong local and global communities. We would be so pleased to hear from anybody interested in what we are doing, especially if you can supply some of those veges listed above. At this stage we see no reason not to support those growers working towards organic certification. Our contact details are listed below so please introduce yourself at your convenience. We would love to hear from you.

Sincerely, Glenn and Justin.

FRP. Phone 341 5474 or 021 18 60 627 or email us on [freeradical@paradise.net.nz](mailto:freeradical@paradise.net.nz)

---

## Renaissance Agriculture

When asked to describe his new organic consultancy, Renaissance Agriculture (RA), Geoff Burke says, "RA is unique in that it has a very broad focus that extends the length of the organic supply chain. It offers the solid core 'in the paddock' work, dealing with rotations, animal husbandry and financial management etc, but it also extends beyond to look at the farm enterprise as a business, and therefore the overall management of that business, the marketing, administration and holistic vision that owners/managers may have. It's an approach that also applies to processing and marketing companies actively pursuing the strength of offshore markets and/or the expanding domestic market."

Geoff has returned to New Zealand after 11 years in the UK. For six years he worked as a futures and options specialist in investment banking in the City of London. In 1997, after having made the decision to return to his roots in agriculture, he ventured to Lincoln to undertake a postgraduate diploma in Applied Science, focusing on biological husbandry under the guidance of the organic guru Bob Crowder. On completion he returned to the UK and a position at Elm Farm Research Centre, the UK's leading organic research and advisory organisation, where he was involved with advisory, management and policy work.

RA presents farming advisory experience with clients as large as the Queen's Sandringham Estate and as small as two hectares, and everything in between. Geoff was the developer and Managing Director of the Organic Arable Marketing Group which was (and remains) the single largest supplier of UK domestic organic cereals. He also



created the Organic Seed Producers Company while with Elm Farm. He has worked extensively with businesses in the UK such as Prince Charles' own label, Duchy Originals, Sainsbury's, one of the UK's largest supermarket chains, and Planet Organic, a specialist organic supermarket chain in London.

When talking about New Zealand's organic potential, Geoff says, "The opportunity in organic agriculture in NZ is very significant and largely untapped, and the experience of creating the organic development program and conversion plan at Sir Peter and Lady Elworthy's Craigmore property has certainly whetted my appetite for further projects in the NZ organic sector. I am definitely looking forward to working with new people who wish to strengthen, develop or extend their organic assets and vision."

This in practice can range from telephone access to business plans, from 'trouble shooting' to conversion plans and from enterprise integration to land development/project management.

Geoff adds, "The ability to make a major difference to farm and business performance by attention to simple but critical detail, insight and planning is enormous. By applying the discipline and rigour gained in investment banking in London to a deep understanding and commitment to organic principles, RA will make a profound difference. The greatest strength of organic agriculture is that when the fundamental values of its philosophy take shape in the form of best practice, the result is superior performance."

Geoff Burke and Renaissance Agriculture look forward to the organic sector in NZ accepting the responsibility to win, gaining in sophistication and achieving its full potential, and furthermore to playing a critical role in that process and to working with people and organisations who also have the courage to move beyond 'comfortable' and to succeed.

Contact Geoff Burke on 03 324 3230, or email [geoff.burke@xtra.co.nz](mailto:geoff.burke@xtra.co.nz)

**Letters to the Editor, news items and notices of events are welcome. Please send any newsletter material to the editor, Mary Ralston, Back Track, RD 12, Rakaia, email [kem@xtra.co.nz](mailto:kem@xtra.co.nz)**

---

## Research Reports

### Weed Management In Organic Crops

#### First Year Report

We have previously reported on this research project which started in early 2001. The project is mostly funded by AGMARDT with Heinz Watties, and Foundation for Arable Research (FAR) as other contributors. The aim of the project is to formulate weed management strategies for organic farmers, focusing on two main arable crops: wheat and peas.

The main objective of the project in the first year was to determine the optimum number and times for mechanical weed control in wheat and pea crops. This was achieved by field experiments comparing different tine weeding treatments. The experiments are conducted on farms under real farming conditions. This means the results are directly applicable to farmers.

In the first year a field trial was conducted in wheat in Rakaia, while three field trials were conducted in peas in Rakaia, Hororata and Lincoln at the Kowhai farm

In all experiments five treatments were compared as follows:

1. **Nil treatment**, no weeding was done.
2. **Pre-emergence tine weeding**. In the first week after drilling but before crop emergence.
3. **Early post emergence tine weeding**. Wheat was at 1-2 leaf stage and peas at 2-3 node stage.
4. **Late post emergence tine weeding**. Wheat at 4-5 leaf stage with 2 tillers, peas at 5-6 node stage.
5. **Pre-emergence + Late post emergence tine weeding**. Two weedings were done as described above for 2 and 4.

The first year results showed that effectivity of tine weeding depended upon the weed species and their age. In wheat, pre-emergence tine weeding provided satisfactory weed control for some time, but needed a second tine weeding at tillering stage for the late emerging weeds. Weed control by tine weeding treatments did not result in increases in wheat growth or grain yield which may be due to insufficient weed competition.



In peas, late post-emergence tine weeding was significantly less effective in decreasing weed density than the early post-emergence treatment. In two of the three farms, a single tine weeding at

early post-emergence was more successful in reducing weed density than two tine weeding operations at pre-emergence and late post-emergence.

## Number of weeds in peas across trial sites as affected by different weeding treatments.

Tine weeding	Rakaia	Hororata	Kowhai Farm
Nil	367	370	182
Pre-em.	162	340	113
Early post	119	102	50
Late post	207	130	98
Pre-em. + Late Post	130	202	47
F test	0.01	0.01	0.01
LSD <sub>0.05</sub>	128.8	177.6	63.6

LSD is used to compare means between treatments: any two means with a difference more than the LSD value are significantly different.

The relationship between tine weeding and yield was more complicated. The highest yield was not always associated with the best weed control. In general, the greatest increases in yield were observed in the pre-emergence or early post-emergence tine weeding treatments.

The first year results showed little benefit from two tine weeding operations. Some growers carry out three or more weeding operations aiming at a very clean crop. They argue that it is a cheap operation. This may be true in dollar terms, but the negative effects through soil compaction, soil erosion, and pressure on the crop should be given more consideration.

In the second year, the project will again run comparisons between tine weeding treatments in wheat and pea crops to confirm the first year findings. Moreover, correlation between weed density and yield will be better defined in these crops. Seed addition to the soil seed bank by weeds may also be studied.

*Dr Farhad Dastgheib, the science manager of the project, wishes to thank Philip Rushton, John and Kelvin Hicks, and Antony White for running the first year trials on their farms. Farhad welcomes any comments or suggestions you may have for this project or weed management in general. He can be contacted by email [farhad@inet.net.nz](mailto:farhad@inet.net.nz) or phone 03-325 2132 or mobile 021-1549317.*

## Development of a commercially viable system for organic strawberry-runner production

**Research Group:** Canterbury Commercial Organics Group (CCOG)

contact Robyn Patchett (ph 329 5725)

**Research Site:** Organic Farm, Rolleston Prison

contact: Graeme Williams (ph 03 347 7843)

**Research Provider:** HortResearch Lincoln ([www.hortresearch.co.nz](http://www.hortresearch.co.nz))

contact: Nick Waipara/Monika Walter (ph 03 325 6600)

CCOG is involved in a research project undertaken by HortResearch Lincoln to develop a commercially viable system for the production of organic strawberry runners. The research is being carried out at the organic farm at Rolleston Prison.

Organic strawberry-runner production does not exist in NZ on a commercial scale. There is a worldwide move by the organic industry to require the use of organic seed stock as opposed to using seed stocks from conventional production. Organic strawberry growers will therefore need to be able to produce their own runners or obtain organically produced runners. This will be the only way to ensure the long-term economic sustainability of organic strawberry production. The project addresses organic strawberry production and the related difficulties (plant nutrition, pest/disease/weed problems, soil preparation) and creates an opportunity that will



'kick-start' a new industry - organic strawberry-runner production.

The project aims to achieve organic strawberry runner production in four steps:

1. Identify the problems in organic strawberry-runner production. This will address production related issues inherent in strawberry growing as well as strawberry-runner production.
2. Develop a novel method for organic strawberry runner production. This will involve glasshouse runner production using tissue cultures of specialist cultivars for organic production.
3. Cultivar selection. Variety selection will be important to find the best cultivar for a particular production system/growing conditions, climate and market opportunities.
4. Developing a commercially viable system for organic strawberry runner production. Guidelines and a production manual will be produced to allow commercially viable organic strawberry-runner production.

#### **Project progress:**

The project started on 1 October 2001. Five different strawberry cultivars are currently in tissue culture for propagation purposes. The glasshouse has been altered and set up for preliminary runner production trials. The field site has been prepared and small scale planting of selected cultivars has been completed. Soil analyses are in progress.

The experimental trial sites, both glasshouse and field sites, have been prepared at the organic farm. Appropriate insect netting, planting containers and irrigation have been constructed in the glasshouse. Plants have been obtained and planted. Three different growth substrates (compost/vermicast based) are being evaluated for sustaining plant growth, plant nutrition and runner production for two different cultivars. Potassium deficiency has been observed for some growth substrates. Aphids have been controlled with rhubarb extract. Experiments on improving water retention in the growth substrates are underway at HortResearch.

Five different cultivars in tissue culture have been ordered from New Zealand Berry Fruit Propagators Ltd to be used as initial parent stock for propagation. Preliminary protocols for propagation from tissue culture have been developed and are currently under evaluation. The time required for establishing in tissue culture, multiplication of tissues, rooting of plantlets and excising plants from flasks takes a minimum of four months. We are currently in the process of setting up the required misting unit for excising plants from flasks at the organic farm.

The first three months of the project were extremely busy with the setting up the sites and initiating the various trials. During the next three months we expect to monitor these experiments and to be able to present some preliminary results. A public field day will be held in November. By then our first organic runners will be producing fruit, and the second experiment on organic runner production will be set up. The field day will be hosted at the Prison site.

---

## **A Review of New Zealand and International Organic Land Management Research – summary**

*by the Research and Development Group of the Bio Dynamic Farming and Gardening Association in New Zealand, 2002*

Until the mid-1980s organic agriculture struggled to gain scientific credibility in New Zealand and elsewhere in the world. Internationally, the situation has changed dramatically since then. The International Federation of Organic Agriculture Movements (IFOAM) has developed into a highly credible organisation and one that has been instrumental in setting minimum standards for organic practices and products. There are now many research institutes dedicated to organic research, particularly in Western Europe, that are funded by individual governments or the European Union and work collaboratively with traditional research agencies. The biennial IFOAM conferences increasingly highlight the multidisciplinary character of organic research, encompassing areas as diverse as soil ecology, economics and sustainable development. Many New Zealand farmers and orchardists are attracted to organic methods but seek the backing of scientific research. It is becoming evident that organic agriculture requires comprehensive research.

This research review report and catalogue were compiled to provide scientists, policy makers, funding agencies and farmers with information on the current state of organic farming systems research and research methodology, focused around organic soil management. The report provides lists of research institutions and websites that specialize in organic systems research, as well as references to relevant books and research articles. Much of the material is drawn from overseas sources. Where relevant, findings from New Zealand research are provided. This serves to highlight some important points in relation to organic systems research:



- over the last decade a strong scientific basis has been developed, building on the work of the pioneers of organic agriculture in the early part of the 20th century;

- multi-disciplinary and whole-system research approaches that take account of regional, local and on-farm characteristics are required, over long time periods;

- New Zealand organic farmers have mainly relied on knowledge gained from their own experience and trials;

- involvement of organic producers is essential to ensure practical questions are addressed and to conduct credible organic systems research (particularly for participatory and observational approaches that are increasingly being used);

- there are significant opportunities for advancement of knowledge and collaborative research in New Zealand, based on overseas experience;

- increased knowledge of organic farming systems will not benefit the organic sector alone, but will also be of wider benefit to sustainable land management in New Zealand.

Given the significant developments in organic research taking place overseas, it is becoming evident that similar capabilities are required in New Zealand. Some overseas research is applicable in New Zealand, but because organic farming systems often reflect the unique character of the producers and their farm environments, local and regional research is essential to increasing the New Zealand knowledge base. However, the adoption of new research methodologies (as in use by the organic research centres discussed) can contribute significantly to closing the knowledge and experience gap. Early organic research was often focused on comparative trials, using conventional experimental plot design and statistical techniques. Unfortunately, such approaches often required the exclusion of multiple variables that actually determine the viability and vitality of organic farming systems. Quantitative science has an important place, but equally important to research on organic farming systems are more qualitative approaches. This stems from an understanding that organic agriculture is both a technology and a process.

The following is a summary of the various sections of the report:

## **The Soil System & Organic Soil Management**

Soil quality, landscape quality, soil biota, nutrient cycling and biodiversity are integral aspects of sus-

tainable development. The report discusses research findings that show how they become functional in organic farming systems. Recognition of the uniqueness and diversity of soils and in soil provides opportunities for greater diversity at the regional or farm scale, since different soils have different suitable uses. A holistic, ecological approach is required for future research on soil-plant-animal systems in New Zealand. This will enable redesign of farming systems from an over-emphasis on production (developmental phase) towards more quality and internal regulation (mature phase). This will result in less mineral losses, less pest and disease pressure and less susceptibility to climate extremes, thus contributing to sustainable land management on farm and regional scale.

## **Dairy Pasture Management**

There is limited specific international literature on organic dairy pasture systems and little that is of direct relevance to New Zealand's unique pasture-based style of dairy farming. However, some information is available on pasture composition, use of leys, pasture and grazing management, pest and disease management, weed management, and animal health and management. A number of key research gaps are identified that principally focus on knowledge relating to the process of conversion, management issues and environmental effects and benefits. Established organic dairy farmers have independently addressed many of these gaps, but the knowledge and experience gained is largely undocumented.

## **Orchard Soil and Understorey Management**

There has been a limited amount of organic understorey management research in New Zealand of relevance to orchard systems. Complementary to this New Zealand research is the substantive work conducted at the Louis Bolk Institute in the Netherlands. A key feature is a focus on optimal management of nutrient flows in the orchard soil system, which impacts on tree and fruit health and quality. Very little work has been done in this area, e.g., on net mineralisation under different management conditions, and is required under New Zealand conditions for different production systems and regions. Aside from work on apples, there is little relevant overseas research on which to draw. A greater emphasis on holistic, orchard system research is required.

## **Research on Biodynamic Agriculture**

Biodynamic agriculture is based on organic principles, the uniqueness of each farm and farmer, and the use of the biodynamic preparations. This review gives a brief background to the development of bio-



dynamic agriculture and associated research and the development of complementary research methods. An overview of research on the biodynamic preparations is provided. The use of pictorial imaging methods as quality control and diagnostic tools, other complementary research methods, long-term trials and farmer participatory research are reviewed and recommended for research in New Zealand.

## **Socio-Economic Research**

Research on organic sector development, economic performance, grower decision-making and conversion, market analysis, labour, and public health issues is reviewed. Integrated whole-farm analyses, of multiple dimensions, including economic evaluation over a lengthy time span, are needed to evaluate New Zealand organic agriculture.

## **A Farm Case-Study**

This case study is included as a good example of a holistic research method. The setting-up, data collection and analysis for the first year of a holistic study of two paired organic conversion and conventional dairy farms are discussed. Pasture production and animal health, as well as soil parameters, were measured. No data are presented, as lack of funding prevented meaningful continuation of field data collection.

## **Water Management**

Water is an essential component of every farming system. The earth's water cycle and the role of forests and bush areas in maintaining the quality and quantity of water supplies for farming and society as a whole are discussed, as well as research in relation to irrigation and water quality management relevant to dairying and orcharding in general.

## **Recommendations**

For the development of sustainable, viable organic farming in New Zealand, we recommend:

- recognition of the ecological, holistic paradigm under which an organic system operates;
- establishment of multi-disciplinary, holistic research approaches, which include the farms, the farmers and their environment (soil, landscape, climate, etc.) with the emphasis on:
- long-term monitoring of agro-ecosystem parameters (soil-water-plant-animal) and their effects on organic systems;
- understanding of the dynamics of soil and other agroecosystem interactions;

- information from on-farm research in different regions of New Zealand;

- working with farmers to address their research questions;

- farmer involvement in the research (participatory methods);

- development of a combination of analytical and new research methods; and

- building on the research already done in New Zealand and overseas.

To build up the expertise and capacity to implement these recommendations and build a solid framework of scientific knowledge on which the organic farming sector can operate efficiently we recommend:

- a long-term research strategy;

- a specialist organic team capable of working with new complementary approaches; and

- a dedicated research centre that co-ordinates effort.

Some recommended specific research areas include:

- effects of organic dairy farm management on soil quality, pasture composition and the wider environment; key pasture interactions, and management of pastures and animal health;

- re-thinking of orchard systems in a holistic framework, through ecologically based research focused on understanding the dynamics of systems, and introducing greater ecological complexity into commercial systems;

- integrated whole-farm analyses, of multiple dimensions, including the different social and economic facets of organic farming, over a lengthy time span;

- farm comparisons using established methodologies that enable evaluation of the dietary and health effects of organic management on livestock performance and environmental and sociological consequences.

Report authors: Frank van Steensel & Gill Cole

*Copies of the full report are available from The Bio Dynamic Farming and Gardening Association, PO Box 39045, Wellington Mail Centre. Phone 04-589.5366, fax 04-589.5365, email [biodynamics@clear.net.nz](mailto:biodynamics@clear.net.nz). The full report can be viewed online at [www.biodynamic.org.nz](http://www.biodynamic.org.nz)*

# Canterbury Commercial Organics Group Newsletter



## Advertising

**APPLES FOR SALE** Braeburn, Granny &/or Sturmer. At Robbie's Patch, Bethels Rd, Ellesmere, or by courier. 14 kg for \$14 + \$6 freight. Certified organic. Phone Robyn 03 329.5725 and leave a detailed message.

**ECHINACEAE!** Boost your immune system with Pukunui Herbs Echinaceae. Bio-Gro 2045. 50 ml bottle \$10. Wholesale orders welcome. Phone/fax Pukunui Herbs N.Z. 03 3198 722.

**FOR SALE:** Bio-Gro transition certified seed; Echinacea augustifolia, Echinacea purpurea and Valerian officinalis. Phone/fax Pukunui Herbs NZ, 03 3198 722.

**GRAZING wanted** on Bio-Gro certified land for certified sheep and /or cattle. Numbers to suit. Phone Ernst 322.7841, fax 322.4961.

**GOLDIE LOTUS** Ideal solution for livestock farmers;

- less dags
- less flystrike
- non-bloating
- high stock performance
- for cattle, sheep and deer.

Be in now for end of line deal. Phone Brent Stirling at Cropmark Seeds, 03 347.6950 or 0800-427-676.

Advertising rates are \$1 a line (8 words a line) up to a quarter page, \$25 per quarter page, \$50 half pg, \$90 page. Enquires to Mary kem@xtra.co.nz

## Canterbury Commercial Organics Group - Newsletter

C/- Mary Ralston  
Back Track  
RD 12 Rakaia  
New Zealand

If any of your details are incorrect please contact Mary at the return address.

Disclaimer. While every effort has been made to ensure that the information in this publication is accurate, the Organic Garden City Trust, its committees including the Canterbury Commercial Organics Group, and the members thereof, do not accept any responsibility or liability for error of fact, omission, interpretation or opinion which may be present, nor for the consequences of any decision based on this information.