

# Organics in Canterbury

Issue No 25: March, 2004

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This newsletter is published by the Canterbury Commercial Organics Group, in association with Heinz Watties, MAF SFF Central Canterbury Organic Growers Discussion Group, Canterbury Organics and the Biological Husbandry Unit, Lincoln University.

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

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Articles, letters to the editor and advertisements are welcome.

## Field day – OrganicFarmNZ certified farms – free range eggs, vegetables/ box scheme

We have been fortunate to be able to organise a field day at two farms in the Leeston/Taumutu area which are certified through Organic Farm NZ (the small grower's certification scheme). As well as seeing their farming operations, we will have a talk from a representative from OrganicFarmNZ who will be able to answer questions.

The day will begin at **Sally and Wilf Simmons** at 10.30. After a farm tour and plenty of time for questions we will go to **Amanda Brennan and Scott Barclay's** for lunch at about 12.00 (bring your own picnic) and a talk about OrganicFarmNZ. We'll see Amanda and Scott's property and aim to finish about 3 pm. If you can only make it for the afternoon come to Amanda and Scott's.

Sally and Wilf have a fully certified 8 ha block. They are producing free range organic eggs. Once the hens are laying they are housed in groups of about 25–30, each with their own laying /roosting shed. Each group has the use of three or four paddocks in rotation to keep a good supply of vegetation for hens to browse on. Amanda and Scott have transformed a bare paddock into an organic market garden, with 3-4 acres in vegetables which they sell direct to customers in a box scheme. They currently have C1 status (in transition). Both farms are part of the West Melton pod of Canterbury organics. This will be a very interesting day so make a note on the calendar now!!

**Date: Sunday March 28**

**Time: 10.30 Bring: lunch (hot drink provided), gumboots & coat if wet, gold coin donation.**

**Directions from Christchurch:** drive through Leeston to the Leeston Hotel (on your right). Turn left onto the Leeston-Lake Rd – a sign will say Taumutu, another small yellow sign will say Marae. Keep following signs that say Taumutu or marae. Once at the marae on Pohau Rd, stay on this road which goes from tarmac to shingle. After the shingle starts, turn into the second gateway on the right (Sally and Wilf's). About 12 km from pub. **If going directly to Amanda's and Scott's:** address 765 Leeston Taumutu Rd, which is 3 km past the Sedgemere church.





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## Part Time Organic Horticulture Courses at CPIT Seven Oaks

### Composting for Free

*4 Hrs, Starts: 1 May 04, 11 Sep, 6 Nov. Fee: FREE*  
On completion of this workshop students will have attained a basic level of skills necessary to establish a compost heap and worm compost.

### Earth & Straw Building Workshop

*2 Days, Starts: 1 May 04, 30 Oct 04 Fee: FREE*  
An introduction to working with the alternative building materials of straw and earth. Students will learn to select suitable materials and create simple walls using earth blocks or straw bales and identify the most important building design features necessary for successful earth or straw bale construction.

### Effective Microorganisms for Home, Garden and Farm

*4 Hours, Starts: 24 Jul 04, 6 Nov 04 Fee: FREE*  
Introduces students to the principles and practice of using beneficial effective microorganisms or EM cultures to improve soil health and the quality and yield of crops.

### Native Plants Workshop

*8 Hours, Starts: 5 Oct 04 Fee: FREE*  
On completion students will be able to identify a range of native plants growing in Canterbury (field visit) and identify native habitats.

### Organic Horticulture

*10 Weeks, Starts: 3 Feb 04, 6 Oct 04 Fee: FREE*  
Grow plants in an environmentally friendly and sustainable way without the aid of pesticides or chemical fertilisers.

### Permaculture Design

*12 Hours, Starts: 27 Oct 04, Fee: FREE*  
Permaculture (permanent agriculture) uses ecology as the basis for designing efficient, sustainable systems that produce food, fibre, energy and wildlife.

### Plant Propagation

*2 Days, Starts: 3 Apr 04, Fee: FREE*  
An introduction to the skills and knowledge required for plant propagation.

### Pruning Workshop

*5 Hrs, Starts: 5 Jun 04, 11 Sep 04, Fee: FREE*  
On completion students will have attained a basic level of skill necessary to prune a range of fruit trees and landscape plants.

### Seed Saving Workshop

*4 Hrs, Starts: 20 Mar 04, Fee: FREE*  
Learn the basic skills needed to collect and save seed from a range of garden plants.

### Viticulture

*20 Hours, starts: 4 Oct 04, Fee: FREE*  
The principles and practices associated with grape production with topics ranging from vineyard establishment to harvesting.

### Wind, Water, Earth & Sun – Sustainable Living Using Alternative Technologies Seminar

*6.5 Hours, Starts: 16 Oct 04, Fee: FREE*  
Topics covered include: energy efficient buildings, solar cells, wine generation, alternative building materials and recovered building materials.

### Designing a Pan-Sensory Garden for Health

*7 hrs , Starts: 27 Mar 04, Fee: FREE*  
Adapt or design a 'sensory' environment for those with varying mobility, disabilities and sensory impairments.

### Developing a Gardening Project for Disabled, Disadvantaged or Older People

*12 hrs , Starts: 17 Apr 04, Fee: FREE*  
This two-day course is aimed a horticulturalists, occupational therapists, care staff, recreational therapists, day centre/community garden staff or anyone who wishes to develop their knowledge and skills in delivering social and therapeutic horticulture.

### Get Growing - Ideas for Indoor Gardening Workshops

*7 hrs , Starts: 1 May 04, Fee: Nil - \$20 - the cost of materials.* Ideas for low cost, small scale 'one-off' gardening activities: of particular interest to day-centre staff, recreational therapists or anyone working in the 'care sector'.

### Certificate in Certified Organic Production

The programme is delivered by distance learning so you can study from anywhere in NZ. Contact is maintained via email, an 0800 number, regional mentors and student networks. Principles of organic production, soil, composting and green manuring, rotations, weed and pest management, develop production and certification plans and learn about the basics of organic animal husbandry.

**For more information about any of these courses,  
please contact CPIT:**

**Ph: 0800 24 24 76 or 03-940 8074**

**Email: [info@cpit.ac.nz](mailto:info@cpit.ac.nz) [www.cpit.ac.nz](http://www.cpit.ac.nz)**



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## Calendar of Events

**11 & 13 March 2004**

**BHU workshop, Lincoln University**

### **Protected Cropping and Portable Tunnelhouses**

Directions: Enter Lincoln University through Gate 2 (Calder Drive) and take first right (Farm Road). Horticulture Teaching Lab (on the right beside the nursery) will be signposted. BHU Contact details: Tim Jenkins, BHU Manager, Phone 3253684 (Lincoln Univ extn 7684), our website [www.bhu.co.nz](http://www.bhu.co.nz), email [thebhu@quicksilver.net.nz](mailto:thebhu@quicksilver.net.nz)

**March 20<sup>th</sup> & 21<sup>st</sup>**

### **N.Z. Organic Food and Wine Festival Oamaru Historic Precinct**

Organic food, wine and beer from throughout NZ. Entertainment includes carnival street performers, musicians, art and craft stalls. Forums feature: NZ and its GE free status; gardening in windy places; urban sustainable development; organic certifying agencies. Organic buffet dinner on Saturday night 20 March to usher in the festival.

**For more information** phone 03 434.7573

[www.oamaruorganic.com](http://www.oamaruorganic.com)

### **28 March Field day – free range eggs, vegetable box scheme**

see front page for details

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## News from Canterbury Organic & the OrganicFarm NZ Scheme

As the Organic Farm NZ scheme has gained strength nationally, the use of the Canterbury Organic name and logo is being deliberately moved into the background. Now there is another reason why the OFNZ label is to be made prominent. Late last year Canterbury Organic was approached by a grower group in the Nelson area requesting we provide them with administration for the OFNZ scheme because of a lack of expertise and volunteer time in their area. Shortly afterwards we were also approached by a

BIO-GRO certified producer in the same area who wanted individual certification through OFNZ. After consultation with the National Coordinating Committee (NCC), the Executive Committee decided we should provide the support they needed provided that audit costs could still be met. This has been possible and as a result we have been able to welcome the individual producer to the OFNZ scheme and are currently completing the registration/certification process for the group of four producers. The main title used on our official correspondence is now Organic Farm NZ (Canterbury and Nelson Bays Regions). Canterbury Organic remains the formally registered and incorporated society, with a structure and rules set out in its constitution, but we are administering the Organic Farm NZ Certification scheme in these areas.

In the Canterbury Region four new producer members have completed paperwork in the last 6 months, bringing us up to Producer number CA-019. Sadly a couple of producers have also left the scheme for one reason or another (sale of property, changing priorities, etc.) but we have several more with nearly completed paperwork. Who will be lucky No. 21? The scheme is still young and needs to increase its profile in the public eye: nationally, there are now 75 current OFNZ certified producers. However, completion of paperwork also seems to be a significant brake on membership growth. Of the 33 enquiries to the Canterbury office during 2003 only 4 of these have so far completed registration for certification under the scheme. There's no getting around it, becoming certified does take a fair effort under any scheme - even existing members can be slow to complete renewal forms! - but the benefits and satisfaction are much more widely affordable now because of the OFNZ scheme. We will be looking at ways to help people with the application process during 2004 - any suggestions welcomed.

The original Community Employment Group grant which helped to establish Canterbury Organic included a sum for purchase of reference texts to help our producers. This money has not been spent to date and the Committee is currently looking for suggestions for appropriate titles. The proposal is to keep the books at the Canterbury Organic office to be available for short term loan to the producers.

Hugh Mingard  
Administrator, OFNZ (Canterbury and Nelson Bays  
Regions)

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## Healthy animals!!

### Central Canterbury Organic Growers Technology Transfer Project – Sustainable Animal Production Seminar, Lincoln, October '03

Many organic farmers find that managing animal health is one of the biggest issues on their farms. Arable cropping farms depend on the livestock and pasture phase of their operation to restore soil structure, replenish organic matter, and restore fertility, so the financial viability of livestock is crucial to the success of an organic cropping regime. With this in mind, the arable discussion group invited two specialists to speak to them on animal health.

**Nigel van Dorsser** trained at Lincoln University in soil science and farm management and is an animal nutrition consultant. He is the technical director of Essential Nutrition Ltd which manufactures mineral supplements and specialised mineral fertiliser mixes.

“Leading from the front” is Nigel’s philosophy on animal health. He believes that organic farmers, who have few band-aids to treat sick or parasitised animals, must take a pro-active approach to mineral nutrition. This includes mineral inputs in fertiliser and direct to stock. Of course stock get minerals from their feed so the importance of feed quality and feed intake are obvious considerations. Optimal, and at times therapeutic, mineral inputs will ensure their immune responses are as good as possible, and this reduces the incidence or impact of parasites or disease. If nutrition is right, then animal health will be manageable or of minimal economic consequence.

If internal parasites are the number one issue on the farm, then the whole system needs to be designed around this until it is no longer the issue. Mineral nutrition and choice of breed (which can influence mineral uptake/retention efficiency) are two of the many management strategies.

Consideration of the nutrition of lambs should start during late pregnancy when mineral nutrition of the ewe impacts on the lamb’s status at birth. Providing ewes and lambs with appropriate mineral supplementation goes largely ignored yet inputs at this time are pivotal if they are to manage the best they can in the likely event of a parasite challenge. Performance to weaning is very important, as it is at this stage that the future of the animal is determined.

Lamb weight at weaning is strongly correlated to slaughter weight.

Nutrition, especially mineral nutrition, is influenced by choice of pasture species, fertilisers and mineral supplementation. Immune response, or resistance or tolerance of disease has two components: the animal’s genetic make-up and the expression of those genes. For instance for footrot in sheep, there is a gene which confers resistance, but good nutrition is needed for that to be expressed. If nutrition is inadequate, even a sheep with the resistant gene will be susceptible to footrot.

In an organic environment it is particularly important to be proactive rather than a victim of circumstance - problems will arise when there is stress, e.g. a hard winter or drought, so farmers should be prepared. Lice are hardly ever a problem for well feed cattle and especially if trace element and sulphur status is good, but cattle are susceptible to lice if mineral status is sub-optimal and stresses come on.

The idea that stock should be able to get all the minerals they need from the soil via pasture is at times flawed, says Nigel. For example, on copper deficient soils in dry hill country where there is low dry matter production it may be uneconomic to spread copper as there will be a low recovery by stock. A better route is to supplement the stock.

Another factor is that stock require different levels throughout their life – e.g. copper is required at high levels for lambs to perform in the presence of internal parasites but sheep can accumulate copper and liver levels can become toxic at high levels of copper intake in adults. So when indicated it makes sense to supply young stock with copper via lick, drench or sprayed onto feed. Copper bullets given to replacement calves can make a huge difference.

The combination of elements is also important. Copper is less toxic if given in combination with other minerals. A factor that needs to be taken into account when supplementing with one element, is that it works in combination with other elements and if one of these is lacking “you’re going nowhere”. For example, copper, cobalt and iron work together, as do selenium, iodine and copper, and zinc and copper.

Nigel points out that multi-element, trace element diagnosis or pre-emptive input decisions are complex and in reality occur “without perfect knowledge”. However he considers there is enough of a demonstrated animal health benefit from proactive mineral supplementation to make it an invaluable tool for all farmers.



**Trevor Cook** is a vet with the Manawatu Veterinary Services at Fielding and works with individual and group clients to establish and support sustainable and organic animal production systems. He is involved with the Central Districts Organic Growers Group and Project Green ([www.projectgreen.org.nz](http://www.projectgreen.org.nz)), a group established to develop a voluntary code of sustainable animal production, aiming for “best practice”. He thinks that no-chemical farming is NOT sustainable, either financially or from the animal health viewpoint. However he stressed that animal health can be **managed** to minimise disease and its effect on profitability. **Planning** is the key to prevention.

Animal production has components of stocking policy, grazing policy, management policy and animal health. Animal health should not be treated in isolation. Much clinical disease is preventable and is often the result of omission. Sub clinical disease loss, e.g. decreased weight gain, can precede clinical loss and is the major cause of production loss. Internal parasitism is the most common cause of decreased weight gain; other causes are trace element deficiency and endophyte challenge interacting with pasture quality.

Trevor believes faecal egg counts (FEC) are an over-rated tool as live weight gain is related to the level of L3 (larvae at the third stage) challenge, which is not necessarily related to FEC. It is how the animal responds to the L3 challenge which determines its health and pasture quality has an enormous influence. Trevor thinks \$1000 spent on fertiliser is a better investment than \$3000 on drench, however conventional farming systems are obsessed with drenching as the only way to solve the internal parasite problem.

**The internal parasite problem is the major cause of lowered production** and risks the sustainability of many systems. Loss is caused from gut damage and all of the symptoms/disease caused by worm infestation is the result of the host response to those worms. A strategy to reduce production losses includes:

- reducing exposure of stock to larvae,
- reducing the response of the animal to worms,
- breeding resilient animals, and
- improving pasture quality and feeding levels.

Reducing exposure of stock to larvae includes:

- integrating stock classes (ratio of lambs to cattle, or integrating 2 yr cattle with 1 yr olds – 2 yr olds don't give out eggs),
- use of short term crops or pasture,

- maintaining high grazing heights,
- interfering with the free living stage of worms with Nematophagous fungi (a fungi which kills larvae – commercially available next year).

To reduce the response of animals to worms, feed tannin containing forages, such as sulla, *Lotus corniculatus* (birdsfoot trefoil), chicory, and willow. Maintain a high protein diet with high quality feed. Tannins have an anti-inflammatory effect and contain by-pass proteins, and they are also very and tasty so stock may eat more. Willows contain 15 % tannin.

To achieve sustainable animal production four factors need to be taken into account:

- **planning, monitoring, rational decisions, best practice.**

Trevor also outlined the Central Districts Organic Growers project which looked at organic management of internal parasites. The project involved four farms over 2.5 years. An initial survey of the farms showed:

- evidence of clinical parasitism on all farms,
- evidence of substantial subclinical losses,
- poor monitoring tools,
- they were hindered by status of incoming stock,
- the value of an “arrival treatment”,
- confirmed the value of clean grazing,
- confirmed the value of late calf weaning.

Various drenches were tested for effectiveness against internal parasites. These were Wormaway, Bettacrop, Ecovet, apple cider vinegar and garlic, Vermis, and Equimintic. Only one (Ecovet) had any measurable effect and this one was only useful when other factors (eg. feed quality) were good. None were effective enough to be used as an arrival treatment.

Management of parasites by other means was studied. Tannins are a good option, but what gave the biggest gain was **planning**. This identifies the threats, requires setting up management responses and schedules actions. Non chemical management of internal parasites is the most important aspect of sustainability.

**Summary:** Keys to success in organic management of internal parasites and progress toward sustainable animal production are:

- the value of a plan,
- the extraordinary protective effect of high quality feed,
- lambs can recover and grow well,
- the stress of extremes (weather, feed),
- the value of being proactive with supplements.



## Mechanical Weed Control In Organic Agriculture

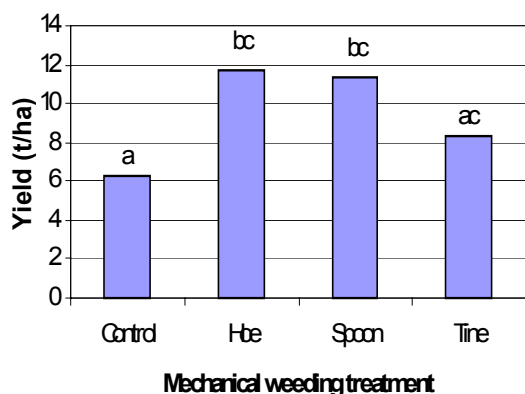
Research by Sheree Reddix, Lincoln University  
Kowhai Farm, Heinz Wattie's Organic Farm at  
Lincoln University, 1999 – 2002  
Funded by Agricultural and Marketing Research  
and Development Trust (AGMARDT)

In organic agriculture mechanical weeding methods are usually the only weeding options available to the grower, however the relative efficacy is largely unknown. In a project funded by the Agricultural and Marketing Research and Development Trust (AGMARDT) we compared the effects of three mechanical weed control methods on **weed populations, soil structure, above ground insect populations and crop yield**. The mechanical methods used were tine weeder; spoon weeder; inter-row hoe; control - not weeded during the crop growing season.

The four crops grown in the 1999/2000 season were borage, linseed, peas, green beans. The inter-row hoe was used only in the bean crop because row spacing was too narrow in the other crops (37.5 cm row spacing in the beans compared with 17.5 cm in the other three crops). The three year trial is located in the identical areas of land in each year. The yield figures shown here are from hand harvested plots and are therefore higher than field harvest yields.

### 1. YIELD RESULTS FOR YEAR ONE (1999/2000)

**BEANS:** Highest bean yield (t/ha; fresh weight) was achieved with the spoon weeder and inter-row hoe but they were not significantly different from tine



weeded plots.

**LINSEED:** Spoon weeding and tine weeding both increased yield (t/ha; 10 % moisture) significantly in linseed.

**PEAS:** There was no significant difference in pea yield (t/ha; fresh weight) between treatments.

**BORAGE:** There was no significant difference in borage yield between treatments.

### 2. SOIL QUALITY

In 2001/2, five soil samples were taken from each of the replicated plots in the spoon weeder, tine weeder, and hoe/tine weeder treatments, as well as controls. There were no significant differences in soil aggregate stability, carbon or nitrogen levels. This was not unexpected because these aspects of soil quality change very slowly. One of the criticisms of organic farming is that the almost total reliance on mechanical weed management can reduce soil aggregate stability and expose the soil to oxidation, the latter leading to the loss of carbon and nitrogen. This research programme has demonstrated that intensive mechanical weeding has no significant negative effect on soil quality over a 3-year period during which the treatments were imposed on the same land areas in three successive summers.

### 3. YIELD OF RYECORN, PEAS AND BEANS IN THE 2001/2 SUMMER

Mechanical weeding methods are most suitable for row crops, which do not completely cover the rows during crop growth. In the case of cereals, which usually do, through tillering, cover the inter-row spaces, mechanical weeding is usually appropriate only in relatively early growth stages.

For ryecorn and peas, a randomised analysis block of variance showed that there was no significant positive or negative effect of mechanical weeding on yield. This was probably because the smothering nature of the growth of those crops reduced weed populations through inter-specific competition. For beans, in which the inter-row spaces persisted to harvest, there were significant differences in yield, with inter-row hoeing and hand-weeding producing the highest yields; these were similar to those for the main part of the field. Yields associated with spoon and tine weeding were significantly lower than this, probably associated with crop damage caused by the weeding implement. However, all treatments apart from tine weeding gave significantly higher yields than in unweeded controls.

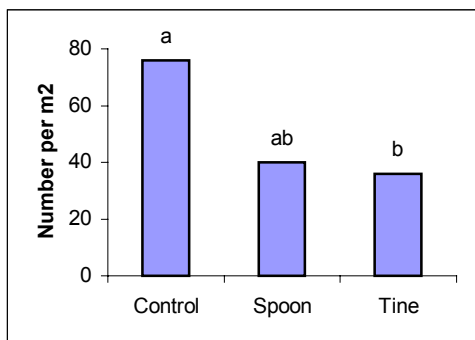


Overall, this data set demonstrates the value and necessity of some weeding techniques in beans, but not in ryecorn or peas.

## 4. POPULATIONS OF VIABLE WEED SEEDS

Multiple soil cores were taken from each of the replicated plots and the top 5 cms of soil were placed in labelled bags and taken to the glasshouse. They were placed in seed trays and kept at 17 C with a 8 C range. The soil was moistened and the numbers of individual weed seeds were counted for each species. The trays were then allowed to dry out completely and the process was repeated until the number of new seedlings was negligible.

Spoon and tine weeding reduced populations of viable weed seeds by around 50% compared with controls; for the tine weeder this was a significant difference and for the spoon weeder it approached significance. This was a pleasing result given that many weed seed species can remain viable in the soil for a decade or more.



## 5. CROP GROSS MARGIN OF BEANS AND PEAS IN THREE SEASONS: 1999/00, 2000/01 AND 2001/2

Three different weed control methods were trialed over three years in organic bean and pea crops and their effects on crop gross margins compared.

The mechanical methods used were spoon weeder, tine weeder and in the bean crops only, inter-row hoe. A control treatment was not weeded during the growing season. In some years a comparison is also made with the main part of the field. This information reflects weeding decisions made by the farm manager.

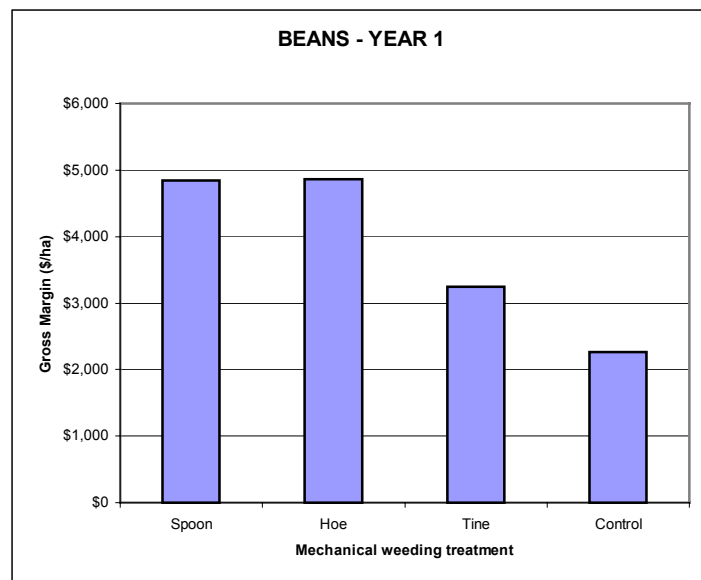
A gross margin comparison was carried out using the field gross margin with the inclusion of the actual yield and weeding costs for each treatment. The yield figures are from hand-harvested plots and are accordingly higher than machinery harvested yields on a whole field scale.

The weeding costs used per pass are:

- Spoon weeder \$25/ha
- Tine weeder \$25/ha
- Inter-row hoe \$70/ha

The bean crop figures below show inter-row hoeing producing the highest gross margin in each of the three years with other results being inconclusive.

The peas figures on the contrary show no consistent trends of gross margin benefits from mechanical weeding.



Spoon weeder	2 passes
Inter-row hoe	2 passes
Tine weeder	2 passes

**For further information contact:**  
 Professor Steve Wratten, Ecology & Entomology  
 Group, PO Box 84, Lincoln University  
 Phone: 03 325 2811 Fax: 03 325 3844  
 Email: wrattens@lincoln.ac.nz



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## Kowhai Farm: Heinz Wattie's Organic Farm at Lincoln University

### Farm Report for Summer 2003-04

It has been another busy summer on Kowhai Farm with two paddocks of peas and a paddock of green beans grown and harvested and a 5.0 ha block of onions successfully grown. More recently several green manure crops and two pasture paddocks have been drilled.

#### **Paddock A1 – Peas → Lupin Green Manure Crop**

The peas (cultivar Bounty) were drilled on 29<sup>th</sup> Oct 03 into paddock A1 following 3½ years in pasture and emerged within 10 days. The paddock did not require any tine weeding, so it was simply rolled during the heat of the day on 12<sup>th</sup> Nov 03. The hot dry weather that followed resulted in the crop being irrigated 3 times with the sideroll irrigator; in mid and late Dec and early Jan. Overall the crop grew very well with just a few patches of Californian Thistles and some fathen plants present at harvest time (the thistles were topped by hand prior to harvest).

Harvest took place on 11<sup>th</sup> Jan 04 and the crop yielded a very reasonable 6.2 paid t/ha or \$3089/ha. In order to gain a small amount of additional income along with making subsequent cultivation and drilling possible, the pea vine was raked and baled into medium square bales and sold. The paddock was then grazed with ewes and lightly worked to break up any surface compaction resulting from the pea harvesters. White oats were recently sown in this paddock at 200 kg/ha and are just starting to emerge.

#### **Paddock A2 – Pasture (managed in two halves for grazing purposes)**

Paddock A2 was grazed in Oct/Nov, then topped to control Californian thistles and irrigated. It was next grazed in December and topped and then grazed again in early January with ewes at which point it started to get very dry. Following a period of no irrigation (due to crops taking priority) the paddock was irrigated twice in January and this, together with the rain, caused it to recover remarkably well producing plenty of feed suitable for lambs which started to graze the paddock again in late Feb. There still appears to be a large Californian Thistle population in paddock A2 and it is likely that it will remain in pasture for at least one more year.

#### **Paddock A3 – Pasture (managed in two halves for grazing purposes)**

This paddock was grazed, topped and irrigated regularly over the summer months, as it continued to produce a steady amount of feed. Ewes and hoggets were brought on in late Feb to keep on top of the abundance of feed and to further graze the paddock down after the lambs had moved on. This paddock is likely to be cultivated later in the year and planted in a crop such as onion or beans in the spring.

#### **Paddock A4 – Pasture**

Last October paddock A4 was drilled in a pasture mix (tall fescue, timothy, grazing brome, red clover, white clover, chicory and plantain). However this was a mistake as the pasture species did not emerge well and weeds grew (fathen, wireweed, Californian Thistles etc). In a late bid to save the paddock the weeds were mulched and the paddock was intensively grazed with a mob of ewes, to no avail. Eventually the paddock was ploughed and rolled in mid December and left. The Californian Thistles emerged again in early January so the paddock was grubbed to control these on 20<sup>th</sup> Jan 04. A very successful second grubbing (this time with wide points on the grubber) took place on 2<sup>nd</sup> Feb. Since the paddock was still quite cloddy it was irrigated and then power harrowed in order to produce a suitable seedbed. The new pasture mix (consisting of tall fescue, timothy, red clover, white clover, chicory and plantain) was drilled into good moisture on 25<sup>th</sup> Feb and it is hoped that this second attempt at establishing the pasture will be successful. We will not be attempting to sow pasture in the spring again!

#### **Paddock A5 – Peas → Pasture**

Paddock A5 peas (cultivar Bounty) were also drilled on 29<sup>th</sup> Oct at 315 kg/ha. With the knowledge that this paddock would be weedy along with plenty of small weed seedlings already evident soon after planting the paddock was tine weeded once prior to emergence on 3<sup>rd</sup> November 2003. The crop was tine weeded twice more after emergence on the 12<sup>th</sup> and 21<sup>st</sup> Nov due to a large number of weed seedlings - particularly fathen, nightshade and wireweed. The crop did not require rolling and was irrigated 3 times with the big gun irrigator on 10<sup>th</sup> & 20<sup>th</sup> Dec and 4<sup>th</sup> Jan. The crop grew okay but by harvest time it had a lot of annual weeds in it (despite the pre and post emergence tine weeding) along with some sizeable patches of Californian Thistles, which also required topping by hand prior to harvest.

The crop was harvested on 11<sup>th</sup> Jan and yielded 4.0 paid tonnes/ha or \$2258/ha. The pea vine was baled into medium square bales and sold. Next the



paddock was topped to control the remaining weeds and to prevent them seeding, then ploughed and rolled in late January. Since the farm had hired a power harrow for paddock A4 it was decided to try it out on this paddock too and it turned out to produce a great seedbed with a single pass. The paddock was finally drilled on 26<sup>th</sup> Feb into good moisture with light rain falling soon after planting. It is expected that this paddock will remain in pasture for about 3 years.

## **Paddock A6o (East side of A6) – Onions → Oats**

The onion crop was drilled in mid Sep 03 and flame weeded twice prior to emergence. Subsequent weed control measures included 3 passes with the steerage hoe followed by hand-weeding (in early Nov, mid Dec and early Jan) which produced a relatively weed-free crop.

Regular applications of fish and seaweed-based fertiliser were made throughout the growing season and the crop was irrigated as required (5 times in total over the summer) according to moisture probe readings. The wheel marks were also grubbed regularly to control weeds and to aid mechanical lifting and harvest.

A major thrip outbreak in January, helped along by the extremely warm weather, resulted in several applications of garlic & pyrethrum (a BioGro restricted input) at 10 day intervals, although this did not afford great control of the pest. Once the current wet weather clears up and the paddock dries out the onions will be lifted and harvesting into bins will follow once the onions have hardened off and are dry (so we're hoping for a good period of fine weather). A winter crop of oats will follow once the crop is harvested.

## **Paddock A6b (West Side of A6) – Beans → Oats**

The bean crop was drilled on 1<sup>st</sup> Dec and did not need to be tine weeded until after emergence, on 17<sup>th</sup> Dec. The crop was inter-row hoed twice during Jan and hand-weeded once (quickly) to remove any tall weeds in the rows. The beans were irrigated several times during January and two applications of foliar fertiliser (5L of Wuxal Amino and 25L of Bio-Sea fish fertiliser) were also made during January.

Although the crop emerged well and weed control was good the crop did not grow very tall or set a great number of beans. Harvest took place on 19<sup>th</sup> Feb and the crop yielded 5.7 t/ha or \$2299/ha. The average yield for the first 3 bean crops grown on Kowhai Farm was 8.0 t/ha so this result was lower than we would have liked. After harvest the paddock was direct drilled with oats, which will be suitable for

grazing later in the year. Paddock A6 has one more cropping season to go before returning to the pasture and next seasons crop may well be peas.

## **Kowhai Farm Crop Rotation**

The current Kowhai Farm crop rotation consisting of 3 seasons in crop (with winter green crops in between) followed by 3 - 3½ years in pasture seems to be working well. However, given some observations over the last few seasons, what we do within the cropping part of the rotation can be improved to give better overall farm financial performance. The reasons for this are as follows:

- Over the last 2 seasons we have grown peas as the first crop out of pasture (giving us great pea crop results), however peas are the lowest value crop grown on the farm and this practice does not make the best use of the N available after the pasture phase so peas would be better planted later in the crop rotation. The 2003-04 crop in A5 also proves that a reasonable crop can be grown at the end of the cropping phase in the rotation. Peas are also harvested early which is ideal if autumn pasture establishment is to follow.
- The recent poor bean crop in A6 highlights the need for beans to have good natural soil fertility and plenty of N in order to get good crop results. Beans are also a higher value crop so it would seem natural to plant them after the pasture phase; likewise for sweet corn.
- By the time onions are harvested it is too late to successfully establish pasture in the rotation. This is exactly what happened in paddock A4 last year and led to us attempting to establish the pasture in the spring. Therefore it doesn't make sense to have onions or other late-harvested crops such as sweet corn last in the crop rotation. Onions are also a very high value crop so it would be advantageous to plant onions early on in the crop rotation when the weed burden might be lower and natural soil fertility higher.

Hence the future rotation for these crops will more likely resemble:

## **Beans/Sweet Corn → Onions → Peas → Pasture**

For further information contact Anthony White, Heinz Watties, [anthony.white@heinz.co.nz](mailto:anthony.white@heinz.co.nz)



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## Organic farming in Cuba

By the BBC's Greg Morsbach from Cuba

Cuba - one of the world's last socialist regimes - has surprised many economists by surviving a US trade embargo lasting more than 40 years. The small Caribbean island nation has continued to defy expectations that it's about to collapse under the strain of a run-down state economy.

One reason is the radical changes to Cuba's agriculture. A recent report by the American agency for sustainable farming, Food First, said annual production of fruit and vegetables is growing at 250% a year. And the produce is grown without any help from chemical fertilizers, pesticides or herbicides.

Senora Hernandez is in charge of one of hundreds of small urban farms dotted around Havana. Like thousands of other such "huertos" or gardens across Cuba, hers produces nothing but organic vegetables. "Last year alone we produced 27 kilograms of vegetables per square metre. When we first started this farm three years ago it stood at 18 kilograms. And we expect this year's harvest to yield no less than 30 kilograms."

With the collapse of Cuba's cold war trading partners - the Soviet Union and its socialist satellite states - imports such as artificial fertilisers and pesticides ground to a halt. The Cuban government's answer was transform derelict city plots into well-funded vegetable gardens under the supervision of organic farming associations.

The Cuban government has made organic farming a priority, since handing over 80% of state-owned land to private shareholder enterprises. The government passed a law this year making organic farming compulsory and Nilda Perez, one of ACTAF's top food scientists, says all food production should be based on organic elements both domestically and industrially. Some of the bigger farms producing crops such as organic oranges and sugar cane have even started to export small amounts of their produce.

But despite all the advances made in boosting vegetable production, the price of most other food on the shelves of Cuba's supermarkets remains high. Rationing of some basic products is still in place, so that fresh milk is only available for children under the age of seven. The country still has a long way to go before becoming a major food exporter in the region. But Cuba has certainly overcome the worst of its food supply problems - thanks to organic farming.

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## Advertising

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, or phone 03 3029202.

### FOR SALE

**Organic apples** Bio-gro apples available from late March at Robbie's Patch, Bethels Rd, Ellesmere, OR by courier. Gala, sunset, royal gala, fiesta, and later braeburn, grannies and sturmer. Can order a rainbow mix! Phone 329 5725 and leave a message.

### WANTED TO BUY

Organic straw, hay - roughage. Ph Tom Lambie 03 614.7019 or 027.230.2414

### WORK WANTED

Highly motivated and enthusiastic male seeking employment. I have no background in organics but am very keen to learn. Please contact Chris Gilmore on 03 322 9920.

### LAND AVAILABLE

**Land to lease**, area Ladbroke, 3.5 ha, peat soil, ideal for conversion to BioGro, Ph: 329 69 33.

### Organic Farm - Nth Canterbury

A 'diverse integrated organic unit' in Canterbury: Ian and Gita Henderson have managed Milmore Downs biodynamically since 1982. They're willing to consider options that would not require purchase of the property, but prefer to hand over to someone able to continue to use organic methods. Milmore Downs is an organic mixed cropping /livestock farm of 320 ha situated in the Scargill Valley, 1/1/4 hrs drive from Chch, & has both Demeter and Biogro certification. For more information please phone Ian or Gita 03 314 3712, email [milmore.downs@xtra.co.nz](mailto:milmore.downs@xtra.co.nz)

### Organic land - Christchurch area

8 acres of certified organic land, Waterholes Rd, Templeton. Prefer to lease the whole area for a long term, could look at offers for all or parts or short term. Certified organic with CERTNZ. Call Matthew Faid 03 377 9254 wk or 021 625 714 cell or email [m.faid@paradise.net.nz](mailto:m.faid@paradise.net.nz).

### EM TRAINING

Effective Microorganisms training in Thailand. The next workshop is from 26-29 April 04. Participants need only buy their airfare, all accommodation and training costs are provided. A second workshop will be held in August-September (dates still to be finalised). Contact Mike Daly if you are interested, phone 03 9422777 or email [nzfnfs@paradise.net.nz](mailto:nzfnfs@paradise.net.nz).

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# Organics in Canterbury Newsletter

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## Support the organics industry in Canterbury!

CCOG not only produces the "Organics in Canterbury" newsletter: our fundamental objective is to promote organics in Canterbury. We are a voluntary organisation that supports and liaises with organic researchers and promotes organics to the public at events such as the Small Farm Field Day. Current projects that CCOG is involved with include:

- research into the production of organic strawberry runners by HortResearch;
- research into weed management of arable crops by AGMARDT researcher Farhad Dastgeib;
- investigation into an organic processing facility.

The "Organics in Canterbury" newsletter reaches over 300 people and organisations across the spectrum of organic interests in Canterbury. This reduces duplication of effort in publicising events and keeps more people informed of what's happening in organics. So, please subscribe to the CCOG organisation so that support for organics can continue in 2004.

## Subscription Form: GST# 69-458-645

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  - If you receive more than one copy of the newsletter please let us know.
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  - Please visit the CCOG website for more information: [www.organics.org.nz/ccog/ccog.html](http://www.organics.org.nz/ccog/ccog.html)

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## Canterbury Commercial Organics Group - Newsletter

C/- Mary Ralston  
Back Track  
RD 12 Rakaia

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.

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