



Organics in Canterbury

Issue No 37: Feb/March 2008

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This newsletter is published by the Canterbury Commercial Organics Group, in association with Heinz Wattie's, MAF Sustainable Farming Fund, Canterbury Organics and the Biological Husbandry Unit, Lincoln University.

Back issues of the newsletter can be found on our website: www.organics.org.nz/

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Articles, letters to the editor and advertisements are always welcome.

Don't miss this day – two great topics

Reduced Tillage (morning) Effective Microorganisms (afternoon)

Date: Monday 17 March

Time: 9.30 – 2.30 (bring your own lunch, tea/ coffee provided)

Venue: BHU, Lincoln University (directions below)

Morning: *Reduced Tillage for Organic Vegetable Systems, and Developing Organic Media for Transplant Production*
Speaker: Anu Rangarajan, from Cornell University, New York, USA

Afternoon: *Growing food organically and recycling waste efficiently using a technology called EM*

Keynote speaker: Dr Ravi Sangakkara, from the University of Peradeniya in Sri Lanka, also Mike Daly & Neville Burt

Programme outline:

9.30 Registration, tea/coffee 9.45 Introductions
10.00 Anu Rangarajan: Reduced Tillage for Organic Vegetable Systems
10.30 Anu Rangarajan: Developing Organic Media for Transplant Production
11.00 Walk down to see crimper/roller demonstration, questions & discussion in paddock
12.00 Lunch break/ cup of tea
12.30 EM talk by Dr Ravi Sangakkara. What is EM, how does it work, research projects around the globe
1.30 Mike Daly: EM use in NZ, update on EM projects in NZ
2.00 Neville Burt: Bokashi - large scale composting of restaurant waste and other innovative uses of bokashi
2.20 Questions and discussion
2.30 Afternoon tea/close (continued next page)



CCOG



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CANTERBURY
Organic



Field day/seminar continued: Anu Rangarajan, from Cornell University in New York, USA, will give the two morning presentations. After her presentations, there will be a demonstration of a crimper/roller and discussion of its benefits for reducing cultivation. The crimper/roller was built at the BHU several years ago by PhD researcher Charles Merfield and is designed to kill and flatten green manure crops (or cover crops). After the green manure crop has been killed, a crop can be sown into the residue which will provide nutrients and mulch to the following crop.

Anu is a fresh market vegetable production specialist. Her research efforts are focused on designing and evaluating organic cropping systems that reduce tillage and external nutrient inputs. She is also developing alternative organic potting media for transplant production. Her education efforts target agricultural professionals (extension) and farmers and she leads the Cornell Organic Production Team (www.organic.cornell.edu) and the Northeast Organic Network (www.neon.cornell.edu). These organisations' goals are to identify organic research and education needs and then implement projects to address them. Anu is also the Director for the Cornell Small Farm Program (www.smallfarms.cornell.edu) aimed at promoting research and education to enhance viability of this vibrant sector of NY agriculture. In her spare time, Anu and her husband operate a certified organic strawberry farm (www.brooksideberryfarm.com).

In the afternoon, the New Zealand Nature Farming Society (NZNFS) presents three speakers on the theme "Growing food organically and recycling waste efficiently using a technology called EM". EM is short for Effective Microorganisms, which are mixed cultures of beneficial and natural occurring microorganisms.

Key note speaker will be Dr Ravi Sangakkara who completed his PhD in NZ in the 1980s at Massey University and now holds a chair in Crop Science at the University of Peradeniya in Sri Lanka. Ravi specializes in crop agronomy and food production systems. Ravi has developed a broad technical expertise in EM technology, including many research projects evaluating EM, bokashi and Nature Farming techniques around the world.

Mike Daly, who set up the NZNFS to develop EM and bokashi in New Zealand, will talk about the scope of EM use in NZ and highlight a number of areas of rapid growth, including the use of EM in vineyards and for composting.

Neville Burt will talk about householders use of bokashi to recycle food waste quickly and efficiently in the home garden, and also larger commercial applications, such as restaurants recycling food waste using bokashi. Neville started a company called Bokashi NZ in 2003, and began making bokashi for a kitchen composting system.

Directions: Enter Lincoln University at Gate 2 – Calder Drive. Follow signs to the BHU.

To register: To give us an idea of numbers, please register your interest in coming by emailing mary.ralston@xtra.co.nz or phone 03 3029202. (But if you decide to come at the last minute, just turn up – the more the merrier.)

For background information: Go to the **CCOG website** www.organics.org.nz/ - click on Organic Updates; EM is the first Update, and Cover crop mulching, minimum tillage and organics is No. 3.

Calendar of Events

- 17 March Seminar/field day, BHU, Lincoln University**
Morning - Reduced Tillage for Organic Vegetable Systems,
Developing Organic Media for Transplant Production
Afternoon - Effective Microorganisms (EM) and Bokashi. See pages 1-2.
- 17 March Soil seminar – Scratching the surface (see details below) - Mt Somers
18 March Soil seminar – Scratching the surface - Greta Valley

Scratching the Surface seminar

Date: Monday 17th March (Mt Somers Tavern), and Tuesday 18th March (Greta Valley Tavern)

Time: 9 am - 3 pm

Topics include: the revealing the secrets of soil tests, how soils influence farm productivity, how to use the environment to prioritise farm investment and development, and where to find innovation that utilises the environment to your advantage.

Cost is \$100/hd, educators John King and Kim Stevenson

For more information contact John King at john@succession.co.nz or 027 6737 885 or view www.succession.co.nz

Organic Vegetable Field Day & Workshop – report

The Organic Vegetable and Mixed Farming Association held a field day and workshop on 4 December 2007 at Leeston. The objective of the day was to formulate “best practice” guides to the growing of lettuce, broccoli and beetroot. Holger Kahl had researched and written preliminary information and, after visiting Reiner Ramharter’s organic market garden, the field day participants broke into groups to add their observations and knowledge to the preliminary guides. Crop growing guides on lettuce, beetroot and broccoli have been written and are available on the CCOG website (www.organics.org.nz) or from Mary Ralston (mary.ralston@xtra.co.nz). Summaries are given at the end of this article.

Reiner’s patch

Reiner Ramharter grows organic vegetables on 2 ha of Harts Creek Farm under a joint venture arrangement. Last year most crops were direct sown; this year Reiner is transplanting more of them so that he has more time to control weeds before planting.

Direct sow or transplant?

- Lettuce is better as a direct sown crop as gets shocked easily, but weeds are more prolific.
- Direct sowing also saves soil moisture.
- Transplanting is done at 4-5 true leaves; earlier there is less shock to the plants, later is better as it allows more time for weed control.
- Direct sowing means the crop needs to be thinned which is time consuming.

Lettuces, broccoli, beetroot are three of Reiner’s main crops

- Pyrethrum is used to control aphids on broccoli (bought from Fruitfed supplies).
 - Bt (bacillus thuringensis) is used to control white cabbage butterflies on the brassicas. It is applied once or twice, depending on severity of infestation. Dipel is the brand name.
 - Aphid resistant varieties of lettuce are used, available from Terranova seed company.
 - EM (effective microorganisms) is applied at times in the irrigation water.
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Marketing

- Crops are sold through wholesale distributors (Fresh Direct) and at the Canterbury Farmers Market on Saturdays.

Weed control

- Ecocover mulch has been used to suppress weeds – it is expensive and comes in impractical widths but is very effective and can be rotary hoed in once the crop is harvested.
- Ideally crops would be hand hoed once, but if this is left too late, hand weeding is necessary. Most crops are basket weeded interrow.
- Twitch is a problem, Rainer rotary hoes every fortnight before planting to try to eradicate.

Before visiting Rainer's Patch, presentations were given by Tim Jenkins and Don Pearson on various aspects of vegetable production:

Soil cultivation and bed preparation (Tim Jenkins)

- A GPS is used to mark out beds at the start of the season so that wheel marks are always in the same place – this avoids compaction in the areas where vegetables are to be grown.
- To prepare the vegetable beds, a plough is used – as shallow as possible, but deep enough to bury residues. Can be preceded by a shallow surface working with discs, a rotary hoe, or grubber to break up the surface layer to make ploughing easier.
- Disking, rotary hoeing etc is possible if trash from plant residues is not going to be an issue. These have the benefit of mixing the residues through the cultivated topsoil where they can be more effectively broken down by soil organisms and used by plants.
- Shallow root rhizomatous weeds are controlled preferably before deep cultivation such as ploughing, by surface working with an implement that drags the rhizomes up to the surface where they can be dried out or killed by frost, or eaten by sheep (e.g., a grubber, roller crumbler, with harrows behind). This type of cultivation is done to just below the depth of the plant rhizomes and repeated every time that the plants start re-growing until the plants are dead.
 - A seedbed is made usually by rotary hoeing and rolling. When rotary hoeing, the hoe needs to be travelling slowly to break the soil up into the finesses of tilth required.
 - Cultivation should only be done at optimal soil moisture levels – too wet and compaction can result; if too dry, soil will become too fine.
 - A 'false seed bed' is used as part of the weed control strategy: the seed bed is made ready to plant, but left until some weeds germinate. They are then killed by shallow cultivation (less than 5 cm) while the weeds are still tiny. This shallow cultivation ensures that weed seeds from deeper in the soil are not brought up into this germination zone.
 - Shallowly cultivate the soil surface layer 2 or 3 times (time permitting).
 - A rolling under-cutter bar is used to kill weeds in the false seed bed. But any other implement or tool that goes no deeper than 5 cm into the soil while effectively killing newly germinated weed seedlings can be used. A tine weeder, harrows, a push hoe or a hand hoe can also be used.

Soil structure and weed management

- Good soil structure allows good crop competitive ability: soil structure is the balance between air and water within the soil. Soil with a crumb structure is ideal for root penetration so that roots can draw nutrients and water from a wide area.
 - Weeds can take advantage of poor structure – they are often stress tolerators, or species that can exploit bare spaces left by uncompetitive pasture or crops.
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- Hand weeding and mechanical operations are easier with good soil structure.
- Cultivation can destroy structure, so try to minimise.
- Don't cultivate when too wet or too dry.
- Choose the least harmful but still effective methods.

Twitch – a perennial problem

- Twitch can indicate poor fertility and lime conditions, low soil calcium and poor soil biology.
 - It can be out-competed by pasture if fertility is adequate, or can be controlled by mulching in intensive situations (although mulching is unlikely to kill twitch).
 - It is definitely recommended that twitch is controlled (preferably eradicated) before beginning market gardening.
 - For areas coming out of pasture, a short period of summer fallow helps eradication of twitch. Ideally the area should be rotary hoed to break the twitch into fragments.
 - Follow with further cultivation (e.g., grubber and harrows) to deplete the fragments and before they build up resources from new shoot growth.
 - Use grubbers on a tractor or forks by hand to minimise soil mechanical damage and help bring up twitch rhizomes to the soil surface where they can wilt and lose viability.
 - The time for the next cultivation is generally when the rhizomes on the surface have wilted to the point where, when bent, they will no longer snap. This will usually time well with new twitch shoot growth which also needs to be cultivated before it starts exporting resources back to the rhizomes.
 - On a large scale, the process could be sped up by grazing old ewes after the first cultivation.

Annual weeds

- Can be an indicator of soil conditions: low fertility and pH, poor structure/too long under cropping.
- Should be dealt with when small, preferably 2-4 true leaves.
- False seed beds are a very important tool, and worth delaying crop sowing to use.
- Ensure efficient interrow weeding by establishing straight rows at planting.

Plant cultivars, pest and disease management (Don Pearson)

- Use cultivars that perform to your criteria e.g., pest and disease resistance, market acceptability, post-harvest performance.
- To avoid pests and diseases, use good rotations, practise good hygiene (e.g., clean your tools).
- If you have to intervene, monitor and plan, and try to be as selective as possible (minimise collateral damage).

Growing organic beetroot: key points

- Good weed management is essential.
- False seed beds can help reduce weed pressure, and once planted beetroot should be weeded so that weeds do not set seed.
- Most beetroot crops are direct sown so are in the ground a long time, allowing weeds to establish if not controlled.
- Beetroot does not have major disease or pest issues and is relatively easy to grow.

Growing organic broccoli: key points

- Good weed management is crucial.
 - False seed beds are a valuable technique, and once planted, the broccoli crop must be weeded so that weeds do not go to seed.
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- Most broccoli crops are transplanted into their final beds, which allows more time for weed control.
- Major pests are the white cabbage butterfly which can be controlled with Bt (*Bacillus thuringensis*), and aphids (which can be controlled with pyrethrum).
- Planting flowering crops can help reduce pest pressure by attracting natural predators of pests. Plant phacelia, buckwheat, alyssum, and umbelliferace plants such as cow parsley and coriander.

Growing organic lettuce: key points

- Good weed management is crucial.
- False seed beds are a valuable technique, and once planted, the lettuce crop must be weeded so that weeds do not go to seed.
- Direct sowing lettuce saves time and prevents transplant shock, but transplanting allows more time for weed control.
- Varieties that are resistant to the lettuce aphid are available.
- Another major pest of lettuce, slugs, can be controlled with a bait called Sluggo, use of which is allowable under organic certification.

To receive the complete crop guides, email mary.ralston@xtra.co.nz

Successful start to courses at the BHU Organic Training College

The first intake of students to the new organic training college began their course on 14th January at the BHU, Lincoln University. Bill Martin, director of the new college, is very pleased with student numbers – there are 21 students doing part time and full time study, which is the equivalent of 18 full-timers. The students come from a wide range of backgrounds, experience levels and ages, making for a very stimulating and interesting group. Nine tutorial staff teach a range of general horticulture subjects as well as specifically organic topics. Next term the students begin a new range of subjects including shelter with Bob Crowder, companion planting with Nicole Buhrs, vermiculture (worms) with Holger Kahl, and soils with Bill Martin.

The next intake of students will be in mid-October when two levels of course will be run: the National Certificate in Horticulture Level 2, and National Certificate in Horticulture Level 4. The courses are zero-fees, making them a very attractive training option. For more information on the Organic Training College and the courses, contact Bill Martin at the BHU, email thebhu@quicksilver.net.nz or phone 03 325.3684. For enrolment packages contact Telford on 0800.83.53.67.

Farmers' markets

Canterbury Farmers' Market – Riccarton House, 16 Kahu St, Riccarton, every Sat, 9am – 12.

Lyttelton Farmers' Market – at Lyttelton Main School, Oxford St, Lyttelton, every Sat 10 – 1.

Selwyn Farmers' Market (Lincoln) – every Sat until May, 9am – noon. New location this year, see www.selwynfarmersmarket.org.nz for site and date confirmation.

Waipara Valley Farmers' Market – at Pegasus Bay Winery, Stockgrove Rd, 5 min north of Amberley, every Sat till autumn, 9 am – noon.

Ashburton Farmers' Market – running on the second and fourth Sat of the month, West St carpark, 9am – noon.

Geraldine Farmers' Market – at the Village Inn carpark, open Sat 9 am –12.30.

The Wineshed Farmers' Market (Tai Tapu) – at The Wineshed, 29 Cossars Rd, Tai Tapu, every Sat, 10 am – 2 pm.

Kaiapoi Produce Market – every Sat until Queen's Birthday weekend, at the William Morgan Reserve, Charles St, 9 am – noon.

Oxford Farmers' Market – Main St, Oxford, Sundays, 9 am – noon.

Purau Valley Produce Market – Saturdays every 2 weeks until autumn, at the Diamond Harbour village centre.

Waimate Farmers' Market – Sundays 11am – 3pm. Cost: \$10 per 3x3m site, phone Sandra Day: 03 689 7973 ext 0, night: 03 689 7382.

Organic milk cuts eczema in children

A new study in Australia shows the incidence of eczema in infants fed on organic dairy products, and whose mothers also consume organic dairy products, is 36% lower than in children who consume conventional dairy products. While there is significant evidence showing organic food contains higher levels of beneficial nutrients than non-organic foods, this is believed to be the first example of a definite health benefit of organic food consumption being published in a peer reviewed journal.

While the study confirms it is organic dairy consumption that protects against the development of eczema, the scientists could only hypothesise as to the reason for this protection. Shane Heaton, nutritionist for the Biological Farmers of Australia, says, "Given the strong evidence that organic has more beneficial nutrients, and the absence of harmful additives, common sense suggests that organic food is better for your health."

It has already been established that increased levels of the beneficial conjugated linoleic acid (CLA) isomers are found in milk from organically managed cows. A separate recent study confirms higher levels of CLAs are found not only in organic cows' milk but also in the breast milk of women consuming organic milk. Thus, it appears likely that higher levels of CLAs in the breast milk of organic milk-drinking mothers is a key mechanism in reducing eczema, as well as the organic dairy diet of the infants themselves.

Organic Advisory Programme driving growth

After almost a year of operation, the Organic Advisory Programme administered by Organics Aotearoa New Zealand is proving successful in driving the organic sector's growth, says Dr Jon Tanner, OANZ Chief Executive Officer. Organic certifier BioGro reported a substantial rise in applications for certification in 2007, hiring an additional staff member as a direct result of referrals from the Organic Advisory Programme, while Fonterra's organic milk supply has increased more than 50% - to over 30 million litres - between 2005 and 2007.

Farmers and growers who are seriously considering, or have recently started, certified organic production can apply to the "Smart Start" programme for a part-funded on-farm consultation to explore in depth the implications of making the switch to organics. Smart Start's first few months saw it receive more than a hundred applications from a diverse range of producers - from stonefruit and saffron to vegetables and viticulture. In many parts of New Zealand the sheep and beef sector is leading the way in investigating organic practices, in response to prices for organic lamb which in 2007 were double those available to struggling conventional producers.

The Organic Advisory Programme also administers User Defined Packages, which fund sector, regional and special interest to spread information about organic best practice. It is the first extension programme of its type in New Zealand's organic sector, and government funding for the service is overseen by MAF's Sustainable Farming Fund. Operating alongside the government, OANZ and farmers, the OAP has shown that it's possible to find plenty of fertile ground for new organic producers to grow.

For more information about the Organic Advisory Programme, see www.oanz.org.nz/oap or call Karen on (06) 379 8695, or email our local OANZ representative Holger Kahl holger.kahl@oanz.org.nz.

Organic Updates

Don't forget to read the Organic Updates – the updates record the information from the seminars, workshops and research trials run by the Canterbury Organic Growers' group from 2000-2007, funded by the Sustainable Farming Fund, Heinz Wattie's and Foundation for Arable Research (FAR). They cover a wide range of topics: from weed management, cover crop mulching and minimum tillage, to animal health, growing organic process peas, growing organic carrot seed, undersowing, and Kowhai Farm. The updates are available as PDF files from the CCOG website <http://www.organics.org.nz/> or can be purchased as a bound copy for \$10. Send a cheque to Mary Ralston, Back Track, RD 12 Rakaia, 7782.

Advertisements contact Mary mary.ralston@xtra.co.nz or ph 03 3029202 to place your ad

FOR SALE Greenhouse equipment: 2 metal tables with coralite (corrugated plastic) tops, each 10 m long (they come in 3 sections) \$150/table. Growing trays, approx 220. Electric heaters for greenhouse (4). Fogger. Bags (PB 40) approx 100. Any offers considered. Phone Mary or Kem 03-3029202 or email kem@xtra.co.nz

WANTED Pea straw (organic or spray free). 20 big bales delivered please. Contact Janine at (03) 329 7377.

OANZ newsletter Organics Aotearoa New Zealand produce an excellent email newsletter every two weeks. To be added to the mailing list, email gavin.middleton@oanz.org.nz

Organics in Canterbury Newsletter

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

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