Organics in Canterbury

Issue No 29: July, 2005

Contents

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

www.organics.org.nz/ccog/ccog.html

Newsletter contact:

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

Articles, letters to the editor and advertisements are welcome.

Peak Oil and Agriculture

Jeanette Fitzsimons to speak at dinner

The mid-winter feast is back! You are warmly invited to come to the Canterbury Commercial Organics Group mid winter dinner on 23 July at the Lincoln Community Centre. Jeanette Fitzsimons will speak on the subject of Peak Oil and its implication for agriculture in New Zealand. Jeanette is very knowledgeable on this subject and it is sure to be a very interesting talk and a great evening. Please bring something delicious to share for dinner and a gold coin donation to help cover hall costs.

Please consider catching the bus (there is a bus leaving the bus exchange at 5.17 for Lincoln, and returns from Lincoln at 10.10) or car pooling.

Date: 23 July 2005, 6.30pm, dinner 7.00, talk at 8.00
Venue: Lincoln Community Centre, Gerald St (the main st) Lincoln
Bring: some nice food for a pot luck meal, gold coin donation (tea & coffee provided)
Directions: From Christchurch, head south on Blenheim Rd or Riccarton Rd, through the Sockburn roundabout, turn left just past the garage into Springs Rd. Continue for about 15 km to the roundabout near Lincoln University. Turn left here, go about 1 km into Lincoln township; the Community Centre is on your left before the library and shops.

What do we mean by "Peak Oil"?

When around half the oil in a field has been used, the rate at which the rest can be pumped out starts to decline. So once half the world's oil is used up, production will 'peak' and then fall and there are likely to be shortages, higher prices and international tension over remaining stocks. We are not facing the 'end of oil'; (cont. page 2)

CCOG

there will be still a lot around for at least another 50 years. However, we are facing the end of cheap oil sometime in the next few years. Because oil is used in many ways in modern life, the effect on society will be dramatic and agriculture will not be exempt.

Modern food production and export trade are only economic because of cheap oil. An immediate and direct effect of its end will be in agri-chemical use. Pesticides and some fertilisers made from oil products will become unfeasibly expensive, which will make the present system of monoculture-based mass production increasingly untenable.

Airfreighting will be become prohibitive and shipping will become too expensive for our exports to be competitive on the far side of the world. The true cost of 'food miles' will soon become apparent.

From the perspective of the organic industry, and environmentalists generally, these developments could be viewed as positive. However, if the transition to a post-cheap oil economy is not properly managed, there will be great risks for society and the environment.

Globally, it will be demanded that coal should be used more to meet the shortfall in energy demand, with all the obvious climate change that would bring. The green alternative is more distributed, renewable power sources and greater energy efficiency. If they're willing, and they should be with their ingenuity and self-reliance, farmers will be ideally placed to lead the way in taking advantage of such technologies as micro-hydro, solar water heating and wind turbines. And bio-fuels, which need to be grown, will meet the much-reduced demand for liquid fuels.

Peak Oil will be a challenge for everyone. The agriculture sector will be radically changed by its onset, but it can survive and prosper if it, and the rest of society, is ready and willing to make the necessary preparations.

More on Danish roundup use

In the last newsletter, I reprinted an item from the internet on a ban on Roundup use in Denmark. There is however a more recent addition to the story:

In an updated evaluation status of glyphosate released on December 14, 2004, the Danish Environmental Protection Agency revoked the earlier proposal for restriction of glyphosate use and issued the following ruling in regard to the autumn application of glyphosate in Denmark:
"The Danish Environmental Protection Agency believes that no unacceptable risk of pollution of the groundwater is associated with the currently approved agricultural use of glyphosate. The Agency thus does not consider that the updated state of our knowledge provides any technical grounds for the imposition of restrictions on the autumn application of glyphosate."

The New Zealand Organic Register

See the site http://organic-register.com/index.html. The New Zealand Organic Register is a great find. It's a directory of over 1000 organic products and services available in New Zealand. It lists everything from organic produce, certifiers, and real estate to farm inputs and machinery, giving you the names and addresses of who to contact. If you want anything from organic carrots to a flame weeder, look in here. And, if you have something to sell, promoting it here may be a good thing.

Calendar of Events

23 July CCOG Mid-winter dinner & speaker. Jeanette Fitzsimons will speak on Peak Oil and its Implications for agriculture and New Zealand. Lincoln Community Centre, 6.30. See article page 1.

24 July Canterbury Organics AGM (see page 4)

17 August Soil Seminar (see below)

Organic Growers Risk Management Project in conjunction with Sustainable Farming Fund

Forward Notice - mark your calendars NOW

SOILS SEMINAR "Using soil health and fertility to grow better crops and pasture"

Wednesday 17 August, 2005

Programme: 9.30am Cuppa, 10.00am Start, Lincoln (venue & lunch cost to be advised)

10.00 am
Seminar and workshop by Dr Tim Jenkins of the Biological Husbandry Unit at Lincoln University
- Soil Science Update - physical, biological and chemical components
- Soil Testing - Options, evaluation and best use of soil testing
- Soil Fertility - Are you applying the required nutrients and at sufficient levels?
- Soil Health Risks - Identification and management including seasonal risks

12.00 Lunch

1.00pm Organic Cover Crops Trial - visit this green manure crop trial pre harvest at the BHU;
Kowhai Farm Update

3.00pm Close

REGISTRATION is essential to confirm catering numbers
RSVP to Sue Cumberworth sue@agribusinessgroup.com or phone/fax: 03 329 6456 by 10 August

EM Courses at CPIT Seven Oaks

The following short courses will be run at the Seven Oaks site in Opawa:

Effective Microorganisms (EM) for Home and Garden 4 hours (9am - 1pm)
Dates: 14 May, 6 Aug, 3 Sep, 15 Oct, 19 Nov Fee: FREE
Introduces students to the principles and practice of using beneficial Effective Microorganisms (EM) to improve soil health and the quality and yield of crops. The EM Bokashi composting system for recycling food scraps will also be covered. For more information contact CPIT. **Ph: 0800 24 24 76 or 03-940 8074, Email: info@cpit.ac.nz www.cpit.ac.nz**

News from Canterbury Organic (OFNZ Canterbury & Nelson Bays)

You are warmly invited to
CANTERBURY ORGANIC'S 4th AGM

Sunday 24th July 2005, 11.00 am
Seven Oaks Campus, Christchurch Polytechnic
(Corner Hassals Lane and York St, Opawa)

Guest Speaker: Holger Kahl
The IFOAM Basic Principles of Organics

Followed by a shared lunch
(Organic drinks will be provided)

We would love to see as many of you as possible at the meeting and hope that the time, venue and guest speaker will all tempt you to attend.

The existing committee members are all prepared to continue in their duties for another year, but would be delighted if anyone else is willing to be involved in the running of OrganicFarmNZ in the Canterbury and Nelson Bays areas. If you are a Producer Member and unable to attend but would like someone else attending to vote on your behalf you will need to complete and return the Proxy form in advance of the meeting.

Hugh Mingard, Administrator (Canterbury Organic)
c/o Ngahuru, Ahuriri Road, RD2, Christchurch.
Tel: 03 329 6569, Fax: 03 329 6568, Email: corganic@organics.org.nz

Agenda:
1. Attendees, Minutes and Matters Arising
2. Update on OrganicFarmNZ
3. Reports from Officers
4. Election of Officers
5. Setting of Certification Fee for 2005-2006
6. Date of 2006 AGM
7. Open Forum

We apologise that the date has had to be changed from that proposed at the last AGM, but hope that having a weekend, day-time meeting will make it possible for more members to participate. Please do consider whether you could spare any time to assist in the running of the Society. You are welcome to contact the Canterbury Organic office for further information, or guidance on how to find the venue. I hope to see you at the AGM.

Sally Simmons

(Secretary)

Organic Growers' Risk Management Project

Pastures Field Day Report

Organic farmers and others interested in productive pastures gathered in Geraldine on 13 May to learn more about pasture species and their influence on animal productivity and soil fertility.

The field day had been inspired by the August 2004 Organic Risk Management Workshop where attendees had identified good soil fertility and maintaining a productive pasture phase as two of the highest priority business risks for organic farmers. Both the workshop and the field day are part of the Organic Risk Management Project funded by the Sustainable Farming Fund.

The facilitator of the project, Sue Cumberworth of The Agribusiness Group, organised the day which began with a presentation by Mike Daly, an agricultural consultant, on the value of mixed species pastures. He outlined studies comparing the traditional ryegrass/clover pastures with mixed species pastures, also known as mixed herb leys. One comparison of 15 paired paddocks on the same farms showed an overall average of 11% higher dry matter production from mixed species pastures compared to ryegrass/white clover.

Another study comparing mixed species pastures and ryegrass/clover was made on the dryland sites of Winchmore, mid-Canterbury and at Dashwood, Marlborough. The trial lasted 3 years and measured production and composition. Four different mixes were used – high endophyte ryegrass and clover; a mixed species pasture with 17 different cultivars; a lucerne-based mixed species pasture; and a red clover and brome mix. There was not much difference in productivity in the first year, a significant difference in the second year, and not as marked a difference in the third year. The mixed species pasture gave highest productivity and the lucerne mix gave most consistent performance.

Mike said that while ryegrass does have high dry matter production, adding legumes gives a boost to productivity because of the nitrogen fixation and adding herbs as well adds further productivity and quality because of the variety of minerals they can make available to stock. Mike stressed that mixed species pastures offer a serious alternative to the traditional ryegrass/clover pasture on the dry east coast of the South Island.

Pasture persistence was also discussed. Mike outlined a study he had been involved with which looked at why some pastures last three years and others 20. Farmers identified persistent pastures and comparison with non-persistent pastures showed that fertility was a key issue: phosphorus and sulphur levels were much higher in the persistent pastures.

David Musgrave, of Waihi Bush Organic Farm, near Geraldine continued the theme of the value of mixed species pastures. His key points were:

- **Limitations of ryegrass/clover pasture:** There is a general lack of awareness that ryegrass (and to a lesser extent white clover) have shortcomings that affect the whole farming system. These include poor drought tolerance, susceptibility to grass grub attack and weed invasion (especially thistles) and problems with endophytes, the fungi that protects the ryegrass from attack by the Argentine stem weevil. Many alternative species do not have these limitations. Ryegrass also goes to seed very quickly compared to other species and farmers often spend much time and money topping pastures to get leafy growth. On the plus side, ryegrass tolerates a wide range of management and establishes quickly, especially in cool conditions, and the new novel endophytes are reducing the health problems associated with the old varieties.

- **Pasture productivity:** Many studies have demonstrated increased dry matter production from mixed species pastures. Most trials show mixed species pastures have increased spring and summer production compared to ryegrass.

- **Animal productivity:** Many trials show increased animal production on mixed species pastures. Live weight gains on mixed species pastures can be up to 50% higher than a ryegrass/clover pasture. A trial that just added red clover to a ryegrass pasture gave an increase of 10% for beef stock, a 24% milk production increase and a 24% weaned lamb growth rate. Other mixed species pastures trials show milk production increases of around 16-23% for cows on mixed species pastures. Much of the increase is attributed to the higher legume content.

- **Animal health:** Health and production problems associated with grazing of perennial ryegrass with endophytes include reduced weight gain, increased dags and flystrike, heat stress and ryegrass staggers. Studies showing that lambs put on considerably less weight when grazing lush, high endophyte ryegrass pastures compared to timothy, tall fescue, low endophyte ryegrass and lucerne suggest that grazing high endophyte ryegrasses puts them under dietary stress which makes them susceptible to internal parasites.

- **Mineral levels:** A range of species in a pasture can help to balance the mineral status of the diet. Herbs such as chicory and plantain very effectively increase the mineral content of the pasture which can improve animal performance and reduce the levels of internal parasites.

- **Weed infestation:** Ryegrass pastures are prone to invasion by weeds such as thistles, particularly after a dry autumn or after grass grub damage. Mixed species pastures are much more resilient. Chicory appears to limit the invasion of Californian thistles, possibly by breaking up the compacted zone below the level of cultivation, making conditions unsuitable for thistle rhizomes.

- **Insect damage:** Species such as tall fescue, phalaris and cocksfoot are little affected by grass grub, even when grass grub numbers are very high, whereas ryegrass pastures can be decimated.

- **Financial considerations:** Comparing the returns from a ryegrass pasture and a MSP showed a net return of 16-25% higher from the mixed species pastures over a three year period. This comparison took into account cost of seed, thistle control, topping costs and grassgrub control.

- **What species to use?** Grass species worthy of consideration include: tall fescues, timothy, grazing brome, phalaris, prairie grass, and cocksfoot. Legumes include red and white clovers, and lucerne. Herbs – chicory, plantain and yarrow.

Pasture Species

Deciding on the various proportions of the mix is important and for most situations a clover based mixed pasture will be easier to manage than a lucerne based one and will give good performance even in a dry year. However on lighter soils or drier environments it is worth going to a lucerne-based pasture. It is critical to match the grass cultivars to the lucerne cultivars, so that the growth rhythms are similar. If this is not done you are likely to have either grass or lucerne dominating. Lucerne-based pastures should include lucerne, chicory, timothy, tall fescue, grazing brome, phalaris and cocksfoot. Clover based pastures should include red and white clover, chicory, timothy, tall fescue, grazing brome, phalaris, cocksfoot, plantain and yarrow.

Soil Tests
Before resowing pasture it is advisable to get a soil test to check that calcium, magnesium, potassium and sodium levels are close to the optimum **ratios**. (It is the ratio that is important rather than the amount in the soil.) This is the Cation Exchange Capacity (CEC). Phosphate and sulphur should be near to optimal levels as should the trace elements (boron, cobalt, copper, selenium and zinc).

David then went on to outline the management of mixed species pastures. He suggests:

- Sow before the end of March or in early spring
- Plant very shallow – no more than 1-2 cm
- Heavy roll immediately, on flat land, to restore capillary action in the soil
- Buy high quality seed
- Top once in the second spring to control thistles if necessary
- Rotationally graze wherever possible
- Allow lucerne to reach early flowering at least once per year
- Set stock in final winter before cropping.

In the afternoon we visited David's Waihi Bush farm and saw a range of mixed pastures. Waihi Bush has been farmed organically for 14 years. Originally it was a sheep property, then dairy grazing and then cropping. Rainfall is 850 mm pa, mostly from the south. It can get very dry in summer. David grew linseed for 5-6 years but found the birds were too much of a problem and so put the whole property back into pasture. He now contracts other farmers to grow linseed for his organic flaxseed oil business.

The first pasture ably demonstrated the use of lucerne in a mixed species pasture. Chicory and a variety of grasses also flourished. David is a great fan of lucerne except when grown on its own which makes it susceptible to weeds but growing it in a mixed species pasture eliminates this. Other species were grazing brome (useful for extra winter growth); phalaris, which is creeping and thus can resist trampling and is totally resistant to grass grub; tall fescue which can be low in sodium and unpalatable at some times of the year; and timothy, a late flowering species with complementary growth rhythms to the tall fescue.

Goldie lotus hasn't persisted and has not been worth growing, says David. It is very expensive and has similar growth rhythms to lucerne. Cocksfoot had not been sown in this mix because of its alleopathic effect on lucerne. Very small amounts could be sown in a clover based mix; it can tend to dominate especially if rotationally grazed but has the advantage that it is very productive and does well in a dry autumn.

David has found that a superfine seedbed is not necessary. Drilling or broadcasting works well (seed should not be deep) and use of a heavy roller re-establishes the capillary action of the soil, bringing moisture to the surface which ensures reliable germination. Planting can be done in spring as soon as there is some growth. Annual clovers are a good choice for short term pasture options, for instance undersowing cereals. Red clover is also good. Seed costs are a major consideration in these situations.

Discussion turned to managing risk in linseed crops. David showed us the new header stripper front which he has bought with the aim of minimising the risk which a delay in harvesting linseed can entail. At 7 m wide and travelling at up to 10 km/h it can speed the process up considerably. It can also harvest at 18-20% moisture levels. Its limitations are a lack of contractors and mechanical back-up and the possibility that drying space will be inadequate.

Dave Lucock gave an update on the ARGOS project. ARGOS is a long term study of the social, environmental and economic consequences of three different farming types (conventional, integrated

and organic) on three different types of farm (lowland sheep and cattle, high country farms and kiwifruit orchards). It is a six year project.

It is hoped that the study will assist farmers:

- To achieve sustainability and resilience within their farming system
- To enhance capital (cultural, social, economic, environmental)
- To facilitate innovation and improve performance in primary production systems.

To finish, David gave his favourite quote: all truth goes through three stages; first it is ridiculed, then it is violently opposed, finally it is accepted as self-evident (Schoepenhouer). For all of us at the field day, it was very evident that mixed species pastures were the way forward!

Stonebread

Stonebread is a research and development company based in Christchurch which has recently released the Better Earth range of certified organic fertilizers, for use in the New Zealand garden and farm. Better Earth® is a mineral-based organic fertiliser that is non-toxic to plants, animals, insects and water systems. Fully Certified Organic by Bio-Gro, Better Earth® products can be used in all forms of organic production.

Field trials conducted in 2003 at the Biological Husbandry Unit at Lincoln showed vegetable yield/weight increased significantly over the control in four separate tests. Dr Tim Jenkins, soil scientist and past manager of the Biological Husbandry Unit at Lincoln described these findings as demonstrating a "concentrated combination of mineral and organic fertiliser material obviously benefiting the tested crop plants through feeding the soil rather that forcing plant growth with salt-based fertilisers".

The first experiment series looked at the crops pakchoi, lettuce, spinach and cabbage. With the exception of cabbage, the results achieved were in the range of 30 to 39% increase over control yields using Better Earth 'Reborn' at a moderate level (equivalent of 900 kg/ha). The longer growing cabbage had high variability between experimental plots and the increase was measured at around 9%.

In the second experiment series yield increases over the colder season of autumn, winter and early spring were more moderate but still significant. The use of Better Earth 'Reborn' gave average yield increases of 35.6% for broccoli, 17.8% for lettuce and 4.1% for cabbage.

The practice of applying the Better Earth 'Reborn' to the immediate rooting zone of vegetable transplants and sown seed gives a concentrated area of nutrients. Although much of the aim of the product relates to providing a balance of nutrients right through to trace elements it is worth noting there are significant amounts of major elements such as nitrogen, phosphorus, potassium and magnesium contained in the fertiliser.

Different types of fertiliser material release major elements at different rates. The Better Earth 'Reborn' material comprises nutrients in both mineral and organic form (due to the combination of mineral and concentrated compost nutrients). The mineral forms are likely to be medium to long term release and it appears from observations made in the trials that the organically presented nutrients are more readily available though are probably released in a balanced and gradual manner.

For more information see www.stonebread.co.nz , call 329.8191 or 0800.327.849.

Neem

Edited version of an article by Andreas Welte, published in ***Harvests*** *magazine 56(3), 2003.*

The tropical neem tree (*Antalea azadirachta*, formerly *Azadirachta indica*) belongs to the family Meliaceae and has been revered by Indians for centuries. Millions have cleaned their teeth with neem twigs, taken neem as a tonic, placed neem leaves in grain bins to keep insects away and used it for the protection of people and animals from insect pests.

Neem oil can be extracted by pressing the fruit and kernel or by adding chemical solvents to the pulp which results in a higher extraction rate. The pressing method is mainly used in India and some African countries where neem trees grow wild and are abundant and solvents are expensive and not readily available. Where neem trees are grown commercially (Central America, Australia) solvent extraction is the norm. Residues of toxic solvents may help to increase the efficacy of neem oil products but these solvents may harm beneficial insects like bees, lacewings, *Encarsia* and *Trichogramma* wasps and predatory mites.

A water-extraction method has been developed which produces a neem product called NeemAzal-T/S which is free of solvent residues. This method does not harm the user or beneficial insects, yet allows a high standardised rate of active ingredients. It shows good results in the control of target insects including aphids, thrips, caterpillars, whitefly, mealy-bug, mites and scale. Tests at Christchurch Polytechnic showed promising results in controlling the lettuce aphid *Nasanovia ribisnigri*. Best control was achieved in the aphid's early nymph stage and before they enter the heart of the lettuce.

NeemAzal-T/S controls pests on contact or by ingestion, acting by way of an anti-feedant and interference with the moulting process. Its efficacy is largely dependant on weather conditions (it is rainfast after 4 hours) intensity of pest population, type of pest and its physical stage. Direct sunlight and high UV radiation lead to rapid degradation of the active ingredients. Residue trials in New Zealand on apple, grape and avocado showed that the product was rapidly taken up by the crop and did not leave residues or taint the crop. However as a precautionary approach users should wait for three days between the last application and harvesting/consumption of crops. It is thought that the complex neem limonoid spectrum of more than 60 active ingredients and the multiple mode of action of NeemAzal prevents pests developing resistance. It has permitted use under BioGro and Demeter standards and acceptance in the IFOAM scheme.

Advertising

Call Mary 03 3029202 or email kem@xtra.co.nz if you would like to place an ad in the next issue of the newsletter.

FOR SALE

Organic Pea Vine for sale. Medium square bales. Contact Anthony White ph 349-5699 or 021-320-865.

LAND WANTED

Married couple looking to enter organic poultry farming are seeking to purchase 8-20 hectares of land before Christmas. Are happy to buy a standalone block or work in with an organic farmer wishing to expand or contract their operation. Particularly interested in hearing from arable farmers due to eventual desire to produce some our own grain for feed, and as potential sources of grain. Please contact David and Sheridan on 04 4792978 or motor.zealand@clear.net.nz

Support the organics industry in Canterbury!

CCOG not only produces the "Organics in Canterbury" newsletter: our objective is to promote organics. 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.

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 2005-6.

Subscription Form: GST# 69-458-645

First name _____ Last name _____

Business name _____

Address _____

_____

Phone _____ Fax _____

Email. **Please print!** _____

CCOG has charitable status. Donations to CCOG do not attract GST and if over $5.00 you can claim a tax rebate. For donations of $5 or more a receipt will be sent if you require one.

Please tick the following, as appropriate:

- ❑ I wish to make a donation of ❑$10, ❑$20, ❑$30, ❑$50, ❑$_____ (amount of your choice)
- ❑ I would like a receipt
- ❑ I **DO NOT** wish to receive occasional forwarded email messages from third parties
- ❑ My details are **NOT** to be released to third parties

- Please make all cheques payable to the Canterbury Commercial Organics Group, and return with this form to: CCOG, C/- Rex Verity, PO Box 327, Christchurch.
- If you receive more than one copy of the newsletter please let us know.
- If you receive the newsletter by post and have email, please let us know your email address so we can save sending out a printed copy.
- Please visit the CCOG website for more information: www.organics.org.nz/ccog/ccog.html

Signature_____ If you are GST registered and require a receipt please make a photocopy of this completed form for your records.

Office use only
Cash / cheque $_____ Donation $_____ Confidential_____ 3rd pty msg_____.____
Donation receipt required_____ Date processed_____ Entered & checked by _____.

Advertisements

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.