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Canberra Organic Growers Society
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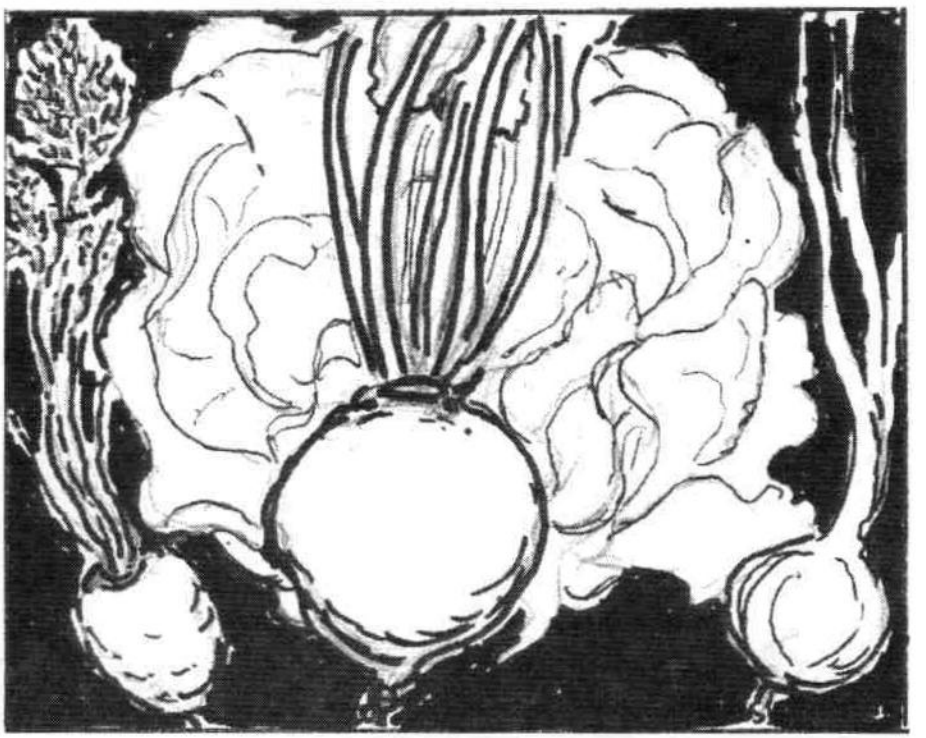
Canberra Organic

Quarterly publication of the Canberra Organic Growers Society Inc.

ORGANIC GROWING IN THE CANBERRA REGION



VOL. 8 NO. 1

AUTUMN 2000

CANBERRA ORGANIC

Quarterly magazine published by the Canberra Organic Growers Society Inc.
Vol. 8 No. 1 (Issue 29)

CONTRIBUTIONS INVITED

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Jennifer Allen with help from Nina, Jennifer H., Sarah, Penny and Steve. Thanks heaps!

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The *Canberra Organic* magazine is a unique medium for reaching people in the Canberra region who have an interest in organic food, gardening and general environmental issues. Our circulation is currently 550.

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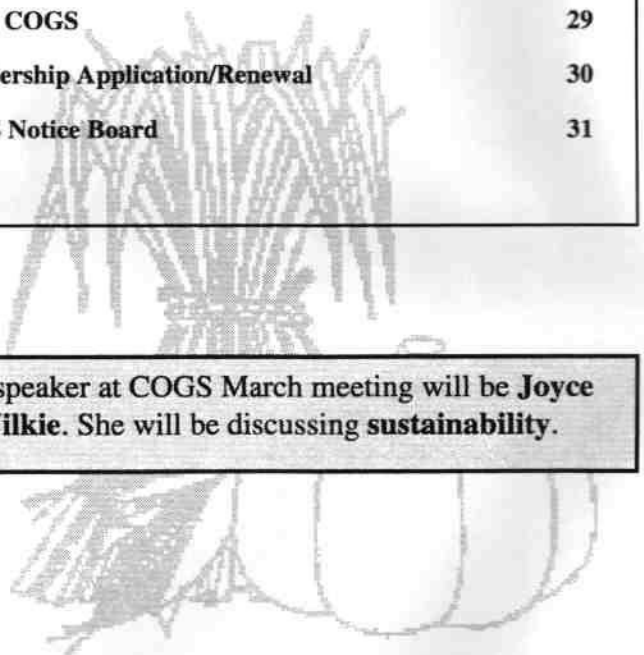

The speaker at COGS March meeting will be **Joyce Wilkie**. She will be discussing **sustainability**.

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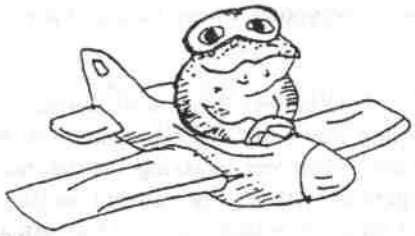

MONTHLY MEETINGS

Book sales: Murray Dadds
Produce table: Vacant
Supper convenors: Marie Bahr, Rosemary Stevenson
Librarian: Maren Childs

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HELP!

COGS will soon be needing a new seed librarian. Do you have some time to spare and an interest in organic gardening and seed saving? You could be our person! Call Steve Sutton at 6292 5609 to volunteer.

COGS ON THE INTERNET

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REMINDER

General meetings will resume on Febuary 22nd with *Harvest Night*! Bring your latest harvest or stories from the garden. Meetings are at 7:30 pm in Room 4 of the Griffin Centre, Civic.

FROM THE EDITOR

It's always exhilarating taking on a new project. There is the initial flood of (seemingly) brilliant ideas followed by the dreamy, planning stage. But then it comes time to get down to brass tacks and get some real work done. And the COGS Quarterly is no different from any endeavour. I love gardening and I love writing but that doesn't make this new project any easier. For, you see, I have a confession to make. I am a novice. I am a new gardener and a new writer. I am getting reacquainted with computer technology. I am new to Canberra and to Australia itself. So while I may not be an expert, I make a great commiserater. If you are having a problem in your garden, chances are I am too. And while, initially, that may seem frustrating and far from helpful, I see it as a wonderful opportunity to seek solutions collectively. This is one of the main functions of the *Canberra Organic*: to bring the community together for creative problem solving, discussions, information and conversation. Your involvement is paramount. It's time to get down to brass tacks and get some work done...together. Contact me by e-mail, phone or post. I can't wait to hear from you.

PRESIDENT'S REPORT

Welcome everybody. I hope each and every one of you had a happy and safe Christmas and New Year.

Well, can you believe that it's the middle of January and the weatherman has just informed us on the nightly news that the temperature will drop to 6 degrees overnight, rising to 22 degrees tomorrow? Everyone is asking, "Is this really summer; and when will it arrive?" Spring was just about perfect, with regular rain and no late frosts. My garden got the best start ever but we are in need of some hot weather to bring the corn and pumpkins along.

The visit to Paul Dann's property at Mongarlowe was found to be very interesting. I in particular was looking forward to seeing the property that I had read about in a number of publications. It was found to be a very enlightening excursion and I hope that other members also found this trip informative and useful, as there is nothing like seeing things first hand and up close. Thanks go to Paul for a great day.

At the November Monthly meeting we presented Margaret and John Allen with Life Membership of COGS. It gave me great pleasure to do this. Their presence at committee meetings will be sorely missed. It was also good to catch up with some members in a relaxed social environment such as our November meeting. A cuppa, a snag and pleasant company, what more could you ask for? Thanks to all who made the afternoon possible (see page 16 for story).

COGS BACKYARD is going from strength to strength. The Xeriscape Garden is becoming a meeting place for people who want information on gardening. There are talks put on by various people and groups, on nominated Saturdays and Sundays (a calendar of these events are on the notice board). COGS will be presenting a demonstration on the benefits of green manure crops and how to sow them on Saturday 25th and Sunday 26th of March. We will also have the seeds for sale. Hope to see you there.

With March fast approaching so is the Annual General Meeting. Organisations like ours rely on volunteers to do umpteen hours of work to keep this happening. Being involved in the running of COGS has given me a chance to meet lots of interesting people. It is very true that the more you put in, the more you get out. Last year, with the departure of Margaret and John, we have seen members come forward and fill their different positions. All positions except that of a General Committee member are now filled. Now is the time to build on this strength. So please consider putting your name forward, as doing even minimal amounts makes light work for others, and you can then reap the rewards.

Here's hoping that you have a bountiful harvest this autumn.

Steve Sutton

Thank You, John and Margaret!

From Michelle Johnson

As members of COGS will be aware, John and Margaret Allen left the COGS Committee at the end of last year when they moved down the coast to begin a new stage in their lives and a new scale of organic growing on their small acreage. Many COGS' members farewelled Margaret at the COGS barbecue at the end of November, (John unfortunately was not able to attend as he was needed on the house site), and thanked them both for their contribution to COGS. However it seems appropriate that there be another thank you here in the magazine that reaches all COGS Members.

Looking back, it is amazing to think of all the work John and Margaret did for COGS. Margaret joined the COGS Committee in 1994 and became our Membership Secretary. John joined the Committee in 1995 as Membership Secretary when Margaret moved to the Treasurers position. Another shift occurred a year later when Margaret agreed to take on the job as Secretary which had been vacant for a while. John became Treasurer, ultimately combining the job of Membership Secretary and Treasurer – quite a work load! All these administrative jobs were carried out with great efficiency and capability, with John making substantial improvements to the basic computer software used by COGS in its administration. I was President for much of this period and it was a great boon to know that these essential committee tasks were so reliably carried out and the rest of the Committee could focus on other, perhaps more "public", tasks.

If John and Margaret had only found time for their Committee jobs, their contribution would have been significant, but what was remarkable was the extra time they gave to COGS, contributing in so many other ways. As Webb Manager, John developed the COGS Home Page on the Internet making COGS the first organic organisation in Australia to have a Home Page. I well remember some of the early Committee Meetings after this was done, when we would valiantly try to help John answer e-mail questions from many diverse locations around the world.

It was obvious from the response to our Home Page that there was a huge need for information on organic growing around the world in many climates and growing conditions. The Internet has been an important part of that information transfer. In particular, the Internet has been a vital tool in the spread of information about the use of genetic engineering in agriculture. As more people have learnt about this technology, more people have questioned the rush to introduce it and thankfully, the momentum has slowed. John's work in this area has illustrated what I think is one of the best uses of the Internet. It clearly shows that organic growers have their sights on the twenty-first century and are not lost in nostalgia for the old days. As organic growers we can continue to use the best agricultural practices of the past and incorporate these with new research and developments.

Margaret has been involved in so many of COGS' activities that it would be difficult to list them all. One of the highlights would be our stalls at the Canberra Show in 1996 and 1997. These stalls ran over three days from 8.30am to 10.00pm and involved many volunteers. Margaret was an invaluable member of the team, particularly in 1997 when she organised the volunteer roster and the wine and food tastings we had at the stall.

After these events the Committee began to think of other ways that we could publicise organic growing and we decided to develop COGS Backyard as a demonstration garden. Margaret was part of the first sub-Committee who ran the garden the summer of 1997 and 1998 along with John Ross, Steve Sutton and myself. It was a very rewarding time for us, with many people coming through the garden and produce from the garden winning prizes at the Canberra Show. I think one of the most satisfying times was when Margaret and I took a group of children from

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Koomarri around the garden and showed them how they could collect seeds from various plants to grow the next season.

Margaret has always been interested in the educational role of organisations such as COGS, and speaking to other gardening groups is an important part of this. One enjoyable event was our visit to Cooma to speak to the Cooma Gardening Club which was followed up with their visit to the Cotter Garden and COGS Backyard.

One of the highlights of my time on the Committee, and probably Margaret's too, was the COGS 20th Anniversary Dinner. Margaret and I had great fun organising this celebration and proved that a very enjoyable restaurant meal can be 100% organic.

In 1998 Margaret became the editor of our Quarterly magazine and brought her energy and enthusiasm to this job. With support from John, she produced the wonderful magazine we've enjoyed reading so much for the past two years. She also undertook to distribute the magazine through newsagents so it reached a wider audience.

As you can see from this brief article, Margaret and John contributed a great deal to COGS and we will miss their regular presence at COGS' meetings and activities. I wish them well and I know we will keep in touch with them as they develop their property and settle into a new life. **On behalf of COGS: *Thank you, John and Margaret!***

Backyard Biodynamics

At the October COGS general meeting, Lynette West gave a wonderful presentation on biodynamic gardening, The following article, by Jennifer Hendriks, is a synopsis of the main points of her talk on October 26th, 1999

The first principle of biodynamics is that everything has life energy. The whole of Nature is a living organism. More importantly, what we have in Nature are not just material forms but rather living organisms each with their own life force. Everything from the plant and animal kingdoms to humans, therefore, contains this life force.

There are two important principles of the Biodynamic system that Lynette shared with us in her talk. The first concerns the acknowledgment of the life forces mentioned above. We must try to understand these energies so that our work will enhance the natural system of forces and not result in actions contrary to nature. It is through working within this system that we become very conscious of the life forces active in this world. Once aware of these energies, we can learn how to guide them to a balance. The farmer/gardener, in effect, becomes an artist, working with the forces that guide nature to create plants, fruits, vegetables and animals that are of the highest quality.

Once this balance is achieved the farmer takes a primary role in producing food of the highest nutritional quality while at the same time maintaining a diverse and fragile system. Biodynamics endeavours to bring everything into proper balance so that the agricultural system, far from taking away from our environment, enhances it and acknowledges everything as having a place within it.

The second principle that Lynette discussed in detail relates to humus. Rudolf Steiner stated that knowing how to maintain humus is the second most important factor in an agricultural system. As such the farmer/gardener must make sure to maintain a regular supply of humus. But what exactly is humus and why is it so essential to biodynamics?

If we simply consult the dictionary for help, we learn that humus is the dark organic material in soils which is produced by the decomposition of plants. But this definition fails to mention an important physical property of humus which is its colloidal form. A colloid is a physical state of matter which can hold substances in suspension whether they be gas, liquid or solid. Something in a colloidal form such as cheese, butter or jelly, does not separate on standing. In the case of soil, the ability to suspend substances has the effect of literally gluing solid soil molecules together in a form which is extremely resilient and does not leach from the soil. Nutrients held in a colloidal form are easily and readily available to plants when needed, which is why humus is an excellent soil conditioner. Soils with a 3 - 4 % humus levels are more able to absorb water and are therefore less prone to drought as well as water-logging. Humus can absorb 75% of its own weight in water and it is extremely difficult to dry out a humus colloid. One major benefit of humus is that it can solve many of today's soil structure problems associated with conventional farming systems. When we maintain good soil humus levels, plants are able to feed naturally through humus molecules. Plants fed naturally become stronger and are more resilient. Likewise, they are also less prone to insect and disease attacks.

But the benefits of humus go far beyond the farm or the garden, because all life on earth is maintained by colloidal humus. Many of you may have heard of Alex Podolinsky who once buried a jar of humus in good soil in the middle of the garden at the height of spring. He dug it up after a few weeks and found the jar packed tight with fine white feeder roots, showing that humus is the number one food preferred by plants. Why is this so? One reason is that for plants to be fed naturally, that is, for the nutrients to be readily absorbed, they need to be bound as a colloid. During the formation of humus all such nutrients or elements are bound in this form. The increased ability to absorb nutrients which are in a colloidal form is not only true for plants. Animals and humans can only readily utilise elements when they are bound into a colloidal form. It has been found, for example, that when people take mineral supplements NOT in a colloidal form they are mostly excreted from the body. However, if these minerals are colloidally bonded, they will be completely absorbed by the body and not excreted.

Since many of the diseases that mankind now suffers from are due to mineral deficiencies, the importance of colloidal humus cannot be overlooked. Conventionally grown food, that is, food which is fed by artificial fertilisers, either no longer contains the nutrients needed by man or these nutrients are in a form that cannot be readily utilised. Without humus, the minerals in the soil become locked-up and are therefore unavailable as nutrients to enrich the foods we eat.

If we feed plants naturally through soil humus, however, then many of the problems associated with mineral deficiencies will be resolved, the health of Nature will greatly improve and all forms of life will benefit. It does not come as a surprise, therefore, that Rudolf Steiner stressed the primary importance of the plant's nutrient requirements and the ways that we should go about meeting these requirements.

To give one more example of the importance of colloids, some of you will have heard of the Hunzas, a race of people who live in the Himalayan mountains in Northern India. These people are renowned for their longevity and live active and vibrant lives well into their hundreds. They look only forty years old when they are seventy, sire children well into their nineties, walk sixty miles over very harsh terrain, conduct their business and return home, all in the same day. The water the Hunza drink is so thick that it is referred to as 'glacial milk'. Recently a scientist by the name of Patrick Flanagan used sophisticated laboratory

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techniques to analyse this water which the Hunza not only used for drinking but also for irrigating crops. It was found to contain every mineral element known to man IN COLLOIDAL FORM.

Patrick Flanagan went on to try to reproduce the Hunza's water in a laboratory, although he was unsuccessful--at least until he had the idea of using a vortex formation. The Hunza's water comes from the mountains and is subject to the action of the melting glaciers. Whenever water undergoes movement, or two surfaces of water meet, a vortex is formed. The Hunza's water originally contained no minerals but the water formed thousands of vortices as it flowed through the mountains. When it reached the villages, it contained all the minerals in colloidal solution. The secret to the health of the Hunza people lies in the minerals which are colloidally bonded onto their water and therefore in a form able to be completely absorbed by the human body.

Having listened to Lynette's talk, it was immediately clear why the maintenance and creation of humus is the most important factor in an agricultural system and why, in a Biodynamic system, plants must be fed naturally through soil humus. But what can we who are interested in the benefits of humus do to manage our own soils so that they will develop good humus levels? Lynette gave us the following advice: to maintain adequate soil humus levels, our soils need to be aerobic, well drained and contain high levels of aerobic bacteria. If they are not, we need to create these conditions. To aid in creating such conditions in our own gardens, Lynette has developed (over the course of several years) a bacteria that lives under aerobic conditions and which converts the solid seaweed into a liquid. Furthermore, she has managed to keep this process biologically active. In fact, the tanks which hold the liquid fertiliser are quite alive and resemble a witch's cauldron with the bacteria base bubbling to the surface i disturbed. She uses a series of flow forms which are specifically designed vessels which simulate the vortical flow of Nature. The seaweed solution, called BioActive, is regularly flowed through this flow form--an action which colloidally bonds all the elements of the seaweed onto the water. The resulting liquid possesses all the elements contained in the seaweed in a colloidal form in addition to high levels of aerobic bacteria. The source material is seaweed because seaweed contains all the macro and micro nutrients, is local and is a good source of minerals. When spread onto the soil, it provides these nutrients in a form readily ingestible by the fine white feeder hairs of plants, not to mention that it also helps towards the development of soil humus levels.

The physical properties of another bio-dynamic preparation, BD500, which is made from cow manure, are quite interesting for they resemble a sample of humus. But for BD500 to be fully effective in a biodynamic system, the soil must be aerobic and well drained. Before application, the fertiliser must also be stirred into a vortex formation which is briefly maintained, then the direction of the stirring is reversed to break the former vortex and create a new one. This vortex creation and breaking process needs to be done for approximately one hour. When the stirring is completed, the particles of BD500 are bonded onto the water in a colloidal state. To appreciate the benefits of this stirring, Lynette noted that an analysis of the BD500 subsequent to stirring shows it to contain 500 million aerobic bacteria. BioActive, however, does not require this rigorous stirring prior to application if used within a specific length of time from production.

Lynnette has spent the last six years developing BioActive. Her reason behind this endeavor was to create a soil fertiliser which has all the nutrients in a colloidal form. When spread onto the soil this fertiliser creates the proper conditions that lead to humus formation. Not only does BioActive create the ideal conditions for the formation of humus, but it does so after only a short time of using this product.

By the end of her talk, many of us were eager to find out more about humus, colloids and vortices. For further reading on these topics, Lynette suggested the book Secrets of the Soil as a good tarting point as well as a good read. Lynette also teaches regular courses in biodynamic farming and gardening. Currently, she is also offering a garden/farm advisory service. Topics covered include garden design and layout, soil preparation, composting techniques, fruit tree care, working with nature's rythms and using the bio-dynamic preparations. If you are interested, please phone her for more information. Finally, BioActive is available by special order beginning in March. Orders and questions may be directed to Lynette at 02 6297 2729.

Learn to make a difference
to the waste problem

The Earth Works courses are designed to give you the skills to reduce consumption and enable you to make changes at home, in the workplace, at school or anywhere you feel you could make a difference. At the field days, we show you the value of a cyclical, systems approach to composting and no-dig gardening. You can then use these skills to build or enhance your existing organic routine.
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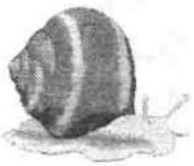

SLUG & SNAIL FAQ

Margaret Van Emmerik - www.powerup.com.au/~swimskins/slug_snail_FAQ.html

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Slugs & snails are my bug-bear, and this must be true for many gardeners. Here is Part 2 of a compilation of gardening experiences with slugs and snails by a wide variety of people. ..Ed.

LURES

Lures for the most part are used in conjunction with collection.

Beer/yeast

Leave shallow containers of beer out overnight for the slugs. Some say bury the container level with the soil, others recommend leaving the lip of the container just proud of the surface, say 1 or 2 cm so that beneficials don't also fall in and drown. The slugs/snails will still find it. Empty daily. When the death rates starts to decrease you may feel comfortable leaving the baits down a bit longer but be warned - dead slugs/snails stink after a very short time.

Suggested containers include saucers, tuna cans, yoghurt containers, margarine containers - in brief just about anything capable of holding beer and a slug. There seems to be considerable favour shown for containers with vertical sides - woozy slugs are less able to crawl out - and liquid filled only to a centimetre or two from the top, so once the slug gets on the plastic, there is only one way and that is down.

Recommended densities vary with just how many slugs you have, but 1 beer trap per square metre seems to be quite reasonable.

Some have also recommended putting the beer traps AWAY from the plants you wish to protect. Others prefer putting the traps in amongst the plants. Whatever works for you!

An often mentioned problem associated with the use of beer is what to do with the carcasses and remaining beer. Suggestions include dumping the lot into the compost, or dumping them out somewhere the birds can get them. If you are concerned about getting inebriated birds perhaps composting or burying the carcasses might be preferable.

Now the alternatives to beer!

Most reckon that it is the yeast in the beer that attracts slugs/snails, so here are some yeasty brews which shouldn't leave you with that sense of guilt about using perfectly good beer on a rotten old slug.

- Sediment from home brew - dump slugs together with sediment into compost.
- Bit of sugar, yeast, in a bit of water. Once the yeast gets going, the contributor grinds up kitchen left overs eg. peels. Once the liquid has a yeasty/alcohol smell about it, uses it as a bait. Takes 1 to 2 days.
- Other 'left over' alcohol, particularly high percentage liquor e.g. spirits, mixed with water. The contributor also tried dish soap with water and a few drops of baking rum (rum essence maybe?) aroma.
- 1 packet (7g) yeast mixed with 1 cup water, put into containers and set into the soil.
- Yeast extract spread (Vegemite - a blackish spread known to all Aussies) mixed with water and put down in shallow containers may work. The down side is that it might get consumed by the cat before the slugs get a chance. My cat LOVES Vegemite!

Other alternatives:

- Remains of grape fruit/citrus halves (including lemon rinds) turned upside down in the garden and left overnight. Next day, squash the fruit peels with the slugs still inside and dispose of thoughtfully.
- Old melon peels can be used to the same effect. Pour boiling water on slugs.
- Kale. Fresh kale leaves won't attract slugs/snails any more than any other brassica until the leaves start to break down. Pick a few leaves and place in prime slug territory. Leave them to wilt. Check in a day or 2 in the early morning. Pluck off congregated slugs and replace or put the lot in the compost.
- Lay out large lettuce or spinach leaves over the place you wish to collect from. Leave overnight and collect leaves and accumulated slugs. Dispose of at will.
- Grated carrot. When the writer dumped left over grated carrot into the compost, he found that slugs seemed to be more attracted to the grated carrot than to other vegie debris not yet turned under. He has since used it as bait, waiting till they congregate, then spraying them and those still coming with an ammonia and water solution.
- Celery sticks left out overnight. Wipe off slugs and put back.
- Dead slug. It was suggested that slugs are cannibals and will dine on their own deceased. One contributor used a pair of scissors, leaving the carcass insitu. She returned later to dispatch those which had congregated.
- Damp sponges placed on the ground around plants will attract slugs. Lift and remove slugs after a day or two, dampen the sponges again and replace for the next load.
- Bran and vinegar baits. Be careful leaving bran around where other animals and birds can get at it. I have read that bran can swell up inside the animal and kill it.
- Bran and sugar baits. Collect slugs and snails whilst they are feasting on the piles.
- Greasy margarine containers. Half bury the containers. Snail/slug crawls in and can't make it back up the greasy sides.
- Peanut paste smeared in the middle of a dish, set at soil level and fill the rest with beer or soapy water.

- Dog Food under an aluminium pie plate which was propped up enough for them to crawl under. Collect during day light hours.
- BTW if you experience the unwanted company of slugs/snails in your doggie bowl, try encircling the bowl with a trail of salt.

SUBSTANCES

Spot'n'squirt - Using a spray bottle, or a kid's squirt gun, try:

- Soapy water. A reader e-mailed me with his accidental discovery: He was camping and whilst having his bath accidentally dropped some soapy water onto a slug. He was using Castille soap in relatively frugal quantities. He says he watched the slug 'melt' from the soapy solution.
- 50% ammonia 50% water solution. Consider using the kids (older ones obviously) to perform this duty. Ammonia is a good source of nitrogen so watch that the plants don't get too much. Cats may also be attracted to the ammonia odour...
- A variation of 75% ammonia to 25% water was also suggested but it was cautioned that this mix could easily burn new growth and was quite attractive to 'pill bugs'.
- Another variation (and one which I prefer, as I prefer to start with a weak mix which can always be strengthened if it isn't effective) is to add 500 ml (2 cups) of ammonia to 4 litres (1 gallon) of water or if you prefer 1 part ammonia to 8 parts water or thereabouts and spray foliage, stems and ground surrounding susceptible plants. Some use pressure sprayers for large quantities.
- 50% vinegar 50% water solution.
- Iron sulphate. 4 heaping teaspoons in a 6 litre/5 (US) quart pressure sprayer (double for standard watering can). The spray acts like a contact poison so if the animals are wet or have to cross a sprayed area, they die. Added benefits of adding iron (for high pH 7-8 soils) are that it helps prevent chlorosis while the sulphate ions tend to acidify the soil. When sprayed directly onto the soil, however, the soluble iron sulphate is quickly oxidised. Iron sulphate also tends to burn some sensitive plants. (Extracted in part from April *Hort Ideas*. Copyright 1992 Greg and Pat Williams. Article contributed in a much less abbreviated form by Sean O'Hara.)
- Rubbing alcohol sprayed on the plants doesn't seem to harm the plants, but sprayed directly on the slug/snail seems to make them squirm. The contributor didn't seem to think it harmed beneficial insects but perhaps the safest would be to target the actual slug/snail. Feedback suggests that it will indeed harm soft bodied creatures such as ladybird/bug larvae, so be careful with this one.
- Wormwood tea is supposed to deter slug/snails. My guess is that you steep wormwood foliage in water for a week or two and spray the resultant brew on the ground and foliage of the plant to be protected. Alternatively, leaves may be steeped in boiling water for a few minutes. If anyone has any clearer instructions on this topic, please e-mail me.
- Tobacco Tea stuff. I feel compelled to warn about the following recipe. I'd be real careful about using this brew if I wanted the microbes in the soil and any other beneficial organisms to survive. Not to mention that ammonia and water alone seem to be effective anyway, so to me the rest is all hard work. Still you may feel happy using it... It's up to you.
- 1 tablespoon (15 ml) of tobacco 'tea,' 4 'fingerfuls' of chewing tobacco to 1 litre/1 qt water. Place tobacco in a nylon stocking and bring to boil. Cool and store in a jar with 'teabag' still in it.
- 1 tablespoon Listerine, 1 tablespoon dish soap, 1 tablespoon ammonia. Mix with 4 litres/1 gallon of water and spray area.
- Epsom salts sprinkled lightly on the ground. Beware that a little Epsom salts will probably do no harm but used to excess will cause problems in the soil.
- Bleach. Chlorine bleach applied straight killed snails. It would also probably work in a 50-50% dilution or less. Be careful of your clothes!

POISONS

Slug and snail bait: Most slug baits active constituent is metaldehyde (some may contain arsenic compounds such as calcium arsenate or copper arsenite, others may contain carbamates), which are fatal to dogs, and other animals, causing convulsions and a horrible death. It will attract and kill snails and slugs quickly.

As with any poison, use only as directed; use only on a specific target using all appropriate precautions. Be mindful that by using poisonous baits, your actions may well effect other unintended victims, primarily those which dine on the pest you are trying to eliminate, ie. higher up the food chain.

I am pleased to report that the level of consciousness concerning the use of toxic baits appears to be generally increasing. More commercial products appear to becoming available where the fate of animals, other than slugs and snails, is at least being considered. As always, read the list of contents so you can make an informed decision as to whether or not you wish to purchase the product.

Here are some suggestions as to how bait may be put out so the risk to other animals unintentionally getting a dose can be lessened.

- Baits can be put in containers with slotted lids so that slugs can reach the poison but other animals or birds cannot get to it or walk on it.
- A variation on the above idea is to cut 'V' shapes into the top rim of a margarine container or similar. The 'V' should be large enough to allow said slug or snail access. Put bait on the upturned lid and place the bottom bit of the margarine container on top of the lid and bait so the whole arrangement is upside down. This method also keeps the rain and other animals out.

- A piece of hollow PVC drain pipe or similar placed on the ground with bait placed inside can also be an effective barrier to other animals.
- A contraption can be made from a 2 litre soft drink bottle, cut off top 1/3. Place bait into bottom then invert the top. Staple 2 parts together. Dig a small trench and half bury it on its side so that the bait/lure is lower than the neck, and the neck is level with the soil. The whole lot can then be tossed in the garbage when finished with. It can also be filled with beer or some other attractant. See section on 'lures'.
- Put snail pellets under a plank propped up 3 cm or so above the soil and the slugs will find them when they seek shelter but other animals won't.
- If you must sprinkle the stuff around on the soil, do so very lightly and sparingly. Do not leave piles which invite inquisitive animals to eat it.
- Apply 4 parts pelletised lime with 1 part pelletised aluminium sulphate with a hand held spreader in the evening. Alarm has been raised at the possibility of this particular mix of chemicals killing various microbes and worms etc. in the soil, together with the likelihood of it taking quite a while to leach out of the soil. It was also posted that made up in the recommended dosage, the mixture tended to burn leaves. In any case lime by itself is an effective slug & snail barrier.
- A similar recipe is to mix these two dry materials, one part aluminium sulphate with ten parts gypsum and sprinkle under, and around vulnerable plants. (To be used only occasionally.)
- Copper sulphate and aluminium sulphate are (or so my research indicates) both generally accepted substances in organic gardening. For example, copper sulphate is used in Bordeaux mixture, commonly used as a fungicide. In the literature I have read, it has been suggested that these substances individually mixed with water be placed in containers level with the ground. As the water evaporates it leaves crystals which are just as effective against slugs and snails.
- Methaldehyde liquid squirted along the margin of any bed that seems too heavily infested is reputedly effective.

OTHER QUESTIONS

I occasionally receive e-mails from people, children in particular, who have some interesting questions about slugs and snails. I do my best to answer them in general terms and have reproduced some of my answers below.

Do snails help any other living things other than being their food?

To try to answer your question ... I think that being part of a food chain or, more correctly, food web is a very important and complex role.

Let us consider what a snail actually does. In its natural role a snail helps clean up its environment. It feasts on decayed vegetable matter, (and sometimes not so decayed, which is what brings it into direct conflict with mankind, particularly gardeners) and has been known to eat other dead snails. At the same time it forms part of the food web, becoming prey for other animals. For those that haven't become a meal for another animal, their bodies will decompose into the soil when they die, returning nutrients, as their droppings do during life. Nothing in nature is wasted.

In the sea, where most snail and slug species live, they perform a similar role, cleaning up tiny bits of matter, and in turn become meals for other animals.

Enough individuals remain after the predators have had their fill, and, other natural decreases in their numbers (eg. old age, injury, death by natural causes) to ensure the survival of the species.

The above probably holds true when applied to its natural environment. Where a species is imported into an environment other than its own, as has happened in my country with a number of species (including the common garden snail) there are not necessarily sufficient predators available to naturally maintain the balance which can result in plagues of particular pests. These in turn can become predators, causing numbers of other species to decline sometimes to extinction.

The snail about which most gardeners in Australia complain is not actually a native. As with other animals not native to Australia, we have seen dramatic increases in their numbers to the extent that they become pests and tend to upset existing balances of nature. We do have some species of native snail but the general populace knows little of them, possibly because they aren't a pest.

What would happen if all the slugs disappeared?

There would be a lot of happy gardeners. Seriously though, the short answer would be that the balance of nature would be interfered with to some degree, as it has with the extinction of other species. There would be an interference in the food web for starters, with species dependent upon the slug for sustenance having to look elsewhere for food or in turn face extinction, and so it goes on. There could well be a ripple effect from just one species being made extinct which has some effect on many other species and habitats.

There are so many species of slug, both marine and terrestrial, that it is unlikely that *all* the slugs would disappear.

Can slugs be eaten?

I have never eaten slug but I see no reason why at least some species couldn't be eaten. Remember how it was mentioned in the FAQ that most slugs have a horny plate covering their respiratory cavities (the vestiges of shells that the snail still carries externally) well this is what would make some species somewhat less appealing for humans to eat. There are so many different types of slug, however, no doubt some are edible. A lot would depend on how hungry the human was, I guess. If faced with eating slugs or starvation, I know which I'd choose.

What happens when you pour salt on a snail? Is there a chemical reaction between the slime & the salt?

I have a plausible but not necessarily scientific answer. The salt (NaCl) gets absorbed through the skin of the slug/snail causing it to dry out. When the salt is absorbed in such large quantities and by such direct application, the body is unable to cope with the sudden chemical imbalance, sending all of its water resources to the point of entry, and thus depriving the rest of the organism of water necessary for life.

Please bear in mind that I have not done any research to support my assertions. Linda Gray did e-mail me with a better and more scientific explanation of the process.

"The process is called 'exosmosis', and what happens is ... water moves from an area of high concentration (the cells inside the slug with 'normal' water concentration) to an area of low concentration (outside cells in contact with the salt) through a semi-permeable membrane (cell walls). The result is a net flow of the water content inside the organism to the outside to try to balance out the internal and external water concentration. This net flow of water outwards quickly dehydrates the organism and unless there is a backup mechanism, it dies."

REFERENCES

Microsoft (R) Encarta. Copyright (c) 1994 Microsoft Corporation.

Morrow, Rosemary. Earth User's Guide to Permaculture.

Bennett, P. 1995 (6th edition). Organic Gardening. National Book Distributors and Publishers, Frenches Forest, NSW, Aus. ISBN 1 86436 043 7.

Heazlewood, A. 1982. The Organic Gardener's Companion.

rec.gardens.ecosystems FAQ - slugs and snails. Bill Robinson.

RECEIVE THE COGS FLIER BY E-MAIL

If you are a COGS member and on the Internet, you may want to consider receiving the COGS Flier by E-mail. You will be saving time, money and resources. Contact cogs@netspeed.com.au for more information.

CLEANING HOUSE

Jennifer Allen

Autumn is a time for harvesting, planting winter crops, canning and storage of garden excess. It is also the last chance your home may get for a good, thorough cleaning and airing out. While chemical cleaners are convenient, they are expensive and contain ingredients that may impact the environment negatively. Making your own cleaning agents is easy, inexpensive and gives you even that much more satisfaction of a job well done.

If you grow herbs, you have only to walk as far as the garden to harvest your cleaners. Rosemary, thyme, and sage all boast anti-microbial and antiseptic properties. Make an infusion by pouring boiling water over a handful of these herbs. Once the mixture has cooled, use it to wipe off the refrigerator shelves, cabinets and countertops.

White vinegar is a cheap and wonderful cleaning agent. Keep a spray bottle in the bathroom filled with water and a half cup of vinegar. Used with old newspaper as the cloth this is an excellent glass cleaner and leaves no streaks. Add a few drops of tea-tree oil to the mixture and you have a useful all-purpose cleaner for application from floors to countertops. If kept in a spray bottle, this should be shaken before each use as the oil separates to the top. If you're a sucker for scent and believe something is clean only when it smells flowery, you can add 2 to 3 drops of the essential oils of lavender, geranium or clary sage. As well as smelling good, these herbs have anti-viral and anti-bacterial properties as well.

The only other essential ingredient in the green cleaner's cabinet is baking soda. Combine ½ cup bicarbonate soda with 1 tablespoon soapflakes and a few drops of tea-tree oil. Mix these ingredients into a paste and apply lightly to mouldy areas. After five to ten minutes spray with your vinegar and water mixture and experience the satisfaction of fizz. After the combination has calmed down, simply wipe away with a clean, damp rag. This is also a great cleaning combination for grubby sink basins and bathroom tiles.

As you sit back and enjoy your freshly cleaned house, you have the satisfaction of knowing that what went down the drain was not harmful to the waterways, wildlife or environment. Please remember that all cleaning agents, including home made ones, should be clearly marked and kept out of the reach of small children and pets.

References: *The Green Witch, A Modern Woman's Herbal* by Barbara Griggs and Kaye Radovanovic, COGS member.

VOLUNTEERS NEEDED

Do you have a spare hour to help fold, tape and label the *Canberra Organic* Magazine?
The time goes quickly and it is a great opportunity to meet and talk to other COGS members.
To find out when the next session is, call Jennifer Allen at 6278 4964.

ORGANIC ADVENTURES

A visit to Paul Dann's *La Treen* in Mongarlowe
by Jennifer Hendriks

Would we be able to go or would we have to cancel at the last minute if more members couldn't make it? As it turned out, there were about 20 of us who could go so the trip was definitely on. But then there was the question, would we get there by bus or in small groups by car? And should we bring along an umbrella and a warm jacket or have the sunscreen and sunnies on hand? It seemed like these logistical extremes were somehow fitting to the November 6th COGS excursion to Paul Dann's property in the South Eastern Tablelands- a region where it is said that the last frost of Spring and the first frost of Autumn can occur in the space of 24 hour period. In the end we went by car; we needed our sunscreen as well as our umbrellas but thankfully the unpredictable elements did not prevent us from getting in a full-days tour of the farm.

Our visit to *La Treen* began with morning tea in front of the shack that had been Paul's home until he built the two-story residence further up the drive. From this vantage point, we could view a large portion of the property and get a feel for its sheer size (approximately 35 acres but surrounded by bush so that it feels much larger). Its topography was quite dramatic in places (punctuated by an occasional mine shaft or two) as was Paul's philosophy on the subtle incorporation of worn out objects into the landscape. Well, perhaps the old bicycle in the gum tree wasn't so subtle, but the tulip tree sported two watches, an alarm clock, the hoof of a horse, the skull of a cow and perhaps more, all of which I only noticed after four hours of walking around or past it several times. After coffee, tea, treats and a brief overview of what Paul intended to show us that day we had a look at the home he had built with recycled materials. It was then that we passed a good half dozen large, white porcelain 'bowls' (hence the name of the property) used in place of terra-cotta pots for small decorative plants along the drive leading up to the house. But the recycled objects that impressed me the most were those used to construct the floor in the kitchen; old logs from a dismantled bridge had been cut into thick circular rounds, then into rectangular 'bricks' and finally, arranged as you would a brick floor, only the feel and look was much warmer. But I think others would be quick to elect the minute pond built into one corner of the living room as the best feature. The hand-made octagonal (or was it hexagonal?) wood-burning stove with three vents for air-flow adjustment and increased surface area for greater heat flow was probably a close second. There was also a viewing from the bedroom study on second level to admire the outside, including the batteries for his solar power unit. Paul hasn't had to pay an electricity bill in 8 years.

Deeply impressed by his ingenious use of some

rather unusual building materials, we went from the house, down the hill (past the old, rusted Singer sewing machine affixed to the top of a solitary post) to the ponds which contained a series of small islands. Paul uses these islands as heat banks to keep his vegetables growing in warmer conditions for a longer period of

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time. Due to the wet weather conditions of this past Spring and increasing amounts of time away from the farm, he hadn't yet planted anything for the Summer, but we could at least visualise how the change in the temperature of the pond water could release heat which would keep the island plots warmer. From the ponds we went further down the slope to have a look at the various fruit and nut trees he had growing in narrow planters. These planters had been cut into a north-facing hill and lined at the back with corrugated iron to raise the temperature of the veggie beds there. The trees weren't immediately recognisable due to the fact that the first 2 metres of each tree was wrapped with chicken wire which gave the trees an overly vertical appearance. And Paul was quick to point out that it wasn't the best for the trees either (one strong gust of wind and *snap*). But he also had little choice if he wanted to grow such trees at all given the size of the property, the abundance of wildlife around and his limited means to keep them at bay.

By now we were ready for lunch back at the shack, for a chance to digest what we had seen and to ask questions. Then it was off to the other side of the property to view the infamous grape vines growing in 'sunpits'. These sunpits are cut into the side of the hill, covered with old glass doors and a layer of chicken wire stretched taut over that to prevent wombats from crashing through. Alongside the grape vines, a lone, but obviously happy fig tree grew in a u-shaped sunpit carved out of the hill. Then we marched down to the river (which defined the northern edge of his property) to admire his 100-meter swimming hole that would have looked inviting had the weather been nicer. At this point, the only thing that seemed to be obviously missing on this farm, which otherwise appeared to be complete, were animals -an admittedly unfeasible addition (at the moment) given Paul's frequent work-related periods of absence from the property.

I have only mentioned a few of the resourceful ways that Paul has made use of recycled materials in an attempt to farm in a harsh climate with abundant wildlife. Had someone else described our visit, they might have pointed out a completely different set of remarkable features on this farm. Thinking back on the day, however, I'm not sure whether to be more impressed by the physical accomplishments at *La Treen* or by Paul's willingness to share his successes, as well as his failures, in his ongoing experiment with self-sufficiency.

Have you had a recent *Organic Adventure*?

Would you like to share your recent visit to an organic farm, garden or property with others? Write it up and get it to the editor! The inside front cover contains e-mail and phone contact information. Articles on disk, or sent as e-mail attachments are greatly appreciated.

OAKS ESTATE COMMUNITY GARDEN

A few community garden plots are currently available for COGS members.
Please contact Georg on 6297 1762 or Steve on 6292 5609.

Why Organic Growers Disapprove of Chemical Fertilisers

Elizabeth and Crow Miller, www.vcity.net/cybergarden/miller1.htm
Reprinted with the permission of the authors

Chemical fertilisers are quick-acting, short-term plant boosters and are responsible for:

(1) deterioration of soil friability; creating hardpan soil;

(2) destruction of beneficial soil life, including earthworms;

(3) altering vitamin and protein content of certain crops;

(4) making certain crops more vulnerable to diseases; and

(5) preventing plants from absorbing some needed minerals.

The soil must be regarded as a living organism. An acid fertiliser, because of its acids, dissolves the cementing material made up of the dead bodies of soil organisms which holds the rock particles together in the form of soil crumbs. This compact surface layer of rock particles encourages rain-water to run off rather than enter the soil.

For example: A highly soluble fertiliser goes into solution in the soil water rapidly so that much of it may be leached away (into our ground water) without benefiting the plants at all and causing the soil to assume a cement-like hardness. When present in large concentrations, it percolates into the subsoil, interacting with the clay to form impervious layers of precipitates called hardpan.

Many artificial chemical fertilisers contain acids (such as sulfuric and hydrochloric acids), which increase the acidity of the soil. Changes in the soil acidity (pH) are accompanied by the changes in the kinds of organisms which can live in the soil. For this reason, some customers are instructed to increase the organic matter content of their soil, offsetting the deleterious effects of these acids and also to use lime.

There are several ways by which artificial fertilisers reduce aeration of soils:

- Earthworms, whose numerous borings made the soil more porous, are killed;
- Acid fertilisers will destroy the cementing material which binds rock particles together in crumbs;
- Chemical fertilisers rob plants of some natural immunity by killing off soil micro-organisms.

Many plant diseases are considerably checked when antibiotic producing bacteria or fungi thrive around the roots. When plants are supplied with too much nitrogen (N) and only a medium amount of phosphate (P), plants will most easily contract mosaic infections. Host resistance is obtained if there is a small amount of nitrogen (N) and a large supply of phosphate (P). Fungal and bacterial diseases have been related to high nitrogen fertilisation and lack of trace elements.

Some plants grown with artificial chemical fertilisers may have less nutrient value than organically grown plants. For example, some studies suggest that supplying citrus fruits with a large amount of soluble nitrogen will lower the vitamin C content of oranges. It has also been found that fertilisers that provide soluble nitrogen will lower the capacity of corn to produce a high protein content.

Probably the most regularly observed deficiency in plants doped continually with chemical fertilisers is deficiencies in trace minerals. To explain this principle will mean delving into a little physics and chemistry, but you will then easily see the unbalanced nutrition created in chemical fertilised plants. Note: The colloidal humus particles are the convoys that transfer most of the minerals from the soil solution to the root hairs. Each humus particle is negatively charged and will attract the positive elements, such as potassium (K), sodium, calcium, magnesium, manganese, aluminium, boron, iron, copper and other metals. When sodium nitrate is dumped into the soil year after year, in large doses, a radical change takes place on the humus articles.

The very numerous sodium ions (atomic particles) will eventually crowd out the other ions, making them practically unavailable for plant use. The humus becomes coated with sodium, glutting the root hairs with the excess. Finally, the plant is unable to pick up all the minerals that it really needs.

So with chemical fertilisers, in short, you have short-time results, and long-term damage to the soil, ground water and to our health.

GE ISSUES HEAT UP IN AUSTRALIA

OFA Media Releases - 8th and 25th October 1999

GE Labelling debate

Organic Federation of Australia Chair, Mr Scott Kinnear, condemned the intervention by the Prime Minister in the GE labelling debate, on the grounds of cost and trade related issues, which is sure to anger consumers. As a result people will continue to seek organic foods to avoid eating Genetically Engineered (GE) foods. There has been an exponential growth in organics over the last 12 months and with this latest delay, it is expected to continue growing.

He said that the use of the KPMG [an international marketing company] report by the Prime Minister is manipulative and unethical. The estimated $3 billion cost of labelling, as stated in the report, is for every ingredient of every product to be identity preserved and guaranteed to be GE free. The real cost of labelling Genetically Modified Organisms (GMOs) should include only GMOs in foods, not the cost of the whole food industry voluntarily labelling GE free. There are at most three or four GE ingredients coming into the country. The lower KPMG figure of $150 million to label these food ingredients is the real scenario.

The Organic Federation of Australia (OFA) is sceptical of the move to delay at a time when the government and the biotech companies are desperate to educate consumers about the benefits of GE foods with million dollar public budgets allocated to this end.

Organic food sales world-wide are $15 billion and predicted to go to $100 billion in ten years, with Japan at $10 billion in 5 years. In Australia we have a fantastic opportunity to produce clean and green organic foods for the overwhelming increase in interest in Europe. Consumer interest in the environment, and clean, green, ethically produced food, is driving organic sales at an exponential rate, far faster than farmers and governments can comprehend. People want organic not GE food.

The OFA believes governments have a responsibility to put funds into organic production assistance as they do in many parts of Europe to encourage conversion.

Our government spends tens of millions of dollars on GE foods R&D, yet only a few hundred thousand on organic. In contrast, Denmark has just announced $500 million of assistance for organic food production with the objective of the whole country converting to organic in ten to fifteen years.

To realise our potential to produce organic foods, Mr. Kinnear said that we have to keep GE foods out of Australia so that our crops are not contaminated.

GE Canola Pollution Impact

Mr Kinnear claims that pollution of conventional and organic crops by genetically engineered canola pollen and seed threatens exports worth hundreds of millions of dollars. The OFA and the GeneEthics Network called for a freeze on any further planting of genetically engineered canola and removal of all existing field plots. If foreign genes are found when our canola is tested in Europe and Asia, our record sales of GMO-free canola worth hundreds of millions of dollars may collapse.

Recent British research shows canola pollen spreads at least five km on the wind and with insects such as bees collecting nectar. But the Federal Government's Genetic Manipulation Advisory Committee (GMAC) requires only a 400m buffer around plots of GMO crop plants. In a letter to the GeneEthics Network dated September 17, 1999, GMAC now agrees that 'complete containment of GMOs released into the open environment in field trials is not possible for some types of plant. The isolation requirements that apply to field trials are designed to minimise rather than prevent the dissemination of the GMO or its genetic

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material'. In the face of this danger, GMAC allows chemical giants AgrEvo and Monsanto to plant engineered canola at 200 sites on more than 2,000 hectares, throughout canola growing areas.

Mr Kinnear claims that our regulators are letting the community down - nothing more should be released until GMAC is replaced with laws and the Gene Technology Regulators Office, on January 1, 2001.

The livelihoods of both conventional and organic growers are at risk if genetic pollution occurs and exports collapse. Organic growers would also lose their certification, as genetic engineering is prohibited under the national and international organic standards. The OFA wants to assess the danger but GMAC, AgrEvo and Monsanto refuse to give the locations of where the engineered canola is being grown or will be planted this summer. Companies should be required to notify all growers within 10 km that engineered canola is being grown, and GMAC should consider growers' submissions before any plantings go ahead.

Mr Kinnear said that more than half of the canola seed being grown by AgrEvo will be re-exported to Canada for commercial purposes, and that companies are operating in secrecy to commercialise herbicide tolerant crop plants without public consultation, appropriate approvals, or safety measures. The clean green image and market advantage of Australian farmers is being polluted by a major competitor for our overseas markets, with GMAC's support.

He also claimed that pollen can also transfer to the weedy relatives of canola, creating environmental havoc through the creation of unmanageable herbicide tolerant superweeds.He suggested that Environmental Impact Assessments should be mandatory before any GMOs are released.

The OFA calls for a halt to GMO canola releases, and full disclosure of all information, so the future of Australia's markets and environment can be protected.

GOOD NEWS!

Lead levels in the atmosphere have declined over the last decade due largely to the introduction of unleaded petrol and paints.
Source: National State of the Environment Report No.9

SEED SAVERS

www.seedsavers.net

Each issue we feature an extract from *The Seed Savers' Handbook* by Michael & Jude Fanton, from the Seed Savers' Network in Byron Bay. This issue looks at broccoli. The handbook can be purchased from COGS for $20 per copy plus $2.50 postage. You can order a copy at the monthly meeting or send an order with cheque to COGS. .. *Ed*

"Without seed savers' networks, seed exchanges and local seed banks, we gardeners would have lost most of the seeds developed by our ancestors. It is a public scandal that these seeds have now been patented or subject to legal controls. It is also scandalous that large multinational corporations have gained control over our main food plants by seed patenting." *Bill Mollison*

BROCCOLI *Brassicaceae*

Brassica oleracea var. *italica* - Brassica is simply the name used by the Romans from a Celtic word for cabbage, and *oleracea* for "vegetable-like".

Origins: A descendant of kale which is native to the western coast of Europe.

Description: Broccoli was developed for market gardening in Italy in the last 150 years. Prior to the turn of this century, purple broccoli was more common than green and the name "broccoli" referred to the tender shoot produced by some types of overwintered cabbages.

There are two types of broccoli: heading and sprouting. Heading types have virtually disappeared in Australasia. They take a long time to mature and are suitable for areas which are too cold for cauliflowers.

The broccoli that is now produced so widely is green sprouting broccoli. It has two growth habits - one with a central head, and one that produces numerous small flower heads along the stalk (e.g. the sprouting Calabrese). It grows well in summer in cool southern Australia and in winter in warmer Australia.

Cultivation: Do not overmanure or you will get lots of leaves and small heads but, by splitting the fertilizing between planting time and mid-season, a large seed crop is ensured. You have to keep harvesting sprouting broccoli for eating because it keeps on sending up side shoots whose flowers quickly open. For seed production, let all shoots go to seed. It is a spectacle.

Saving the Seed: Broccoli is a biennial, but if planted in warmer climates it will produce seeds in only one growing season. Broccoli is cross-pollinated and individual plants of broccoli are normally self-sterile, so leave at least two adjacent plants flowering, or a few side shoots of one which has been cut for the table, next to the one you want to save. This is to ensure seed formation and to conserve as many characteristics (i.e. diversity) as possible.

If we are talking about the long-term maintenance of a variety, then half-a-dozen broccoli plants should be allowed to go to seed together. To have stronger seeds, it is better not to harvest the heads for the table.

The buds will turn into a tall thick mass of yellow flowers. Broccoli will cross with cabbage, cauliflower, kale, kohlrabi and brussels sprouts. Two kilometers separation between them is required for absolute purity. As soon as a stalk grows up it will need support. Pods will form and gradually turn yellow then brown, but not all simultaneously.

When most pods (or rather siliques) are dried and the seeds rattle within, cut off the whole bush and hang in a dry place for two weeks, with a large sheet of paper or canvas underneath. Thresh out the seed and then dry it for further fortnight, or until completely dry. Use the screen or sieve to seperate chaff and seed.

Storage: The seed will last up to five years. They are smaller than cabbage seeds, with 300 seeds to the gram.

Usage: Broccoli has been readily adopted by the Chinese as it is excellent when cooked to be a bit chewy (*al dente*, as the Italian say). It can be doused with dressing when still hot and eaten later as a cold entrée. The flowers are edible in salads and as garnishes.

Regular consumption tends to lower blood pressure and is helpful in reducing obesity. Also broccoli is said to have anti-carcinogenic properties.

On the Lookout: Italians used to have some good seed stock including the San Martinari broccoli (from San Marino), Nataleschi (for Christmas), and some named after the month in the northern winter when they are harvested: Gennajuoli; Febbrajuoli; Marzaoli, etc.

There are several types of asparagus Broccoli (a kind of sprouting broccoli) available in Asian shops. The Nine-Star Perennial bears pure white shoots like tiny cauliflowers in early summer for up to five years if kept well mulched during winter in cold places.

In England at the end of the last century there were more than forty varieties of coloured heading broccoli on the market including Siberian, Danish Purple and Cockscomb.

Bioremediation-
It's a Big Word but is it a Big Solution?

Jennifer Allen

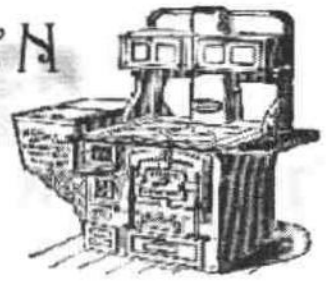
A recent article in the Weekend Australian (by Michelle Seignior, October 23-24, 1999, page 12) commended CSIRO's development of a Bioremediation Project. This project is researching biological techniques for cleaning up environmental contamination by detoxifying irrigation run-off and any chemicals left on commercial crops. Studying the molecular aspect of insects which have already become resistant to commercial and agricultural pesticides is yielding valuable information. By studying the insect's enzymes, which break down insecticides before they reach the nervous system, some scientists hope to reproduce these results for the marketplace.

Dr. Russell, the coordinator of the project, outlined the goals for the Bioremediation project as treating market produce and alleviating ground water contamination. The article went on to say "considering that alternate environmental approaches to current methods (large scale organic crop production) are at the moment economically unviable, the chemical company that eventually licenses and markets the products resulting from such research will find a lucrative and receptive niche".

Ironically, CSIRO is working in conjunction with an English entomologist and biochemist, Alan Devonshire, who played an important role in the development of pesticides in the 1970s. Mr. Devonshire was responsible for research which resulted in synthetic pyrethroids, which currently account for one quarter of the world market in agricultural and domestic pesticides.

While Bioremidiation may seem encouraging, and is indeed a step in the right direction, it does not address the *cause* of ground water contamination and pesticide-laden produce. Organic farming and gardening hits at the core of environmental pollution and contamination problems instead of looking for science to engineer the next way out. Indeed, if this technology is brought to the marketplace, it will give conventional growers no incentive to change their practices. Organic farming may not be recognised as "viable" by the Weekend Australian, or by CSIRO, but it does not contribute to environmental degradation or expect science to save it from itself. In addition to enjoying a growing commercial market, organics appears to be one of the most promising solutions to environmental contamination by not causing any.

FROM THE GARDEN TO THE POT



By Conrad van Hest

During this quiet time of year when there is nothing worth watching on the television, I decided to surf the net looking for information on bottling and preserving and organic produce recipes. Listed are a few sites you might like to visit and some sample recipes from these sites.

Tofu can be boring but this recipe gives it a zing and makes an interesting lunch sandwich.
www.horizonorganic.com/recipes

Scrambled tofu and veggie pita sandwich

2 tablespoons organic unsalted butter
2/3 cups onions finely chopped
2 cloves garlic minced
2 tomatoes diced
1/4 cup diced green chillies
450 grams tofu crumbed
2 tablespoons soy or soy-ginger sauce
1 tablespoons dijon or organic yellow mustard
2/3 cup organic shredded cheddar cheese
garnish: chopped red or green capsicum and parsley
2 - 4 pita breads

Melt butter in skillet (fry pan). Add onions and garlic and saute 2 minutes. Add tomatoes and green chillies and continue to saute till onions are soft. Add tofu. Flavour with soy or soy-ginger and mustard.
Continue heating until tofu is heated through. Add half of cheese and allow to melt. Fill pita pockets with mixture and top with remaining cheese. Garnish with capsicum and chopped parsley. Serves 4 to 6.

From Henk's Hot Kitchen, Indonesian cooking
www.indochef.com/

Ikan Pedis (Oven Roasted Fish)

1/2 green cabbage
1 tablespoon curry powder
1 strand lemon grass
pepper and salt to taste
2 fresh mackerels
4 tablespoon oil
6 diced onions
4 red capsicums
2 cloves garlic
1 teaspoon sambal ulek
2 lime leaves
2 bay leaves
2 curry leaves
3 tablespoons lemon juice
1 1/2 tablespoons sugar
2 tablespoons kecap manis (sweet soy sauce)
2 cm fresh ginger sliced

Preheat oven 200C. Bring a pan with water to boil and add pepper, salt, curry and lemon grass. Boil cabbage leaves for about 2 minutes. Drain and remove core, arrange half the leaves on bottom of an ovenproof dish.
Clean fish, cut lengthwise. Fold open and remove bones. Arrange fish, with skin on the underside, over the cabbage. Heat oil and fry onions, garlic and capsicum for 5 minutes. Add remaining ingredients and fry for a further 5 minutes. Spread mixture over the fish and cover with remaining cabbage leaves. Cover with foil and place in centre of oven. Cook for about 30 minutes.

This site contains authentic Hungarian heirloom recipes (like goulash and coleslaw).
www.homepage.interaccess.com/~june4/

Paradicsomsalata (Hungarian style tomato salad)

3 or 4 large fresh tomatoes
1 cucumber
2 banana capsicum sliced or 1 green capsicum, seeded and chopped
1/8 cup chopped Italian flat leaf parsley or 1 teaspoon minced fresh dill
1 small peeled onion sliced thin
1 garlic clove minced
3 tablespoons vinegar
1 teaspoon sugar
6 tablespoons oil
salt and pepper to taste

Slice the tomatoes and place in salad bowl. Peel cucumber, score lengthwise with fork and slice thickly. Add cucumber, capsicum, parsley, onion and garlic and toss together. Add vinegar, sugar and oil, toss again, taste and adjust seasoning. Let sit for 1/2 hour to mingle flavours.

The Seedy Corner!

by Rosemary Scott

What a surprise this summer in Canberra has been. Have you had any problems with pollination of your vegetables? Some folk have found pumpkins are not setting fruit. This is a common problem when the weather is variable and at times hot and humid. It interferes with the bee activity. The following are a few tips to overcome this, should we encounter a similar season again.

You can help nature along and pollinate your pumpkins by hand. This is a good method to use if your neighbour is also growing pumpkins and you don't want them to cross-pollinate, or if you want to cross-pollinate some yourself.

Male and female flowers appear on every pumpkin vine (known as *Monoecious* plants). There are always more males then females. (As someone said - it is like being in a bar!). The male flowers are slender and the females are well rounded on the bottom.

When bees pollinate the flowers, they keep changing from the male flower, from which they gather pollen, to pollinate the females to ensure genetic diversity. You can do the same thing by using a small soft paintbrush to transfer the pollen from the males to the females. If you specifically want to cross-pollinate, it is a good idea to watch the flowers develop. Just before they are about to open cover them with some pantyhose or a paper bag and secure with some wire so no other insects can crawl inside. The next morning you can transfer the pollen and be confident of an accurate cross.

If you want to save some of the seeds for the next year, simply choose a pumpkin which is of good form and mark it with some tape. Leave it on the vine for a few weeks after you have harvested your crop. This will ensure the seeds are in peak nutritional condition and at maximum moisture levels. Remove flesh from the seeds and store them in paper bags or envelopes so they don't sweat. The seeds will remain viable for between 3 and 10 years depending on the storage conditions.

Backyard Bushfoods

From the editor of Australian Bushfoods Magazine - Sammy Ringer
This is the last of a 4-part series on bush foods to appear in the Canberra Organic ... Ed

Part 4: A JAMboree

Many of our local bushfoods are either ignored or underutilised. The humble Lilly pilly is one of these. Here is a species (*Syzygium*) which grows like a rocket and (usually) bears fruit quite prolifically. It needs very little in the way of attention once it's established and makes a handsome, ornamental addition to gardens of almost any size. Historically, it was one of the first fruit eaten by European settlers and, as with many bushfoods, had a resurgence of popularity during the depression.

The fruit may be a little tart for our sugar-saturated tastes but this is exactly the quality which makes Lilly pillies such an excellent basis for jam. You may want to add extra sugar to the conventional jam recipe when working with the pilly and you will find you need less pectin as the fruits high acid content gives it higher setting qualities than, say, the strawberry.

I personally love the tartness of the fruit and have even had success substituting honey for sugar. Lilly pilly/apple is one combination which particularly struck my fancy though you can add Lilly pillies to almost any mixed jam you make.

Seedless varieties are now being sold (*S. leuhmanni* is the only one to my knowledge) but you'll likely be working with a seeded fruit. You will need to boil the fruit and put it through a coarse sieve before processing to remove the seed.

If you have a surplus of fruit, freeze the pulp and put it to other uses. Juleigh Robins, in her recipe book 'Wild Lime', suggests that the fruit can be used in such diverse dishes as 'Slow Cooked Pork Casserole', 'Lilly Pilly Chutney', 'Crayfish, Riberry and Mango Salad' and (for the adventurous) 'Boned Quail with Riberry Glace'. If you still have fruit to spare, make up a simple Riberry vinegar.

Please contact me if you'd like these recipes. Whatever you do - don't let your Lilly pilly fruit become compost. Sammy 07 5494 3812

DYNAMIC LIFTER INFO

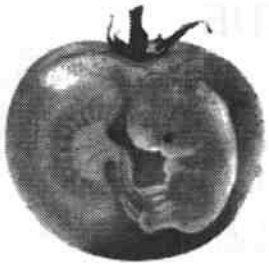
From Bridget Farrer, COGS member

I recently wrote to Yates asking them where they got the chicken manure from for Dynamic Lifter with the thought that if it was battery hens, it would be inappropriate for an organic garden. The reply I received said, "The pellets contain 95% poultry manure and 5% Horticultural Zeolite. The poultry manure is obtained firstly from free range egg laying chickens or free range meat chickens. Only on some occasions is it obtained from battery hens."

One would still like to know what proportion is "some occasions", but I guess it's better than nothing. Yates also enclosed pages of further information is any one is interested.

Australian Native Bees

Russell and Janine Zabel in Gatton, Queensland, have an interesting commodity for sale: native bees. These little wonders: are hard workers; they are great pollinators of both native plants and tropical fruit trees; they do not sting; and they can be housed in a simple box design appropriate for suburbian settings. Their honey is edible and extremely healthy. Best of all, these little guys can be sent via post to all parts of Australia. If you are planning a trip to the Gold Coast, you can view the native bees at the Currumbin Wildlife Sanctuary where Russell and Janine recently supplied two nests of their *Trigona Carbonaria*. Or, if you are interested in obtaining more information, contact them at 07 5462 1327. Or drop a note to 37 Hill Street, Gatton, Queensland, 4343.



GENETIC ENGINEERING NEWS

Europe Adopts GMO Labeling
Organic Federation of Australia -
The European Commission adopted two GMO labelling regulations on January the 10th which will enter into force on April 10th, 2000. Products containing additives, food ingredients or flavourings derived from genetically modified soya or maize have to be labelled.

Monsanto Backs Down
Summarized from The Weekend Australian, October 9-10,1999 from an article by Stephen Romei -
Monsanto Company, a leader in the genetically modified agri-business, is reported to have abandoned further development of sterile seed technologies. The so-called "terminator gene" produces infertile seeds from specific crops. This technology requires farmers to purchase new seed every season rather than save seeds from year to year. Monsanto has argued that sterile seed technology is necessary to protect their considerable financial investment in genetically modified crop research. Monsanto's sudden change of heart is reported to have been announced in an open letter to the Rockefeller Foundation.

GMO Questions Answered
Organic Federation of Australia -
A Gene Technology Information Service was launched in January by Biotechnology Australia. The $4.4 million tax-payer funded strategy is based at CSIRO in Melbourne and is intended to provide consumer information prior to the implimentation of GE labeling regulation expected in 2001. The service is on a three month trial and can be contacted by telephone on 1 800 631 276 or Email <ba@isr.gov.au>

"Life Sciences" Not As Lucrative As Once Thought
Canberra Times, December 11, 1999 -
Monsanto's new field of "life sciences" has made it the most profitable agro-industrial corporation in the world largely due to American farmers' general acceptance of GM farming techniques. But consumer savay has made the European community a tougher economic nut to crack. Early December saw Monsanto's stock price slump accompanied by rumors that the company could be broken up or sold off. Monsanto's competitors, DuPont and Novartis, have been laying off workers in their agricultural divisions and Archer Daniels Midland has called for the costly segragation of GM and non-GM silos.

Genes in the Garden
Sydney Morning Herald, December 27th, 1999 -
A gene labelled BAS-1 had been identified by Salk Institute professor Joanne Chory. The gene is responsible for controling steroid hormone levels in plants which controls the height of growth. Manipulating this gene could lead to "instant" bonsai and control of plant growth.

The regional **BioDynamic Group** is active.
If you would like to get involved, call Lyn West on 6297 2729.

AUTUMN VEGETABLE PLANTING GUIDE

Brassicas

Late plantings of Brassicas in March may be successful, but usually summer plantings are more reliable. It is too late to grow from seed. Take care too with the varieties chosen, for example it is too late to plant savoy cabbages, but the smaller, bald headed varieties should be successful.

Peas

Sugar snap peas may be sown in early March for a winter harvest, but the crop could be lost if there is an early severe frost affecting the blossom. Peas sown later in April-May will be ready for a Spring Harvest.

Lettuces

Only plant Winter varieties of lettuce (cos, salad bowl, oakleaf, butterhead and mignonette varieties).

Onions

Early varieties can be sown in April to early May, to be harvested late spring to early summer. Mid season varieties are often sown late autumn early winter, and long-keeping varieties in winter. However, the timing of mid or late season varieties is well worth experimenting with by making successive plantings to determine the best time in your specific locality.

Leeks

Leek seedlings may be planted early March for small leeks in winter, although plantings are more reliably made in the summer.

Spring Flowers

Remember that many spring flowered plants are best planted in autumn, so that they can establish before the winter cold, and then start growing in the early warmth of spring. Stock and poppies can be planted from seedlings in March and perhaps early April. Virginia, Stock, Candytuft, Larkspur and Sweet peas can be sown direct throughout autumn.

Green Manures

Autumn is the time to plant green manure crops which can be dug in in spring at least 4-6 weeks before planting your summer crops.

Benefits of green manure crops are:

a. They provide valuable nutrients for successive crops;
b. They provide organic matter for soil micro-organisms to break down;
c. They provide soil cover in Winter; and
d. They help aerate the soil.

Green manure crops suitable for planting in Canberra:

Legumes:

Broad beans, field peas, lupins, sub clover, tic peas, vetch.

Non-Legumes:

Barley, oats, rye

N.B. Legumes are very useful as they fix nitrogen in the soil.

Flowering crops need to be dug in before flowering; cereal crops before producing a head of grain.

Autumn Vegetable Planting Guide

	March	April	May
Broad Beans		S	S
Broccoli	T		
Brussel Sprouts	T		
Cabbage	T		
Cauliflower	T		
Chicory	ST	T	
Chinese Cabbage	T		
Corn Salad	ST	T	
Endive	ST	T	
Garlic		S	S
Kale	T		
Kohlrabi	ST	T	
Leeks	T		
Lettuce	ST	ST	
Peas	S	S	S
Onions		S	S
Turnips	T		

S = Seed sowing

T = Transplanting

N.B. This table is a guide only, please observe the seasonal weather patterns before deciding when to plant, as there will often be distinct differences in weather from one year to the next. The microclimate of your garden will also influence the times when you plant

Are you looking to get rid of a filing cabinet?
If so, the editor of the *Canberra Organic* could use it. Please call Jennifer on 6278 4964 if you can help get her organised with the donation of your surplus.

The Bio-Dynamic seaweed preparation, *BioAcitve*, will be available at the beginning of March. Call Lyn West on 6297 2729 to place your order.

About COGS

General Information

The Canberra Organic Growers Society Inc. is a non-profit organisation started in 1977 with the aim of providing a forum for organic growers to exchange information and encourage society to adopt organic growing methods.

COGS is part of the broader organic movement, which endeavours to provide an alternative to the mass of toxic chemicals, fertilisers, fungicides and herbicides used in modern agricultural methods by utilising more natural means of improving and preserving our soils and to produce nutritious, less contaminated food.

The alternative is to enrich the soil with compost, manure, green manure and mulches, so avoiding disease; and to control pests through non-chemical methods, including:

- Encouraging the presence of beneficial insects to feed on pests;
- Growing companion plants to discourage pest attacks;
- By growing healthy plants to resist pests and disease and by tuning in to nature with love, harmony and gratitude.

Monthly Meetings

Meetings of members are held at the Griffin Centre, Room 4, at 7.30 pm on the fourth Tuesday of the month, (except in December and January). Each month a different speaker discusses organic growing or related issues. For example:

- Marketing Organic Produce
- Backyard Self-sufficiency
- Bees and Worms
- Natural Control of Insects
- Permaculture in the ACT

After each talk a light supper is available (gold coin donation). At all meetings, there is a produce and seed exchange table, information table and a bookstall. Members may also borrow from the COGS library (currently two books may be borrowed each month).

Visitors are invited to attend monthly meetings.

Flier and Quarterly Publications

Each month, all members are sent either a *COGS Flier* or the quarterly *Canberra Organic* magazine (except December and January). These publications inform members about the speaker at the next meeting, and any other activities coming up. They also contain articles on organic growing as well as tips specifically for the Canberra region, such as a monthly planting guide.

Community Gardens

COGS currently operates 6 community gardens in the Canberra area at Mitchell (called the Northside Garden), Curtin (called the Cotter Garden), Erindale, Charnwood, and The Oaks Estate. Members may obtain a plot at one of these gardens to grow organic produce for home-consumption.

These gardens provide a wonderful opportunity for people to garden with other organic growers - to share their expertise and hopefully learn something new at the same time!

The ACT government has supported the establishment of these gardens through giving us licences to use unused government land, and the setting up of these gardens has been greatly assisted by grants obtained from the ACT Office of Sport and Recreation.

Each garden is administered by a garden committee, which is elected annually by the plot-holders at the garden. At each garden, plot-holders may be required to contribute to the cost of water for the garden, and incidental items such as bulk purchases of straw, or hose and tap replacements).

Internet

COGS has an extensive web site devoted to organic growing. The site contains many of the COGS papers on organic growing, certification information, a page for children, links to related organisations and information sources, picture gallery, the latest on genetic engineering, about Canberra, and much more.

E-mail: cogs@netspeed.com.au
Web site: www.netspeed.com.au/cogs

Other Activities

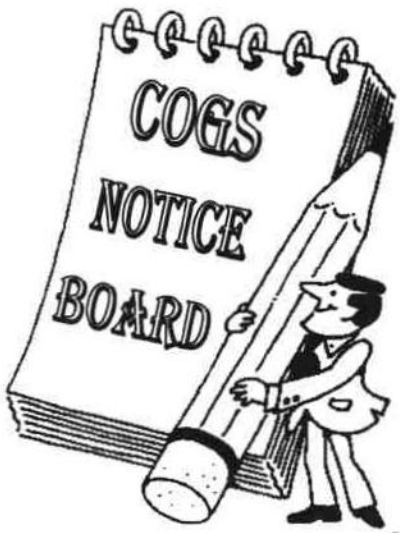
From time to time COGS organises other activities for its members. Seminars and workshops are also conducted.

COGS HARVEST NIGHT

The February meeting is Harvest Night!

Bring produce from your garden to show and share. Stories of gardening successes and failures benefit old and new gardeners alike. This is a great opportunity for to ask questions and offer answers.

When? Tuesday, February 22nd at 7:30 pm
Where? Room 4 at the Griffin Centre in Civic



GREEN MANURE CROPS

What are they?
How and when do you plant them?
These questions and more will be explained, plus green manure seeds for sale.

When: Saturday 25 and Sunday 26 of March
Time: 2.00pm both days
Place: COGS BACKYARD

Xeriscape Gardens, Unwin Place, Weston

PERMACULTURE ACT (PACT)

PACT meetings are on the first Tuesday of the month
7.30 pm at PCHQ, Kingsley Street, Civic.
(South east corner of Environment Centre Building)

ENVIRONMENT CENTRE SHOP

The Canberra Environment Centre Shop offers products that are environmentally friendly and safe for you to use.

- Bulk biodegradable household and personal
- Care products (bring your own containers)
- Wood products made from recycled or reject timber
- Natural dental care products
- Re-useable sanitary pads and organic tampons
- Natural cosmetics
- Natural insecticide
- Books on environment & sustainable technology
- Children's books
- Educational toys
- Games
- Calendars and diaries
- Australian made fashion clothing and
- Gifts for the whole family

The shop is at Kingsley Street Acton
Ph/Fax: 6247 3064
Open Tuesday-Friday 9 - 5, Saturday 10 - 1

Xeriscape Garden Program Autumn 2000

Saturday 19th and Sunday 20th of February
Rose Maintenance
How to maintain roses for the whole year
Special talks by **Xeriscape Rose Group**
2:00 pm both days

Saturday 11th and Sunday 12th of March
Citrus Trees
Canberra species, location, fertilising, pruning
Special talks by **David Young**
2:00 pm both days

Saturday 25th and Sunday 26th of March
Green Manure Cropping
Techniques in Organic Gardening
Special talks by **Canberra Organic Growers**
2:00 pm both days

Saturday 1st and Sunday 2nd of April
Problems in the Garden
Bring your garden problems and sick plants
Specialist session with **Mark Carmody**
2:00 pm both days

Saturday 15th and Sunday 16th of April
Alternative to Lawns
Special talks by **Peter Sutton**
2:00 pm both days