Autumn 2013: Vol 21 No 1

Canberra organic

The quarterly publication of the Canberra Organic Growers Society Inc.

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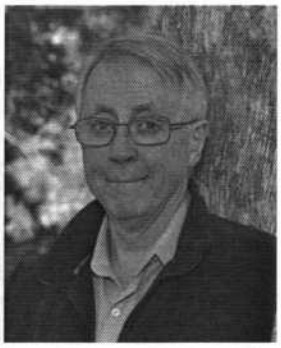
Wicking beds
Vegetable storage—Clamping
Vegetable storage—Fermentation

Kambah Community Garden

Who am I?

President's report: Autumn 2013



Greetings everyone!

We've had a productive few months with exciting developments coming along.

Crace Garden
We've been offered a brand-new garden in the new high-density suburb of Crace. On our own we could *never* have set this up. It is possible only because of the generosity of CIC and the support of the ACT government. COGS are very willing to work with developers to establish new community gardens. CIC and COGS held an inaugural meeting on Friday, 20 February which 26 people attended. A licence condition is that we must have 20 local adult members if the garden is to proceed. Some of these people have joined COGS already. Let's hope we reach the full number.

New Web Site
You may recall that we are redesigning our web site based around a *wiki*. A wiki is a computer-based way for communities such as COGS to create and edit documents collaboratively using a just web browser. It does not refer solely to Wikipedia. The site is ready to go live and by the time you get this magazine it should be up and running. Go to the COGS Wiki page—**http://wiki.cogs.asn.au** . This is an exciting development which will revolutionise how we present our store of knowledge and experience to the world. (See STOP PRESS on Page 9.)

Annual General Meeting — Your Society Needs YOU
The Annual General Meeting in March is fast approaching. This is your chance to have your say and get involved in planning the future of COGS! The key part of the AGM is electing the new Management Committee. It takes a surprisingly large amount of work to keep COGS running and by March we will need at least six replacement members and could do with another four. Shortly we will notify all members about the AGM and send a nomination form. Please consider nominating for the Committee. If you have talents and skills you think may be useful, we would love to hear from you. In particular we need a librarian and a magazine editor.

COGS' Future
As I have said in past Reports, I am keen for COGS to develop into a modern and pro-active organic gardening organisation. We have changed our Society twice in the past now and we need to change again. Over the past few years COGS has grown until we lack the resources to do more than just maintain what we have. Our excellent volunteers are right at the limits of their capacity. As I see it, the best way ahead for COGS is to become able to hire one or two people as a secretariat, to do the kind of routine daily work needed to keep a growing business functioning —COGS is a business. This does *not* mean that we discard our volunteers; oh no, they are and will remain a vital part of the whole. If we can remove much or most of the drudge work from volunteers, then they will be freed up to concentrate on their areas of interest and passion.

COGS serves a Canberra-wide gardening community and has a sound reputation. In the past few months 39 people and organisations have knocked on our door for help to set up or be a partner in new gardens: the Brain Injury Foundation is one that tugs at my heart. Yet we simply cannot help most of them. Wouldn't it be splendid if COGS could develop into an even-more useful and valued member of the community by being able to help such causes? The ACT Government is promoting community gardens in particular and urban agriculture in general. Recently we received a letter from Shane Rattenbury to say that the Government has set up a "Growing Community Gardens" grants program to distribute $500,000 over the next four years. We certainly wish to apply for some of these grants.

Such a change to COGS implies changing our structure from being a volunteer-run organisation into an income-based organisation. Besides membership and plot fees, we would seek income from government and private grants and donations. This is a *very* large shift in how we operate. It will not be easy and will take quite a while to achieve — but it can be done. None of our members has said to me that this is a bad idea. Some have said that it's long overdue. What do YOU think? Please let me know.

Walter Steensby

CANBERRA ORGANIC
Volume 21 Number 1

Canberra Organic is the quarterly publication of the Canberra Organic Growers Society Inc.

The **Canberra Organic Growers Society** is a non-profit organisation providing a forum for organic growers to exchange information and supporting the adoption of organic growing methods in the community.

COGS encourages the use of natural methods to improve our soils, promote sustainability and produce fresh, nutritious food.

For information about COGS and organic gardening, visit the COGS website **www.cogs.asn.au**

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Front cover photo:
Kambah Garden, *Neville Jackson.*
A parasitic wasp among the cabbage aphids, *Adrienne Fazekas*

Back cover photos: Beneficial insects photographed at Cook community garden during late Summer, *Adrienne Fazekas*
Clockwise from top left:
Hoverfly
Hoverfly larva
Brown lacewing
Spotted amber ladybird larva
Native blue banded bee
Transverse ladybirds
Mantid lacewing
Lacewing larva

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Editor's note

This magazine is our front-line communication medium amongst COGS members. It is vital that it continues to flourish and evolve.

I have been a member of the COGS committee for 6 years, in roles of Treasurer, Librarian and temporary Editor, and have found this to be an interesting and rewarding experience. However I no longer feel that I can make any meaningful contribution to COGS and will not be nominating for any position at the AGM.

COGS therefore needs somebody to come forward and nominate for this voluntary position at the coming AGM. In the meantime please send any tips, hints, photos and techniques to Christine Carter, c-carter@grapevine.com.au, or editor@cogs.asn.au for inclusion in the COGS magazine.

Margaret Richardson, COGS Librarian

WE NEED YOUR INPUT!

Please send any comments, articles, photos, news items, event information or recipes to *Canberra Organic*.
Email: editor@cogs.asn.au
Post: PO Box 347 Dickson ACT 2602.

Canberra Organic by email

Canberra Organic is now available via email as a 2 - 3Mb pdf file.

The email version includes colour photos.

If you would like to receive future copies of *Canberra Organic* by email instead of post please let us know at **members@cogs.asn.au**

Canberra Organic Growers Society
ANNUAL GENERAL MEETING
7:30pm 26 March 2013

The COGS Annual General Meeting will be held on Tuesday 27 March 2013 at 7:30 pm at the Majura Community Centre in Rosevear Place, Dickson.

In accordance with Section 22 of the COGS Constitution the business of this meeting will be:

1. To confirm the minutes of the last AGM and of any general meeting since that meeting
2. To receive from the Committee reports on the activities of COGS during the preceding financial year
3. To elect members of the Committee, including office-bearers
4. To receive and consider the audited statement of accounts and the auditor's and Committee reports that are required to be submitted to members according to Subsection 73(1) of the Act.

Committee members will be elected according to Section 13 of the COGS Constitution, which states:

1. Nominations of candidates for election as office-bearers of COGS, or newsletter editor, librarian or ordinary Committee members shall be made in writing, signed by two members of COGS and accompanied by the written consent of the candidate (which may be endorsed on the nomination form).
2. If insufficient nominations are received to fill all vacancies on the Committee, the nominated candidates shall be deemed elected and further nominations shall be received at the AGM.
3. If insufficient further nominations are received, any vacant positions remaining on the Committee shall be deemed to be vacancies.
4. If the number of nominations received is equal to the number of vacancies to be filled, the nominated persons shall be taken to be elected.
5. If the number of nominations received exceeds the number of vacancies to be filled, a ballot shall be held.
6. The ballot for the election of office-bearers, newsletter editor, librarian and ordinary Committee members shall be conducted at the AGM in a manner the Committee directs.
7. A person is not eligible to hold more than one position on the Committee simultaneously except:
   (a) the position of Public Officer
   (b) the position of Membership Secretary, which can be held by the Honorary Treasurer.

For more information on the meeting or for nomination forms, please contact info@cogs.asn.au or a member of the current Committee listed on page 2.

COGS Harvest Night

COGS Harvest Night happens every March immediately following the brief Annual General Meeting. Harvest Night is an opportunity for members to bring along examples of the produce they have grown this year, in fresh or preserved form

In particular this year we are concentrating on the Summer tomato crop. It's good to hear about what worked and what didn't work, what "new" plants you trialed and how the weather affected the season's harvest. Please join us on Tuesday 26 March at 7.30 pm and please bring along some produce you have grown.

Around the COGS Gardens

Dickson Garden

The Spring and Summer have been very kind to Dickson with the garden not suffering in some of the wilder weather and the trees and building we usually curse for the shadowing actually helping mitigate the high winds. The good rain punctuated with heat has generated a strong growing season with zucchini, corn and beans producing well. There has been a substantial turn over of plot holders with some founding members moving on and new members now starting to work the plots.

The wood chip mulch laid down on the paths has mitigated the uncontrolled growth of the couch grass around the garden to a certain extent, but couch is not such a successful weed because it just gives up and the fight to keep it under control goes on.

The garden is suffering an infestation of harlequin beetles which are taking their toll on corn and soft fruits. A variety of control strategies involving molasses, white oils, etc are being used and we will seek to document the outcomes.

There is some discussion about reconfiguring some of the plots in a flexible manner to create some smaller plots to fulfil demands for smaller working areas. Although many gardeners appreciate large plots there is also a demand for more modest areas, especially in the more shadowed parts of the Dickson garden that are only viable in the Summer months.

The established fruit trees around the garden had a strong crop with the plums performing well and then being completely stripped by the birds before maturity. As the garden has never managed to get the fruit to maturity before the birds get in a discussion of netting will be had before next year.

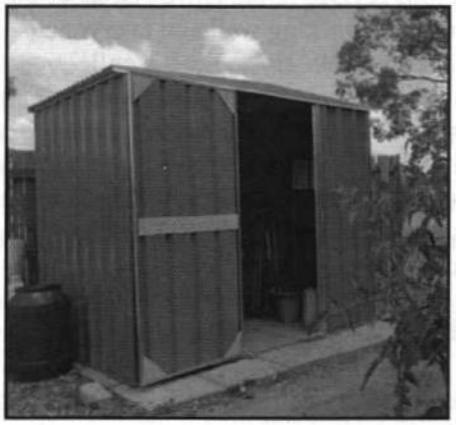
The green house continues to give good service as a protected area for propagation with a few rather exotic experiments with carnivorous plants now taking place in there.

Jo has provided us with a good source of Lucerne hay so the garden will be well mulched for the remainder of the growing season and we are looking forward to the remaining warmer months.

Darren Stokes

Erindale Community Garden

Our garden has undergone some major overhauls, which although doesn't sound like much on paper was a challenge to achieve. One task was to replace the rickety old garden shed showing its ripe old age of 23 years. The snazzier looking, new shed is set on a level bed of 20 heavy concrete pavers making it much more stable and should keep us in good service for many years to come. It was out with the old and in with the new!



We also had to remove and dispose of carpet, which was laid on top of black plastic or weed matting on our pathways. This came about due to the realisation and consequent ban of carpet as potentially leaching a cocktail of unknown chemicals. So it was a case of pulling them up and disposing of as well as sourcing an acceptable alternative. Fortunately and with thanks to urban services we received a delivery truck load of tree mulch. It took many wheel barrow loads but at least we've covered the majority network of pathways.

So, all in all our efforts have proven well worth it given that the garden now has a fresher rejuvenated look about it. Naturally of course there are still a few areas left to tidy up however in due course I'm sure we'll get around to them.

One of our plot holders Didi, kindly mentioned in an e-mail, *"Our garden looks so nice now with most areas covered by mulch. I had a friend visiting our garden yesterday. She was really impressed and we received a big compliment. I want to pass on her compliments to members of the group who put so much time and effort in with clean up and mulching"*

Christine Carter
Erindale Convenor

Kambah Garden

Right now the Kambah Community Garden looks great and has been highly productive over the summer across all the plots in cultivation, almost without exception. This is a beautiful place to garden, set in the historic grounds of the former Kambah Homestead against the backdrop of Mount Taylor . We are working well as a community of organic gardeners with great cooperation, sharing of produce, ideas and experience, and, importantly, collaboration with shared garden management tasks. The roster of Garden maintenance and management jobs revised at the end of October 2012 seems to be working well and everyone is pulling their weight. We try to get the collective work done on an ongoing basis and keep our monthly get-togethers for Garden business and the pleasure of catching up with each other.

We set up a watering roster for Christmas and New Year with volunteers. Special thanks to Chris, Ed, Peter, Sue, Julie, Jim, Michael, Sally, Joel and Mary K for taking care of the watering for others in the Garden during the long stretch of hot weather.

The community culinary herb garden set up last October near the front gate is now thriving. There is rosemary, garlic chives, basil, parsley, tarragon, sage, marjoram, oregano, wild rocket, mint and dill being regularly picked for the kitchens of our enthusiastic and creative cooks. We use the comfrey in the compost.

Our gardeners are coming to appreciate the critical importance of compost for sustainable organic gardening and healthy soil. Our compost management process has been cranked up in recent months and the effort is increasingly being shared – including rat-chasing. Our system of staged compost bins, though not pretty , is producing good, clean compost for everyone to use.

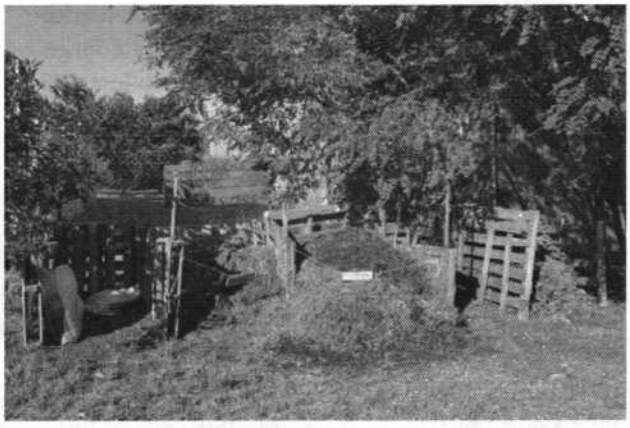
We held our first get-together for the year on the 2nd of February. The photograph shows Ed, Ingrid, Chris, Graham, Neville, Liz, Faizah and Roberta celebrating summer by enjoying the produce of the garden at our twilight picnic and BBQ . (Joel and Mary K were cooking!) Rhubarb – the edible kind – continues to be popular among our gardeners.

Two plots have been handed back recently as a consequence of job relocations and other changes in personal circumstances and these plots have been quickly taken up and continuity of careful cultivation maintained. There are still a couple of vacant plots and some expected vacancies a few months off so we are looking for new plot holders with a strong commitment to organic gardening and community team-work.

One large plot that has been unused for over two-years is being put to use by all our Garden plot-holders for collective benefit. Working bees over February and March are establishing a winter-garden project in the plot that will provide a show-case of productive organic gardening and the Kambah Garden with visibility to the many walkers, joggers and cyclists that go past our enclosure and often chat with us gardeners.

We are looking forward to another great year of organic gardening – our 12th – and, of course, good health.

Neville Jackson



Kaleen Garden

We have two new members and a returned plot-holder in our garden and they have been very busy since they took over their plots. Our new fruit trees are growing well and we look forward to some fruit next year. The new mowing roster seems to be working well although it has been a steep learning curve as to how many are needed to mow during the Spring months compared to now when the grass is almost dead. Everyone's support is much appreciated and our garden is looking good most of the time now instead of having to wait for a general working bee.

The heat has been a real problem this year for some vegetables and gardeners, but as is usual, some are just thriving, particularly capsicums and eggplants which we gave up on last year. Pumpkins are taking off, loving the heat. The ease and practicality of drippers in this weather has become very apparent. The new rule allowing us to water with drippers during the day has been very welcome in our garden.

We have been offered some free wood for a pergola and so plans have been drawn up and we are waiting for final approval. It will be good to have a roof over our heads in the hot and wet days and we won't have the constant mess from the gum tree (and its inhabitants) on all our tables and chairs. It will also be timely to use the money all the plot-holders helped to raise during our two Open Gardens weekends.

Robyn Power

***STOP PRESS*—COGS Wiki**

After much work and consultation the COGS Training Sub-Committee is proud to present **COGS Wiki**. COGS Wiki aims to be the definitive reference for organic growing in Canberra, compiling previous, current and future knowledge of plant growing, garden management, COGS administration and all things COGS in Canberra. COGS Wiki provides an easily searched reference specifically designed for the COGS membership on any issue relating to organic growing in the Canberra region. Even better, if you find COGS Wiki to be deficient in a piece of information you need, or you have information you would like included in COGS Wiki, every page has a Discussion section where you can place your facts/opinions/thoughts or comments and add to the communities knowledge of organic gardening in Canberra.

Access COGS Wiki now at **http://wiki.cogs.asn.au** to start learning and contributing.

For further information feel free to contact Darren, ***dmstokes73@gmail.com***

Darren Stokes

COGS green manure mixes are now available

Each year COGS buys bulk seed that is mixed, packaged and made available to members.

This year there will be two mixes available:

- **Cereal and legume mix** containing wheat, oats, ryecorn, field peas and vetch
- **Legumes only mix** containing field peas, vetch, lupins.

Seed is packaged in quantities suitable to cover about 25 - 30 square metres and is available at the COGS general meetings during Autumn.

Bulk deliveries to community gardens can also be arranged through your garden convenor.

Pests in the Gardens

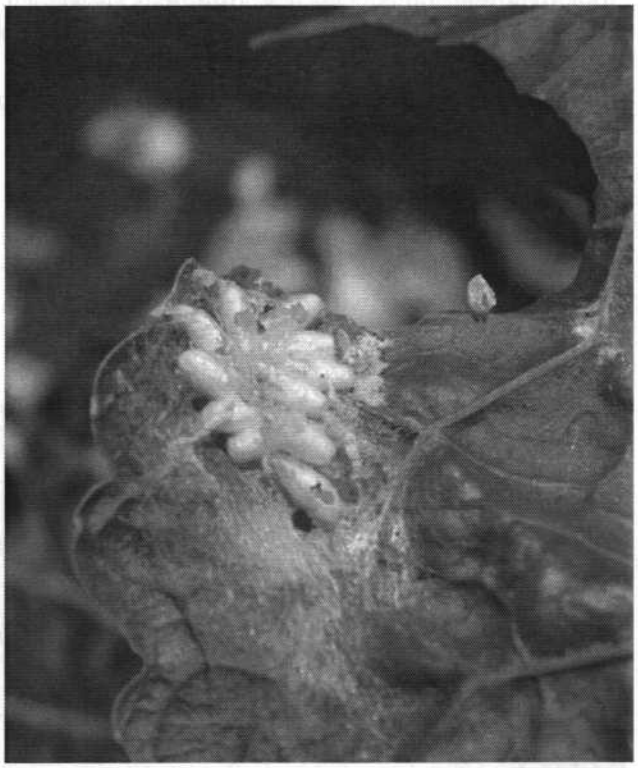
Please see page 31 for more photos which illustrate this article. Ed.

The abundance of various garden insects this Spring fly. These insects all belong to the order Hemiptera and have mouth parts adapted to piercing plant tissue and sucking out the contents of cells and sap. In parand Summer seems to have been significantly different from last year. Last year many gardeners had serious problems with the 28 spotted ladybirds, particularly on cucumbers. Earwigs were also a problem. This year there have been a few of these insects around but not in numbers to cause serious damage, at least not yet. No doubt the weather has something to do with this. It has been much hotter and drier this year than last.

As always, there have been the usual potential problems inhabiting our gardens, but not in numbers sufficient to cause significant problems in most gardeners. Aphids started the year strongly but the silvereyes soon took care of them in my garden. Pear and cherry slugs were active until the heat in December/January reduced their numbers to almost nothing. There have also been a few potato beetles but not in sufficient numbers to cause much damage.

In my garden the light brown apple moth attacked a wide variety of plants, however, they were easily controlled by some judicious squashing at regular intervals. It was a task that had to be repeated every week or so until the really hot weather arrived. The green vegetable bug numbers have been low so far this season but they may become more of a problem later in Summer and Autumn. Grubs of the *Helicoverpa* species (corn ear worm and tomato bud worm) and the cabbage white butterfly have also been active but not in sufficient numbers to cause any serious problems yet.

The parasitic Braconid wasp *Cotesia glomerata* seems to have been quite active this year. This may be the reason the cabbage white butterfly has not been a problem in my garden. This wasp lays its eggs on the cabbage white butterfly grub. When the wasp eggs hatch the larvae burrow into the grub where they live and grow. When the wasp larvae are fully grown they burrow out through the skin on the grub killing it. The wasp larvae do not travel very far from the dead grub before they build small, long-oval, cream coloured, silk cocoons. A cluster of silk cocoons is often seen on brassica leaves near the remains of a dead grub. The adult wasp emerges from the hole it bores in end of the cocoon and then it flies off to parasitise another grub of the cabbage white butterfly. These wasps need to be recognised and nurtured in the garden.



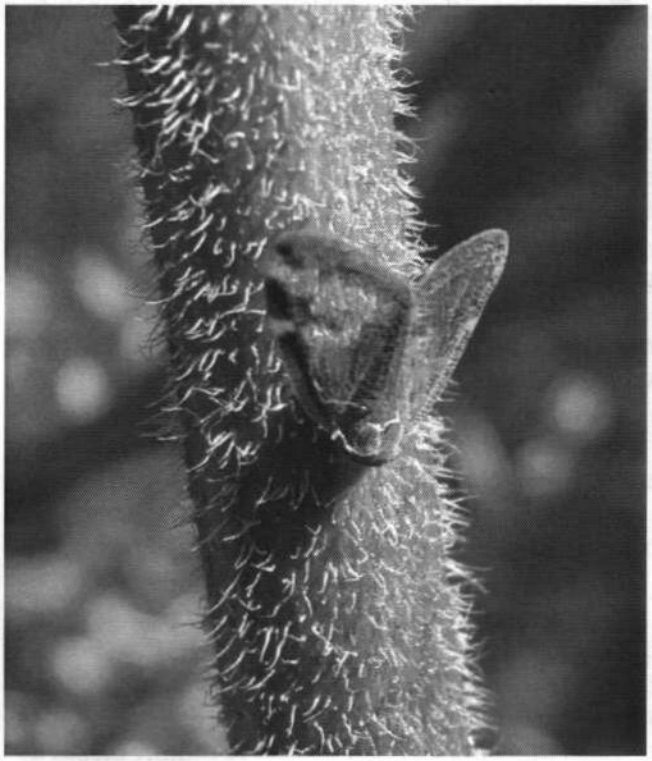
Empty wasp cocoons next to cabbage white butterfly damage on a horseradish leaf

The main problem gardeners have reported this season are three types of sucking insects, the Rutherglen bug, the passionvine hopper and whitefly. These insects all belong to the order Hemiptera and have mouth parts adapted to piercing plant tissue and sucking out the contents of cells and sap. In particular, the passionvine hoppers and the Rutherglen bugs seem to be in much greater numbers than we have experienced for some time.

The Rutherglen bug (*Nysius vinitor*) is an Australian native. The adults are 3 to 4 mm long. They are mottled grey-brown-black with prominent black eyes and have clear wings folded flat over the back. The nymphs are wingless. They have a reddish-brown pear shaped body. The eggs are deposited on soil, on grasses and on the flower heads of weeds. In my garden they attacked rocket, cucumbers and beans but the damage was not severe. They occurred in large enough numbers to kill a few of the growing points of the cucumber runners, effectively tip pruning them. They had a similar effect on the beans. They also attacked the leaves of the rocket in isolated patches giving the leaves the appearance of sunburn. The damage was not significant. For a short time they were also clustered on the raspberry and corn but had no noticeable impact. These bugs are very active and difficult to photograph. To help

identify this insect in your garden there are many excellent photographs on Google images which can be found by entering either its scientific name or common name into the Google search engine.

Several gardeners reported significant numbers of passionvine hoppers (*Scolypopa australia*). It is another Australian native which can be a pest at times. The adults look rather like a moth but can jump vigorously if disturbed and are quite difficult to catch. They can also fly very well. They have a stubby body 5 to 6 mm long and broad forewings which are clear with a mottled dark brown pattern.



Adult passionvine hopper

The nymphs have a quite distinctive appearance which gives them their common name, "fluffy bums"- see photos p27. They are between 1 to 5 mm long depending on their growth stage. They have no wings but can hop vigorously if disturbed. They are pale with brown markings and a tuft of white waxy filaments on their abdomen which they can wave up and down like the tail feathers of a peacock, hence their common name. The eggs are pale, oblong to ovoid and about 1 mm long. The eggs are deposited in rows usually in soft, dead or dying stems. They attack a wide range of plants and produce lots of honeydew which encourages sooty mould and ants. In large infestations wilting and stunting of plants occur.

There are a number of insects in the Whitefly family which cause plant damage - see photo p27. The most common whitefly in this region is the greenhouse whitefly (*Trialeurodes vaporariorum*). Adults are small, moth like insects 1 to 2 mm long. Their common name comes from the appearance of their white powdery wings which they hold roof-like over their body when at rest. They are mostly found on the under surfaces of leaves. If disturbed, they fly but quickly resettle back on the plant. The nymphs are whitish to greenish-yellow. They are oval shaped and flattened like a scale but have fine waxy marginal filaments. They are between 0.3 and 0.75 mm long, depending on their growth stage. Whitefly nymphs are found on the under surfaces of leaves. The eggs are inserted vertically into the leaf under surface, often in circles or other patterns. The eggs are small and yellowish when laid turning greyish-purple when mature. Both adults and nymphs suck sap from new shoots and the under surfaces of leaves. Infested leaves develop a mottled, sandy appearance. Nymphs and adults produce copious amounts of honeydew encouraging sooty mould and ants. Badly infested plants loose vigour and wilt, seedlings may die, however, if the number of whiteflies in the garden is small they are no great concern and cause little damage. Greenhouse whiteflies can transmit lettuce infectious yellow virus to a range of other susceptible plants. Plants infected with this virus should be identified and destroyed to prevent whiteflies spreading the infection further

Useful information on pest control measures suitable for organic growers can be found in Tim Marshall's book *Bug, The Ultimate Gardener's Guide to Organic Pest Control*, ABC Books, 2010. As organic growers we need to be mindful of the impact of any pest control measures we use on the ecological balance of our gardens and, in particular, the impact of those control measures on beneficial insects such as the *Cotesia spp.* wasps referred to above. Both pests and beneficial insects are integral components of the ecological balance which defines an organic garden. As organic gardeners our aim is not to eliminate pests, rather, we are trying to establish a balanced garden ecosystem so that the garden provides for the needs of all parts of the ecosystem it comprises and no part of that ecosystem gets out of control. The aim is to create a garden which functions as a stable, sustainable system in which the needs of its components, viz the plants, the pest insects, the beneficial insects and the gardener, are catered for.

Text: ***Keith Colls***

Photos: ***Adrienne Fazekas***

Kitchen gardening at Glenmore house

Driving over the Razorback after leaving Picton always takes me back to my childhood days in the mid-50s, when we used to crawl and boil our way up in the old Chevvie ute. . In those days we had a farm near Appin, well before it became coal-mining country. Dad was manager of crops at Camden Park for a time and I still enjoy the memory of going around in the Rotorlactor with the cows being milked.

So here I am, cruising up the Razorback, looking forward to my third kitchen garden workshop at Glenmore House. The property, near Camden, is owned by Mickey and Larry Roberston, with Mickey being its energetic designer and gardener. The colonial buildings have been lovingly revitalised and extensive gardens established. The focus of this workshop is the kitchen garden, where Mickey runs regular seasonal gardening and cooking workshops.

Linda Ross, a Sydney-based organic gardener, delivers the main workshop session, while Mickey demonstrates some of the activities in the garden itself, whether it be lashing mulberry branches to form structures for climbing beans or vine tomatoes, or harvesting masses of comfrey leaves to make an infusion to provide potassium, nitrogen, silica and iron to flowering and fruiting vegetables.

I love the style of these workshops, as the Mickey -Linda team is enthusiastic, practical, open-minded, experimental, undaunted. We 10-14 participants toss in queries from our own gardens, which they unfailingly respond to with practical and logical solutions.

The kitchen garden itself is protected from hot westerlies by a conifer hedge and is in two main sections, separated by an arbour of espaliered apple trees. On one side lie four large raised beds, providing a rotational cropping system. On the other side is another set of four raised beds, in which Mickey and Linda have been experimenting with a Permaculture-inspired guild planting system. Here the vegetables are planted in clusters and rotated on a smaller scale, within beds. This provides a greater diversity within a small space, which seems to confuse insect pests and allow refuges against diseases. The two systems are retained to discover more about their relative benefits.

Depending on the season, the beds are overflowing with ripening produce, or seeding and dying off, or getting a good work-over by hens in a bed-sized moveable pen, or being boosted with compost and other goodies for a new planting season. Herbs and bee-attracting flowers border the beds and paths.

Vegetables are rotated and so is their food. Every week, Mickey will apply liquid solutions: week 1: seaweed solution; week 2: comfrey tea; week 3: worm juice; week 4: an organic fish and seaweed solution, which thereby provides natural growth hormone.

It's really all about food, good food, seasonal food, healthy food, abundance of food, love of food, non-supermarket food. So while Linda fills our brains with practical suggestions on what we should be doing in our gardens for the coming season, Mickey is harvesting and preparing our lunch. Not that we are too famished, as on arrival we'd had morning tea of a luscious cake (based on Glenmore House produce of course).

Although I feel a rank beginner, I think I'm coming to accept that I too, will grow (plants) as long as I live. And some of that passion I've acquired from our own COGS members, and some from these inspiring workshops.

http://www.glenmorehouse.com.au/ will tell you more about Glenmore House events.

Sally Stephens

Wicking Beds

A wicking bed, also known as a self-watering bed, is watered automatically and upside down: from beneath instead of above. (Full construction details of Walter's wicking-bed will shortly be placed on the COGS website: http://www.cogs.asn.au/)

Two types of wicking bed exist: the *open* or *ground-level*, where plants grow beside the bed and water from the reservoir can diffuse into the surrounding ground, and the *closed* or *above-ground*, where the water and soil are separated from the surrounding ground by a waterproof membrane. I built a closed, above-ground bed.

Why use a wicking bed?
1. It reduces water usage considerably;
2. It keeps soil and plant roots reliably moist;
3. It avoids wetting and drying cycles; and
4. It is very simple to manage.

What is it and how does it work?
It's a box of almost any size placed almost anywhere, usually on the ground but also go on a platform such as a table or a verandah. The bottom half or so of the box is waterproof or lined with something waterproof and filled with coarse gravel and water, and the top half is filled with soil, compost, mulch and plants. Between the gravel and the soil is a layer of geotextile, a thin porous fabric made of polypropylene or polyester which stops soil and roots from infiltrating into the gravel.

Water wicks up from the gravel in the reservoir, through the geotextile and into the soil. The bed is watered constantly and automatically from beneath. The whole system is very simple and effective.

There are limits to how far water can wick upwards, and this is normally 200 to 300 mm. If the reservoir is too deep, the water in it will never empty out and can become stagnant. If the soil is too deep, only the bottom will be moistened. If the soil is too shallow, too much water will evaporate. In my bed the water has not become stagnant and the soil has never become too dry.

How does it perform?
I built my test wicking bed at what turned out to be the end of the drought and it was doing very well. This January we had a period of hotter, drier weather where the water level was getting low, only a centimetre or so, but the soil was still moist. I was deciding whether or not to add water when the Australia Day storm dumped 53 mm of rain on it in one hour and made my decision for me.

A wicking bed can be put almost anywhere because the ground can be almost anything — couch lawn, concrete, gravel, tree roots, sand; anywhere firm enough to support a smallish water reservoir and soil.

How is it built?
You can make a wicking bed out of almost anything from a flower pot to a swimming pool provided the base retains water. I didn't want my garden to look like a junkyard, so I chose sleepers which look good, are sturdy and easy to get.

Materials List
6 x sleepers, 2400 x 200 x 50 mm ($18 ea)
16 x 100mm galvanised coach screws (6mm diameter)
16 x galvanised washers to suit coach screws
10 mm socket spanner
0.5 cu m of scoria (about $60)
0.5 cu m of soil (about $22)
black plastic ("Builders Film") @ 200 µm thickness ($18 for 2 x 5 m)
3 m of 20 or 25 mm PVC pipe + 2 x right-angle bends + 2 x caps (about $15)
1 roll of geotextile ("Terra Stop") 1 m x 50 m ($71·50) *.....(Continued over page)*

Wicking Beds for Fun (Continued)

What did it cost?

For my bed the outlay was roughly $300. This is quite expensive for one small bed, but to offset that I now have a garden bed which in watering terms almost completely looks after itself.

Ouch! Why not use drippers?

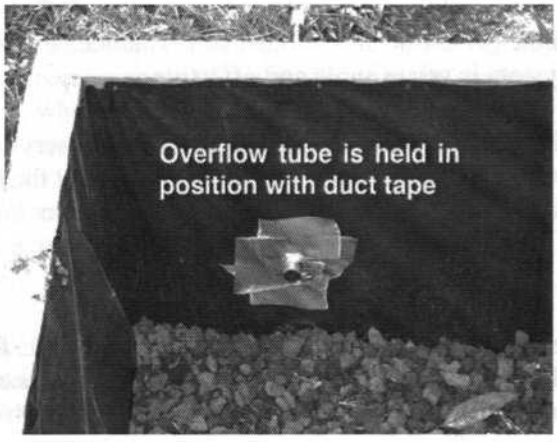
Drippers have a lot to commend them including relative cheapness and ease of installation, but they require attention and occasional relocation, and they water from above rather than below. The set-up cost of a large closed wicking bed would not be small and drippers seem more economical. I have not analysed the relative economics of drippers versus wicking beds.

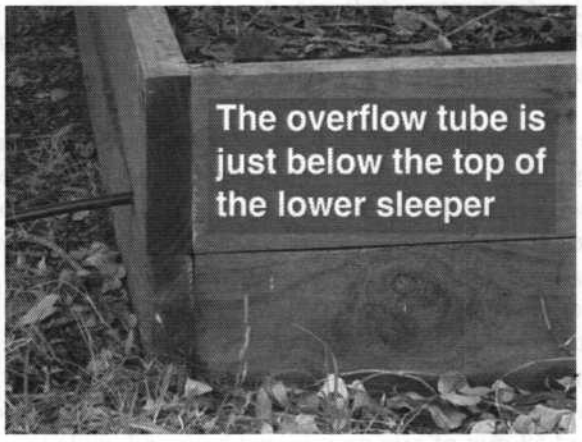
How is it put it together?

It is important to level the ground occupied by the bed, otherwise the water will collect at the lowest part and not wick up evenly into the soil. You may need to put down a layer of sand or build a platform if the ground is too hard or difficult to work with.

Reservoir

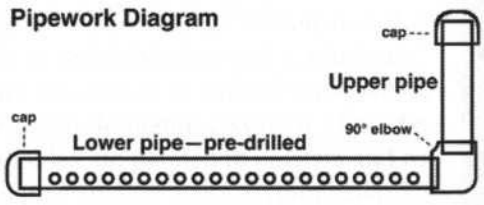
Fitting the waterproof material, black plastic in my case, is a fiddly job but very important. Cut and fit the black plastic inside the frame, tacking it to the top and being careful not to poke holes below the waterline. Next, carefully drill a hole for the overflow tube and tape it in position with generous amounts of duct tape.





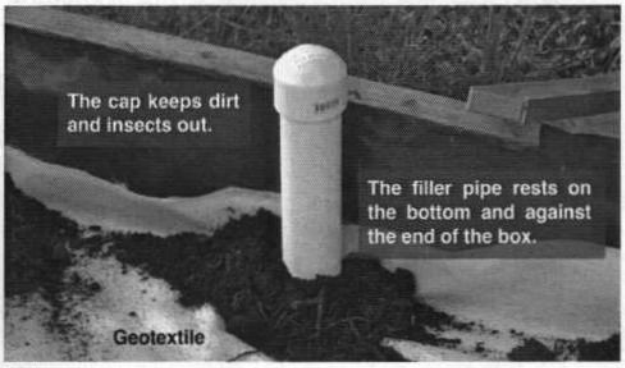
Fitting Pipework

Now cut off about a 2·2 m length of the PVC pipe. Drill 15 or 20 evenly spaced holes along it to let the water out, plug one end with one of the caps, plug the right-angle bend onto the other end, plug the rest of the pipe into that, and put it on the reservoir bottom. If your prepared ground is not entirely level you may consider putting wedges or a thin layer of scoria under the pipe. I did neither and have had no problems that I can detect.

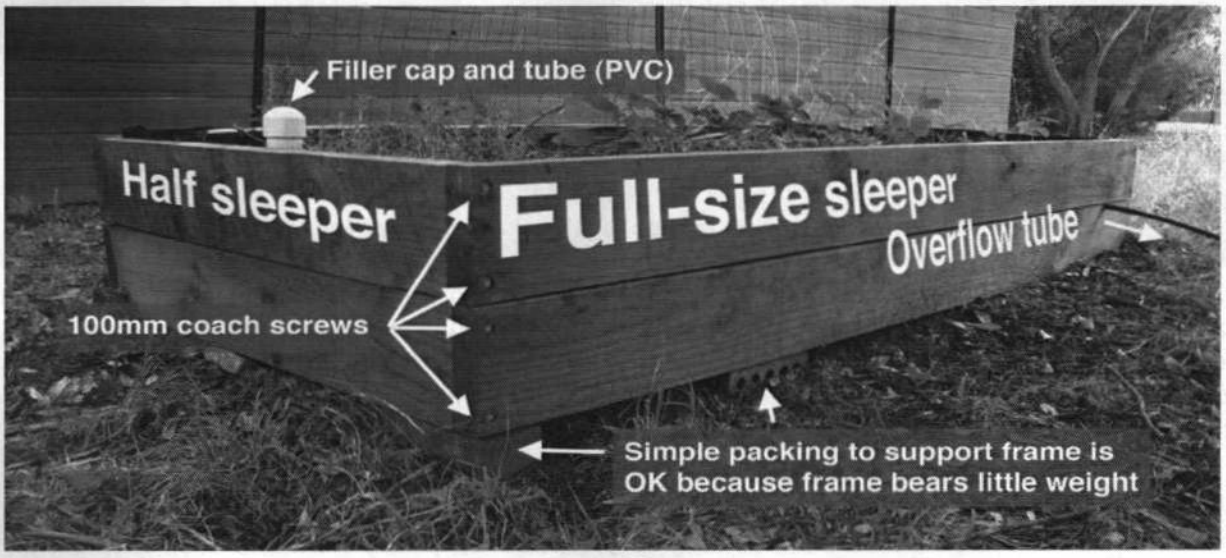


Reservoir

Fill the bed to the desired height — in my case one sleeper — with scoria and level it. Now put a single layer of geotextile on top of the scoria. The geotextile can be cut with ordinary scissors.



Do *not* glue the top cap on: this is where you check the water level and add water. Yes, you can add water in the traditional way and this is what rain does, but it's much quicker to use the pipe .



Finally, fill the reservoir down the filler tube until water comes out the overflow tube. And that's it! Your wicking bed is ready for planting and mulching. If anybody would like to come and look at my bed, get in touch and we'll organise a time.

But is it organic?

The main issue is that the soil in the bed is not in contact with the natural ground but separated from it by the waterproof membrane. You will need to keep the soil biology in good order by adding mulch, compost and perhaps the occasional shovelful of soil from elsewhere in your garden. I have done none of this but relied solely on leaves from the nearby trees, and the strawberries in it seem happy.

Another technique is to make a small worm farm in a box of some sort, punch a few holes in the bottom and stand that within the wicking bed. This gives you a constant supply of castings and worm juice.

Eco Sleepers are ACQ-treated pine. ACQ stands for *alkaline copper quaternary*, an arsenic- and chromium-free treatment using copper and ammonium compounds instead. You could use untreated hardwood sleepers with their penalty of a reduced life. A good thing about this wicking bed is that its timbers are above ground which increases durability.

The use of black plastic may cause concern but I can't think of easy ways around it. Some people prefer to avoid PVC. There are substitutes but I haven't tried sourcing any. One of my water tanks is plastic and all the tank water flows through PVC and rubber pipes.

NASAA has published standards, but that's another article.

Walter Steensby

AN ORGANIC GARDEN IN KENYA

I have recently returned from 9 months living in Nakuru, Kenya, located in the Rift Valley about 150kms north west of Nairobi and 30km south of the equator.

During that nine months working with the Kenya Red Cross, I created an organic garden, and used it to teach local Kenyan people about cheap and sustainable ways to grow their own food. I had two Kenyan Red Cross trainees working with me, who I hope absorbed enough knowledge over that time to maintain the garden after I returned to Australia.

Alongside the organic garden was a newly purchased greenhouse – a large but very basic structure lacking any flaps or vents or anything else which would control the internal environment or exclude insects. There has been a recent rush on greenhouses in Kenya as a way of making income from growing tomatoes. Our greenhouse came as a kit, with seeds, dripper system and an array of synthetic chemicals. Against all my better instincts I agreed to manage the greenhouse, keeping one step ahead of my trainees by researching furiously each evening to problem solve all the issues associated with the intensely hot greenhouse interior, the chemicals and the huge array of tropical pests and diseases which could so easily pass through the coarse mesh sides, attracted to such a hot interior and a vulnerable crop. The greenhouse became known locally as the "chemical garden", producing a bountiful crop of tomatoes in the first flush, but not so good afterwards, even though in a land where there is no winter tomatoes are supposed to produce continuously for around 15 months.

The organic garden – dubbed the "non-chemical garden" by locals, became the place to visit –it became something of a sensation for its good looks and the delicious organic food to be bought there at prices much cheaper than in the market place. My goal was to demonstrate to all comers that this was a way of growing food which could be available to anyone with a little space and access to some water. I showed visitors how to use local manure, how to compost, and about crop rotation, companion planting, organic pest control, water conservation and mulching. I located a garden business in Nairobi which sold composting worms, and donated a worm farm to our garden. I experimented with different crops to discover what could be successfully grown apart from the usual maize, beans, kale and potatoes which are traditionally grown on all the small rain fed *shambas* (farms) around the country.

Some of my experiments were not successful, in particular the zucchini plants which were highly susceptible to viruses carried by whiteflies - the bane of all growers in Kenya. Many other experiments however, worked, and I was continually surprising the local people with the sweetness of sweet corn, the delicious taste of radishes cooked in the traditional *sukuma wiki (* spinach dish), the ways one could use eggplant, the delights of flavouring with parsley, and the ease with which their traditional foods such as *managu (*a nightshade) could be grown in a small area.

There were various challenges and difficulties – apart from the constant war with disease carrying insects, there were moles uprooting the plants, fiendishly difficult to catch; there were passing goats, thieving baboons, an erratic water supply, torrential rain in the wet season and weeks of intense dusty heat in the dry season.

But with research and hard work, the garden thrived, and attracted many visitors, as well as customers. Some even bought handfuls of worms to start their own farms. Many people told me they were inspired by seeing a garden built on locally sourced and recycled waste products. Some announced that they were going to become vegetarian, others told me they informed their parents back home, who were still tilling the small family plot, about some organic ways to rejuvenate the soil .

One would think that this is ancient knowledge they should all know, but somehow this basic knowledge seems to have been lost in a country where young people are flocking to the urban areas to find white collar jobs, and all things modern and western, including synthetic pesticides and fertilisers, are seen as highly desirable.

Kenya has many difficult challenges including some serious environmental and food security issues. My garden experiment was only a small local demonstration, using the little bit of knowledge I had gained from being a COGS member and pottering in my plot in the Holder community garden, but I think and hope that I might have sown some seeds of inspiration amongst the local Kenyan people who came to see.

Photos and story—Meredith Hatherly
(Holder community garden)

Beekeeping

'Do you get stung a lot?' That's usually the first question I get asked and 'does it hurt?' That's usually the second. Growing up in a commercial beekeeping family my answer is always 'not so much anymore, and you get used to it'. I have fond childhood memories of sitting out on the grass, on a warm sunny day in the middle of summer, watching the bees feed on the nectar, the sound of contented humming filling the air. It may be surprising for some, but bees are not always the aggressive, evil, stinging machines that are depicted in movies, stories or hearsay. If you actually study their behaviour and movements you will find a more accurate description is the commonly used term 'as busy as a bee', because bees are constantly on the go!

To give some background, the Honey bee (*Apis mellifera*), which gives us that sweet, golden honey, is actually not native to Australia. It was in fact introduced into Australia aboard the *Isabella* in 1822. Since then, honey bee populations have thrived throughout Australia and beekeeping has been incredibly successful. The main reason for this has been as a result of extensive areas of native vegetation, particularly plants in the Myrtaceae (Eucalypts etc.) and Proteaceae (Grevilleas and Banksias etc.) family. The native vegetation produces large quantities of nectar and pollen, making this continent an ideal climatic and geographic region for the honey bee; which is good for us because it means we get a delicious supply of honey, which captures the flavours and aromas of the bush!

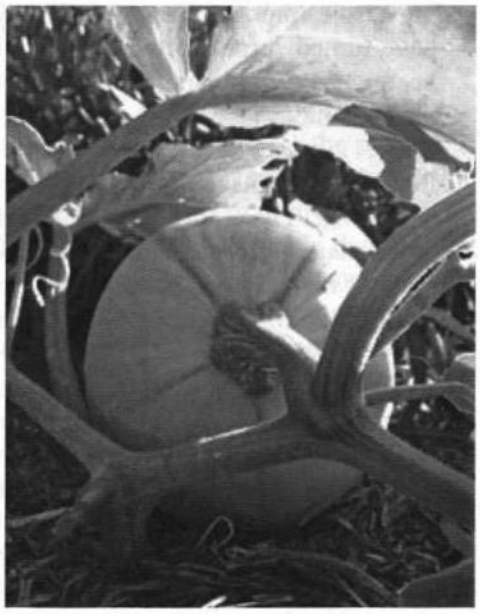
Honey bees not only produce numerous products that we probably all use in some form or another, such as honey, beeswax, pollen, propolis etc. but honey bees, also provide the invaluable service of pollination to many agricultural and horticultural crops and gardens. Although there are numerous species of bees native to Australia (up to 2000 species), no bee, other than the European honey bee, can provide the pollinating behaviour required to pollinate so many different crops. In fact, honey bees pollinate over 65% of agricultural and horticultural crops grown in Australia, and not only increase the yield, but also improve the quality of the produce. For example, if strawberries do not receive the correct level of pollination, the fruit becomes malformed, and has dents in the fruit.

There are different methods of beekeeping, such as the conventionally used Langstroth hive, or a more holistic approach, which uses a Warre hive and is called Natural Beekeeping. My brother, Tim Malfroy focuses on Natural beekeeping and is the expert in Australian for many permaculture organisations, such as Milkwood Permaculture, on this method of beekeeping. Natural beekeeping aims to provide the needs of the bee colony above that of the beekeeper. It attempts to mimic the natural nest structure of the wild bee colony and give every opportunity for the hive to thrive, communicate effectively, and become resilient to disease and changing environmental conditions, whilst still retaining an element of the 'keeping' of bees – that of human involvement.

My partner Carly and I have recently started a plot in the Mitchell community garden and are looking to place a few hives there, to not only provide a great source of pollination but also some honey for our BBQ days. I would also be happy to provide beekeeping demonstrations for anybody who is interested or answer any questions, whether it is about pollination, chemicals and bees, or different honey flavours. In the near future, I will also be looking to increase my hive numbers throughout some of the other community gardens in Canberra so if anyone is interested in this possibility, please feel free to contact me either through the COGS coordinators or directly at sam.malfroy@gmail.com.au

Carly Housley and Sam Malfroy

Pumpkins in Autumn



Pumpkins need regular watering and will be very happy with an application of compost tea or other liquid fertiliser during the growing season. Pumpkins produce short-lived male and female flowers that can close by mid-morning. Female flowers open above the distinctive embryo fruit and male flowers produce pollen. Native and honey bees are normally able to complete pollination, but sometimes ants harvest pollen before this occurs. To hand pollinate, pick male flowers, remove petals then dab pollen on the stigma of female flowers

Adults and the larvae of leaf-eating ladybirds, which are also known as 28-spotted ladybirds, eat pumpkin leaves, so watch out for them. Watering in the morning and spraying fortnightly with a solution of one part cows milk to 10 parts water helps prevent mildew.

Remove the growing tips if you want to encourage branching and fruit-set. As fruits get bigger, raise them of the soil on wood or straw to prevent rotting. You can also remove tiny pumpkins late in the season if they are unlikely to ripen before frosts set in.

Harvesting and storing

Leave pumpkin fruits on the vine for as long as possible, but try to get them off before the first heavy frost, which may damage the fruit. Ideally, wait until their skin has hardened and the stem is dry. When harvesting, use secateurs and leave a length of stalk attached to the fruit.

If the fruit is intended for storage, 'cure' them first by exposing the skin to the sun for a few days and allowing it to dry out completely. Store whole pumpkins for two or three months in a cool, dark place with good ventilation. Store cut pumpkin (wrapped) in the crisper, once the seeds and stringy bits are removed.

COGS Web Site

The 5th Annual Canberra Harvest Festival

Celebrate Canberra's bounty of local and sustainable food.

There will be a variety of eco-stalls, community displays, free workshops and music, and lots of organic & local food to eat.

Put the date in your diary and keep watching this page for all the latest news.

When	March 23rd, 2013 12:00 PM through 5:00 PM
Location	Lennox Crossing Canberra Environment & Sustainability Resource Centre Acton,
Contact	Phone: 6248 0885 Email: info@ecoation.com.au

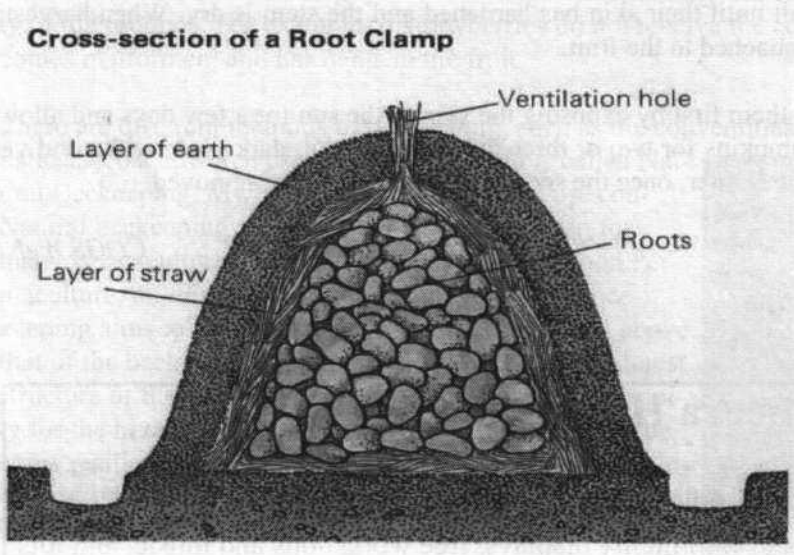
Clamps and Clamping....A Feast in Store

The first thing that I learnt working my way through books and web sites is that clamping, no, not the thing that happens to a car wheel when you illegally park, the clamping I am on about, is successfully storing surplus produce from your highly productive organic garden. For a few years I, like several gardeners, have turned surplus produce into future food by drying, pickling, blanching, freezing or storing in, then heating lovely old jars. Hmm, Truth to tell most of that work has been done by my wife, Claire. Several of those methods take time and have an added expense.

Reading one of the books from our library earlier this year gave me a brief insight into to Clamps and Clamping,. There are several methods that we can utilise to make good use of summer surpluses and winter shortages our gardening gluts and gaps. One of the challenges of growing vegetables and utilising surplus for me has been about how I can keep things longer without (Claire) having all the cleaning, peeling, cutting, cooking, pickling, freezing and bottling etc.

Root vegetables have always been considered the mainstay of the winter kitchen, some being left in the ground until required, others lifted and stored in boxes or clamps. The following five links are where I have sourced the content and pictures to flesh out my interest in storage methods and assist in creating awareness, or using them to educate others to the ease and benefits of clamping. Storing vegetables in clamps may be rather old-fashioned, but it is an excellent way of conserving their flavour and quality.

If storage space under cover is limited and you have large quantities of roots to store, consider making a clamp. This is a traditional and effective method, but be aware that rodents can cause problems.



Method

The simplest method of storing lifted root vegetables is in some kind of a box, (*something I intend to experiment with this year*) tub or bin.

To prevent shrivelling in vegetables which lose moisture such as carrots, celeriac, swedes and beetroot, store the roots in layers of moist sand or peat-substitute in boxes, in a frost-free, dark place such as a shed or cellar.

Lay them (your lifted roots) down in layers separated by slightly moist sand, peat, coke or coal ashes, or even soil. The largest roots are put at the bottom, the smallest, because they dry out first, at the top.

Cover the top layer when the box is full.

Set mouse traps if you think rodents will be a problem.

Bob McAlister

A few 'golden rules' of harvesting and storage:

Handle vegetables for storage very gently. Even invisible bruises and tiny surface scratches provide a foothold for storage rots and diseases. This is especially true of onions and garlic. Carefully rub off surplus mud and remove rotting leaves. The foliage of root crops should be cut off an inch or so above the root. With beet it should be twisted off to minimize bleeding.

Onions, shallots and garlic should be left in the soil until the foliage has died down naturally (*some of our international clampers believe that*) the practice of bending over the tops does nothing to help the process; if anything (*they argue that)* it is harmful. Then ease them gently out of the ground, and leave them to dry in the sun for a week or so, preferably raised off the ground on sacks or upturned boxes. Try to dry them as fast and thoroughly as possible, so that the skins are tanned and crisp. However, if the weather is damp, bring them inside after a few days, and complete the drying under cover — in an airy kitchen, for example. Stored onions, shallots and garlic need both low temperatures and plenty of ventilation. They are best hung in nets or old nylon stockings, or if there is enough leaf attached to the bulb, plaited into ropes. Otherwise, spread them out in trays, rejecting any thick-necked onions which never store well.

Pumpkins will only store well if harvested well. (See separate article)
Swedes, turnips and carrots tolerate a fair amount of frost, but tend to lay down cellulose in winter, becoming progressively woodier and less palatable. There is also the risk of damage by slugs, mice and even rabbits if they are left in the soil. So they are normally lifted and stored in boxes or clamps. In very light soil they are sometimes left in the ground, though the carrots would normally be covered with straw as protection against frost. But in most circumstances it is easier and pleasanter, in the depths of winter, to retrieve vegetables from boxes or clamps stored safely in your shed or garage than to dig them out of muddy ground.

With potatoes there is no option: they are easily damaged by frost so must be lifted by late autumn, dried in the sun for a couple of hours, then stored in root clamps outdoors, or under cover in hessian sacks or double-thickness paper sacks, tied at the neck. If kept in sheds or cellars they are best stood up against an inside wall. Give them extra protection with sacking or straw if severe frost threatens. The ideal temperature for storing potatoes is between 4-10°C (39-50°F); at lower temperatures they may become unpleasantly sweetened. They should always be kept in the dark, *remove the tubers that* become green with the formation of poisonous alkaloids.

Store under cool conditions. With root crops (other than potatoes), onions, and cabbage the temperature should be as near zero as possible. The atmosphere should not be too dry or the vegetables will shrivel.
Only the very hardiest vegetables can be left in the soil without deteriorating or being damaged by frost. *Jerusalem artichokes, parsnips, Hamburg parsley, Chinese winter radishes, and celeriac* are prime examples. *Parsnips*, indeed, are said to improve in the soil, becoming sweeter. It is also worth covering the rows with straw, bracken or dead leaves, to try and prevent the ground from being frozen solid. Otherwise it may prove impossible to lift the roots in severe weather.
Discard any diseased or damaged vegetables, as they will rot quickly in store. If necessary store them separately and use them first. Inspect stored vegetables regularly and remove any which are rotting.

Bob McAlister

References for these two pages include:

http://apps.rhs.org.uk/advicesearch/Profile.aspx?pid=666

http://www.yourgardeninginfo.com/how-to-store-vegetables

http://www.sarahraven.com/how-to/growing-food/12/how-store-or-force-tender-winter-veg

http://www.farminmypocket.co.uk/food/store-carrots-et

http://butterflywings.hubpages.com/hub/How-to-Store-Root-Vegetables-in-Boxes-in-a-Cellar

Fermentation for preserving vegetables

As gardeners we often want to preserve our vegetables to extend their shelf life and make them available beyond the growing season. A preservation method I use is *lacto-fermentation*. This is a traditional method of preserving vegetables and most societies have their traditional ferments, such as *sauerkraut* in Europe and *kimchi* in Korea. While both of these are based on cabbage it is possible to ferment just about any vegetable or combination of vegetables.

It is also a very simple method of preserving, needing comparatively little equipment, a list of which is set out later in this article.

When you think about it, most foods that can be stored for any length of time are fermented. Various forms of fermentation have been in use for millennia, producing foods such as salami, pickles, cheese, wine, beer, yoghurt, miso, soy sauce, and of course good old sauerkraut.

If you would like to give lacto-fermentation a try a good source of information, apart from the Internet of course, is Sandor Katz's 2003 book *Wild Fermentation*. A copy is in the COGS Library. It covers lacto-fermentation of vegetables as well as other ferments such as yoghurt and sourdough. Katz has written an more extensive and detailed book, *The Art of Fermentation*, which appeared in 2012.

Lacto-fermentation relies on lactic acid-producing bacteria (which for the sake of brevity I will now call "good bacteria") to convert starches and sugars into lactic acid. There are multiple species of good bacteria and different ones are active at different stages of the fermentation. They produce lactic acid which inhibits other bacteria that cause food to rot or spoil. The length of time a fermented food can be stored depends on factors such as the type of food, its pH, its salinity and the storage conditions. This latter includes the temperature of the storeroom and the type of vessel used — wooden barrel, glass jar, crock, and so on.

As with yoghurts and other live cultures, lacto-fermented vegetables in the diet are claimed to have many health benefits. They enhance digestability of food by breaking down difficult-to-digest compounds, increase nutrient levels of Vitamin C and some of the B vitamins, increase the bio-availability of other nutrients, produce antibiotic and anti-cancerous substances, and promote a diverse and healthy gut flora (see References).

Lacto-fermentation uses natural processes and like organic gardening is all about working within an ecological system. Good bacteria occur naturally on all fruit and vegetables. When fermenting vegetables it is necessary to create an environment that favours the good bacteria over undesirable ones that cause food to rot. This is done by adding salt and creating an anaerobic (low or no oxygen) environment by submerging the vegetables under water. Why salt? Salt is a preservative and inhibits the production of undesirable bacteria enabling the good ones to produce sufficient lactic acid to preserve the vegetables.

A common concern about the safety of lacto-fermentation is the possibility of botulism. Botulism is a sometimes fatal paralysing illness caused by a toxin produced by the bacterium *Clostridium botulinum*. This is a soil-borne bacterium that occurs on almost all fruit and vegetables. While it reproduces in an anaerobic environment it does not pose a threat in a correct fermention because the good bacteria produce acids which exclude *Clostridium*. Katz (2012) states that botulism is a problem with improperly bottled and canned fruit and vegetables but not with their fermentation; however botulism can be a problem when fermenting meat and fish (p.20). These have special requirements and are not dealt with in this article.

What about mould? Since I started using airlocks I have not had any mould. Previously if mould appeared I simply periodically scooped it off during fermentation. Mould will not grow in the ferment itself because the vegetables are under water, but mould can form at the top on any floating bits.

If you need to add water, make sure it is not chlorinated because that will kill the good bacteria. You can remove chlorine from the water by boiling, filtering, or simply setting it out for a while.

So far I have made seven batches of different vegetables and have not yet had a failure. This demonstrates that fermenting really is easy. My reading assures me that a failure is unmistakable owing to the smell!

Equipment

Fermentation vessel: usually a glass jar or ceramic crock. If using ceramic ensure that it is food grade.

Glass jars are generally cheaper than ceramic vessels and good for preserving smaller amounts. Ideally jars should have a wide mouth.

Crocks are good if you want to preserve large amounts of vegetables at a time. It is possible to buy purpose-built crocks with a specially designed rim that creates a water barrier allowing gases from the fermentation to escape.

To keep the vegetables under the liquid you need something like a plate or a flat object that sits on top and almost covers all the vegetables, plus a weight to hold it down. You need a gap at the side to get the plate in and out, and to allow gases to escape. The plate and the weight could be one and the same. What you use will depend on the size and shape of the fermentation vessel. The plate and at least part of the weight will be submerged in the liquid and therefore both need to be made of materials that are food grade and acid-resistant.

An airlock minimises the chance of mould spores landing on top of the ferment by keeping outside air from directly entering the fermentation vessel while allowing gases from the fermentation to escape. An airlock to attach to jar lids can be purchased at a brewing supplies store.

If you're using a glass jar, it needs to be kept dark until fermentation is finished. A simple teatowel wrapped around the jar (but not the airlock) is dark enough. A crock is opaque to light and needs no special treatment.

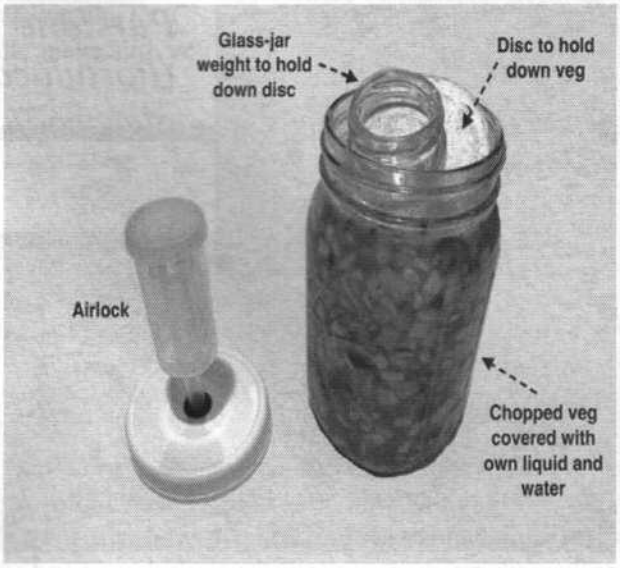


Figure 1: the airlock and black rubber grommet came from the brewing supplier. You need to drill your own hole in the lid, being careful to support it well, and drilling with gentle pressure to avoid cracking it. The disc and glass-jar weight will be placed flat on the top of the vegetables and the airlock lid screwed on.

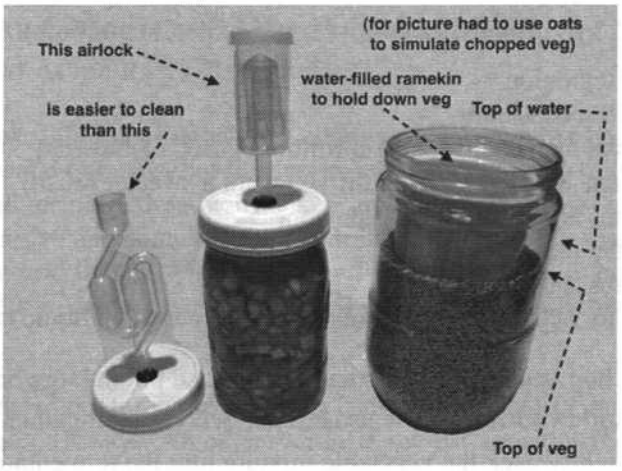


Figure 2: the right-hand jar is the equipment I used when starting out fermenting. It's not ideal because the ramekin does not come very close to the edge of the jar, letting a lot of air get to the vegetable water and whatever was floating on it, and this is where mould started also. When I switched to the jar and airlock system on the left, I have had no trouble with mould.

Katz's 2003 book has recipes and explains the principles of fermentation to let you create your own recipes based on available produce and individual preferences. For example, last year I had eaten some vinegar-based mustard zucchini relish that I really enjoyed, and decided to make a relish from tromboncino zucchinis and chokos. I could not find a similar recipe using fermentation so I adapted a standard pickle recipe based on the principles in the book. SEE NEXT PAGE

References

See for example Tolonen et al., "Plant-Derived Biomolecules in Fermented Cabbage", *J. Agric. Food Chem.*, 2002, 50 (23), pp 6798–6803. DOI: 10.1021/jf0109017

Katz, Sandor Ellix (2012), *The Art of Fermentation*, Chelsea Green Publishing, Vermont, USA. ISBN 978-60358-286-5.

Katz, Sandor Ellix (2003), *Wild Fermentation*, Chelsea Green Publishing, Vermont, USA, 2003. ISBN 1-931498-23-7.

Cindy Steensby

Fermented Zucchini or Choko Mustard Relish (from Previous page)

Ingredients (for approximately 8 cups of relish)

1.2 kg zucchini or chokos (or a combination of both)

350 g onion
120 g capsicum
2 tbs thickener such as cornflour (I used chia seeds)
scant 1 cup sugar (more if you want a sweeter relish)
2 tbs and 3 tsp mustard powder
2 tsp turmeric powder
2 tbs salt
½ to 1 cup water (amount of water depends on liquid content of vegetables)

Chop vegetables into small chunks and put in large bowl.

Add in other ingredients and mix everything together.

Tightly pack the vegetable mixture into the fermentation container. Do not completely fill the container. The vegetables need to be completely covered in liquid and the liquid level will rise during fermentation. There should be at least 2½ cm of air space between the top of the liquid and the top of the jar.

Note: If additional water is required (either now or later due to evaporation) then use salt water (3 tsp salt to 1 cup of unchlorinated water) to top up the jar.

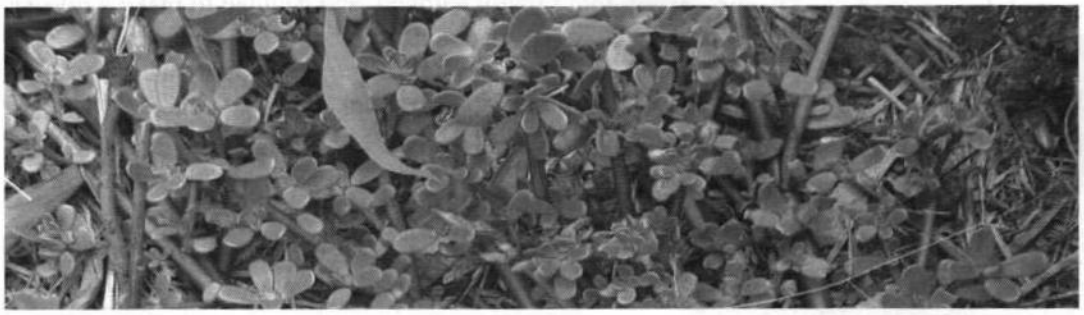
Weigh down vegetables to keep them from floating to the top.

Cover and store at room temperature while it ferments. The method of covering will be different depending on the container used. I am using jars with an airlock attached to the lid and a teatowel covering the jar to keep the light out. Note: if using a jar place it on a plate in case liquid overflows due to expansion.

Ferment for approximately ten days. Fermentation time will vary depending on temperature and also can be varied if a less or more acidic ferment is desired.

Transfer to an airtight container and keep in a cool place. If you're doing only a small amount it can go straight into the fridge.

Cindy Steensby



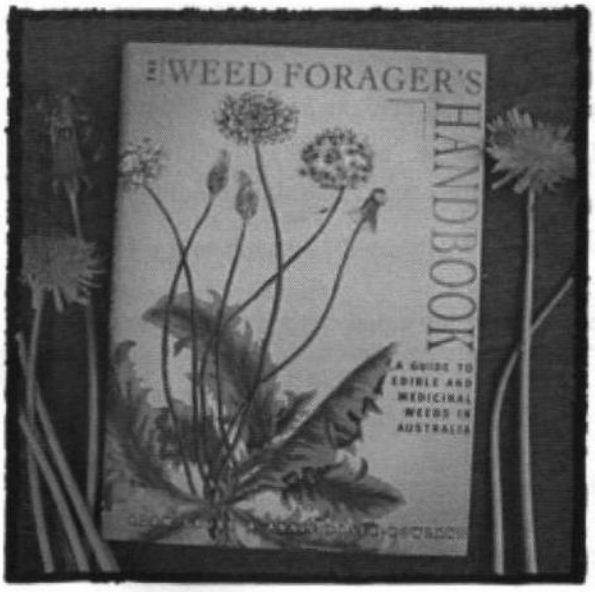
Purslane (Portulaca oleracea)

Purslane can tolerate poor, compacted soils and drought. It is a frost tender annual around here. I eat the tips, leaves and stems in salad-they have a tangy taste, especially if picked in the morning. It is commonly used in Greek Salad –just one of its many culinary uses across the world.

If you pick too much thick stem, then it's better cooked when it softens. Purslane is found across many countries, but it certainly native to Australia too and is found from Victoria to the Kimberleys; it has been an important food source for indigenous Australians –the seeds were ground and made into damper, while the roots were cooked and the stems and leaves eaten fresh. As well early explorers soon realized they could eat it and ward off scurvy –possibly because it is such a widespread plant across the world, it was one they were quick to recognize.

It is highly nutritious, being the highest source of omega-3 fatty acids of any leafy greens ever tested. It is also high in protein, vitamins A, C and E, minerals like calcium and magnesium potassium, and anti-oxidants. However it is also high in nitrates and oxalic acid. It can be used to break up compacted soil with its long taproot and is even good grown with corn- the corn roots apparently follow the purslane roots down.

Jane Vincent



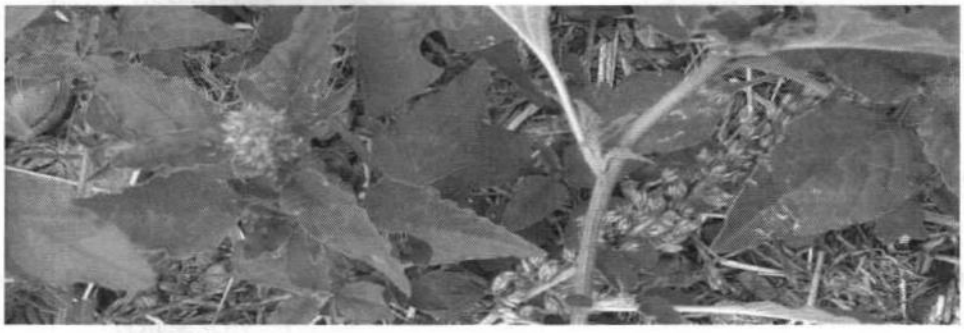
Book Review: Weed Forager's Handbook: A guide to Edible and Medicinal Weeds in Australia, by Adam Grubb and Annie Raser-Rowland

I love this book. I thought I knew a bit about weeds we could eat, like dandelion and purslane, but this has so many more and most of them are found locally! Already my salads are transformed. I go out to weed my garden and come in with handfuls of sheep sorrel, sow thistle, mallow and fat hen. Meanwhile my flowers and veggies have to now compete with these weeds because I don't want to pull them out!

The book starts with a foreword by Costa Georgiadis, host of Gardening Australia. He says, "In other words, if you eat, then this book is a must-have companion." After notes of caution where some poisonous weeds are shown, then twenty edible and medicinal weeds are thoroughly discussed, including their history and culture. The book has beautiful illustrations from archival texts, mostly German. As well there are clear photos and botanical notes making it easy to identify the correct plants. Then several other weeds are covered in somewhat less detail, but with good photos. Finally some delicious weedy recipes are included, with suggestions for disregarding these and trying your own combinations.

This book is a delight to read with some very amusing quips on almost every page. There not many useful botanical books out there that make you laugh out loud. For example, they advise that "Cleavers *(Galium aparine)* has edible seeds, stalks and leaves, and the taste is gentle and pleasant, but with the obvious drawback that the texture is not unlike Velcro"!

There is very handy website, www.eatthatweed.com where you can order the book but also see pictures of the weeds and learn about the great weed walks the authors conduct regularly in Victoria. New useful weeds are continually being added here too. I found this book so inspiring that the COGS Backyard Gardeners' Group is already planning a weeds walk as part of the next backyard garden visit. I think this will be useful as I am finding it takes a while to work out what size leaf is edible -some mallow leaves can get leathery and certainly the bigger thistle leaves are very bitter. But don't be put off –see the COGS library copy, buy the book or check out the website and next time you're weeding, or going for a walk, make sure you supplement your salads or greens and all for free! *Jane Vincent*



Amaranth

The very fresh young leaves have quite a sweet flavour, but they should not be eaten very often, as they are high in nitrates and oxalic acid (as is the case with many of these weeds, as well as cultivated vegies like spinach.) However cooked leaves can be added to salads, soups and stir-fries. It is widely cooked in Greece, as part of 'horta" or greens, steamed or boiled and dressed with lemon juice and olive oil –it's quite delicious eaten this way. In Vietnam it's known as Rau Den and is boiled, then served with various dipping sauces.

Jane Vincent

The Weather Page

Temperature

In terms of temperature the forecast for our Summer just gone proved to be correct! We had our hottest January on record at 42 degrees, and an average temperature of 32 degrees, well above average, and quite different to the last two summers. Cooler days and nights are likely over a large region of the southeast of Australia for autumn 2013.

Rainfall

The SE Australian outlook for Feb 2013 to April 2013 indicates there is a roughly equal chance of a wetter or drier season in our area.

Rainfall figures for the last 3 months:

November 29 mm December 37.4 mm January 67.4 mm

Year total rainfall for 2012 was 699 mm which exceeds our average annual rainfall total of 629mm.

ACT Water storages are currently 91.17% full

http://www.bom.gov.au/act/forecasts/index.shtml

http://www.actew.com.au/Water%20and%20Sewerage%20Systems/ACT%20Water%20Supply%20System/Water%20Storage%20Levels.aspx

Zucchini, Lemon and Linguine, Serves 4.

INGREDIENTS:

- 100ml Extra Virgin Olive Oil
- 1 Lemon, Juice and Zest
- 100g, Parmesan Cheeese freshly grated finely
- 175g dried or 250 g fresh Linguine Pasta
- 10 Small firm Zucchini cut into 1cm cubes
- 3 Garlic cloves
- handful Fresh Basil
- 2 Tbsps Pine Nuts or slivered almonds, toasted
- Sea Salt & Black pepper to taste

METHOD:

1. Mix 2/3 of the olive oil with lemon juice, lemon zest, grated Parmesan, salt and pepper, beat until thick and creamy then set aside.

2. Cook the linguine in plenty of salted water following packet instructions

3. Gently heat 2 Tbs olive oil, add garlic and move it round in the pan quickly, not allowing it to colour at all. Add the zucchini increasing the heat slightly, fry till softened and showing a little tan here and there.

4. When the linguine is ready, drain well and add the lemon and olive oil mixture as well as the zucchini and basil. Scatter abundantly with the pine nuts or almonds and eat at once

From: "Cranks Bible" by Nadine Abensur

Philip Woodhill, O'Connor garden

Pests in the Gardens continued from page 11

Adult wasps emerging from their silk cocoons

Passionvine hopper nymph

Passionvine hopper adult and nymph

Whitefly adults and larvae on a pumpkin vine

Green vegetable bug egg raft on a tomato leaf

Cucurbit pests starting to build up in early February