

Local Seed Network Manual



Snake Bean, photo of courtesy of Jason Ingram.

Produced at The Seed Savers' Network by Jude and Michel Fanton and Amy Glastonbury



Publisher's Note

The Seed Savers' Network is auspiced by The Seed Savers' Foundation Ltd, a charitable institution registered with the ATO. It was founded in 1986 and is active nationally in Australia and internationally promoting conservation of locally adapted non-hybrid seeds of food plants. A solution oriented organisation, it has facilitated the exchange of thousands of traditional varieties and trained hundreds of people in seed saving.

This manual is complementary to The Seed Savers' Handbook by Michel and Jude Fanton.

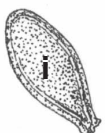
PO Box 975, Byron Bay, NSW 2481, Australia.

T/F: 02 6685 6624. T: 02 6685 7560.

Emails: General enquiries: info@seedsavers.net

Local Seed Network Coordinator: amy@seedsavers.net

Website: www.seedsavers.net with a home page for each Local Seed Network in Australia.





The Seed Savers' Network

Acknowledgements

We are grateful to volunteers Paula Williams, Marian Warren, Bronwyn Sindel and Vanessa John; intern Brian Shillinglaw; and local seed network coordinators Keith and Dianne Davies, Robyn Williamson, Mazza Verdante, Annie Jenkins, Robin Parker, Terry Frewin; Steve Solomon for their contributions and Loretta Faulkner, Seed Banker at The Seed Centre.

We are also grateful for the case studies sent in by Local Seed Networks and look forward to hearing from other groups whose experiences will be recorded in future editions.

The seed illustrations were drawn by Alfredo Bonanno for The Seed Savers' Handbook in 1992. Ai Morikawa conceived the cartoon illustrations and Kaori Yoneta drew them. They were both interns from Japan at Seed Savers in 2003.

A special acknowledgement goes to staff member Amy Glastonbury for pushing this project along and pulling it all together and to pro bono consultant Alan Morden for reworking the lay out.

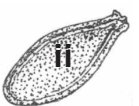




Photo courtesy of Jason Ingram

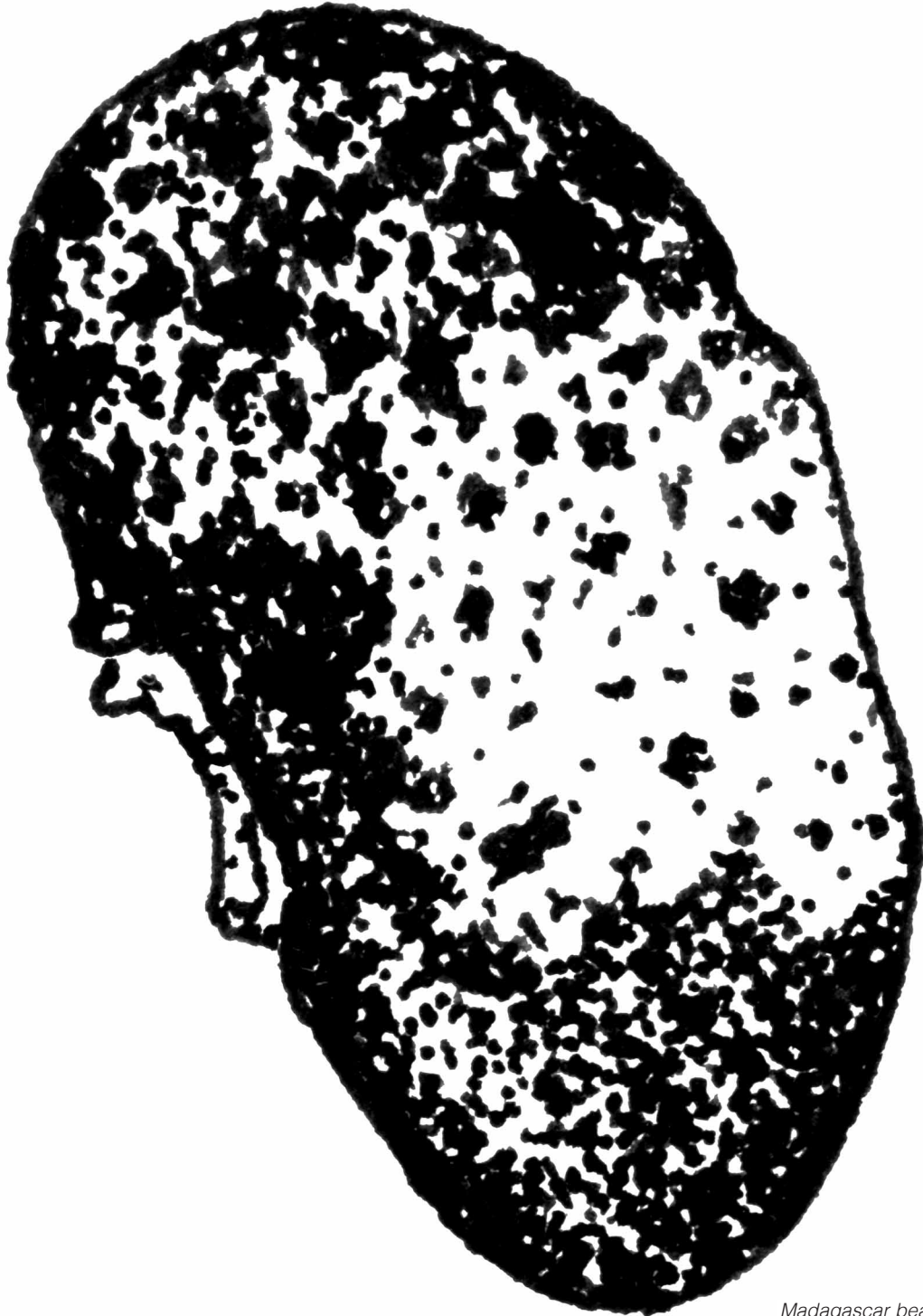


Contents

Introduction	1
1. Reasons for Local Seed Networks	5
2. Forming a Network	11
3. Sourcing Seeds and Other Planting Material	17
4. Keeping Records	23
5. Drying and Cleaning Seeds	35
6. Storing Seeds	43
7. Testing Seeds	51
8. Distributing Seeds	57
9. Sharing Skills	63
10. Promoting Seed Saving	71
Appendix A Contact List of Local Seed Networks (as of December 2003)	
Appendix B Model Flyers	
Appendix C Examples of Seed Saving Articles	
Appendix D Suppliers of Open Pollinated Seed	
Appendix E Table of How Long Seeds Last in Storage	
Appendix F List of Plant Classification Groups	
Appendix G Seed Savers' Viability Test Work Sheet	
Appendix H List of Seedy Speakers	
Appendix I Statistics for Public Speaking	
Appendix J Example of a Local Seed Network Webpage	
Appendix k Diagram of Seed Savers' Activities	

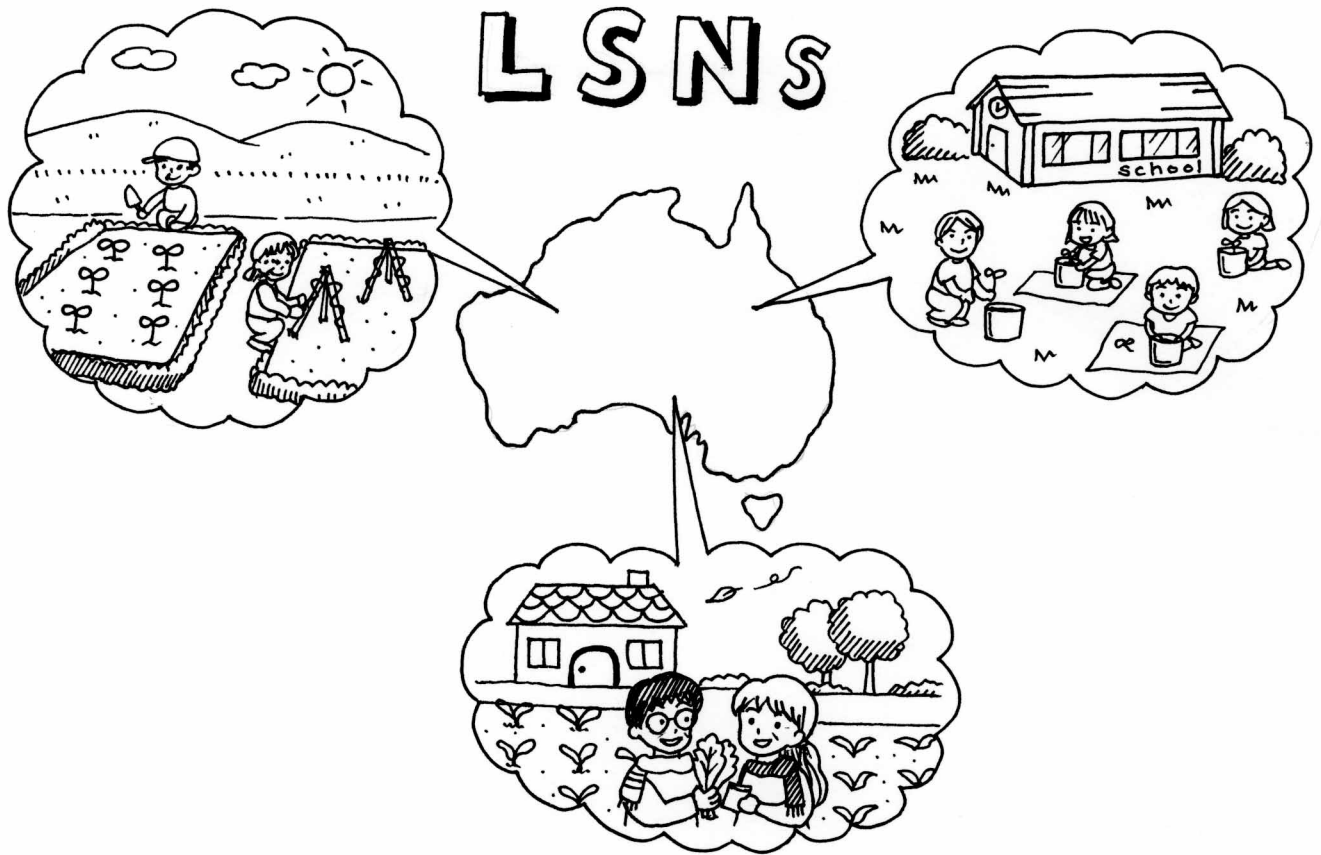


Introduction



Madagascar bean

A local seed network consists of friends and neighbours who come together to exchange their locally adapted seeds and other planting materials.



About Local Seed Networks



The Seed Savers' Network

South Australian Seed Savers gather to swap seeds and other planting materials

Devolving Seed Savers into local seed networks was first discussed at The Seed Savers' Network in the mid 1990s with a full-blown process of helping groups establish commencing in August 2001. Within a year there were thirty such groups and twenty more in the second year. We trust many readers of this manual will feel encouraged to start up their own Local Seed Network.

A local seed network (LSN) is a group of gardeners who save seeds and exchange them with one another. There are many types of LSNs: from groups of friends who meet at each other's houses to community gardens with extensive seed banks.

An LSN can be a part of an already existing organisation, such as a Permaculture group, soil association, Biodynamic group, garden club or school. An LSN might alternatively be just a group of individuals formed specifically for the purpose of swapping seeds and other planting material.

LSNs do not necessarily need to be an incorporated association. They can be just a loose group of people willing to share seeds, plants, grafting material, tips on growing food and seed saving, produce – and certainly a laugh.

Affiliation with The Seed Savers' Network gives an LSN a national profile, public liability insurance, advice and support. As a network of local seed networks we can offer support to each other, gain greater recognition in the wider community and have more power to promote, educate and campaign seed related issues. We can also apply for grants as an umbrella organisation.

How The Seed Savers' Network supports LSNs

Seed Savers can offer support to LSNs by:

- setting up a home page within our website for your group where you can advertise events and publish your seed list (if you wish others to have access to your seed stocks),
- including your activities in The Seed Savers' Network bi-annual newsletters,
- providing advice on all aspects of running a seed network,
- giving workshops or talks in your local area on seed production, banking, networking, etc.,
- providing short courses or longer term internships for local seed network coordinators at The Seed Centre in Byron Bay,
- providing back-up storage facilities at The Seed Centre for particularly vulnerable varieties,
- supplying seed cleaning and storage equipment or information on where to find them at a reasonable price,
- redirecting media inquiries to your network.



About This Manual

This manual has been compiled by the staff of The Seed Savers' Network during its second year of aiding the formation of local seed networks. It is for people (such as gardeners, farmers, collectors and teachers) interested in either creating or joining a local seed network. It is also for members of existing LSNs to gain further ideas on running their network.

It explains how to successfully initiate or work in an LSN, with information on seed sourcing, storing, drying, cleaning, testing and distribution. Chapters on keeping records, sharing skills and promoting seed saving are also included. We have assumed that you have some experience on how to produce seeds.

If you need technical information on seed saving, please refer to The Seed Savers' Handbook,

available from The Seed Savers' Network see page i for details.

The manual is designed in modules that can be photocopied. It can be used to focus action and as a guide for discussions with friends who are keen to act, either at meetings or sharing a pot of tea.

This manual is based on the experience of those already coordinating local seed networks as well as our own with The Seed Savers' Network. It is not a static document; it will be updated and republished regularly. We urge you to write to us with your own experiences of running an LSN. Your contributions and corrections will be duly acknowledged in the next edition. We wholeheartedly thank the LSN Coordinators whose contributions you will see in this manual.



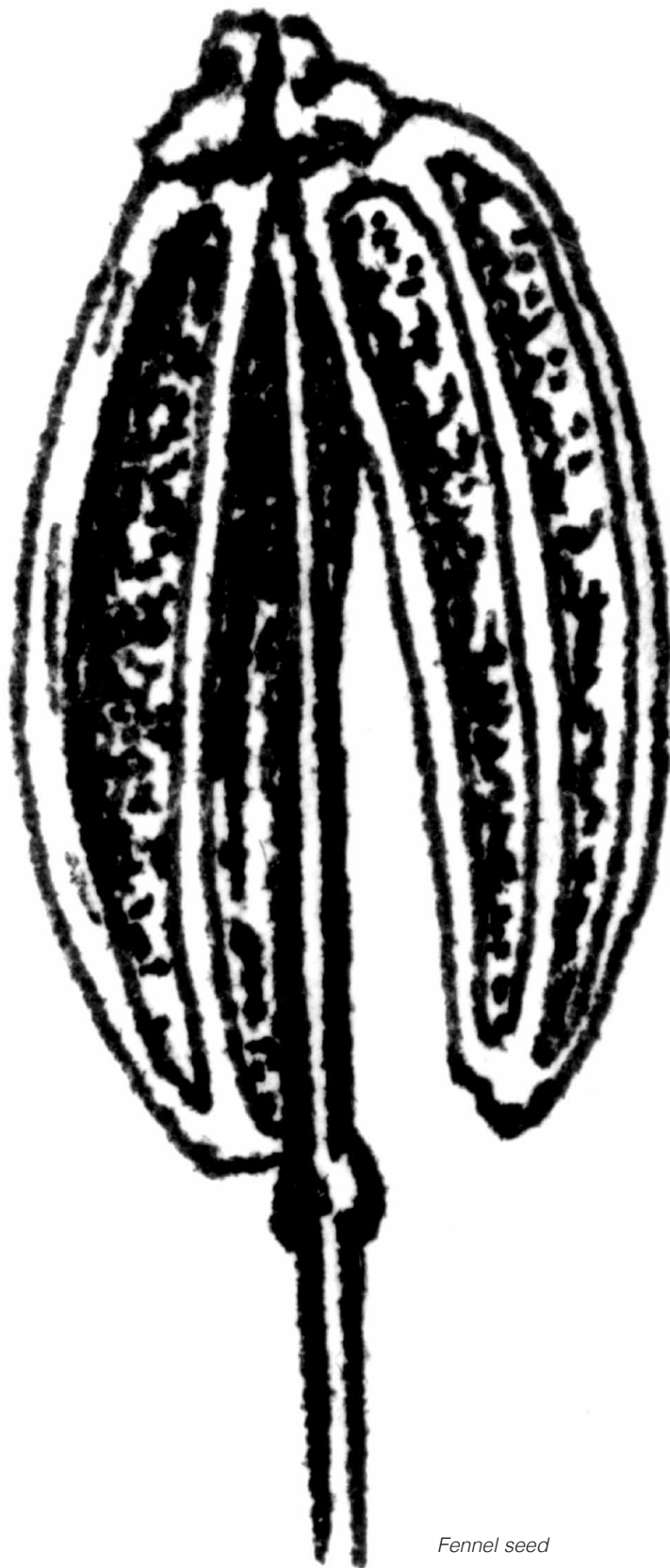
Photo courtesy of David Cavagnaro

Local seed networks are networks of local gardeners who swap seeds and planting material. This manual has been put together by The Seed Savers' Network to help others establish and run a local seed network.

Knowing what an LSN is, you may want to begin **Forming A Network (2)**, or join a nearby network to be involved in **Sharing Skills (9)** and **Promoting Seed Saving (10) ...**



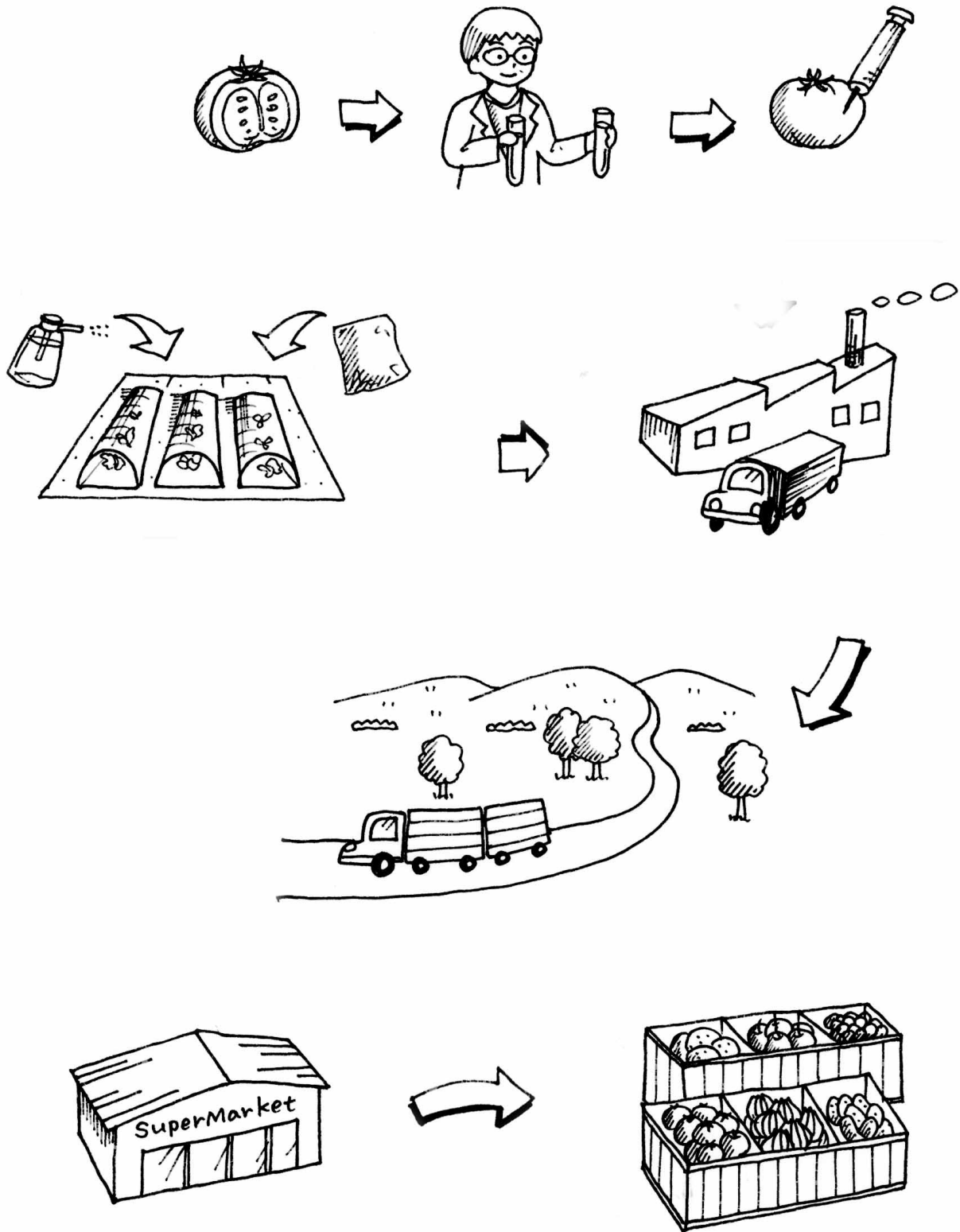
1. Reasons for Local Seed Networks



Fennel seed

Seeds sourced and swapped locally are adapted to local conditions. Only a network that is locally based can fulfill the function of preserving these varieties.

The Story of a Modern Tomato



Conserving Food Plant Diversity

LSNs serve the vital function of conserving biodiversity at the local level. The number of varieties of food crops is disappearing at an alarming rate. Worldwide the genepool of traditional food varieties shrinks at the rate of 2.5% per year and in the last century 75% of garden varieties have disappeared (FAO State of the World Report 2000).

This is a tragic loss of a huge diversity of food crops. On a global scale, it is dangerous to reduce the diversity of our food base in changing uncertain times. It will be harder to find pest and diseases resistant varieties and varieties adaptable to our changing climatic conditions. For the home gardener fewer varieties mean less choice and dependence on seed companies for their seed supplies.

This loss of diversity is due to less people growing food and saving seeds and fewer seed companies controlling more of the market. Five vegetable seed companies control 40% of the global vegetable seed market. Seminis, which acquired 20% of Yates in 1997, is the world's largest, selling in 120 countries. So rather than

millions of farmers and gardens across the world producing billions of locally adapted seed varieties, we have a handful of seed companies selling a handful of uniform varieties.

These multinational seed corporations develop, breed and market chemically dependent hybrids and, more recently, genetically manipulated seeds. For those who want to garden without pesticides and want nutritious, tastier varieties, it is often difficult to source seed of crops that proven in the local climate. Seed corporations contract the production of their 'one-size-fits-all' seeds in countries where labour is cheap.



HYBRID TOMATO

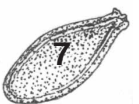
IZUMI

Indeterminate LSL.

Weighs about 70 gram.

Firm and good for long shipping.

Top Left: Seeds and chemicals sold in the one shop. Left: High input soulless monocultures assault the Earth. Above: Hard and tasteless hybrid tomatoes.



BIOTECH Family Tree 2003

Researched by
Corporate Watch

Download or order
more copies of this
poster from our
website:

www.corporatewatch.org.uk

Painted by Sneek
Graphics by Stig

2003

Advanta

Syngenta

Bayer
CropScience

Monsanto (3)

DuPont

2002

2001

2000

AstraZeneca

AstraZeneca

Novartis

Aventis

Aventis
CropScience

Pharmacia
with remaining
stake in Monsanto

Monsanto (2)

Pharmacia

Pharmacia
with remaining
stake in Bristol
Myers Squibb

1999

1998

Advanta

Novartis

AgriEvo

PBI
(Cambridge)

Pioneer
Hi-Bred

1997

1996

1995

Zeneca

Plant Genetic
Systems

Tuber
a take-over
or acquisition

1994

ICI

New farm Crops

KWS

Red vein
pharmaceuticals
activity

1993

Blue vein
chemicals or
polymers activity

1992

Cosun

Astra

Ciba-Geigy

Bayer

Hoechst

Monsanto (4)

1991

ICI

Sandoz

Schering

Rhone-Poulenc

DuPont

1990

Established:

1899

1926

1913

1898

1859/1755
(Merged in 1970)

1863

1851

1863

1895

1901

1802

See reverse for
a brief guide to
biotechnology
corporations,
their contact
details and a
list of further
resources and
campaign groups.

Key

Root
corporation as
named on the
white labels

Nodule

refers to a
spin-off,
sell-off
or marks a
corporation's
withdrawal
from GM
crops

Tuber
a take-over
or acquisition

Red vein
pharmaceuticals
activity

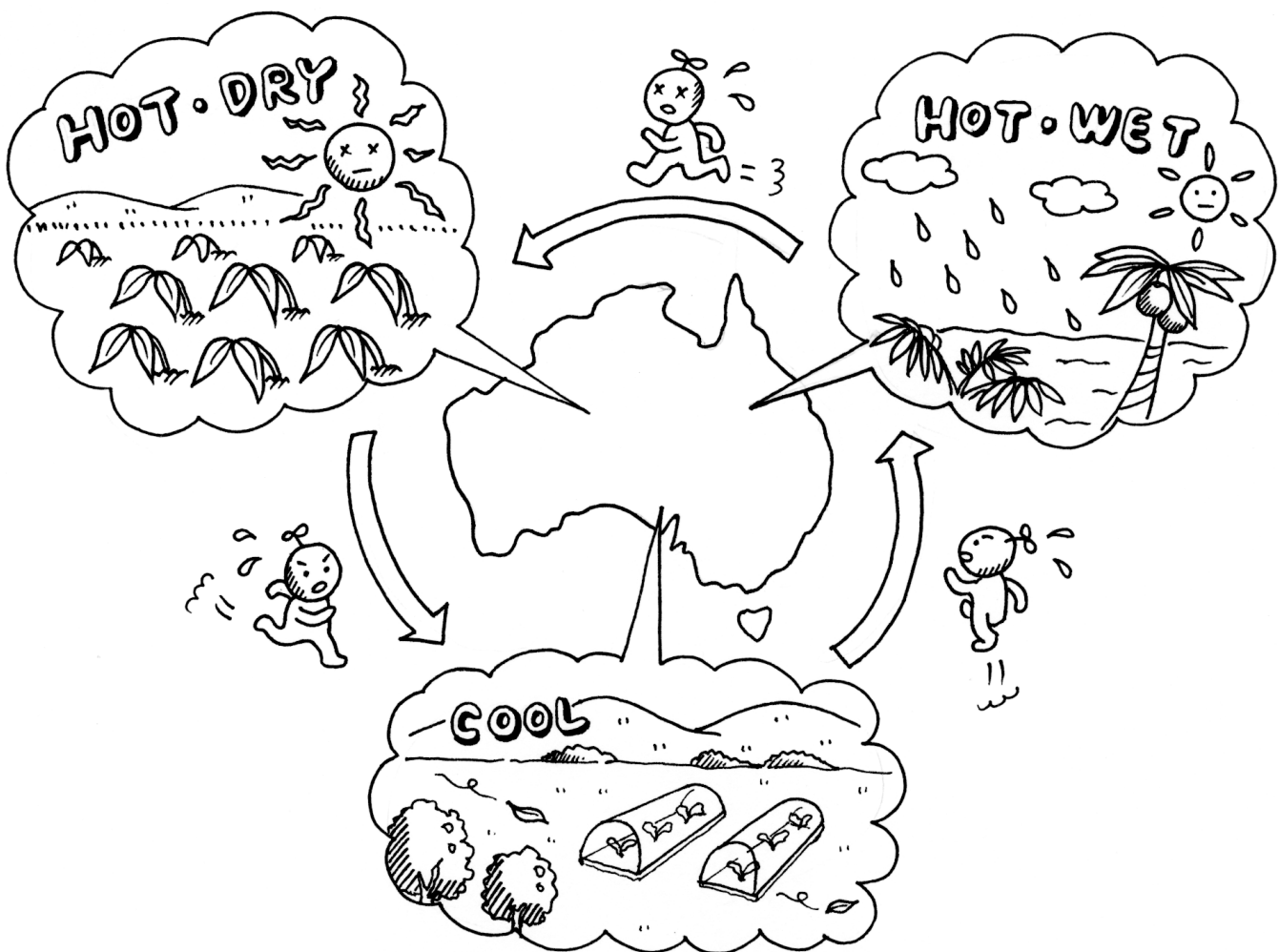
Blue vein
chemicals or
polymers activity

Seed Adaptation

On a local scale, as the best plants are continually selected, future generations eventually become resistant to fungal and insect problems in your areas. An example of this comes from Clive Cowlard from a Local Seed Network, Hunter Organic Growers Seed Savers. In their quarterly magazine (a special issue on biodiversity), Clive tells the story of his broad beans which he obtained in 1995 from some other seed savers and planted out initially in May 1996:

The germination was good and the growth very good until they started to experience our late winter- early spring humidity, with the resulting rust and fungal attack. I noticed that some

plants did not seem to be affected as badly as others, so I only removed and burnt those that were badly hit. In late October and November, seed from the few survivors (about 10 out of the original 50) was picked. These seeds were planted out in the 1997 season at the same time, early results were similar, but when the humidity struck it was a different story. Seventy of the original 100 plants survived to be picked to eat and next season's seed. In 1998 it was 90 out of 100 and in 1999 it was 98 out of every 100 that survived.



Seeds that are exchanged between vastly different climates are stressed to adapt to each move.

◀ Biotech Family Tree By Corporate Watch

The family tree shows how a handful of old European and US chemical and pharmaceutical companies invested heavily in seed companies throughout the 1990s and have become today's Gene Giants. They seek to change the way our food is produced forever. It is important to connect today's shiny new innovators, with their talk about sustainable development and feeding the world, to the parent companies that for years have manufactured hazardous chemicals, and even helped to develop weapons of mass destruction. The family tree is deliberately selective and UK focused. It shows the evolution of the four companies, Monsanto, Bayer CropScience, Dupont and Syngenta, from which companies they were formed and those companies with an involvement in GM crops in the UK that they have acquired and merged with. www.corporatewatch.org.uk

Plant Breeders' Rights

A further threat to biodiversity is the patenting of plants through the Plant Breeders' Rights Act. A Plant Breeders' Rights certification is the Australian equivalent of a patent on a plant. It remains to be legally tested whether this legislation could be used to stop seed saving effectively, but PBRs are taken out on sexually reproducing crops such as wheat and oats, and many farmers are already enticed into the cycle of repeatedly buying seeds instead of selecting and building their own stock.

In a survey of Seed Savers' complete set of The Plant Varieties Journal published since 1987, the overwhelming majority of PBRs have been applied to ornamental plants, with roses the clear leader for number of varieties approved. However, one variety of a broad acre crop such as wheat could be planted on many thousands of acres across Australia, so the

smaller number of new varieties of food crops does not by any means have to indicate a smaller profit generating potential for PBRs on such plants. The crops for which the most new varieties have been 'patented' over the last ten years are wheat, potatoes, sugar cane, cotton, oats and stone fruit trees. A relatively small number of vegetable varieties have appeared. Another group of plants that are planted over large areas are varieties of African grasses for grazing animals, a significant number of these have been approved.

Also, there have been a number of PBRs applied to native species, such as lillipilli, finger lime and macadamia. It is possible to achieve such PBRs by simply selecting from open pollinated seedlings and propagating them by cuttings.

By volunteer Joel Dunn, The Seed Savers' Network Newsletter 32, Autumn 2002.

On a More Positive Note...

Local Seed Networks are an ideal way to stop the erosion of our food crop diversity. Not only this, local seed networks can actually increase genetic diversity by adapting varieties to local conditions and hence over time creating new varieties of plants.

LSNs also enhance people's personal lives and community life. They enable access to healthy, fresh local seed, new skills and knowledge and other friendly gardeners. They help to build community, encourage local self-reliance and raise awareness of eating fresh garden produce and the full cycle of gardening from seed to seed.

Much positive work has already been done in conserving the precious diversity of our vegetable varieties through national seed networks like The Seed Savers' Network. However seed that is swapped from one end of Australia to the other takes time to adapt to local conditions.

It is for this reason that Seed Savers started this process of devolution formally in 2001. Within two years there were over fifty LSNs (see Appendix A - Contact List of Local Seed Networks). Some of these are featured in this manual.

The benefits of local seed networks include:

- Varieties that have been grown for a long time in your region can be more easily located.
- Plant varieties adapt to local conditions over



Sharing food amongst friends is what LSNs are about, note seeds drying in paper bags in the background.

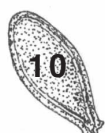
The Seed Savers' Network

time. Seeds that have been growing in one area for a long time perform better than new arrivals.

- Local groups of seed savers make a diversity of varieties more readily available to each gardener in the group.
- Skills are exchanged – information can flow in a faster and less hierarchical fashion. The knowledge associated with a seed – its cultivation and the plant's use – is therefore maintained more securely.
- Documentation of an existing local heirloom or indigenous variety will be vital in the future to present a legal challenge to a patent on a known variety.

LSNs perform the vital role of identifying, conserving and further developing varieties that are well adapted to local conditions. They facilitate access to these varieties, making it easier for gardeners to produce food at home without pesticide or expensive inputs.

Once people are aware of the advantages of local seed networks they will want some guidance on **Forming a Network (2)** and **Sourcing Seeds and other Planting Material (3)**. Highlighting the reasons for local seed networks is also a way of **Promoting Seed Saving (10)**.

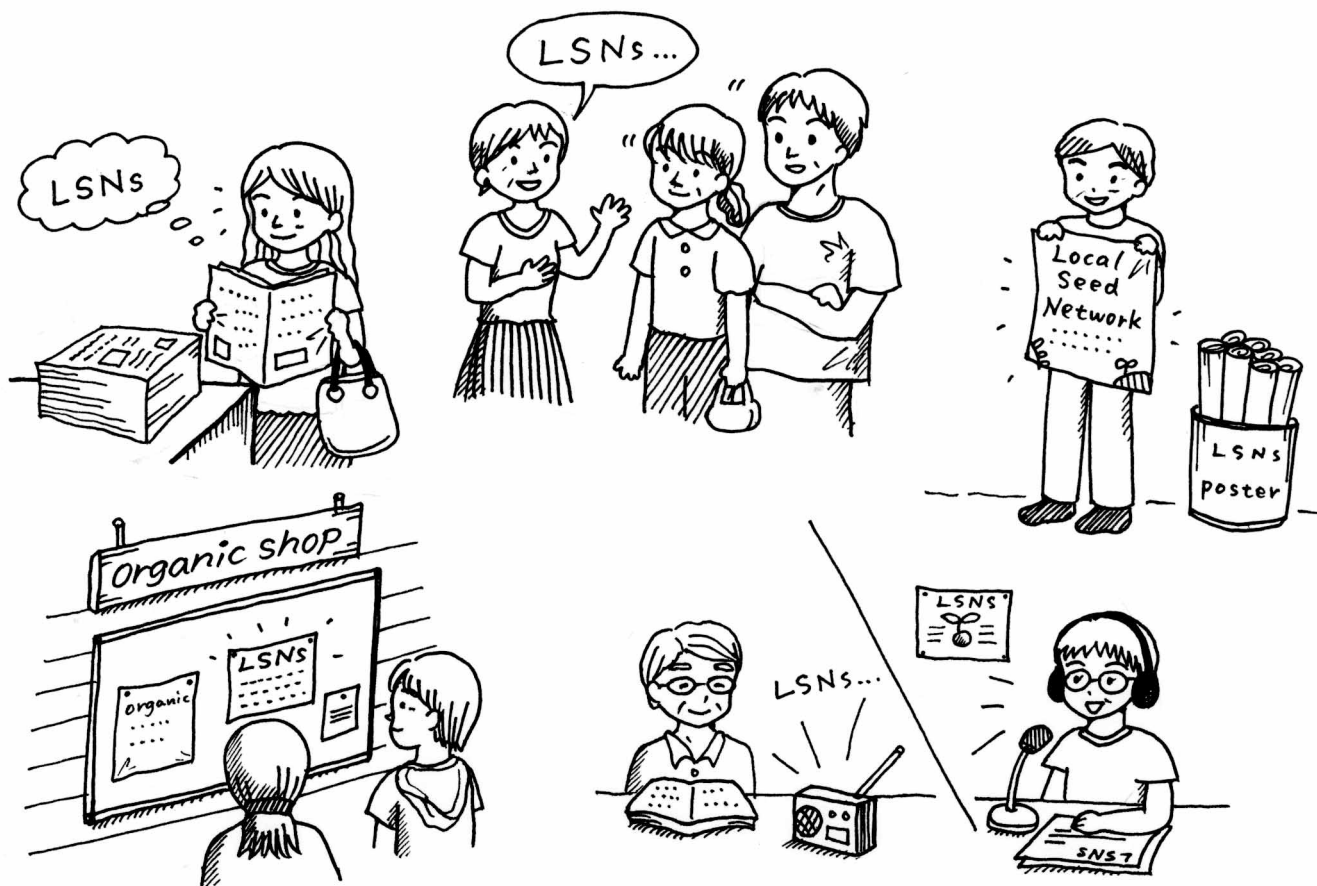


2. Forming a Network



African gourd seed

A network is a group of people who share ideas, information and skills, and in this case seeds and planting materials, among themselves. Finding suitable people and building relationships with them is the basis of a strong network.



Putting up flyers, speaking on the radio and writing articles for local newspapers are some of the different methods available when looking for other local gardeners to begin a Local Seed Network (LSN).

Formation of South Australian Seed Savers

Dear Jude,

I have started up a small group of seed savers in Adelaide. Apparently you have some resources that you could make available to us. Any input that you have to offer would be gratefully received as none of us are experienced seed savers but we have to start somewhere!

The Permaculture Association is having a Permafest on 13th-15th May and our group is currently planning to put on a display there to try and attract new members. We have food pictures from calendars (from American Seed Savers) to pin up and we thought displays of heritage produce - coloured corn, pumpkins etc, heritage varieties growing in pots, displays of

seeds and copies of newspaper and magazine articles about our loss of biodiversity would also be good. We want to make our display at Permafest as eye-catching as possible.

Our first meeting was held at my home and I showed the four other people present the heritage varieties I am growing and am saving seed of. We harvested and saved seed of some of these and took cuttings. We discussed our aims of exchanging heritage open pollinated seed, encouraging others to grow and save seeds and as our confidence grows to move towards establishing and maintaining a regional seed bank and preparing for a Seed Savers gathering here in 2002.

Regards, Helen Weston

Finding Members

Forming a network requires enthusiasm, creativity and dedication. Being a keen gardener or feeling passionate about conserving bio-diversity provides the energy needed to kick-start the network. Creative ideas, no matter what their source or how odd they may seem, open avenues of opportunity and highlight possible directions for the network. Dedication and perseverance give the drive to overcome any obstacles and difficulties and to become an enduring organisation.

In forming an LSN many methods are available to you, depending upon where and who you are and what resources you can find. Some strategies are:

- Put an advertisement or community notice in the local paper.
- Pin flyers up on notice boards around town, at local nurseries, organic grocers, community centres, etc. See Appendix B for flyers inviting people to join your LSN. Your LSNs contact details can be added before photocopying.
- Contact local gardening and agricultural groups and friends or relatives in the area to ask if they would be interested in being involved in a local seed saving network.
- Speak on the radio or at local events. Empower your audience to do something positive about seed-related problems by joining the LSN.

- Write an article for a local newspaper or magazine discussing seed-related issues – biodiversity loss, food processing, organic gardening, and biotechnology – with your name and contact information at the end. In your article encourage concerned people to join the LSN. Appendix C includes two articles written at Seed Savers for LSNs to utilise.
- Set up a stall at one of your local markets or attach yourself to another stall with a banner, poster and pamphlets about the LSN. Remember to bring a clipboard and sheets of paper where potential members can write their contact details.



Pauline Bennett (left) manning a North Western Sydney Community Seed Savers stall at Liverpool City Council's Bloomin' Garden & Environment Expo.



Annie Jenkins (centre) and Jane Many Leaves Lawrance (right) from Seed Savers Up North publicising their first meeting on ABC local radio.

LSNs - A Variety Of Forms

Most of the Local Seed Networks registered with Seed Savers were initiated by keen, individual seed savers. Of the 52 registered with us at the time of publication, more than half formed in this way. For instance, Annie Jenkins (pictured on previous page) was the instigator of Seed Savers Up North.

In May 2003 Annie organised, with the help of other seed saving friends, the first gathering of 'Seed Savers' Up North'. At the first meeting Jane (Many Leaves) Lawrance (also pictured on previous page) gave a talk on seed saving. Seeds were swapped and people were invited to join the network - see adjacent flyer. The response was very good.

Eight of the fifty-two LSNs currently listed with Seed Savers are affiliated with community gardens, eight are associated with permaculture groups, six with organic grower groups and three LSNs have formed in association with Garden Clubs. The rest are associated with other types of organisations or are unaffiliated groups. For the full list see Appendix A.

Richmond East Timorese Seed Savers was formed in December 1999 and is located on a public housing estate. It was initiated to provide tenants with outdoor space for growing herbs and vegetables. About eighty gardeners are actively involved who are predominantly East Timorese and grow crops traditionally grown in East Timor. Surplus seed is sent to the Conoshin Convent who run an orphanage on the outskirts of Baucau, East Timor. (See page 62 for a description of their portable seed bank).



Some of the South West Local Seed Savers, Kirkstall Victoria

LEARN HOW TO SAVE YOUR SEEDS

The Seed Savers' Network is a non-profit group of like-minded individuals who are passionate about saving our plant heritage, and growing those fantastic fruit and vegetables that have been passed down through families and friends.

Every seed has a story – come and share yours.

As a member of Seed Savers Up North you can learn about the preservation, distribution and exchange of open-pollinated seeds in your local area, and share in the experiences of others.

Membership benefits

- ⊙ Field days with guest speaker
- ⊙ Social seed swap & information gatherings
- ⊙ Newsletters
- ⊙ Access to non-hybrid local seeds & plants
- ⊙ Meeting like minded individuals

For more information contact

<p><i>Tablelands area</i> Annie Jenkins</p> <p>☎ 07 4096 6595</p>	<p><i>Cairns area</i> Jane 'Many Leaves' Lawrance</p> <p>☎ 0413 800 022</p>
---	---

PO Box 710 Malanda Qld 4885
seedsavers@hotmail.com
www.seedsavers.net

MEMBERSHIP FORM

Yes I want to be involved in Seed Savers' Up North

≤ Please register me for one years' membership
\$15 per year 1/7/03 – 30/6/04
(\$10 concession & Seed Savers' Network members)

≤ Please send me more information

Name (s).....

Address

.....

Phone

Fax

Email

Next Step
Please post this form to:

Seed Savers' Up North
PO Box 710 Malanda Qld 4885

part of
The Seed Savers' Network

seedsavers@hotmail.com
www.seedsavers.net

Some Things To Consider

What are you going to be called?

Including the name 'Seed Savers' in your title will help to link you with us here at The Seed Savers' Network and the other LSNs around the country. This will help your group to be recognised and will make promotion easier.

How regularly will you meet and where will you meet?

Some LSNs meet once a month (say the first Tuesday) at a different person's place each time. Seeing each others' gardens is a great way to gain new ideas for your own. Others meet only once a season. Some have an executive that meets regularly with just one big event a year. It is up to you.

Is your network targetted at a specific group or people or are you open to all?

Some LSNs are very target-specific like Richmond East Timorese Seed Savers who work predominantly with migrants from East Timor. You may want to focus on encouraging school children to save seeds or run courses and activity days for unemployed, or older people.

Will your LSN rely too heavily on one person?

Try to share the load and designate tasks. Although you will want to avoid becoming too bureaucratic, some procedures and policies on paper ensure that other people can run the network in the absence of the regulars.

How will you structure your LSN?

No formal structure is required. Having some designated positions may help to divide the tasks and avoid the problem of one person doing the lot. Another idea for dividing tasks is having one individual looking after one species or variety. In Richmond Seed Savers one Greek woman is the chicory and endive queen and supplies all necessary seed to the other gardeners of the community gardens. She also sows enough seedlings in Styrofoam boxes to give away to the others.

How will you welcome new members?

Be sure to include their contact details on your members' list so they will be always invited to upcoming events. Have a sheet of information that explains how your group works for new members and welcome them at the next gathering. Another more formal induction mechanism includes an orientation day. All new volunteers at Northey Street receive a 15 page Volunteer Orientation Manual and undertake a half-day orientation day.

My Kind of Bank by Jim Baillie

How it started: Our first seedbank originated in February 1992. It was the result of the idea that between a number of gardening friends we had collected enough seeds to keep us all supplied with a varied selection of vegetables.

Our seed was deposited into a suitable storage container and travelled the district staying at different places and generally being well used. Seed was withdrawn and more added. As the number of members grew, the need for a permanent home became obvious.

We approached the Kenilworth Library which was happy to house the seedbank. The whole district was now able to gain access to it. Articles about the seedbank appeared in our local paper and more members joined up, along with considerable curious interest from other local people.

How it works: The seedbank consists of a lidded vermin-proof box divided into four sections, each section being for vegetables, flowers, trees and herbs.

A transaction book records the details and rules of the seedbank, members, their credits and transactions.

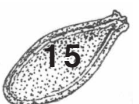
Membership is free and easy. The seedbank provides members with small plastic deposit bags for sealing seeds. Each member who has collected seed from their garden makes them up into packets. The quantity of seed required for a packet is left to the discretion of the depositor. We suggest that the quantity is at least what you could expect to find in a bought packet of seeds. Each packet is then labelled as to its type, variety, date of harvest and any growing information and then placed inside standard mailing envelopes which are deposited into one of the four appropriate sections, and recorded as a credit in the transaction book under the member's name.

The seedbank works on the barter principle. One unit is a packet of seed and as many units that you put in, the amount of units you can take out. Thus the member can make a withdrawal of packets from the selection up to the number of credits they have recorded. Alternatively they can accumulate credits and use them later.

We have about 25-30 different vegetables, with, in some cases, several varieties of each type. Each section has many common garden plants, together with the interesting and unusual. The bank is used regularly which should ensure a good turnover of seed.

As self-appointed curator of the seedbank, I have been able to deposit a number of donated packets, building a reserve which allows me, from time to time, to clean out any old outdated packets, or improperly labelled unviable seed. Maintenance of the seedbank is very easy and once set up, members pretty well help themselves. I check it at least once a month, and it is of little bother or concern to the staff at the library.

The Seed Savers' Network Newsletter, No 16, Autumn 1994



What are your aims and objectives?

It is useful for the group to have an agreed purpose. You might like to copy some of the aims of Seed Savers' Network or Mudgee District Seed Savers.

The Seed Savers' Network Aims

The Seed Savers' Network is the public organ of The Seed Savers' Foundation Ltd, which has these charitable and educational purposes in its constitution:

- To preserve the biodiversity of traditional, cultivated, non-hybrid useful plant varieties through community involvement both in Australia and elsewhere in the world.
- To monitor, conserve, maintain and expand the genetic diversity of domesticated plant species and their wild relatives in their habitats.
- To promote the ecologically sustainable use and production of quality seeds in biodiverse, indigenous and natural farming and gardening systems.
- To raise public awareness of the importance of plant diversity.

Mudgee District Seed Savers Mission Statement

- To collect and caretake the rich heritage of the traditional local garden and farm crop varieties. Many of these precious plants are being lost for a host of reasons mainly involving the marketing strategies of big business.
- To conserve genetic diversity and establish crop networks of non-hybrid edible and medicinal plants.
- To regenerate what already exists in this area as well as building up locally adapted varieties through the network.
- To draw together people who collect seeds and may have for generations, as well as beginner growers wanting to join our enthusiasm to eventually put delicious food from our own sources on the table.
- To share the growing experience, exchange knowledge and join in with the existing Seed Savers and other networks actively involved in safekeeping plant varieties for our future.

What kind of activities will you undertake?

Here are some examples:

- Sourcing, documenting, multiplying and promoting local varieties of food plants and other useful plants that may be endangered.
- Establishing a seed collection/small seed bank for distribution to members.
- Organising field days and garden tours so knowledge, skills and materials for seed production can be shared.
- Demonstrating best seed harvesting, cleaning, drying and storing practices at markets, fairs, schools, etc.
- Promoting the vital importance of seed saving and local garden diversity in the local media,
- Initiating seed saving activities in schools.
- Sponsoring seed projects in less industrialised countries.
- Producing a newsletter to circulate amongst your members and the wider community.
- Organising cooking days where members can share their culinary knowledge and skills.
- Giving talks, demonstrations and workshops on plant utilisation.

What will your expenses be and how will you cover them?

Some expenses you may incur include: buying books for library or equipment such as sieves, winnowing baskets, stakes, labels, plastic buckets; developing photos for education/documentation purposes; and administration costs.

Income generation could include: making a profit from selling The Seed Savers' Handbook and other books, T-shirts and seed packets; membership fees; donations and fundraising.

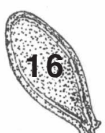
Is a computer necessary?

No, paper records and correspondence are quite adequate. Spending time in the garden, saving seeds and meeting with people to swap seeds are the essential. Seed Savers can manage your webpage for you if you would like one.

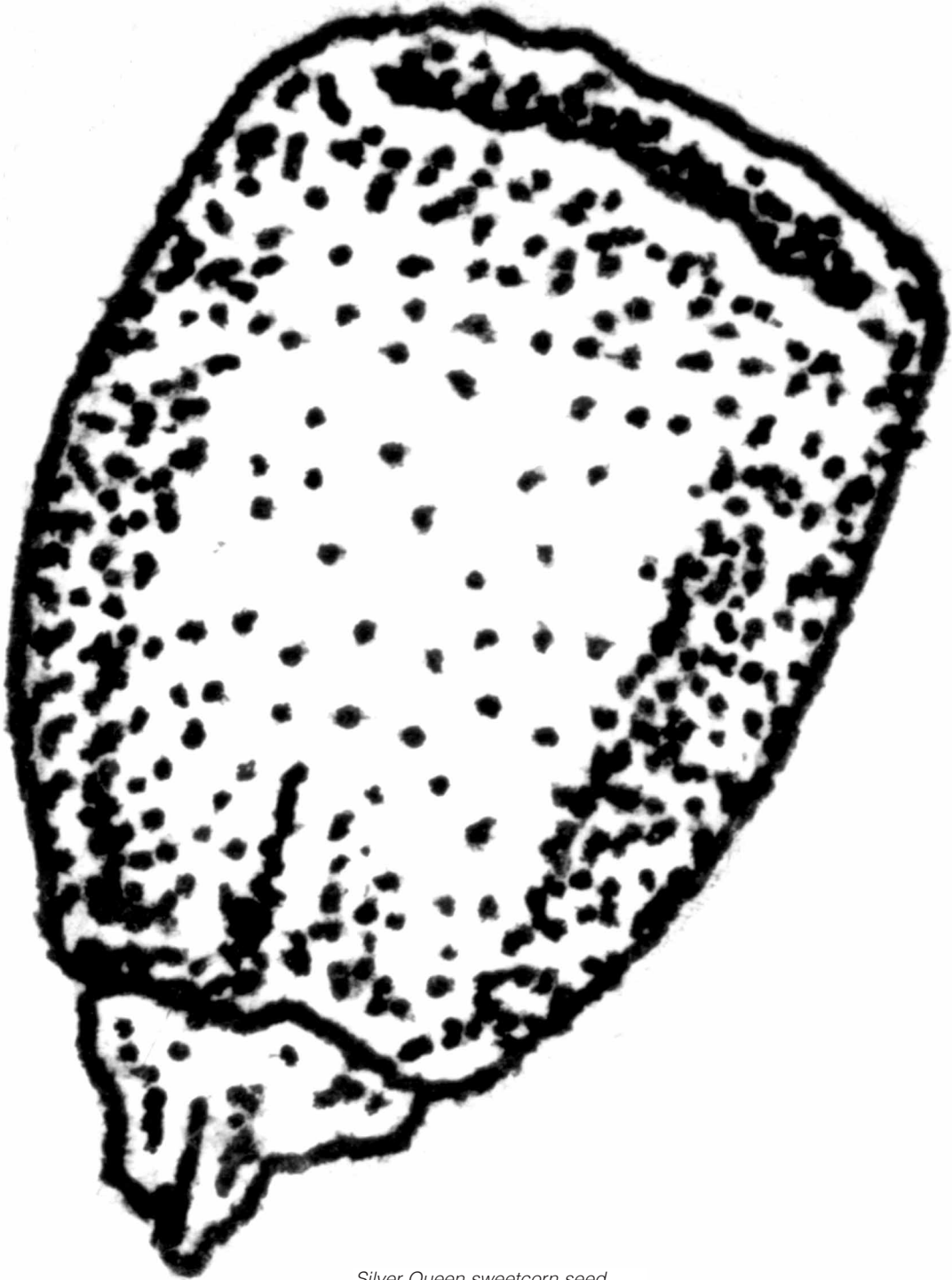
A local seed network requires a common purpose and a functional organisational structure.

Members for your network can be found by advertising locally, raising awareness about issues surrounding seed saving and by contacting local gardening and agricultural groups.

Many Reasons for Local Seed Networks (1) can motivate like-minded people to join or form a LSN. **Promoting Seed Saving (10)** can also inspire people to join up. Once formed, a LSN will have to consider how to go about **Sourcing Seeds and Other Planting Material (3)**.

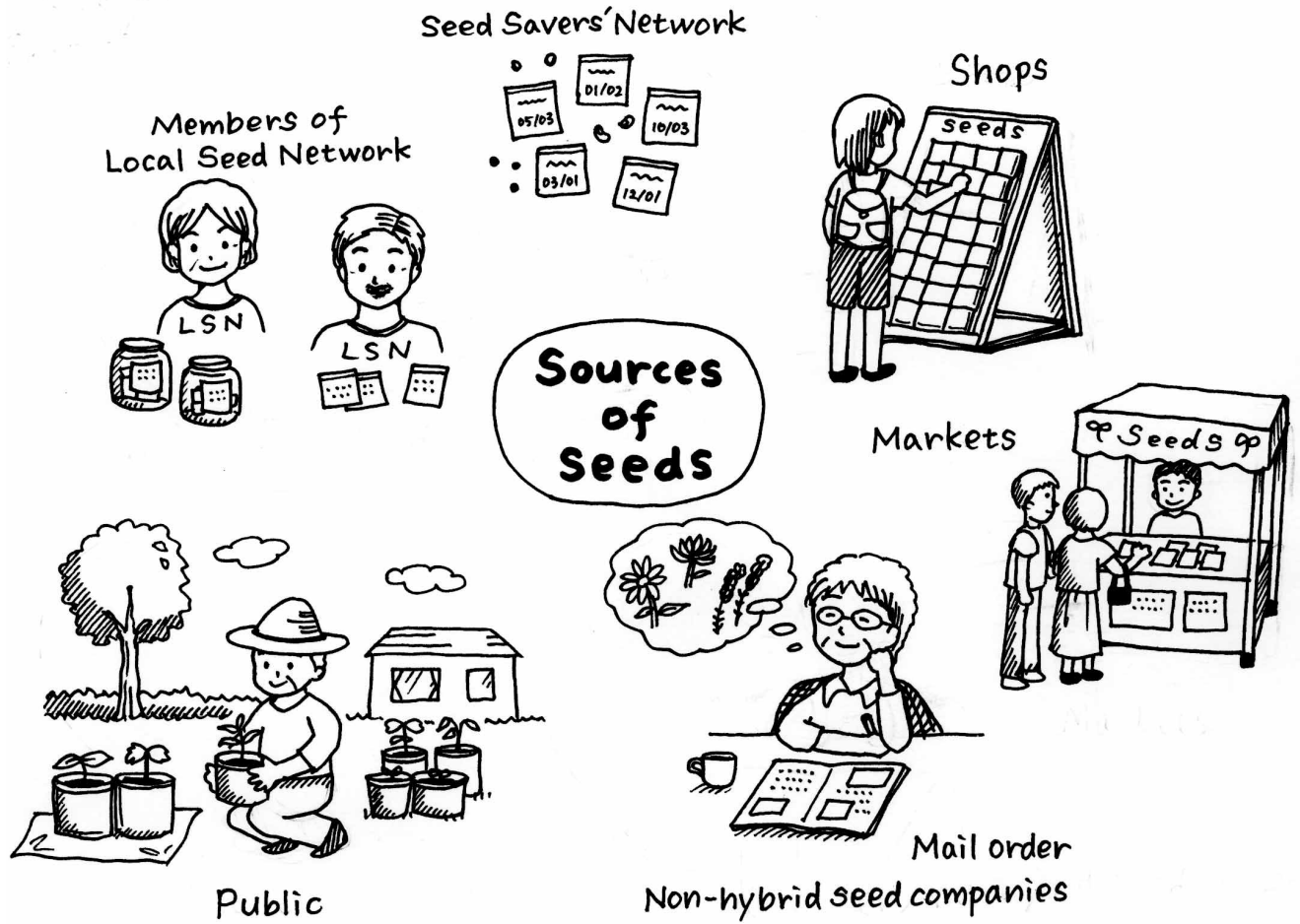


3. Sourcing Seeds and Other Planting Material



Silver Queen sweetcorn seed

Local seeds are a precious resource and LSNs are perfectly located for finding them. Talking to experienced gardeners turns up some beauties and you end up with a lot of gardening tips!



What Seeds?

The different types of open-pollinated varieties that LSNs could seek out include:

Local Varieties These are the varieties that have been grown in the one region for as long as the locals can remember. Often it is very difficult to find out who first brought them into an area. Interview old farmers to find local sources.

Heirloom These are seeds that are handed down in one family.

Varieties no longer available commercially These are varieties that have been dropped by seed companies but are maintained by home gardeners. Watch your favourite seed catalogues for trends in what is offered each year. You can write to them if your favourite varieties are dropped asking for some of the last packets.

Varieties that have arrived in Australia with more recent migrants These form part of an immigrant cultural and culinary heritage. Speaking their language, being a second or third generation member or taking an interest in their customs makes it easier to make contact.

Historical seeds These are seeds with some historical significance. These varieties should be preserved, along with other crops once grown locally, as a public resource and as an educational tool. An example here would be a crop that was grown when the area was first farmed.



Photo courtesy of Richmond East Timorese Seed Savers

Joanna from Richmond East Timorese Seed Savers with her favourite corn.

What Sources?

There are many places to look for seed as outlined below. Remember to keep a record of any stories attached to sourced seeds. This will make the whole process more interesting.

From the public Look out for gardens that look different, like those with fruit trees and vegetable gardens out the front or at the back of the house. They could be collectors or aficionados. A reliable source of locally adapted seed is older growers as they have often put in the time to grow things for several years, selecting the best each year. When you do any promotion of your group's activities, or of seed saving, try to speak their language. Do not refuse flower seeds as firstly they are worth collecting, and secondly they are more the accepted "currency" and may lead onto edible plants.

From local markets Talk to farmers at produce markets and leave a contact number, card or brochure about your LSN.

From non-corporate non-hybrid seed companies Ask any seed company you decide to support where they source their seeds. We have found that many small seed companies, while they produce some of their seeds, still source some from overseas and the corporate sector. See Appendix D for a list of open-pollinated seed suppliers in Australia.

From roadside stalls Roadside stalls indicate what diversity is in the district. Talk to the farmer or gardener who owns the stall to determine where they source their seeds. Creating a relationship with them is the best way of gaining trust. A word of warning here: seeds of cross-pollinated crops, say pumpkins, may have been crossed. It is safe to save seeds of self-pollinating crops such as tomatoes.



The Seed Savers' Network

Attracted by the diversity of pumpkins for sale at a roadside stall near Taree, Michel stopped and was given many pumpkins to keep for seeds by the farmer who had kept them pure.

From local shops Shops in inner city ethnic areas have planting material, such as in Asian shops, taro, herb cuttings, packets of seeds like bitter melon, snake beans and radishes; Italian shops often have packets of seeds like chicories, lettuces and tomatoes.

From members of your Local Seed Network Often we forget to look under our own noses. There may be people who take for granted what they have, 'Oh it's only a settlers potato; it was very common around here', they might say. These can be discovered on seed swap days and visits to one another's gardens.

From nearby Local Seed Networks Look up the website (www.seedsavers.net) to find out what nearby Local Seed Networks have on their seed list.

From The Seed Savers' Network If you are after something specific we are happy to send it to you from the seed bank in Byron Bay, or you could look for it in the seed exchange in the Autumn newsletter.

Sourcing Planting Material

When it comes to vegetatively reproduced planting material such as tubers, rhizomes, and cuttings, etc., Local Seed Networks are in a prime position not only to record and collect them, but to facilitate their exchange between community members. Moving bulky and perishable items long distances is costly. Exchanging such plants in the one region makes a lot of sense.

Gardeners often find that the plants they are most fond of are not from a commercial source but from friends' gardens.

Adaptation

When you are not able to source local varieties, the solution is to import them to the area and adapt them to local conditions. Adaptation of any variety takes a few plant generations, but is worth the effort.

See page 9 in Chapter 1, Reasons For Local Seed Networks, for a story about Clive Coward successfully adapting broad beans to his local climate.

Examples of Vegetatively Reproduced Plants

When seeking vegetative material, look out for anything that has the words perennial, multiplier, everlasting or bunching in its name or description, as it could be a perennial form.

Here are some vegetatively propagated plants your LSN could look out for:

- Perennial flowers, shrubs and herbs.

- Fruit or nut trees to graft
- Plants that are normally propagated by seeds but have developed a habit of forming side shoots or bulbils that can be used as efficient propagules, e.g., celery and globe artichoke.
- Potatoes are very specific about their soils and are also subject to some quarantine regulations so local exchange is best.
- Potato onions, bulb shallots and walking onions - are known to be day length sensitive, that is latitude-specific, on the time when they will form bulbs.

Wheat Seeds Found in Thatched Roofs

English botanist John Letts has found thatched roofs are a very rich source of historical seeds. Seeds of rivet wheat, bread wheat and rye have been found in 250 thatches dating from the 15th century in Devon.

The seeds have survived because the houses were built as open halls with a central fireplace. The heat kept the seeds dry and the smoke prevented them from rotting. The fact that some thatches consisted of straw from rivet wheat, bread wheat and rye woven together, has led Mr Letts to speculate that mediaeval farmers grew them all in the same field. This would have minimised risk - if the season was dry, the rye would grow well, but if it was wet, the wheat would flourish.

From the Seed Savers' Network Newsletter, No. 22, Autumn 1997.

- Sweet potatoes are best grown from the tips of the vines in order to avoid transmitting disease.
- Sugar cane and bananas should not be moved without a permit because it could endanger the industry; ask for a permit at the Department of Agriculture.
- Horseradishes are not all the same and are worth seeking; grow in pots if invasive in your climate.
- Watercress and land cresses comes in a number of species:- *Lepidium*, *Nasturtium*, *Barbarea*, *Spilanthes*.
- Different varieties of strawberries are worth collecting.
- Chinese artichoke, *Stachys affinis*, is a brilliant Japanese small and crunchy root.
- Rare and expensive plants such as saffron bulbs or wasabi should be found and multiplied.
- Aloe vera - some species have better healing properties than others.
- Perennial leeks are superior to annual as you do not run out. Leek seeds do not store for more than nine months in warm weather.
- Bunching shallots come in red and other colours; they are rarely sold by seed companies and are hard to distinguish as they have often





Jukuli Vail, recently moved to Australia from PNG, collecting cuttings of cassava, taro and sweet potato.

The Seed Savers' Network

lost their original names or never had a name.

- The ginger family is a goldmine of diversity with many edible species like turmeric and galangals.
- Chokos are worthy of collection as you may find white, spineless or even varieties with enlarged edible roots tasting of coconut.
- Water spinach, *Ipomea aquatica*, comes in many shapes of leaves and can be propagated by seed or cuttings.
- Mediterranean cooking herbs. Take thyme as an example. Europe has hundreds of species and subspecies with many varieties each used for different dishes.
- Arrowroots (*Canna edulis* and *Maranta* species) are fully perennial.
- Most of the Andean tubers are in Australia and costly as they are a curiosity.

Where to find good vegetatively reproduced planting material

Giving away planting material is something that successful gardeners are generally happy to do.

A downside is that diseases are more easily transmitted by parts of plants than seeds. When you bring in plants, put them in a spot that is isolated by pathways, lawns or similarly sterile areas from the rest of the garden. This quarantines them while you check whether they are disease affected. If they are diseased, destroy them by fire or by enclosing in a clear plastic bag that you leave in the hot sun for a few weeks. Warn your LSN members of this potential problem and let them know these measures.

When in doubt consult the Dept of Agriculture. **Some sources of vegetatively reproduced planting material include:**

- Older gardeners' backyards - look for the many beautiful flowering bulbs such as the edible daylilies with their delicious thick-fleshed flowers or the favourite of grannies, rhubarb, that may have been kept for fifty years in one yard.
- Gardens and community gardens in ethnic areas - yams, sweet potatoes, taro and cassava are easily spotted over fences in suburbs where Pacific Islanders or Asians live.
- Markets are great sources of planting material; you can buy directly from the growers.
- Inner city greengrocers, such as Asian and Mediterranean shops - their suppliers are often backyard operators so the diversity is huge - look for unusual cooking herbs and bulb shallots.



Globe artichokes and a persimmon tree growing in a front yard. The residents of this house in Adelaide could be approached for planting material.

The Seed Savers' Network

Tips From Mazza

Mazza Verdante, coordinator of Gathering of Organic Friends Seed Savers in Grafton researches heritage food plants of the Clarence Valley. Here is some advice from her experience.

- Be open and available to contact from any source at any time. Never presume what will or won't work, rather be open to the possibilities.
- Keep records - document anecdotes, descriptions, stories; keep track of who told you what and when. Jot down anything that sounds like it could be relevant, have your book on hand when listening to local radio etc. Don't worry about it being messy, it's more important not to miss anything that might prove useful. As contacts increase, refine your record keeping as you discover the sorts of information coming your way. A card file system is useful to keep track of the contacts. A school project book is good for sketches of plant varieties. This helps with connecting loose ends and gives you a reference for any acknowledgements which might be appropriate, especially if you publish.
- Think about your listening and interviewing skills so you can develop them as you gain experience. If you are feeling nervous about what to say or how to approach a contact, try your ideas out with a trusted and honest friend. Consider using a cassette recorder at interviews but make sure your interviewee is comfortable about its use.
- Be prepared for a sleuthing adventure seeking hidden and often incomplete clues to 'living gardening history'. Information. Leads can come from the most unexpected sources and via the most convoluted routes, but know it may take months to emerge.
- Be patient, but keep gently plugging. It doesn't come together overnight! Keep repeating yourself, it can take a long time and lots of repeats for the penny to drop with some people even though they may have a wealth of relevant information. Don't get bogged down in frustration because you feel you've put the word out a hundred times. Don't get sick of your own message. Your target audience has probably not heard of anyone being interested in their long preserved garden plants and it may take a while for them to understand what you're after or really trying to achieve.
- Value all and any information, even vague and incomplete memories can be made useful down the track when connected with someone else's information.
- If someone has taken the initiative to contact you or respond to you, let them feel your appreciation and interest. People, especially the elderly, tend to remember more when they're relaxed and feeling listened to. You can follow-up on fruitful contacts with a thank you letter and some pamphlets for them to pass on to others.



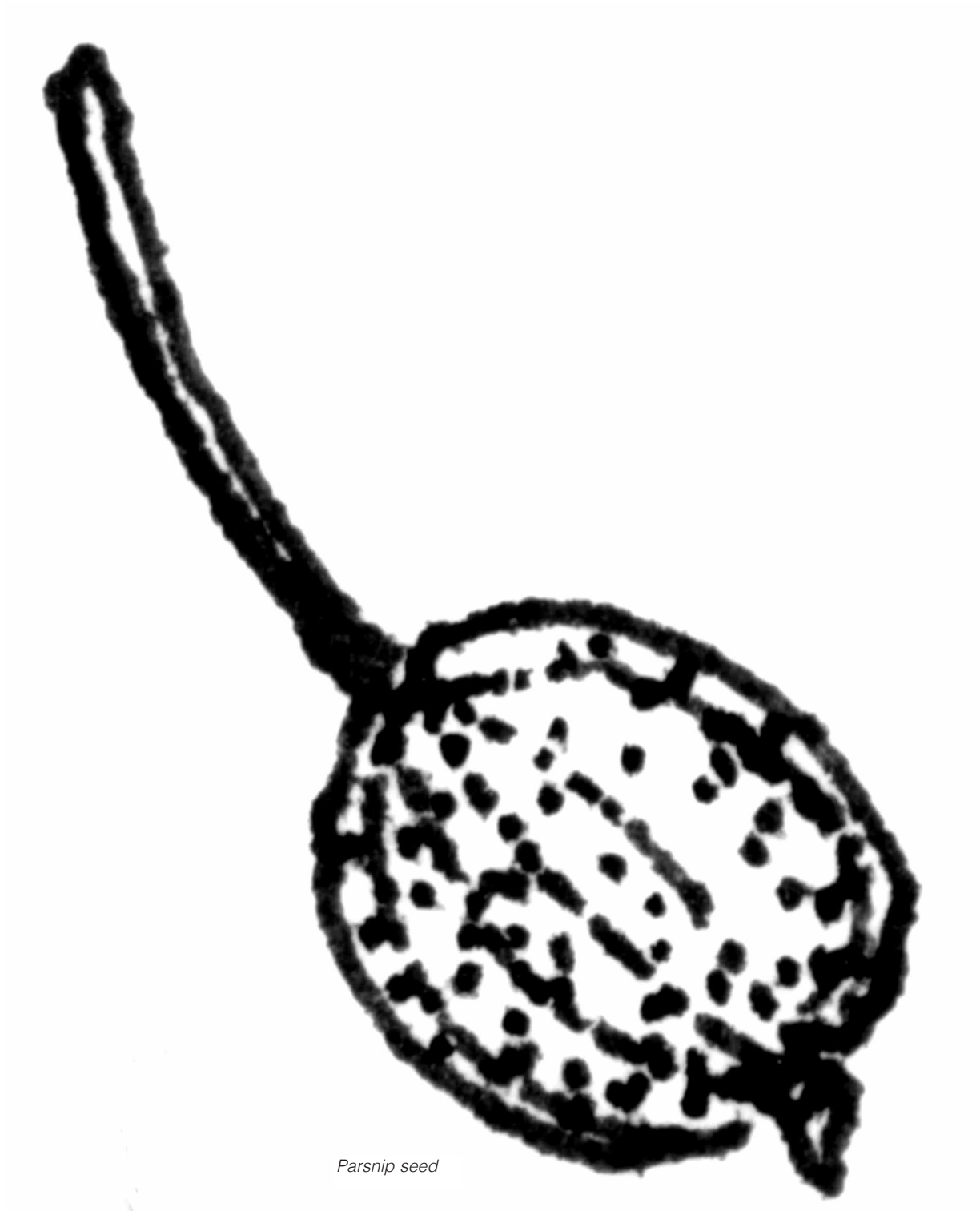
The Seed Savers' Network

These men run local seed networks in the state of Maharashtra, India. Balasaheb (left), a farmer, appealed to high school children to collect traditional varieties of vegetables, cereals and other crops and was overwhelmed with how many varieties they found (5 000). Here he and Mahesh hold a sheet with samples of some of the seeds in plastic press-seal bags sewn on and their labels written under them. A light and compact display, Balasaheb takes it to meetings and talks to inspire others to do the same.

There is a wide range of places to look when sourcing seeds such as in the gardens of elderly gardeners, on roadside stalls, markets, non-corporate, non-hybrid seed companies, nearby Local Seed Networks and The Seed Savers' Network. Look for family heirlooms, varieties that arrived with migrants, are no longer available commercially, are special to the region and have a history. The information about them is important to collect and record too.

When Promoting Seed Saving (10) via the local media you can announce that you are set up to receive seeds and planting material. Events such as **Sharing Skills (9)** days are often an opportunity to source seeds. When seeds and other planting material start coming in, **Keeping Records (4)** of information about them is important. When you have found varieties that suit your climate and growing conditions, those seeds should be disseminated locally: see **Distributing Seeds (8)**.

4. Keeping Records



Parsnip seed

Good record keeping of varieties collected and swapped is essential for saving seeds at the community level. Records of who is involved are important too. Keeping a track on who has what in the community and profiling it publicly promotes the production of good food.



The Seed Savers' Network



Seed Savers' intern, Marianna Momberg painted botanical information on over fifty rocks to label the perennial plants. Marianna recorded the common and botanical name, continent of origin and usage of the plants.

The Seed Savers' Network

Collecting Information

Keeping records is an essential and useful function of a local seed network.

It is in the interest of all growers, current and future, that all seeds that are of value to them are accessible. Therefore the keeping of records of the location of seeds is important.

While keeping formal records may be a totally unnecessary burden for the gardener and farmer as they know their varieties well and therefore remember what each one is, the community based organisation needs to keep records. Without some kind of recording system the collection is not as meaningful to others.

It is also necessary to keep records on the growth habit of the plant such as whether a variety is climbing or dwarf.

On the other hand keeping too many records will become tedious and bureaucratic. Ultimately only records that are useful need to be kept.

Records can be useful for such things as:

- tracing varieties that go missing in the network.
- finding out the particular uses or growing conditions of a type of plant.
- assessing the level of diversity within your network by having an overview of what you have.
- keeping track of how long seeds have been in storage.
- noting who is in your network their skills and what seeds they have given and taken.

When keeping records the challenge is to collect as much information as necessary, but no more. Some older farmers and gardeners may have all their information in their heads, as theirs is a culture of oral history. Have a notebook to take notes when they talk. We are very grateful at Seed Savers to have stories about local varieties and are glad to receive them.

At one stage, when people sent in seeds to Seed Savers, we asked them to fill in a Plant Passport (see page 27). This is one way of trying to ensure detailed information is collected for our records. Have a look at the type of questions we asked.

We also have seed packets, which have lots of space on them for people to record information about the seed. We have had two types of these over the years. The first one is featured above, the second one is made of paper, foil and plastic to ensure the seeds are kept in an air tight, moisture free environment (see page 49).

When storing seeds in a seed packet make sure they are all marked with a date of harvest.

open pollinated non-hybrid
SEED SAVERS
Home Saved Seeds



Seed Savers No _____

Plant Name _____

Botanical name (if known) _____

History _____

Plant description _____

_____ Vine Bush Height _____

Taste & Usage _____

This packet contains approx. _____ seeds	They were harvested in _____ month _____ year	Sowing guide _____
---	---	-----------------------

Produced by _____

Address _____

Postcode _____ Tel. _____

Production conditions: Organic Permaculture Biodynamic

Resistance _____

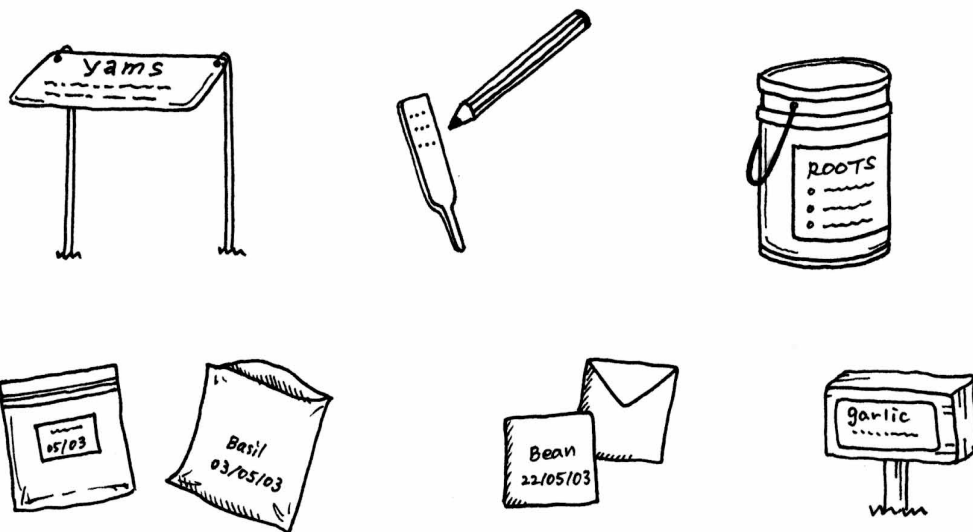
Viability _____ % Test date _____

The Seed Savers' Network does not accept liability for the contents of this packet

Basic Sets of Information

A set of records should include these sections:

- Basic information on the variety - accession number, name, botanical name, date of reception, etc.
- The source of the seeds - name, address, contact details.
- Plant description and growth habit
- Performance - productivity and resistance to pests, diseases and frosts.
- How the plant is utilised. This is particularly relevant for plants that are unfamiliar to your cuisine.



Examples of different labelling used in the garden and in a seed bank. You will see photos of some of these in this manual.

Labelling



Photo courtesy of Jason Ingram

Labels in the garden can follow the variety to the seed bank.

To enable records to be kept, seeds and plants need to be labelled right throughout the seed production process from germination to seed drying and storage. Make sure you have clear labels in your garden and that this information is transported with harvested seeds to the seed drying and cleaning areas.

It is always important to label stored seed correctly as to variety and date of harvest (see Chapter 6 Storing Seeds). Unlabelled and unrecognisable seed has to be either thrown away or grown out to determine its true identity.

For home seed collections labelling seeds in storage may simply mean labelling the outside of your jar or container. Community seed banks will require a bit more thought due to the larger amount of seed to be handled. For instance when seeds are packetted, it is a good idea to label the seed packet with at least this information:

- Varietal name (and number if your local seed network has a coding system),
- By whom the seed was produced, how long they had it and from whom they obtained it,
- Plant description - particularly important is whether it is a bush or climbing plant,
- Month of sowing and harvest and date of cleaning and reception of the seeds,
- How it performs in the garden, what conditions it needs and whether it is resistant to pests, disease, drought and frost.

Recording Collected Information

SEEDSAVERS' PLANT PASSPORT

Your name _____
 Address _____
 Name of variety _____ Seed Savers Accession number _____

History
 How long have you had this variety? _____ months/years
 How long had the previous person had this variety? _____ months/years
 Do you know where this variety came from? _____
 Number of plants these seeds are from? _____

PLEASE CIRCLE YOUR CHOICE ON EACH ANSWER LINE

Plant description
 Circle the month/s you planted this variety.
 J F M A M J J A S O N D
 Circle the month/s it bears.
 J F M A M J J A S O N D
 Put a circle on the month/s you harvest the seeds (if different from above)
 J F M A M J J A S O N D

Would you describe this variety as - (length of time to maturity)
 early medium late

This variety is a - (circle more than one type where appropriate)
 herb vegetable flower fruit fodder fibre
 tree bush vine groundcover other _____

This variety is propagated by -
 seed cutting bulb tuber other _____

Performance
 This variety grows (circle the most appropriate description)
 poorly mediocreatly vigorously
 The yield from this variety is (circle the most appropriate rating)
 poor average good very good excellent

Conditions e.g. soil, extremes of temperature _____

Taste & usage
 Taste notes: _____
 The produce from this variety is used (circle more than one if appropriate)
 raw baked stir-fried pickled/preserved steamed/boiled dried
 Other (please specify) _____

Resistance
 This variety is resistant to-
 drought frost pests diseases
 Give details: _____

The Seed Savers' Network, Box 975, Byron Bay, NSW 2481. Tel/ fax: (066) 856 624
 Website: <http://www.om.com.au/seedsave> email: seedsave@om.com.au

SEED DATA SHEET

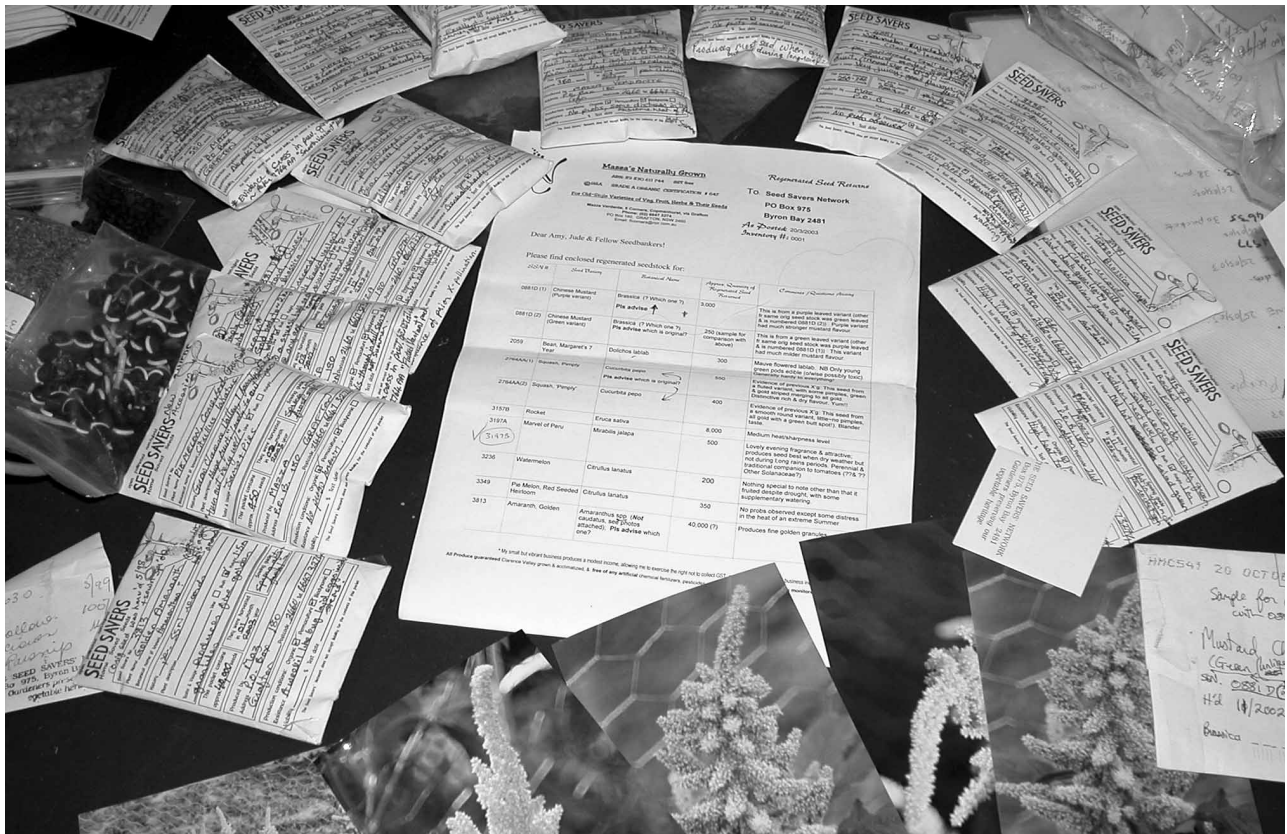
Date of collection: _____
 Batch/Accession No: _____
 FAMILY: _____ Identified by: _____
 Genus: _____
 Species: _____ Cultivar/variety/form: _____
 Common name(s): _____

Parent Stock Details
 Source/Collection Locality: _____
 Latitude: _____ South Longitude: _____ East Alt: _____ m/a.s.l.
 Slope: _____ Aspect: _____ N/S/E/W facing
 Age, health and condition of parent plant: _____
 Climatic zone: _____ Nearest Met. station: _____
 Rainfall: _____ mm/yr Temp: _____ min _____ max
 Wind: _____ Frost: _____
 Soil and geology: _____ pH: _____
 Community/Associations: _____
 Photographs: SLR/DCP by: _____
 Roll No: _____ Date: _____ Place: _____ Time: _____

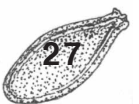
Seed Details
 Name of collector: _____
 Time of day collected: _____ am/pm Weather conditions: _____
 Seed weight: Total batch _____ (g) No. of seeds per gram (g) _____
 Condition of material: _____ Insect predators: _____
 Collection/extraction method: _____
 Drying period: _____
 Handling/cleaning of seed: _____
 Storage method: _____
 Viability trials: Yes/No (if yes, see also Seed Propagation Record Sheet)

Sheet for recording information on incoming seeds from North West Sydney Community Seed Savers.

Plant Passport sheets for recording information on incoming seeds at Seed Savers. Seed senders fill one in for each variety. Each of the spaces corresponds with the fields on the seed bank database.



Different ways of keeping records - on the seed packet, by taking photographs or tabulating your seed list in a document.



Seed Savers' Databases

Data Entry			
Seed Details			
SSN #	2917B	Type	Herb
		FAMILY	BRASSICACEAE
Accession Name	Nonnie's Giant Arugula		Weight
Botanical name	Eruca sativa	Date received	11/11/99
Synonyms	Rocket, Roquette	Entered by	EH
		Date entered	7/1/00
Source			
Surname	Casasola	Internal details	
Christian name	Steve	Harv 10/99	
Street, Box No	381 Boundary Rd		
Town	Thornlands	4164	
Performance History	Old variety brought out from Northern Italy in the mid 1950's. Grown 30+ yrs.in Brisbane. My 91 year old grandma passed these on to me about 4 years ago. She's had it growing in her garden for as long as I can remember and probably brought it out from Udine, Frioli. I have selected best, vigorous, biggest plants over 3 generations.		
Plant Description	Very large leaves. Very large plant. Annual. Flower heads, seed pods used in salads.		
Conditions and Performance	Direct sow in drills 25cm. apart or broadcast & thin later. Likes full sun, rich soil, and water.		
Taste and Usage	Very hot. Eat leaves in salads, add to stews & savoury dishes. Cook with chicory / dandelion leaves (boiled & strained, then fried with garlic, olive oil, sliced onion, cracked pepper etc) Medicine plant. Can be frequently cut, blanched (covered with straw or forcing pot in winter)		
Resistance			
Viability	80	% Test Date	23/02/00
		In posterity	n

From 1986 to 1994 we kept records in exercise books. Over the years we used eight A4 sized accession books, allowing half a page per seed entry. When a seed was sent in or given to us we would allocate it the next consecutive number, record the date and as much information as was available. This could include such information as its common name, botanical name, who sent it in, where they got it from, plant description, growing conditions, usage, etc.

Along with these exercise books we also had a cross reference book. Here seeds were listed by type - all tomatoes together, etc. After we had filled in the accession book we would record the incoming seed in the cross reference book, allowing one line per seed entry and recording the date it came in, its common name, accession number and the postcode of the person who supplied us with the seed. The cross reference book allowed us to more easily find seed when people requested a particular type of vegetable.

In 1994 we upgraded our record keeping methods by moving all the information onto a Filemaker Pro computer database. A typical entry in the database for a seed variety is shown above.

A note of caution

Seeds can come in with no name at all. Also one variety may come in with many different names, or synonyms, possibly causing confusion.

Conversely the same name may be used for entirely different varieties, even species. We have found the name Seven Year Bean applied to four different species: *Phaseolus coccineus* (Runner Bean), *Phaseolus lunatus* (Lima Bean), *Dolichos lab lab* (Hyacinth Bean) and *Tricosanthes anguina* (Guada Bean). This causes a great deal of confusion and is the rationale for using botanical names.

We have also found that plants with the same varietal name may perform differently, for example a zebra bean (a tubular green bean with striped black, brown and grey seeds) sourced from one climate is different to that from another. This is yet more evidence of adaptation to different regions. And we have found they vary from those from commercial sources.

When in doubt do not lump them under one name, give them a distinct tag, such as the name of the source person, e.g., George's Grosse Lisse Tomatoes.



Beans on Seed Savers' Database

We have received over nine hundred samples of beans over the thirteen years since we started recording them. Each sample is given its own number as it arrives. When the sample is returned, a letter starting at B is added to the original number.

When recording incoming bean seeds on the database we use the following classifications to describe the seed:

Bean Seed Descriptor

1.1 Seed Colour	1.4 Seed Shape
i. one colour	i. kidney
ii. variegated	ii. oval
1.2 Primary Seed Colour (refer notes)	iii. spherical
1.3 Secondary Colour	iv. tubular
i. Blotched	v. square
ii. Flecks of colour	1.5 Seed Length (mm)
iii. Striped	1.6 Seed Width (mm)
iv. Tipped at embryo end	1.7 Seed Depth (mm)
v. Obscure or hazy	1.8 Hilum
vi. Other	i. Size (mm)
	ii. Colour

The number of different species of beans recorded in the database, as of September 2001, are shown below.

Bean species in database No. of accessions (Sept 01)

French Phaseolus vulgaris	545
Snake Vigna unguiculata subsp sesquipedalis	77
Runner Phaseolus coccineus	71
Hyacinth Dolichos lab lab	62
Broad Vicia fava	52
Lima Phaseolus lunatus	47
Guada Tricosanthes anguina	21
Cowpea Vigna unguiculata	28
Winged Psophocarpus tetragonolobus	16
Sword, Jack Canavalia gladiata, C. ensiformis	13
Velvet, Mucuna spp	5
Yam, Jicama Pachyrrhizus erosus	5
Tepary Phaseolus acutifolius	5
Soy Glycine max	5
Mung Vigna radiata	2
Pice Vigna umbellata	3
Adzuki Phaseolus (Vigna) angularis	1
TOTAL	958

Beans attract a number of names for the whole species, and some of those names, like Seven Year Bean, are even applied to different species. Below are recorded alternative names for

the main bean species that we have, the first in each list is the one we use here in our classification system:

Dolichos lab lab - Hyacinth, Tongan, Poorman's, Lab Lab, Dolichos, Bonavista, Seven Year Bean

Pachyrrhizus erosus - Yam, Jicama

Phaseolus coccineus - Runner, Scarlet Runner, Butterfly, Seven Year Bean

Phaseolus lunatus - Lima, Poorman's, Seven Year Bean

Psophocarpus tetragonolobus - Winged, Four-angled, Four-winged Bean

Tricosanthes anguina - Guada Bean is actually misnamed as it is a cucurbit, although the fruits look like long thin hollow beans. It is sometimes called New Guinea Gourd or New Guinea Bean, as are some gourds (Lagenaria siceraria).

Vicia fava - Broad, Tick, Horse Bean

Vigna unguiculata - Snake, Yard Long, Long, Asparagus Bean

Trials of Beans in Seed Gardens

Intern Amy Gastonbury and I collected information on the varieties we grew here at the Seed Gardens in 2000:

Coco de Prague, 3079, Bush, 50-80mm pods with pink mottled pattern, pale purple flowers, eaten green or dry-shelled
Brown Beauty, 3807, Bush, 80-120mm pods, pinkish brown seed, seems more suited to eating green shelled or dry-shelled

Italian, 3160, Climbing, 100-150mm pods, white flowers, medium brown flattish seed, eaten as a green snap bean

Molly's Zebra, 3943, Climbing, 80-100mm pods, pink/purple flowers, green neat, short, round pods, rounded grey and brown striped seeds, green snap

Giant of Stuttgart, 3158, Climbing, 100-200mm pods, white flowers, white 10mm long rounded bean,

Natural [Climbing] Salt, 4220, Climbing, 50-100mm pods often curled, purple flowers, 12mm flattish pale brown bean with black markings, seems more suited to eating green shelled or dry-shelled

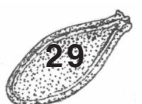
Scarlet Runner, 4228, Climbing, 50-150mm pods, red flowers, 15mm purple beans with black markings

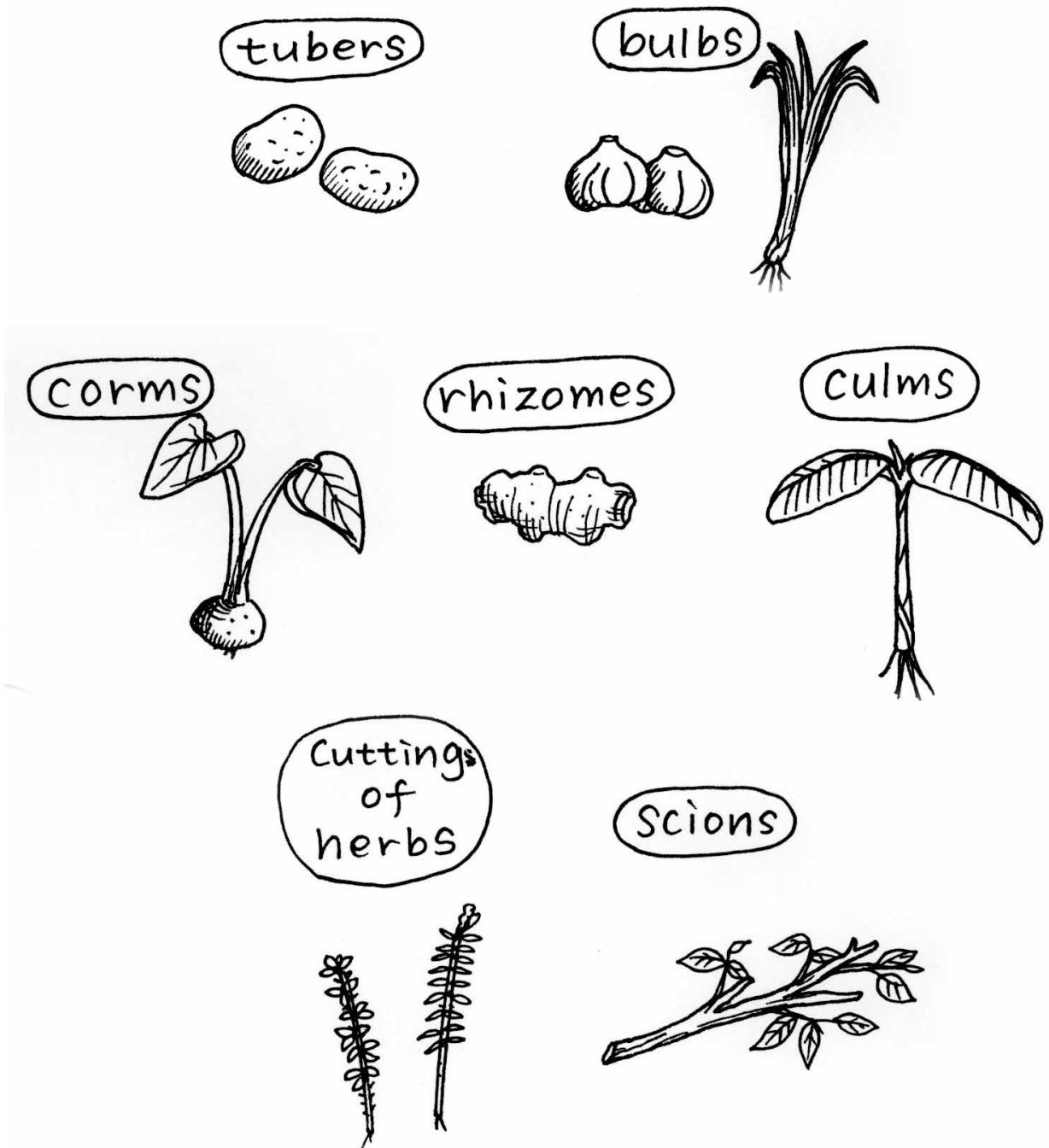
Lazy Housewife, 4103, Climbing, 50-150mm pods, white 10mm flattish bean

Mostoller's Wild Goose, 3415, Climbing, 50-70mm pods, cream, speckled seed

Muffett, 188, Climbing, 50-100mm pods, 8-10mm white seed.

By Jude Fanton, The Seed Savers' Newsletter, No. 31, Spring 2001.





Parts of vegetatively reproduced plants that could be registered on a Community Plant Register.

Community Plant Registers

A Community Plant Register is a record of the names and locations of plants. It can be made and held by a Local Seed Network as a public resource. Entries can be made in an exercise book or on a database. It may be best to make a start with a limited range of species, such as plants for which the region is renowned.

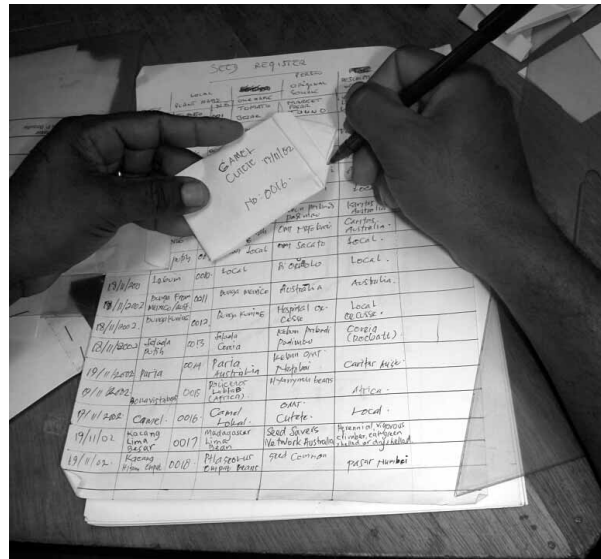
A Community Plant Register is particularly suited to plants that are vegetatively propagated. These are plants that are not usually propagated by seed but rather by budding material, scionwood, cuttings, tubers, bulbs, rhizomes or root division. They include fruit and nut trees, many herbs and flowers, potatoes, taro, yams, ginger, Jerusalem artichoke, rhubarb and asparagus. Included also are plants whose seeds are unorthodox, that is, do not last in storage. Citrus seeds are semi-orthodox.

Registers of the old and elite trees are very useful for local historians. An elite tree is one whose seeds throw true to type. This is unusual in fruit and nut trees and is the reason they are mostly propagated by growing proven rootstock seedlings that are then grafted with scion wood or budded with budding material from trees with proven fruiting qualities. Therefore when a fruit or nut tree that does produce seed giving true-to-type progeny is found, it is an important resource.

Records of The Solomon Islands Planting Material Network

The Seed Savers' Network has had a long association with The Planting Material Network in The Solomon Islands. They keep this data:

- Monthly Summary with records of:
 - Number of seeds packetted;
 - Number of varieties packetted;
 - Number of new members;
 - Number of seed packets distributed;
 - Number of visitors to the Kastom Garden;
 - Name of new varieties trialled;
 - Number of plant descriptions made in register;
 - Income generated in PMN;
 - Expenses.
- Monthly Planting Calendar. There is a sheet for each type of plant and space to list what variety is planted each week.
- Seed Packetting Record. This includes the date packetted, the PMN number, variety name, germination test results and the number of packets.
- Seed Requests. Showing: Date or request, Seed Type, Name of person, Address, Date of request sent.



Keeping records on paper is an easy method for everyone.

An example is the Western Australian Sfax Carob whose seeds have been disseminated around the countryside. An old mango tree with large flat green fruit that grew in a park in Lismore was cut down in 2003. Luckily we had collected the fruits and planted the seeds over the years.

Map of Locations

The location of these plants can be marked on a map of the region with a key of the names of the plant and the gardener. This map can be displayed at meetings or special events.

Records of People and their Skills

Keep records of who has joined the local seed network and their relevant skills. Some may be good at growing quality seeds, others at specific gardening skills, others at making presentations. This record could be complementary to the Community Plant Register.

We have compiled a list of "Seedy Speakers" around Australia (see Appendix H) so that when we are asked for a speaker in any one geographical area, we can recommend someone. We also keep a record of reliable people who regularly send in seeds and offer to regenerate rare seeds.

Collections of Plants

While the Community Plant Register lists the location of special plants in the community, a collection of such plants can be made over time in one person's backyard with duplication at other members, or in a central garden like a community garden. A botanic garden can eventually be planned with the local varieties of perennial food plants of note.

The collection could focus on plants famous in the region, like for Tamborine Mountain near Brisbane it is avocados and rhubarb, for other areas it will be sugar cane and lychees, and yet others globe artichokes, grapes and olives.

When a collection is made, records need to be kept on each variety (see examples on the next two pages of two sweet potato collections).

A Collection of Plants: Sweet Potatoes at the Seed Centre



The Seed Savers' Network

Over last summer, intern Amber Tucker did a study on sweet potatoes being grown in the gardens at Seed Savers. George Bollen in Bowen sent down twelve varieties in March 2000 for us to try. We planted them in raised beds one to two metres apart next to a well labelled stake so that we could trace back the trailers. Here are Amber's notes:

Carrot 101 G

Yellow skin and flesh, purple stem on leaf, plain leaf, largish roundish tuber, skin removed easily, not so much taste, tastes a bit like carrot around the skin, crunchy outer skin like carrot.

Hawie P/W

White skin, whitish pink flesh, purple stem, ivy leaf, quite vigorous, dense texture, dark purple flesh when cooked.

Maltese White

Bright purple skin with white flesh, bright purple stem on plain

leaf, very productive, large uniform sized tubers, smooth skin, light chestnut flavour, not sweet.

Baby Food - 151.G

Dark yellow skin, dark yellow flesh, green stem, plain leaf, very productive, long wiggly tubers, tastes like carrot, soft texture, good for mashing.

Tonga 32 F/W

Pinkish red skin, white flesh, green stem, plain leaf, long thin tubers, not so vigorous, sweet taste, starchy dense texture.

Anders G

Large tubers, purple and orange skin, light yellow flesh, purple stem, plain medium sized leaf, very productive, large round wide tubers of uniform size, lightly perfumed, sweet and crunchy.

Hug Lock - 4C

Orange/pink skin, orange flesh, green stem, medium sized plain leaf, not so vigorous, starchy, watery, almost no taste.

Travis G

Orange skin, orange flesh, purple stem on leaf, plain leaf, not so vigorous, dense, starchy, sweetish and slightly salty.

Beauregard

Pink/orange, reddish skin with pale orange flesh, purple stem on leaf, plain leaf, long thick tubers, some borer damage, light sweet content, light sweet flavour, higher starch content, skin scrubs off easily.




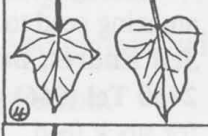



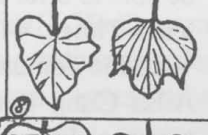
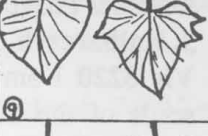


Non-running

Jan Oliver who gave it to us in 1997 said she was given this one by an older local man in Byron Bay who had had them for a long time - it is next to asparagus patch, plant stays in the one place without running, beige skin and white flesh, produces one large tuber that can be a little tough.

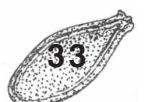
Rbbyn's

Bulk cuttings given by Robyn Francis in March 1998, planted in all four large and five small hills on bottom flat, white skin, white flesh, green stem, complex leaf, running, tubers are large and cylindrical, tastes nutty like chestnut, also a sweet taste, floury in texture.

The Seed Savers' Network Newsletter, No. 31, Spring 2001

SWEET POTATO <i>IMPOMEA BATATA</i> KAU KAU UMARA KUMARA										
VARIETY	COLOUR						CONVOLVULACEAE			
	UNDERSIDE OF LEAVES	TUBERS SKIN COLOUR	FLESH COLOUR	TOP OF LEAVES	UNDER SIDE OF LEAVES	RUNNERS	TIPS OF RUNNERS	HABIT	IDENTIFYING FEATURE	ORIGIN
SCALE 1- APPROX										
	CREAM	CREAM	DARK GREEN	GREEN WITH LOTS OF PURPLE VEINS	GREEN VINES + STALK.	GREEN	VERY VIGOROUS LONG TRAILING	UNUSUAL ROSELLA SHAPED LEAVES. HAS BEEN USED TO FEED PIGS (RUNNERS)	UNKNOWN FROM ISLANDERS MACKAY	DRAWN W.A. BERGMAN
	PINK PURPLE SKIN.	CREAM	LIGHT GREEN SOME BRONZE ON LEAVES	GREEN WITH GREEN VEINS	GREEN VINES + STALKS	GREEN	MEDIUM LENGTH RUNNERS	ROSELLA SHAPED LEAF	UNKNOWN FROM ISLANDERS MACKAY	GOVEY
	CREAM TO REDDISH WHITE	WHITE TO CREAM WITH PURPLE STREAKS	MEDIUM GREEN	GREEN WITH LOTS OF PURPLE VEINS	GREEN VINES + STALK.	GREEN	MEDIUM LENGTH RUNNERS	PURPLE STRAKS IN FLESH ROSELLA SHAPED LEAF	UNKNOWN FROM ISLANDERS MACKAY	ROY MARTIN
	PURPLE TO REDDISH TUBERS.	LIGHT YELLOW WITH PINK BACKS	LIGHT GREEN SOME PURPLE EDGING	GREEN SOME PURPLE VEINS + GREEN VEINS	DARK PURPLE VINES	GREEN SOME PURPLE EDGING ON SMALL LEAF	LONG TRAILING RUNNERS	COLOUR + FLOCKS IN FLESH. SKIN COLOUR IS ABOUT 2 MM INTO FLESH	SUPPOSED TO BE AN ORIGINAL MOARI VARIETY	
	GOLD	GOLD	DARK GREEN	GREEN PURPLE AT LEAF-STALK GREEN VEINS	REDDISH PURPLE TO GREEN TIPS	GREEN	MEDIUM LENGTH RUNNERS	LARGE LEAVES LARGE TUBERS	OLD COMMERCIAL VARIETY. SOURCE GORDON CAMPBELL SINCE 1960	CAMPBELL
	GOLD	DARKER SHADE OF GOLD	DARK GREEN	GREEN GREEN VEINS	REDDISH PURPLE TO GREEN TIPS	GREEN	MEDIUM LENGTH RUNNERS	VERY LARGE LEAVES LONG THIN TUBERS.	OLD COMMERCIAL VARIETY. HAVE GROWN SINCE 1980	BERGMAN
	WHITE	WHITE	GREEN	MOSTLY GREEN VEINS SHORT PURPLE VEINS	GREEN	GREEN	EXTRA LONG TRAILING RUNNERS.	EXTRA LONG TRAILING RUNNERS TUBERS COLOUR OF ENGLISH POTATOES COULD BE WHITE MALTESE	COMMERCIAL VARIETY. I HAVE GROWN SINCE 1980	
	GOLD	GOLD	DARK GREEN	GREEN MOSTLY GREEN LEAVES FEW PURPLE	GREEN VINES SOME BRONZE ON SMALL LEAF + TIPS	GREEN	DWARF HABIT.	VERY SWEET	LATEST COMMERCIAL VARIETY.	
	FAWN WITH REDDISH TINGES	CREAM.	MEDIUM GREEN SOME PURPLE VEINS	GREEN WITH DARK PURPLE VEINS	PURPLE RUNNERS. GREEN TO PURPLE STALKS	GREEN	LONG TRAILING	VERY FIBROUS VARIETY	COMMERCIAL VARIETY GROWN SINCE 1980	
	PURPLE	WHITE	DARK GREEN	GREEN WITH MOSTLY GREEN VEINS LIGHT PURPLE ON MAIN VEIN	PALE GREEN VINES + STALKS GREEN TO PURPLE	GREEN HAIRY TIPS.	LONG TRAILING	THIN PURPLE SKIN. WITH WHITE FLESH. HAIRY VINES. SOME VINES HAVE PURPLE TINGE	COMMERCIAL VARIETY GROWN SINCE 1985	
			DARK GREEN	GREEN WITH GREEN VEINS	GREEN VINES SOME PURPLE TINGE HAIRY VINES	GREEN HAIRY TIPS	LONG TRAILING		UNKNOWN FROM ISLANDER. MACKAY.	KENNEL

Records of Sweet Potato Varieties: Wal Bergman of Mackay made this record of his sweet potatoes. Note the difference between what characteristics he recorded and those on the previous page.



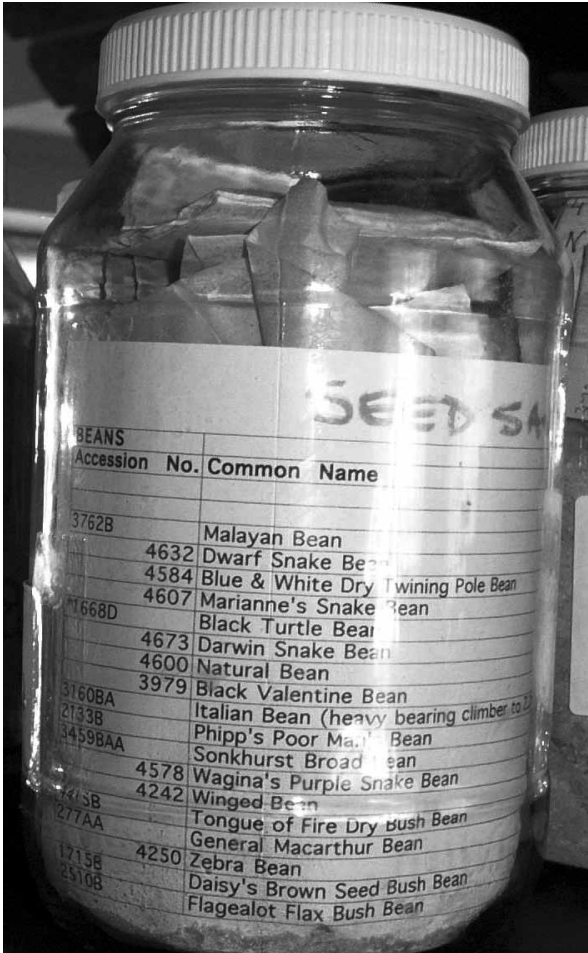


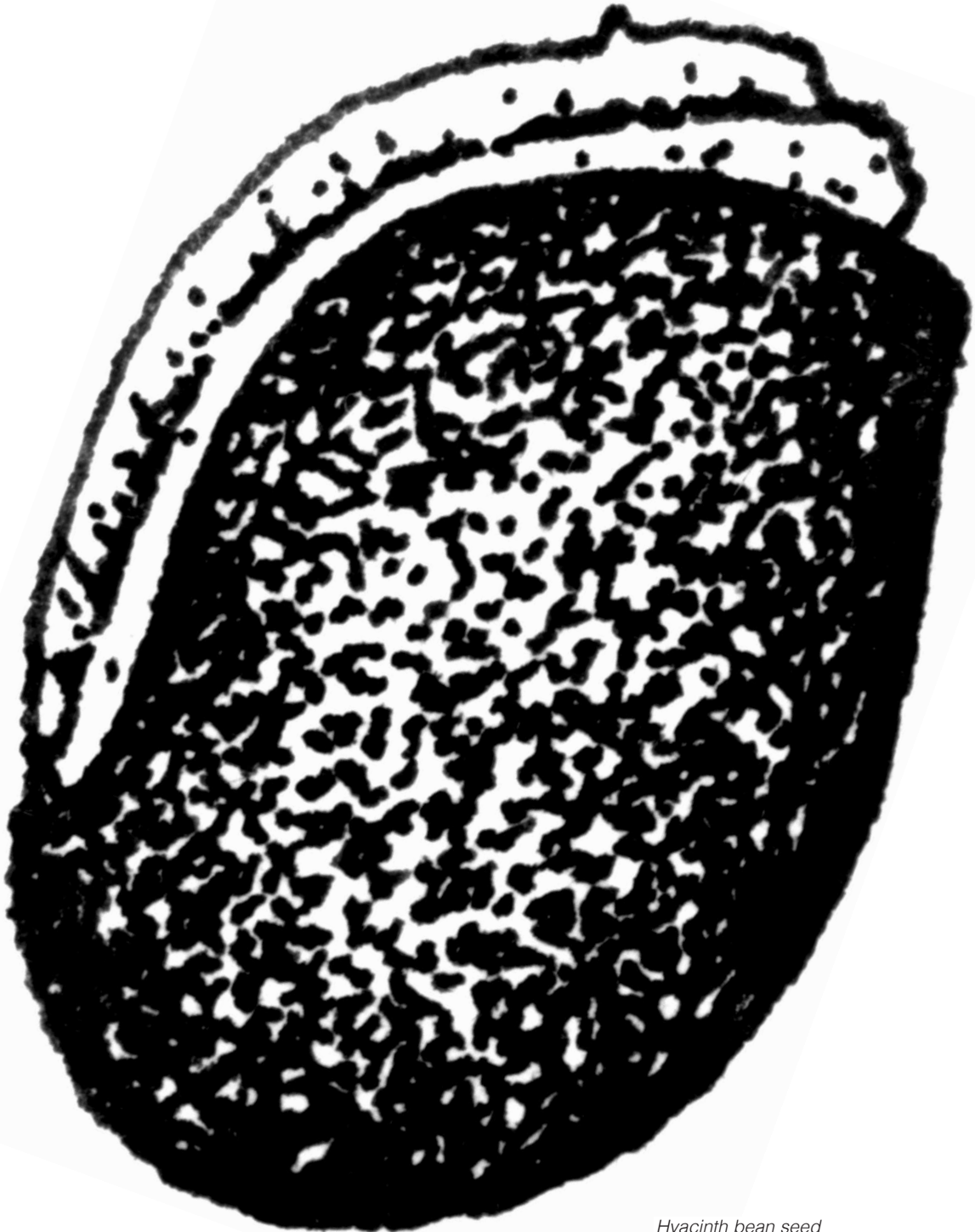
Photo courtesy of North Western Sydney Community Seed Savers

Above: Here a list of bean seeds that North West Sydney Community Seed Savers is trialling for Galston High School, is put in the jar with the remainder of the seeds after putting in the wood ash.

A variety can be lost for one gardener when it runs out or is crossed beyond recognition or stored seeds lose viability. Good records provide a chance of finding another person who has kept it. Records can be kept on paper, or in a computer. Keeping a track on who has what in the community and profiling it publicly promotes the production of good food. Recording who has certain varieties and where they are grown is a supplementary way of keeping tabs on what planting material is in the Local Seed Network. It especially suits vegetatively propagated material and gives a good overview of what is available, and how to access it with a list of contact details, maybe a mud map and times of the year when certain seeds and planting materials are available.

Testing Seeds (7) for correct identification may be necessary before making a record. **Distributing Seeds (8)** can necessitate recording to whom planting material is given so it can be traced in the future. Keeping records of who has what skills in the area and who is a good presenter is useful for **Sharing Skills (11)**.

5. Drying and Cleaning Seeds



Hyacinth bean seed

Drying and cleaning seeds requires knowledge and skills that can be shared at your local seed network events. It is a vital and satisfying task and is best done together with others.



Photo courtesy of Jason Ingram

Labelled seeds hanging to dry in a breezy spot.

Seeds of Fleshy Fruits

There are two main methods of drying and cleaning seeds - one for plants that carry their seeds in moist flesh, such as tomatoes, melons, cucumbers and pumpkins and one for plants where seeds mature in a dry receptacle such as beans, lettuces, brassicas and carrots.

For seeds of fleshy fruits, scoop the seeds out of the fruit into a large container of water and rub them together to separate the flesh from the seeds. Usually in a bowl of water the flesh floats and the seeds remain on the bottom, allowing the flesh to be poured off. The flesh can also be removed by rubbing it through a sieve. Make sure the seeds are very clean and free of the flesh by repeating the above process several times.

To control seed-borne disease, seeds with a gel-like substance around them, such as tomatoes, cucumbers and rockmelons, can be fermented. See diagram for the process overleaf, page 36.

After cleaning the seeds, lay them out to dry on a plate or greaseproof paper for ten days or so. This should be done out of direct sunlight and in an area protected from wind and pests. For large seeds like beans and corn, to check if seeds are fully dry, bite on them. If no impression is made on the seed with a reasonable amount of jaw pressure, then the seed is ready for storage. If you can leave teeth marks, continue drying.

Seeds of chilli and capsicum and some dry pumpkins do not need to be washed if they can be removed cleanly from the fruit.

Hot Water Treatment

This is a safe method if treating seeds for diseases such as black rot, black leaf spot and black leg in cabbage, which spread and develop only in humid weather, as well as bacterial canker in tomato and downy mildew in spinach. Soak the seeds in water held at a constant temperature of 50 degrees celsius for about twenty-five minutes. Make sure that the temperature does not rise too high. This can be done with a thermometer checking a saucepan full of water inside another saucepan, or better still in an electric frypan.

Seeds from Dry Receptacles

For seeds that mature in a dry receptacle - capsule, pod, husk or case - the drier the seed, the easier to clean.

Seeds such as maize, sweetcorn, peas, broad beans, dry beans, radish, lettuce, carrot, onion, beet and most garden flowers can be left on the plant until completely dry. Be sure to harvest the



The Seed Savers' Network

Intern Brian Shillinglaw cleaning Sword Beans at the Seed Centre. Notice the white buckets on the ground and the hanging paper bags - all are used to store seeds while drying

plants before too many seeds are lost to the wind. Should rainy weather set in, the whole plant can be pulled out when all the pods are brown and hung upside down in a shed or under the verandah. If not all the seeds on one plant are ripening at the same time, dry pods and seed heads (such as carrots) can be harvested individually.

Seeds can be hung in a breezy spot to fully ripen or left out in the morning sun if not too hot to "crisp up" on large flat baskets or tarpaulins. Small amounts can be dried in paper bags and medium amounts in buckets. Tall buckets are particularly good for seed heads. Ensure that the seeds are clearly labelled. Some seeds may need to go through two drying processes - first, after harvest, inside their pod or capsule, to ensure that all the seeds are mature and second, after cleaning.

Hints for treating bulk seeds

- Be careful to separate and label batches.
- Label batches picked over a period of time as "In Collection"
- Store large seed heads on tarpaulins that can be spread out to dry further.
- Reduce bulk of heads by cutting off stalks and bracts.
- Should wet weather set in before you have time to clean bulk seeds, store them in open buckets on top of one another.

Seeds can be separated from their husks by rubbing seed heads together or on a sieve (see part 1, diagram overleaf). For tougher pods and capsules, place in a strong bag and flail with a stick or stomp on them (part 2). Avoid using too much force as seeds can crack. Separate seed from debris by winnowing, sieving or sorting using a white background, like butcher's paper.

Winnowing is a magical thing to do. Using a flat basket seeds and chaff are tossed into the air

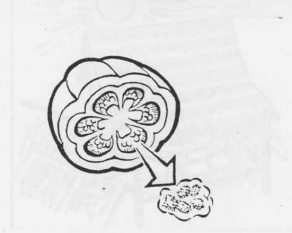


VILLAGE PRODUCTION OF HIGH QUALITY SEEDS

TOMATOES



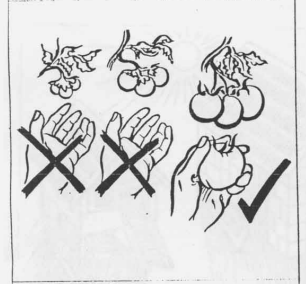
1- Tomatoes come in many shapes, sizes and colours.



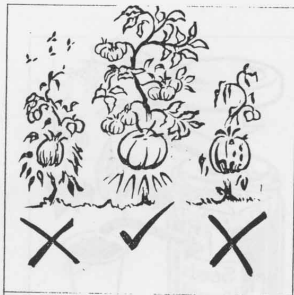
2- Seeds of tomatoes are found inside the fruit in a jelly.



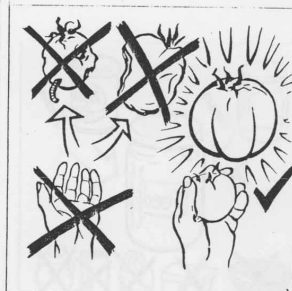
3- To reproduce the exact variety, different varieties will need to be isolated by about six steps.



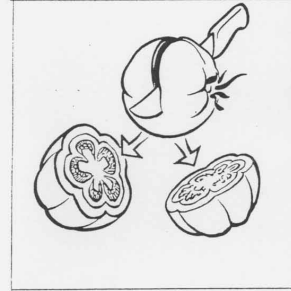
4- Pick the tomatoes for seeds only at full size.



5- Pick from only the healthiest, largest bush.



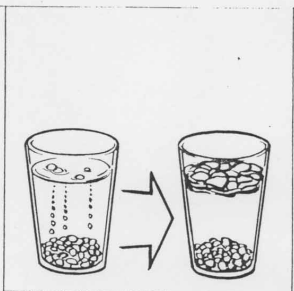
6- Pick only the healthiest fruit.



7- Cut several fruit in half.



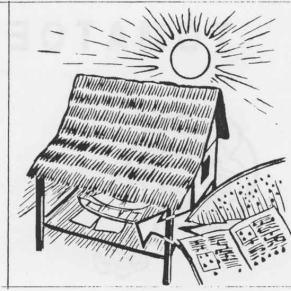
8- Squeeze the pulp and seeds into a container.



9- Let the seed ferment for one day and one night.



10- When the gel has disappeared, wash the seeds well in a sieve.



11- Let the seed dry for one week in the shade on paper or a banana leaf.



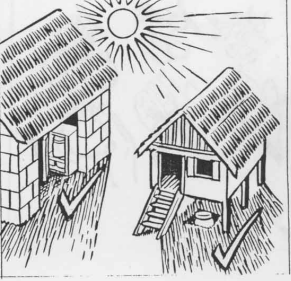
12- Fresh dry wood ash is gathered from the fire.



13- Choose only airtight containers for storage.



14- On a dry day, place seeds in a paper with name and date of harvest. Place woodash in jar, separate seed with kapok or cotton. Close the lid.



15- Seeds will remain fertile for two years or more in a dry and cool place.

and the chaff is wafted away with a gentle breeze (part 3). When winnowing use a large tarp on the ground as a safety net to avoid loss of seed.

Another method is to put the seeds into a bowl and shake them until the debris floats to the top. A gentle constant blow, or a little fan, will lift the chaff away. Round seeds can be easily cleaned by using a tray and tilting it at a 40 degree angle, the seeds roll down to leave the debris at the top

of the tray (4).

Sieving the seeds and chaff is another method of cleaning seed. First we use a sieve with a gauge large enough to let the seeds go through. The large debris is excluded and can be thrown on the garden. The seeds, and the chaff smaller than the seeds, are all that is left, and these can be separated with a small gauge sieve. Different sized kitchen colanders and sieves can be used.

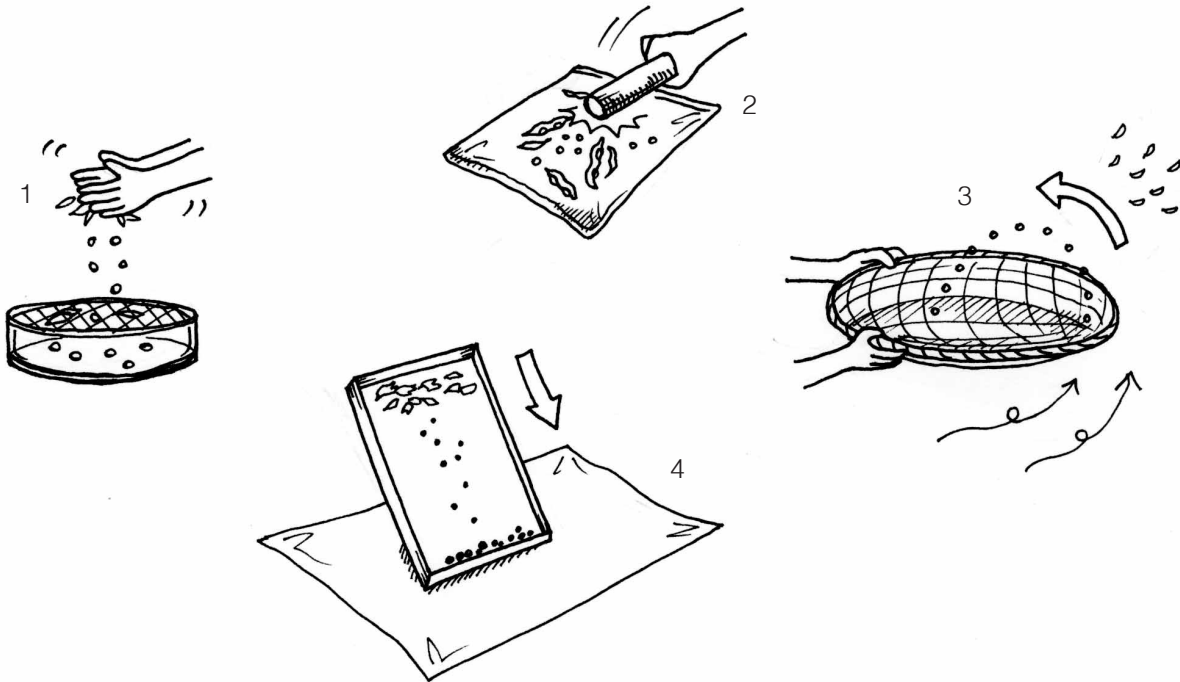


Photo courtesy of Jason Ingram

Winnowing mustard seeds. Notice the square sieves in the background.

Equipment

Some of the equipment we use at Seed Savers includes a set of five differently gauged sieves mounted on wooden frames, tarps of various sizes, white buckets, winnowing baskets of many shapes and sizes collected from all over the world, butchers paper, brown paper bags, string for hanging up plants and attaching labels, tags and textas.



The Seed Savers Network

Right: Sieves and seeds. Notice the different gauges on the sieves in the bottom row.



Photo courtesy of Jason Ingram

Different baskets at the Seed Savers. The top and second bottom ones are best for winnowing as they are lipless.

Seed Cleaning Machines

For larger quantities of seeds seed cleaning machines can be a more practical option. Seed Savers received a gift of a seed cleaning machine from Neil Barraclough of Violet Town Seed Savers in 2002. To make the machine, he used a large (12cm) cooling fan out of an old computer. This can be easily made into a variable speed fan, excellent for a seed cleaner, then run from a 12v battery or similar.

The machine is a long box with several chutes for the seeds to fall down, according to weight and size. This way we can decide to keep just the bigger seeds. The chaff blows out the other end. Adjustment of the wind speed is made with a knob that has ten settings. We have found it particularly useful when we have a lot of seeds. If you would like to know more about the design specifications of this contraption, you are welcome to contact Neil at neilb@vic.australis.com.au, c/- P.O. Briarolong Vic, 3860 Tel: 04 2732 8990.

Terry Frewin of Violet Town Seed Savers recommends a seed cleaning machine made by a local farmer named James Williams (03 5436 9245). It is made from a plywood box with a perspex chute down one side. A vacuum cleaner nozzle is poked in a hole at the top and there is a sliding door which reg-

ulates the amount of blow. Chaff comes out the side and the clean seed drops out a chute at the bottom.



Seed cleaning machine, donated to the Seed Centre by Neil Barraclough.

The Seed Savers' Network



Interns Mary, from the UK, and Gwendolyn Pitivani, from the island of Choiseul in the Solomon Islands, cleaning seeds.

The Seed Savers' Network

How Clean?

Sometimes perfectly good seed is given to networks with chaff and other debris in it. Many seed savers find such unclean seeds work for them at the home level. However for Local Seed Networks we recommend that seeds are stored and passed on in as clean a state as possible.

There are a few reasons:

- Storage pests such as weevils can hide in chaff and eat the seed over time.
- The presence of chaff increases the likelihood of mould.
- Novices to seed sowing may find it difficult to distinguish seeds from chaff.
- It is hard to estimate how many seeds you are giving people, or putting in packets if they are mixed in with chaff.

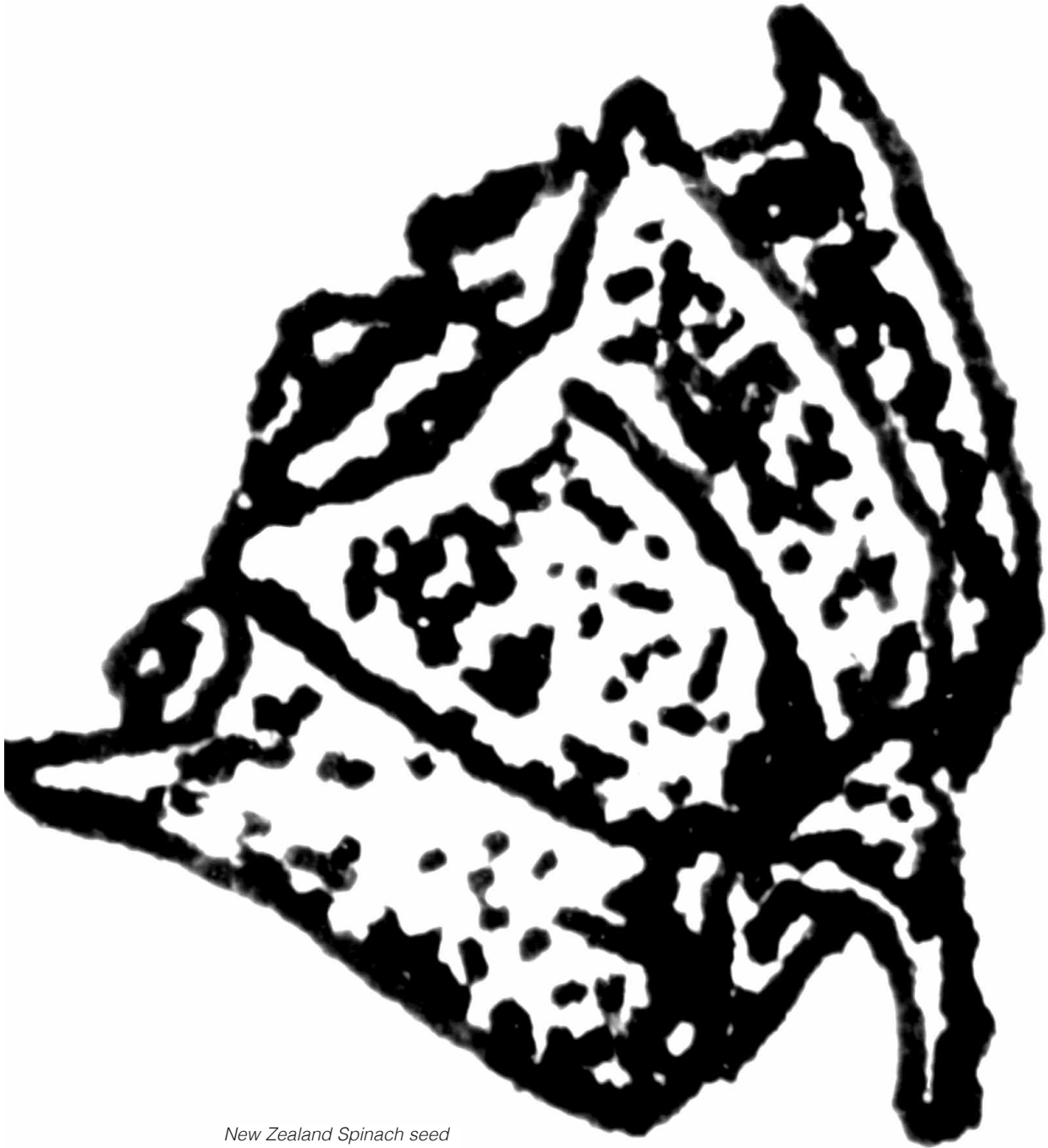


Photo courtesy of Jason Ingram

The single most important factor for longevity of most seed is their dryness. Cleaning away the chaff and debris reduces the likelihood of infestation by storage pests and mould, and makes it easier for the seed recipient to distinguish individual seeds.

After **Sourcing Seeds and Other Planting Material (3)** it is vital to ensure that the seeds are dry and clean before **Storing Seeds (6)**. It is also recommended to only use clean and dry seed for **Distributing Seeds (8)**. There is so much to learn about how to dry and clean each species and where to source equipment that is not costly and is available locally that **Sharing Skills (9)** events are recommended.

6. Storing Seeds



New Zealand Spinach seed

If you let 10 square metres of lettuce go to seed you will produce about 40 000 seeds, much more than you can use in one season! How can the rest be safely stored for later use?



The Seed Savers' Network

Bharti in the seed bank of The GREEN Foundation in Tamil Nadu, India. The room is in a shaded thick-walled building. It is dark as it has only a small window. Containers are simply those that can be found and the stock is turned over as quickly as possible.



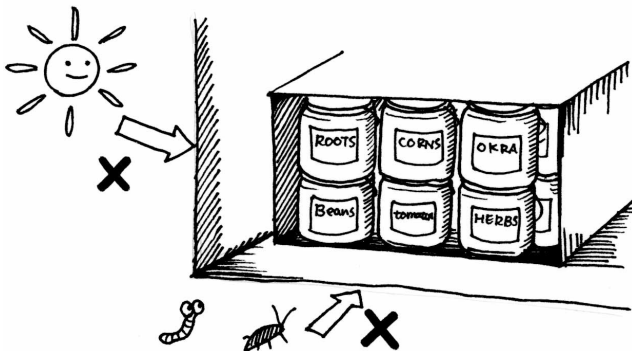
Photo courtesy of Jason Ingram

The chest of drawers holds a few packets of each variety that are more accessible for distribution.

Storage Conditions

The best method of ensuring the longevity of a variety is to continually grow it out and pass it on rather than keeping it in storage for years. However you will need to store seed at least between the seed harvest and next sowing season.

The main factors which affect the length of time seed will stay viable in storage are humidity, temperature and pests. Best conditions are a dark, dry and pest free storage space with a constant, low temperature.



A Dry Environment

Seeds are hygroscopic that is they absorb moisture from humid atmospheres and dry out in dry atmospheres. The problems of maintaining seed germination increase with seed moisture content. This can be generalised as follows:

Problems at different seed moisture levels

8- 9% insects become active and reproduce

12-14% fungi grow on and in seed

18-20% heating may occur

Over 20% germination may occur

Heating is caused by the respiration of seeds, of fungi and bacteria in and on the seed and of insect populations, which may build up rapidly in a moist environment. High temperature, high moisture and / or invasion of micro-organisms and insects will kill seeds rapidly.

High seed moisture is the most common single cause of loss of viability and of vigour in storage. However, if you live in a humid area you should not be deterred. Properly dried seed in moisture-proof containers can be stored equally well in areas of high humidity. It is hence vital that seed be properly dried before storage, and measures are taken to keep moisture content low in the seed bank.

Cool and Constant Temperature

The cooler the temperature the more slowly seed vitality declines. This rule apparently continues to apply even at temperatures below freezing. At 5° C and below, insects become inactive. Just as important as low temperature is constant temperature. Large fluctuations in temperature reduce the viability of the seed, therefore do not take the seed in and out of the fridge or freezer.

Ideal Conditions

Optimum seed moisture is generally 5-8% and the lower the storage temperature (provided it is not lower than about - 18 degrees) the greater the seed longevity. Refrigeration to at least 5°C is desirable (this is slightly warmer than domestic fridges). As a general rule reducing the seed moisture by 1% or reducing the temperature by 5 degrees Celsius can double the life of a seed.

Sealed seeds stored at 5% and 0-5°C could theoretically last as long as 20-50 years. See Appendix E for an estimate of how many years the seeds of different species will last in storage. However we stress that the most effective way of ensuring the longevity of varieties is to keep them growing. This allows them to adapt and change to our ever-changing environmental conditions.



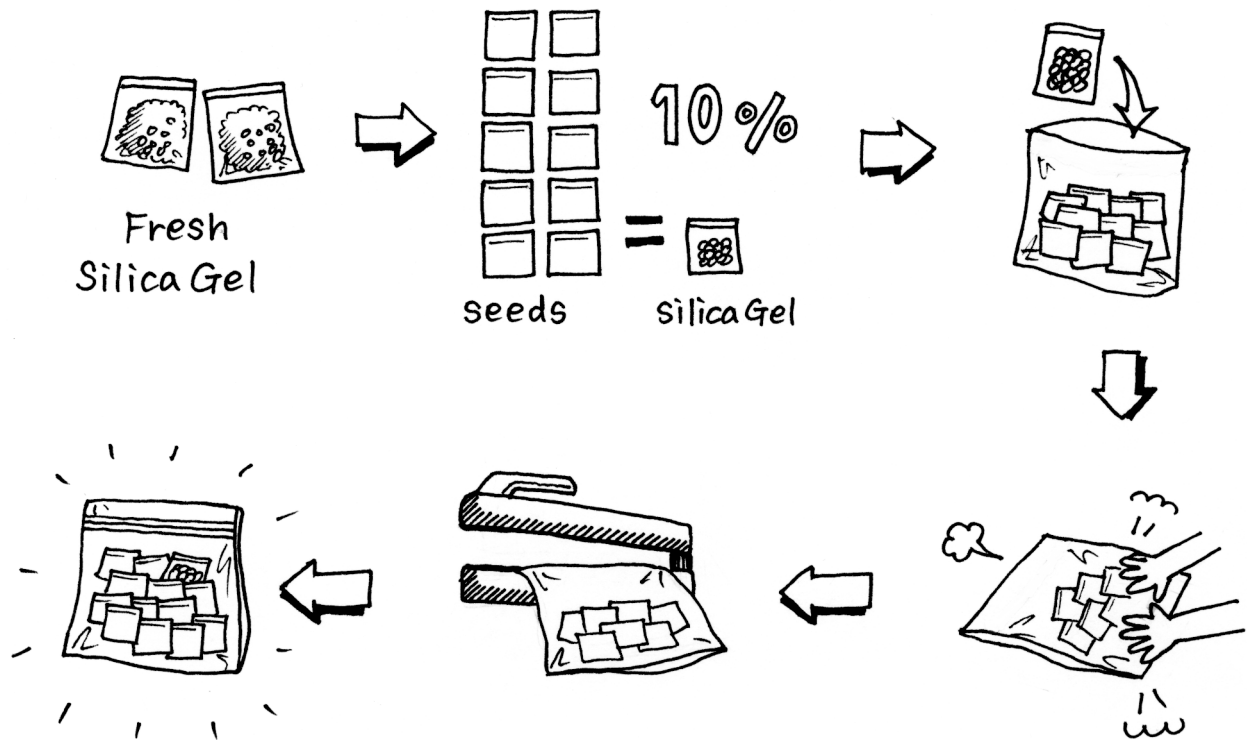
Tree seeds can be stored in less than ideal conditions, as here in glass jars that let in the light.

Storage of Recalcitrant Seeds

Exceptions to the recommendations above are seeds from the fleshy fruits of most tropical fruits, palms and most citrus. These are termed "recalcitrant seeds". They do not last long in storage and are best planted at the earliest opportunity.

If storage is necessary, keep them in a cool, moist situation without drying.

Using Silica Gel to Keep Moisture Content Low



At the Seed Centre in Byron Bay a small quantity of silica gel (10% of the volume of seeds) inside a press seal plastic bag, is stored with the seeds to keep the seeds moisture free. The silica gel and the seeds are placed in a PVC bag, the air is removed and then the bag sealed closed with an electric heat sealer.

Silica gel crystals can absorb moisture from seeds in a sealed container. Silica gel is a very porous form of silicon dioxide, or quartz. Silica gel can absorb up to 40% of its own weight in water. Its high porosity relates to very high surface area, commercial grades have a surface area of 750 square metres per gram. Use 1kg silica gel per 10 kg of seed and packets.

Self-indicating silica gel contains a trace of cobalt chloride which changes colour with absorbed moisture. The colour of the crystals indicates how much moisture has been absorbed - blue for dry, pink for moist. It begins to lose its dark blue colour at about 15% relative humidity, becomes somewhat colourless at about 30% relative humidity and begins to turn pink at 45% relative humidity.

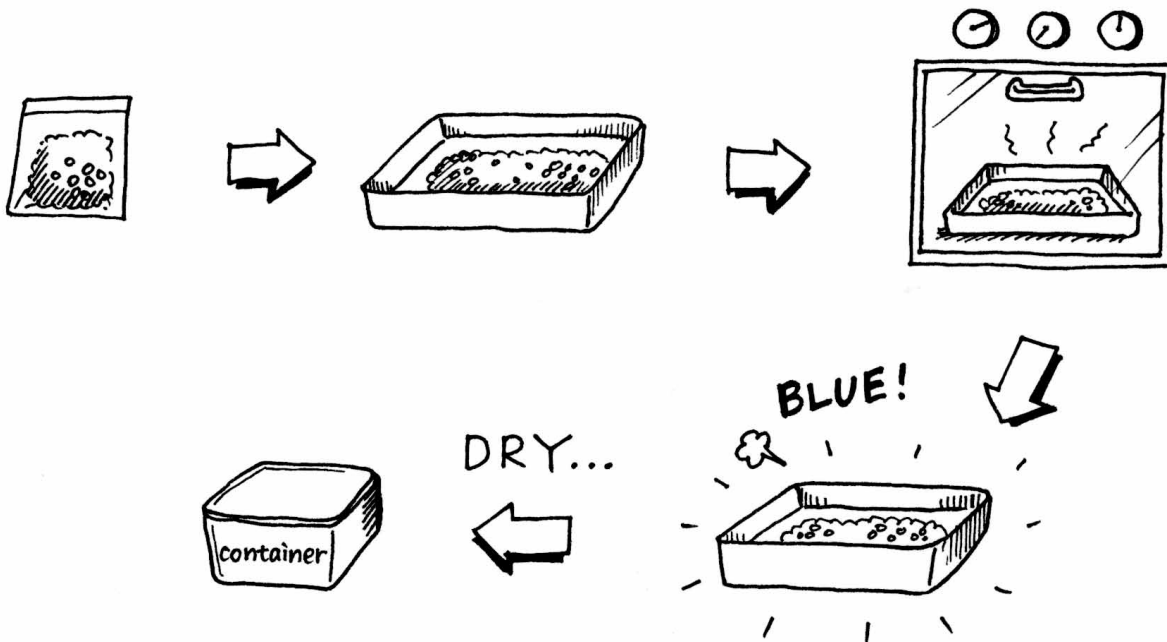
Steve Solomon, creator of the online Australian Seed Savers Catalogue uses less than 10% by weight, putting a packet full of blue, activated gel in with the seeds in a large sealed jar. Once it is deactivated he removes the gel and replaces it, repeating this several times over the course of a few weeks until the silica gel remains dark blue.

Oily Seeds Last Longer in Humid Conditions

In terms of moisture content, seeds reach equilibrium with their immediate environment. This equilibrium is determined by the seeds' individual make-up and the humidity and temperature of the surrounding air.

Seeds low in oil tend to absorb water more readily. For instance, to arrive at 5% seed moisture oily seeds such as peanuts can be dried at a relative humidity of 50-55%, soya beans at 30% whereas seeds low in oil such as rice and wheat need much drier conditions such as 10%.

This means on humid days, more damage will be done say to rice which is low in oil than peanuts, being high in oil.

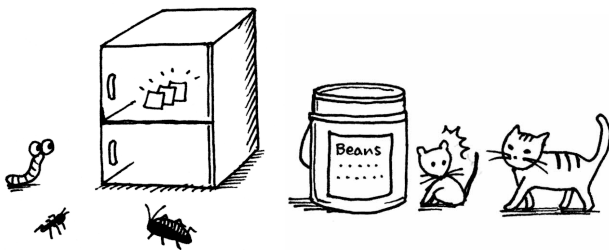


The silica gel can be recycled in the oven in the kitchen. It is recycled by spreading on a shallow tray in the oven at a low heat (110°C) until blue again. Stir often to bring the used gel to the top. Care needs to be taken that there is no spillage. Use large sheets of stiff paper to funnel the dried gel back airtight containers which should be filled to the top.

Pests

In seed stores weevils and other insects can pose a problem. The simplest method of eliminating this problem is to remove moisture and oxygen from the storage containers. Silica gel and oxygen absorbers can be utilised for this.

Rats and mice are also a common problem, keeping the seeds in sealed containers such as jars and plastic containers or buckets with lids prevents rat attack. At Seed Savers we leave our cat in the seed bank for a night when we are suspicious that rodents are on the prowl. She faithfully has the problem solved by morning.



Before storing any seeds, it is worth making sure that weevils are not already in residence. The eggs of weevils and other insects hide under the seed coat of beans and corn and emerge when the temperature is right. Two days of freezing inside a sealed container kills most weevils and eggs - although some species of weevils would need much longer at lower temperatures. For this

process seed must be thoroughly dry, since wet seed will be irreversibly damaged even if frozen for only a short period of time. African farmers thinly coat beans and other large seeds with edible oil, renewing the oil if weevils are seen.

If seed moisture content is maintained below 8% and the storage is partially or completely sealed so that respiration reduces the oxygen content below 14%, insects cannot survive in the seed. Sachets of oxygen absorbers contain, basically, iron filings which convert the filings to rust, utilising the oxygen; they go hard when spent.

Genetic Drift in Gene Banks

Genetic drift in stored seeds during long term storage is ascribed to at least two causes:

- As a stored lot ages, some of the seeds die and those that remain become less representative of the genetic composition of the original lot. The answer to this is to store well that little or no viability is lost, or grow out seeds while they still have good viability, rather than allowing the batch to decline and then regenerating it.
- Drift also occurs through an increase in the rate of mutation with storage time. Mutation rates are minimised by providing the optimum conditions of low seed moisture and a cool constant temperature.

Seed Bank Procedures at the Seed Savers' Network Byron Bay

Here at Seed Savers we store the bulk of our seed inside PVC bags that are used in the food industry for storage of seeds, nuts, cheeses, tofu, etc. They are air and moisture impermeable where plastic bags, contrary to popular belief, are not. Press-seal bags containing silica gel are put in the PVC bag where they absorb moisture from the seeds through the plastic.

To kill undetected insects, we use oxygen absorbing sachets. The contents, largely iron filings, are soft to the touch and of fine grain while they remain effective. When spent the contents feel coarse and hard like salt crystals. We have found that, with minimum exposure to air, these sachets can be used a number of times over many years.

To seal the PVC bags we use a heat sealer (see diagram on page 46). When heat-sealing a PVC coated bag be sure to:

- include fresh sachets of oxygen absorbers and dry/blue silica gel to approximately ten per cent the volume of the packets of seed.
- press as much air out of the bag as possible the moment before heat-sealing.
- make the heat-sealed seam flat and wrinkle-free or else air will leak back into the bag.
- make the seam as high as possible to the top of the bag. When it is then cut open the bag will still be a decent size to reuse again.

We have devised our own classification of plants as a point of referral (see Appendix F). We have this rather than a botanical system of classification, such as by families, because it suits volunteers, farmers and gardeners. These plant categories are used throughout our system - in the seed database, classifying excess seed into plastic drums for storage, and in the seed drawers where the packeted seed is stored ready for subscriber requests.

All the recently received seed lots are sorted into groups such as beans, tomatoes, flowers, etc., as per our classification system. These are then germination tested in the right season. Reasonable sized seed lots showing good viability are packeted by The Mt. Tamborine Garden Club and Banora Point Garden Club volunteers.

Once the packets are returned, they are sealed in PVC bags and stored in plastic buckets, on metal shelving in their appropriate category. All this seed stock is the basis of the "working" collection.

A small number of packets of each variety are kept in a chest of drawers, once again in the same Plant Groups as they are more easily accessed than if they are all in bags.

This seed is then widely disseminated to subscribers, by mail mostly, from the seed packet drawers in the Bank. A list is included in the Autumn newsletter.

Seed lots of poor viability will be sent to regenerators and multipliers. They are volunteers with seed saving experience advertised for in the Autumn newsletter. These samples are

stored in a closed metal cabinet.

Seed lots too small to be tested will also be sent out during the year to regenerators and multipliers also. They stay in their group bags in the metal regenerators cupboard.

At seasonally appropriate times seed stocks are scanned for seed lots older than two years to be removed for re-testing.



The Seed Savers' Network

Each bucket represents a category from our classification system, such as 'Tomatoes', 'Flowers', 'Roots', 'Lettuce', etc. On the outside of each bucket is listed the name, accession number, percentage viability and date of each of the varieties inside the bucket.



The Seed Savers' Network

As soon as seeds are received they are put away in PVC bags inside buckets. Here Amy Glastonbury, Local Seed Network Coordinator, is helping in the seed bank.


Seed Savers' Seed Packets

Seed packets are available from Seed Savers. They are made from polyester, foil and paper and are moisture and air-proof. They also allow for a dense amount of information to be recorded in a small space. They are sealed with a medium-hot iron or hot knife and can be resealed each time they are opened. They are air

and moisture proof and there are tips on saving and storing seeds on the back.

For optimum seed longevity, store in a cool place.

Contact The Seed Savers' Network to order batches of between 10 (costing 30c per packet post paid) and 1000 (12c per packet post paid).

✂..... 

Local/botanical name:

.....

Harvest date: Viability:%

Contains seeds Var#:

Habit: (Circled) Vine / Bush Height:

Description:.....

.....

Usage:

Sow: Spring / Summer / Autumn / Winter

Wet season / Dry season. Direct / Indirect

Tolerant: Disease / Drought / Pest / Frost

Isolation: Self-pollinating / Cross-pollinating

Seed produced: Annually / Biennially

Locally Saved Seeds produced by

Seed Saving Tips

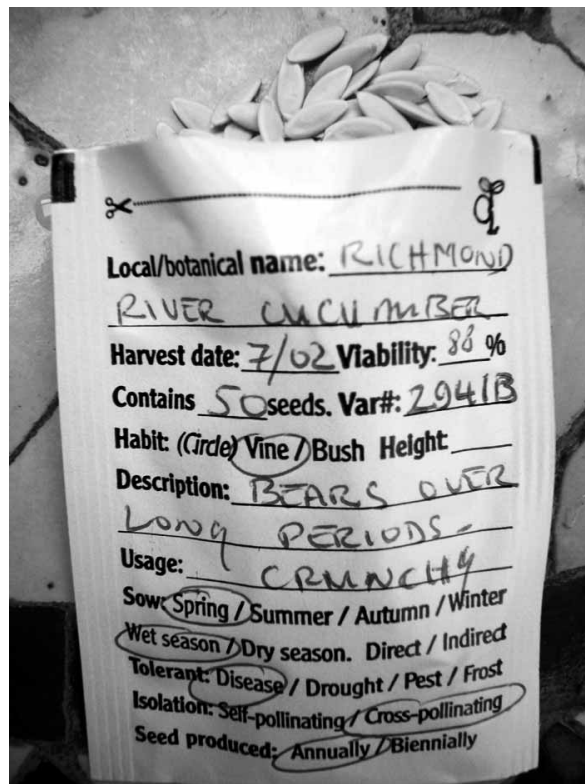
- Observe isolation rules to prevent crosses
- Preserve several healthy plants
- Select best fruits, pods or seed heads
- Harvest only when fully mature
- Clean and dry seeds thoroughly.

Seed Storage Tips

- Record information on empty packet.
- Place seeds in packet and squeeze air out.
- Seal with a medium hot iron or hot knife
- Place packets in a rodent-proof container.
- Store in a cool, dark place or refrigerator.
- Packet may be resealed several times.

More info: *The Seed Savers' Handbook*, The Seed Savers' Network, Box 975, Byron Bay NSW2481. Australia. www.seedsavers.net

Actual size of packets, i.e., 60mm x 80mm



The Seed Savers' Network

Seed Storage at North Western Sydney Community Seed Savers



Photo courtesy of North Western Sydney Community Seed Savers

We store our seed in bulk and package them in recycled envelopes and write on them as we give them away.

For seed storage we use two litre glass jars recycled from Pauline's pizzeria that really pong because they were used to store garlic, so no self respecting insect or rodent would go anywhere near them. We often put seeds inside dark film containers in the top half of the garlic jars. The film containers are recycled internally because I am still taking hundreds of photos. We also find the recycled plastic honey buckets good (on

left) for when we take a mobile display and seeds to expos, etc.

We half fill them with wood ash. I recycle local untreated hardwood fences through my fireplace every winter. The trend here is to Colorbond and neighbours got to know by word of mouth, they often deliver it to me or bring people they have found who want to get rid of their fence and I end up with this clean sterile wood ash resources.

Email from Robyn Williamson, North Western Sydney Community Seed Savers, October 2003.

Growing seeds out should always take priority over storing them in a seed bank. When storing seeds is necessary however, the best conditions are a dark, dry and pest free storage space with a constant, low temperature.

For seeds to last in storage, **Drying and Cleaning Seeds (5)** is very important. If seeds are not thoroughly clean and dry they will not last long. **Testing Seeds (7)** is a means of checking they are still viable after a few years of storage. To utilise seeds and keep them moving through the seed store, an effective **Distributing Seeds (8)** network is what is needed. **Keeping Records (4)** of what seeds are in store at any moment in time allows for easy access.

7. Testing Seeds



Tomato seed

Often seeds are received with very little accompanying information. To find out about seeds, such as what variety and how viable and vigorous they are, we test them.



The Seed Savers' Network

Viability testing seeds at the Seed Centre in Byron Bay



Testing for Correct Identity

Identity of the seed

When batches of seeds come in to the LSN their identity should be validated if possible. The first step is to inspect the seeds to check they are correctly labelled. Sometimes Seed Savers has received seeds that are completely mislabelled with the wrong species for example.

When you have determined they are the correct species, ascertain that they are the right variety, if possible. Cross check with current seed stocks to determine whether the seeds look the same. The records your group has kept of previous batches of the same name will help, provided there is enough information recorded. The colour, shape or size of large seeds such as beans and corn are checked easily enough though small seeds often defy inspection.

It is best to have someone who is familiar with seeds to handle the incoming batches. That person will be someone who has experience with at least sowing seeds and preferably with saving his or her own seeds. Of course over time familiarity with the appearance of seeds amongst the members and coordinators of the LSN will increase and it will become almost second nature for the most part. If there is significant variation then get back to the person who supplied the seeds and discuss the discrepancy.

Identity of the progeny

The second step is to grow out some of the seeds to ascertain whether the seeds are correctly labelled. This step can be omitted if the LSN is new and/or does not have enough time and resources. During the test you observe for the correct species and the correct variety.

Growing them out can be done in a central garden, or in individuals' gardens. It is a good task for someone who likes keeping records and has time for making observations.

When you are testing a batch that is labelled with a commercial name, looking up old catalogues for descriptions and pictures of that variety helps you ascertain the veracity of their identity. If the batch has the same name as a non-commercial variety that has come in to the LSN before, then the amount of information recorded previously helps you cross reference their characteristics.

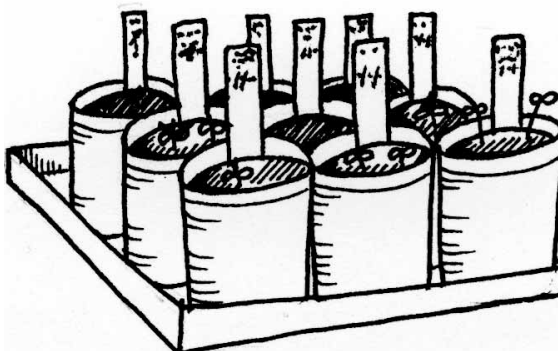
You can also contact us with enquiries about the characteristics of particular varieties at The Seed Savers' Network. We have a collection of

old and current seed catalogues and as of late 2003, over 7200 seed entries on our seed database.

Testing for Viability

We have struck a balance between maximum accuracy and the limits of our resources for these tests. Our testing procedure is not strictly scientific and serves mainly as a guide for how many seeds to put in a packet and how thickly the gardener should sow them. However we have standardised our procedures over the years and so the viability percentage that is recorded on the seed packets is at least consistent.

In the past we conducted tests on paper towels and by germinating the larger seeds in small bowls. Now we test all seeds in potting mix in pots because we have found it more accurately reflects the conditions in which seeds will be sown. It also tests for vigour, i.e., the seedlings' capacity to push up through soil.



Labelled pots such as these are used for viability testing seeds at Seed Savers.

Procedure

1. Collect from the shelf just inside the seed bank the box of equipment labelled "Viability Testing" containing:

- small plastic clip lock bags
- pot labels (white plastic, as used by nurseries)
- pens (red and blue), Chinagraph pencil, rubber, ruler, sharpener
- work sheet folder and calculator

2. Collect seeds for testing. Put lettuce, carrot and parsnip seeds in the fridge for twenty four hours to vernalise them making sure they are sealed away from the atmosphere.

3. Fill in seed lot details on the work sheet: accession number and variety name from the label on the seed bag as well as the date the test has commenced. Also the number of seeds that

will be sowed. (See example worksheet on next page and Appendix G for blank worksheet to photocopy and use.)

4. If the pot-tags have been used clean off with the rubber. In soft lead pencil for each variety to be tested, write the accession number, variety name and date of sowing on the pot-tags. We also put the number of seeds we sow.

Number of seeds to test for viability:

The number of seeds to test from each batch varies with the size of the batch and the size of the seed.

Beans, Peas, Corn, Spinach	10 - 15
Tomato, Chillies, Eggplant	30 - 45
Lettuce, Onion, Basil	40 - 60

Some guidelines:

Note: Even if there is a large quantity of seed available in the lot, limit the number you test as too many seeds in the test makes a tedious chore of counting the sprouts each week.

5. Take a random sample of the seeds. While closing your eyes and taking a pinch of seeds from a batch may seem random enough, here is the method of obtaining a truly random sample:

- spread the whole batch out on a table,
- mix all the seeds well,
- divide the batch into two,
- put aside one half,
- mix the other half and divide that into two again,
- repeat this until you have approximately the number of seeds required,
- count out the number of seeds randomly.

When performing this last step, make sure you do not favour the larger or more healthy looking seeds. It is a temptation when a batch has chaff or small and misshapen seeds to choose only the best, but this skews the results of the test. Alternatives are to sort out the off-types in the whole batch on the spot before performing the test, or put the batch aside for cleaning, sorting and testing later.

6. Place each sample of seeds in a clip-lock bag with its pot-tag ready to go outside.

7. Tidy up the remainder of the batches of seeds, reseal from the atmosphere and store in a sealed bucket or similar container, labelled "In Viability Test" ready for when the test is finished.

8. If this is your first test, choose the position outdoors where your test will be run. We prefer to put our tests out in the open as we have found that shade-cloth is not necessary provided the water is kept up to them. This gives a realistic result that is consistent with how the seeds are going to be used. Also it provides us with sun-

hardened seedlings for the garden. In summer choose an area that is protected from the westerly sun and drying winds. In winter a warm northerly or westerly facing area protected from cold winds may be necessary. A paved area keeps the heat overnight.

9. Make up the potting mix for the viability tests. Drainage, as well as water holding capacity is important. Mix batches of potting mix well and avoid lumps, stones, earthworms and weed seed in the mix. The mix we use at The Seed Centre consists of: one third sifted weed-free compost and two thirds washed coarse river sand. To kill weed seed the compost and sand can be put out on a plastic sheet in the hot sun. Compost can be replaced by coco peat or peat moss both of which must be wet before mixing with sand. Sand can be replaced by vermiculite that aerates and also holds water in the mix or perlite that just provides aeration. Keep experimenting to locate the cheapest resources for the best seed sowing mix.

10. Seeds are sown at a depth of three times the diameter of the seed. Fine seeds can be sown on top of the mix and covered with a thin coating of sand.

11. Count the number of seedlings in each pot each week and enter on the work sheet. Once again familiarity with growing from seeds is useful as it is necessary to correctly identify the seedlings. Tests should be allowed to run for four weeks to allow time for the slowest seeds to germinate. Three weeks may be enough in warm climates.

12. Samples must be checked daily for dampness. Don't let them dry out. Water with a fine rose on a watering can or hose. Strong jets of water or large raindrops will disturb the seeds and wash them out of the pots. If it is a really wet season, some species will rot and it is best if the whole batch of tests is brought in under shelter.

13. At the end of the four week period the test can be finished off, unless by experience you know there are some species that take longer.

14. Using a calculator ascertain the percentage of viability by dividing the number of seedlings recorded by the number of seeds tested and record it on the work sheet. If the number goes down from one week to the next, the larger number is the correct viability. Record the viability and the month and year of the test on the label of the seed batches that you retrieve from storage.





The Seed Savers' Network

Shizuka Komoro, Japanese intern at the Seed Centre in 2002, prepares labels for seeds to be viability tested.

VIABILITY TESTS started 8/18/03 by Loretta										
In Pots <input checked="" type="checkbox"/> In Paper <input type="checkbox"/> In Garden <input type="checkbox"/>										
Accession No	VARIETY NAME	No of seeds	1st week No of sprouts	2nd week No of sprouts	3rd week No of sprouts	4th week No of sprouts	% Viability	Entered in dbase	Sent to packers	COMMENTS
5077	Plum Purple Radish	16	10				62.5%	✓		Regen.
5098	Sweet Red Bell Capsicum	7	0	0	3	4	57%	✓		Regen.
3847C	Capsicum Perennial	16	0	3	3		19%	✓		Regen.
5069	'Green in Snow' Chinese Mustard	23	20	20	20		86%	✓		PACKERS
4631B	Freckles Lettuce	20	0				0	✓		Re-test
4996A	Loffs Rabbits Ear Lettuce	20	0	0	0		0	✓		Re-test
3757BA	Alcock's Heirloom Lettuce	20	1	0	0		5%	✓		Re-test
3502B	Mato Kaia Egypt Sprout	18	4	4			22%	✓		Regen.
5049	Long Snake Bean	10	8	8	8		80%	✓	✓	PACKERS
5067	Tapered Bean	5	3	3	3		60%	✓	✓	PACKERS
5065	Snake Bean	10	9	10			100%	✓	✓	PACKERS
3288A	Velvet Bean	5			4		80%	✓		PACKERS SEED NETWORK
5055	Hairy wheat	6	6				100%	✓	✓	Regen.
5059	Early Cross	20	6	6	6		30%	✓		Regen.

A viability test undertaken by Seed Savers' seed banker Loretta Faulkner in August 2003.

Testing for Vigour

This means testing to see how the seed performs in normal growing conditions. It differs from testing for viability in that it looks at how well the young seedling grows. Sowing depth and soil tex-

ture are critical and should be recorded. To test for vigour leave the viability tests to run for another week or two and note the survival rate of the seedlings.

In What Season to Plant?

We have made up a list of what plants have to be grown in a certain season, either because of the limitations of temperature, day-length or rainfall. Some plants will germinate at the same rate, no matter what the season. We have found beans are like that for us in the sub-tropical climate of Byron Bay. However you will have to determine, from your collective gardening experience in your climate, what restrictions you have. Putting the tests in a hothouse or cold frame or even on top of the water heater will give you a longer testing season.

Seasonal Sowing Guidelines at The Seed Centre, Byron Bay:

Autumn (March, April, May)

Herbs: Angelica, Borage, Chervil, Coriander, Edible Chrysanthemum, Fennel, Garlic Chives, Lebanese Cress, Mitsuba, Parsley and Rocket.

Salads: Lettuce, Celeriac, Celery, Chicory, Dandelion, Endive, Mustard.

Spinaches and Other Greens: Amaranth, Asian Greens, English Spinach, NZ Spinach, Crach, Rainbow Chard, Silver Beet, Borecole, Broccoli, Brussel Sprouts, Cauliflowers, Collards and Kale.

Fruiting: Broad Beans, Barley, Oats, Rye, Wheat, Globe Artichokes, Peas

Roots: Beetroot, Burdock, Garlic, Jerusalem Artichoke, Leeks, Onions, Parsnip, Potatoes, Salsify, Spring Onion, Turnip

Green Manure: Lucerne, Lupins, Woolly Pod Vetch, Tick Beans
Winter (June, July, August)

Herbs: Corn Salad, Dandelion

Fruiting: Tomato (From August)

Spring (September, October, November)

Herbs: Dill, Basil, Salad Burnet, Water Cress

Salads: Lettuce

Spinach Greens: Basella, Hibiscus Spinach, Water Spinach

Fruiting: French Beans, Hyacinth Beans, Lima Beans, Snake Beans, Soya Beans, Sword Beans, Winged Beans, Cape Gooseberry, Capsicums, Chick Pea, Chillies, Eggplant, Maize, Okra, Rosella, Sweetcorn, Tomatoes

Cucurbits: Bitter Gourd, Choko, Cucumber, Gourd, Gramma, Luffa, Marrow, Melons, Pumpkins, Squash, Zucchini

Roots: Ginger, Peanuts, Sweet Potato, Taro, Turmeric.

Green Manure: Cowpeas, Soya Beans, Dolichos, Lab Lab, Mung Beans, Pigeon Pea.

Misc: Asparagus

Summer (December, January, February)

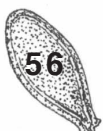
As it is too hot, we don't test in summer

All Year Round

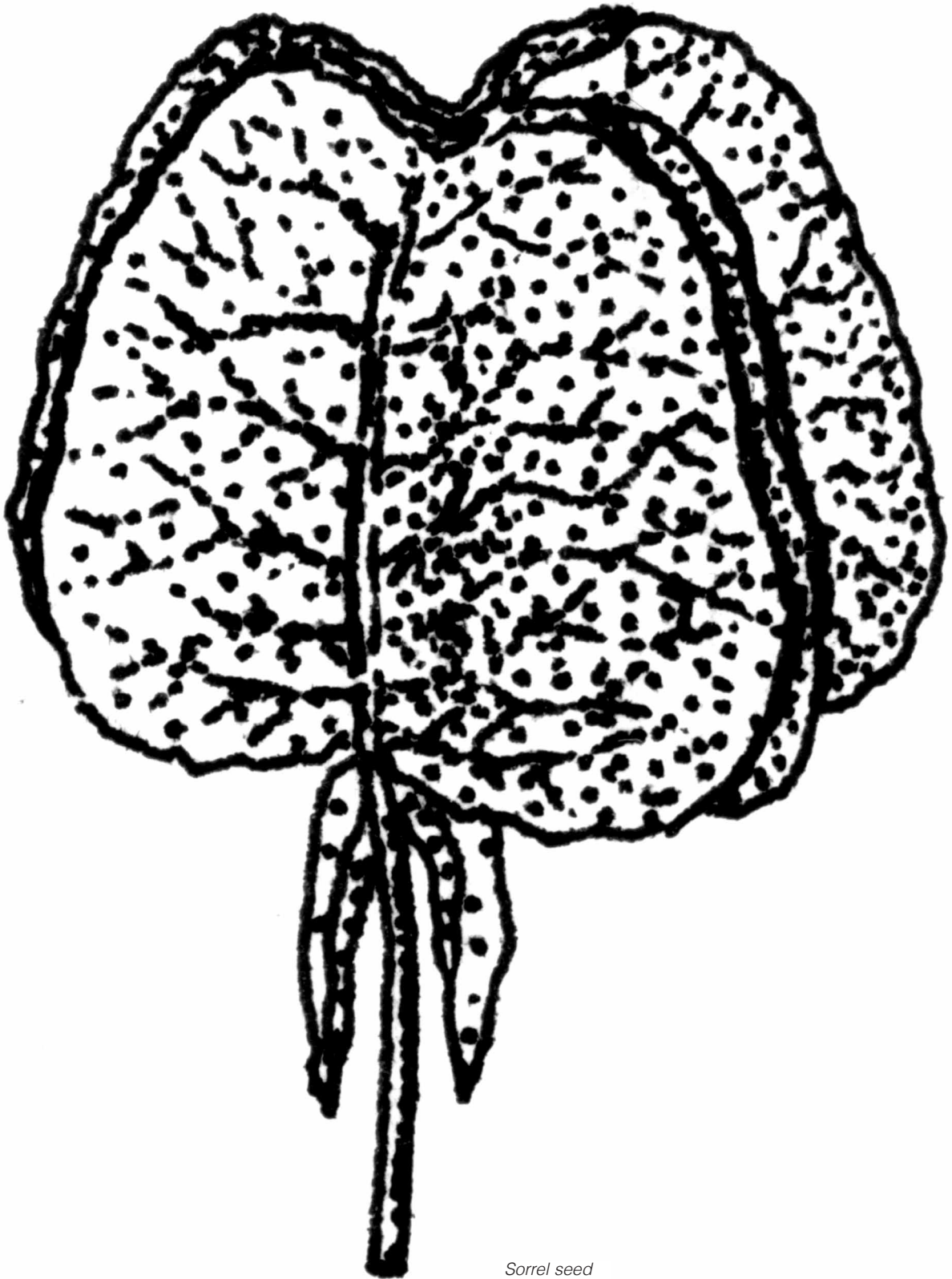
Perennial Herbs e.g., Lemongrass, Mints, Oregano, Rosemary, Thyme, Sage, Sorrel. Amaranth – except dry times. Carrots – except really dry times. Radish and Lettuce, except really hot times. Sunflowers.

Testing ensures that that your LSN distributes viable seed that is correctly identified where possible and that it maintains a good quality seed collection.

After **Sourcing Seeds (3)** they may need to be tested before **Distributing Seeds (8)**. While **Storing Seeds (6)** they can be tested before being distributed, both soon after reception and after a long period of storage. **Keeping Records (4)** of the results of the percentage germination, vigour and identification is advised. This process is necessary for cross-referencing during testing.



8. Distributing Seeds



Seeds have a life span limited to from one to ten years according to how you harvest and store them.
The role of the LSN is to therefore keep seed moving.



The Seed Savers' Network

A novel way of distributing planting material: a Taro Diversity fair held in April 2002 in the Solomon Islands on the island of Malaita. For details see page 61.

The Ideal of Swapping

Distributing local seeds to local people is at the heart of a local seed network. An ideal way to go about distributing seeds is by swapping them, by-passing the need for money and allowing everybody to become richer in biodiversity.

Swapping seeds and planting material amongst members can occur regularly at meetings and gatherings. It can also occur informally between members provided they have each other's contact details and lists of what each member has available (see Keeping Records). Some local seed networks may have centralised collections with a couple of people looking after the collection. This could be accessed either at any time or only at regular meetings.

Local Seed Networks can be as regimented or relaxed about the seed swapping procedure dependent on what best suits the network members. Some have rules about when seeds can be accessed and how many packets can be taken for how many given. This tends to be the case with the local seed networks that keep their seeds in a central collection. Others whose seeds and planting materials are held at members' homes and gardens leave it up to the members themselves to decide what is bartered, sold or given away in any given situation.

Sometimes you may want to swap seeds or planting material with other nearby local seed networks to obtain varieties not available locally. Try and choose an LSN with a similar climate.



The Seed Savers' Network

Tony Locandro at the Coffs Regional Organic Producers Organisation seed swapping table.

Swapping planting material across state borders can be problematic and quarantine regulations need to be respected.

Distributing Seeds to the Local Community

Seeds and planting material can be distributed locally to promote the conservation of genetic diversity and seed saving and to attract more members, or perhaps to raise money. This can be done in a variety of ways:

- at stalls at local markets, field days or agricultural shows; as prizes,
- donate seeds to organisations asking for goods for fetes, raffles and chocolate wheels,
- gifted to local people in need,
- through your local nurseries or organic grocers.

Whether you want to sell seeds or give them away for free will depend on your Local Seed Network's objectives, your resources and who the recipients are.

When distributing seeds locally it is handy to have a portable seed bank that is moisture proof and easily turned into a display with separator cards showing what varieties are available.

Other options for getting more of your Local Seed Network's fabulous resources out into the community involve organisation fairs. This may be a fair celebrating the diversity your group has in a particular family of plants and all of their uses.



Photo courtesy of Richmond East Timorese Seed Savers

Seed Swap day at Richmond East Timorese Seed Savers. See page 62

Seed Packetting

If your Local Seed Network is going to be distributing seeds more widely than your own local seed network, you will have to consider packetting your seeds. Seed packets are surprisingly costly. For some time we were lucky enough to have a local school making recycled envelopes for us. Below see how to recycle half an ordinary envelope.

Later we used small plain paper packets that eventually cost over four cents each. Seed Savers is now using air and moisture proof seed packets and has them available (see page 51^{*}).

Members of Mt Tamborine and Banora Point Garden Clubs package and label Seed Savers seeds as a magnificent contribution to our work.

When you pack seeds for distribution, you may wonder how many to put in each packet. We have guidelines but we vary the number of seeds per packet according to:

- Viability - if they are 100% viable we put in the number of seeds listed below, if the viability test shows they are say 50% then we put in twice as many, and so on proportionately.
- The number of seeds in that batch - if we have only a few seeds then we put in less, so as to spread them around to more people; if we have a large number of seeds, then we put in more than in the list below.
- How many plants of this species would most people need in their garden.

Guidelines on How Many Seeds per Packet

10 seeds - very big or difficult to find seeds, or ones that you don't need many of in a garden, eg cotton, lima and broad bean.

15 to 20 - bigger seeds like beans, okra, pumpkin and other cucurbits like gourds, cucumbers, zucchini and watermelon.

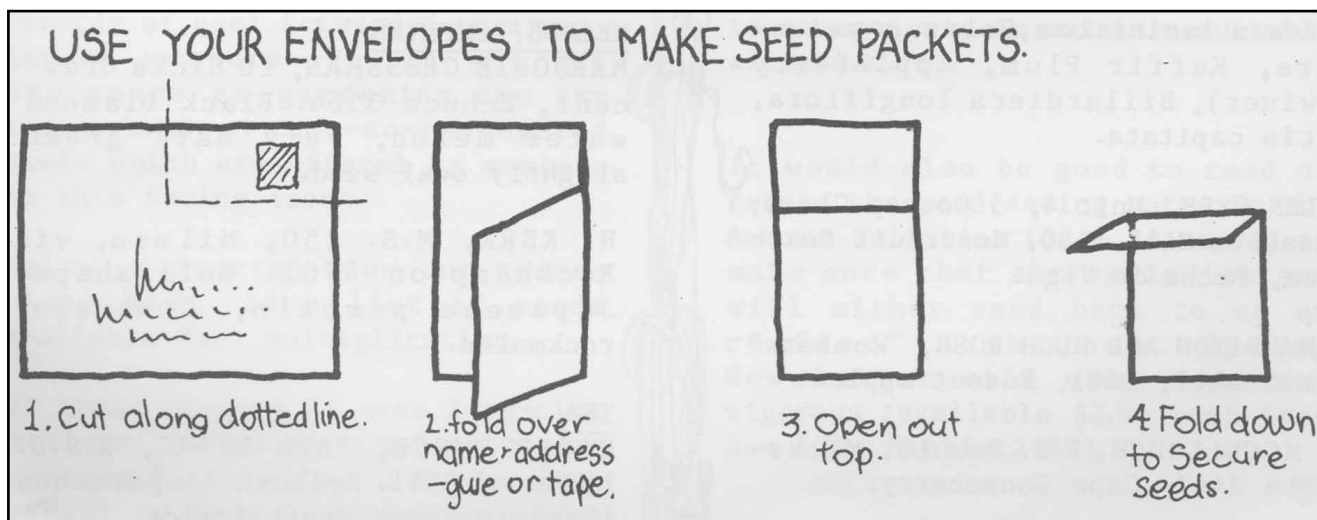
25 to 30 - pea

30 to 40 - medium sized seeds like bok choy, beetroot, broccoli, cabbage, capsicum, chilli, eggplant, silver beet and spinach.

40 to 50 - smaller seeds, or ones that we have a lot of, like amaranth, basil, coriander, lettuce, mustard, onion, rocket and tomato.

60 - very small seeds or crops that you need a lot of in the garden, or whose seeds are not always so viable like carrots, cereals, poppy, and radish including daikon (if we have enough seeds).

100 - seeds which need to be grown in large quantities for correct genetic diversity such as corn and sunflower.



Two for One System of Distribution in India

Distribution may entail giving, selling or exchanging seeds. Another method is to "lend" the seeds for the growing season with the expectation of some back at its end.

All over India it has been a long-time custom that seeds are not sold but given on the proviso that some are given back at the end of the season. The ratio varies from one-for-one to two-for-one, in this case two kilograms given back for one kilogram received.

The GREEN Foundation is an organisation, like Seed Savers, that preserves traditional varieties of food crops. Up until 2001 they concentrated on staple crops, but now include vegetable as well. They use the customary distribution system of two-for-one seeds with marginal farmers in the dry north of Tamil Nadu and in this way continually expand the number of farmers that they are able to service. They have collected and redisseminated many hundreds of traditional varieties.

Taro Diversity Fair

The Solomon Islands Planting Material Network has a field genebank in four provinces in Solomon Islands where 843 *Colocasia* species taro cultivars collected by its members are being maintained. In April 2002, Michel and Jude attended a Taro diversity fair at the field genebank on the island of Malaita.

Jude reports:

The fair was held inland in the mountains in Central Kwaeræ and attracted over 200 people from around Malaita. Over 200 taros had been grown out in the village of Kvalo and were on display. The older people in all their lives had not seen such a diversity.

Some of the visitors brought along yet more varieties and were awarded prizes. In the competition for how many varieties you could name, an older woman won the prize by naming twenty.

I felt I knew a bit about taro before I went along, but by examining so many varieties, I now know so much more, like where to look for distinguishing marks, and there are many. For

example colour, whether a shade of green, purple or red - of the leaf spots, stems, collars, tubers and flesh - is an obvious determining characteristic. Then there are stripes on some stems and some tubers are round while others are elongated.

Groups of people took samples of ten taros to cook in the fire enclosed in nodes of a large bamboo, then taste tested and scored them. While cooked by steaming over the fire sealed in a bamboo node is a delectable way of eating taro, taro chips fried in oil and boiled then mashed taro are delicious.

There are many strong customs on Malaita related to the growing of taro. One must not enter the taro garden after eating turtle or mangrove fruits. Menstruating women are not allowed in. The taro must be cut and harvested with a small shiny sharpened specific shell, never with a knife. Taro has a mystical significance for many tribes. It is likened to human beings.

The speeches from a beautifully decorated dais emphasised the need to conserve taro diversity in situ and to value both the nutritional and cultural aspects of this crop.

At the end of the two days the taros were divided up for people to grow them back in their own gardens.



The Seed Savers' Network

Over 200 varieties of taro laid out for inspection and distribution.

From The Seed Savers' Newsletter, No. 32, Autumn 2002.

A Portable Seed Bank

Richmond East Timorese Seed Savers are located on a public hire rise housing estate. The garden is on about a half an acre with about 100 individual plots for residents of the housing estate. There are about eighty gardeners actively involved who are predominantly East Timorese.

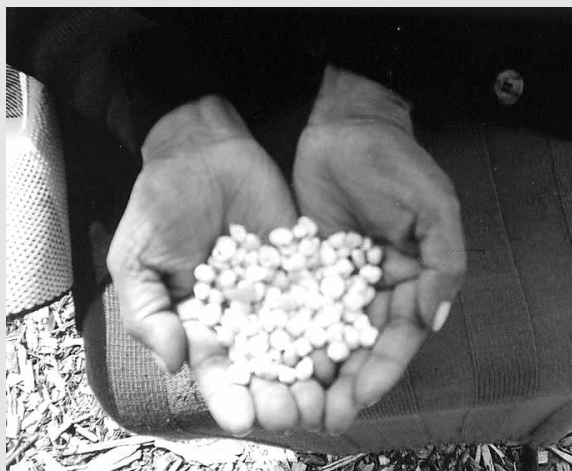


Photo courtesy of Richmond East Timorese Seed Savers

Corn is an important staple for Timorese people

Richmond East Timorese Seed Savers store and exchange seeds using a portable seed bank. Four times a year they run a banking day when they bring the seed bank into the garden where the seed exchange takes place. They have a catalogue of seeds available in the seed bank with photographs and descriptions in several languages.

The portable seed bank consists of two big plastic rectangular tubs with lids and handles at either end. Inside are all the

seed containers (mostly glass jars) and they are labelled with the botanical, Timorese, Vietnamese and common names. The lids of each jar are also numbered and the number corresponds to the catalogue page/variety number where there is a photo/illustration/description of the particular species - this works well as you can clearly see the numbers just by taking the lid off the storage container - you don't have to pull each container out individually. It's also a good system for non-English speakers or when a shared language is not possible. People tend to flick through the catalogue and then make a request e.g., I want number 2, 4, 9 and 34.

Gardeners can initially withdraw four varieties of seeds for the season ahead. For each subsequent withdrawal that they make from the portable seed bank they must first make a deposit of one of the previous varieties withdrawn.



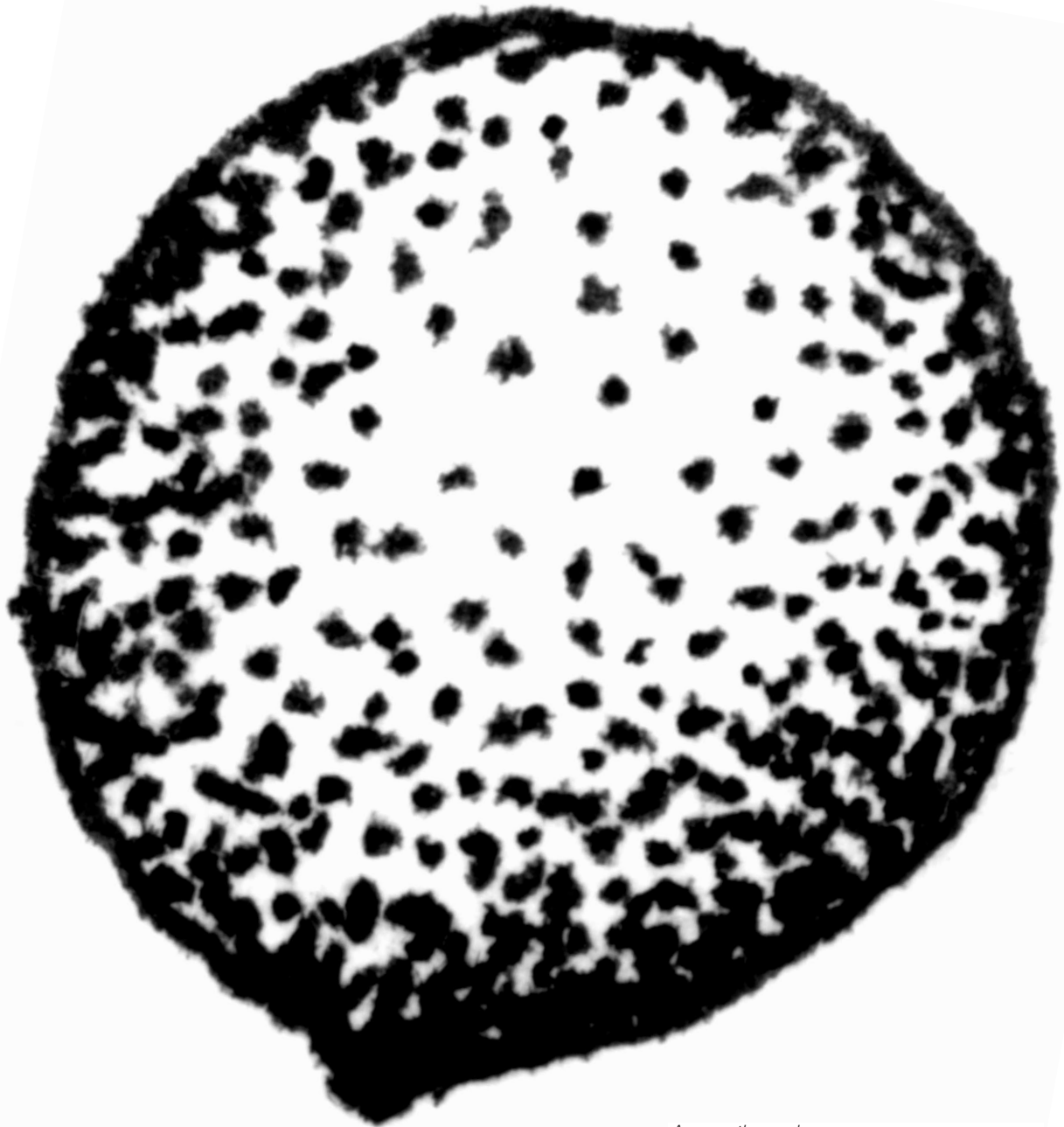
Photo courtesy of Richmond East Timorese Seed Savers

Seed swapping day at Richmond East Timorese Seed Savers.

Distributing seeds creates a wealth of biodiversity. There are many ways of distributing seeds, it is important to make your system of distribution appropriate to the aims and needs of your network.

Once **Sourcing Seed and Other Planting Material (3)** is under way, a method of distributing these will be necessary. **Keeping Records (4)** of what and whom you have in your network makes the task of distribution a lot more simple. A Local Seed Network is much more effective if distributing seeds is a greater priority than **Storing Seeds (6)**. **Distributing Seeds (8)** is an effective way of **Promoting Seed Saving (10)**.

9. Sharing Skills



Amaranth seed.

Knowledge on how to save seeds and how to use a variety is as important as the seeds themselves. It took 200 years for the potato to be accepted as a valuable food in Europe so there is something to learn about new vegetables!



The Seed Savers' Network

The outdoors is a great setting for small groups.

Sharing Skills Events

Events where people share their skills are simple enough to organise and an enjoyable way to learn. Some examples of workshops or activity that could be undertaken by your local seed network include:

- Run workshops on cross-pollination and isolation, seed processing, drying and storage.
- Visit other local seed networks to discover how they store seed.
- Have a compost making and/or worm farm demonstration day.
- Explore various different farming and gardening methods with each other such as permaculture, biodynamics, agroforestry, lunar planting and no dig gardening.
- Do a skills audit of the network to make a list of what everyone is good at. This could be arrived at for example by a questionnaire or an interview. Remember to record the valuable skills of elderly gardeners and food preservers.
- When the garden is in full bloom hold a seed harvesting workshop and after the seeds have dried gather together to clean the seeds.



- Create a database of this information plus what people have in their gardens.
- Find a local chicken expert to teach you about keeping heritage backyard poultry.
- Share skills on plant utilisation from basket making to the medicinal uses of plants.
- Run a workshop teaching nursery skills, from constructing a nursery to seed raising tips.
- Become involved in overseas aid - link up with disadvantaged groups in less developed countries. The Seed Savers' Network have many contacts for projects that would benefit from the support of a local seed network.
- Provide outreaching service to other groups: Community Centres, Schools, Neighbourhood Houses.
- Invite a 'Seedy Speaker' to give a talk at your meeting. A list of Australian Seedy Speakers is

held at The Seed Savers' Network (see Appendix H) Please let us know of other seedy speakers who could be added to the list.

- Create an operational manual for the next generation of people to take over the LSN.
- Cook together freshly harvested produce.



Plant Utilisation Skills

It is no good having precious local varieties stored in a seed bank, or even in people's gardens if there is no-one with the confidence or ability to use the produce. There is also a much greater chance that varieties of plants will be saved over generations if people have the understanding and ability to utilise them.

A lot of the varieties and species that we use today at the Seed Centre we had in the garden but did not use because of ignorance of its usage and sometimes prejudice. The truth is they did not taste good the way we were preparing them.

How to Eat Basella

We have had Basella Spinach (sometimes called Indian Running Spinach) in our gardens for over fifteen years but were never very keen on it as we found the leaves very slimy to eat. It was only when we learnt in the Philippines and Japan how to lightly cook the shoots that we really began to appreciate the plant. They then became our favourite and we never seem to have enough of them in season. We have also learnt that to obtain maximum shoot production and leaf size, Basella is best kept pruned nearly to the ground so that it becomes bushier and easier to harvest.

Michel and Jude

There are many great benefits of sharing skills aside from the promotion of conservation. It is a great way of meeting like-minded people. It can be a surprise to see how much what you have learned over the years is appreciated. It is also very important to teach these skills to the next generation, and explain why we value and enjoy these varieties. It reduces consumerism - we make things, we don't buy them.



The Seed Savers' Network

Peter Wucherer demonstrating how to make a biodynamic compost at The Seed Centre, Byron Bay.

Tips for Running a Workshop

- Promote and advise people of your workshop well in advance of the day for maximum participation, this allows 'word of mouth invitations' to friends and neighbours
- Choose a location with the resources you need - don't hold a grafting day at a chicken farm!
- If you are holding an event outside make sure there is enough shade and that participants bring hats and sunscreen.
- Have a general plan for the day but be willing to change that plan according to the participants needs.
- Assemble all the equipment you will need well before the workshop starts and ensure it is in



The Seed Savers' Network

Michel and Jude conducting seed saving training in Oecussi, East Timor, 2002.

SA Seed Savers -
2003 Spring Seedy Sunday

Low Water Usage in the Garden Workshop

Sunday 31 August

**Bowden/Brompton Community Centre,
Green Street, Brompton**

"The global demand for fresh water doubles every 20 years, twice as fast as the human population grows"
"Adelaide accounts for about 9% of SA's total water use. Half of this goes on gardens and other outside uses"

Join us in investigating ways of using water efficiently in our gardens. Legislation is forcing us to re-think how we use our water. ensure you are relieving the pressure on this precious resource.

- 10am Visit to Fern Ave Community Garden, Fern Ave, Fullarton
- 11.30am Bowden/Brompton Community Centre: Discussion/presentation about water purification and energising from Ecovortek.
- 12.30 pm SHARED Lunch - Discussion on Local Seed Networks - Seed/Plant Sharing - Visit Green St Community Garden
- 1.30 pm Presentation by SA Water on low water usage in the Garden
- 2.30 pm Discussion/Presentation by Trevor Edene from Green Edene Irrigation about sub-surface drip irrigation
- 3.30 pm Afternoon Tea - Seed/Plant Sharing - Networking

**SHARED LUNCH
GOLD COIN DONATION**

Contact: Allison on jamiller@airnet.com.au or 8359 6781 or Helen on dhweston@chariot.net.au or 8536 3808

working order, especially electronic equipment.

- Allow short amounts of time for theory but spend the majority of the time doing practical activities - people learn best by doing.
- Breaking up into small groups is a good technique for practical activities, just make sure you have enough helpers for this.
- Make sure you allow opportunities for participants to share their knowledge and information.
- Allow for breaks every couple of hours.
- Keep up the fun with games and activities.
- Provide activities for children and families such as: creating 'seed pictures' or 'seed jewellery'.



Kids love seeds. Seeds of the Annato Lipstick plant, (*Bixa mellana*) shown right, can be used as face paints.

The Seed Savers' Network

Volunteer Activity Days

Every Wednesday, eco garden volunteers get to identify Sydney's worst weeds and remove them from the paths. Volunteers are not to dig out anything they can't identify. Things like comfrey, tomatoes, basil, parsley and spinach that are germinating on paths are watered, carefully dug out and stored in an esky. Every square metre of path cleared of weeds earns you a live baby plant out of the esky to take home.

Fax from Fobyn Williamson, North Western Sydney Community Seed Savers, February 2003.



The Seed Savers' Network

East Timorese people sharing their knowledge on making pots from banana trunks during a seed saving workshop in November 2002.

Seedy Saturdays

The Canberra Organic Grower's Society seed bank needs volunteers to grow the less common varieties of food plants to keep seed supplies fresh, viable and available.

To stimulate wider interest, the society is promoting Seedy Saturdays, which will coincide with the Green Living Days at the Canberra Environment Centre. It hopes to attract new seed savers and inspire more people to curate heritage and heirloom plants.

Seed exchanges are a means of promoting and organising the preservation, free distribution and exchange of open-pollinated seeds. The biodiversity of the local region is enriched as more varieties adapt to the local environment.

As climates change and gardeners have to cope with water restrictions, low rainfall, cold winters and poor soils, it is essential to increase the available choices of local food plants which are tough, disease resistant, easy to grow, nutritious and tasty.

Growing locally helps reduce the economic and hidden environmental costs of buying in fruit and vegetables from other regions. Such costs include the environmental impact of transportation, storage and refrigeration.

Over the last 50 years four-fifths of the garden varieties of vegetables in Australia have been lost. Seed Savers Networks and Garden Clubs are helping to source and save many plants that would otherwise disappear. An example is the Manistee potato, which was grown at Port Arthur in the early 1800s, then lost until recently when the gardens were reconstructed and old potatoes were found.

The growing interest in unusual food plants is also fuelled by the gourmet food industry. Fifty years ago, there was only one type of potato available in Canberra—the Sebago. Now, thanks to growing interest and demand, there are dozens of unusual types of potatoes in the shops.

Put interest into your cooking by growing something you can't buy in the supermarket such as Green Zebra Tomatoes and the Preston Bean. You'll be surprised by the unique taste and can be sure of increased nutrition through organic growing!

South West Local Seed Savers' Seed Swap Day

For our combined seed swap day and seed processing workshop, we began by creating a flyer to advise interested people, and sent this out to people on our contact list about 8 weeks before the date of the event. We also sent email invitations to all those we knew had email addresses.

The flyer promoted the demonstration of seed processing methods and techniques and invited people to bring along seeds and/or planting material to swap on the day. We stressed that this was a fun learning experience for beginners and first time seed Savers', and that it was a good way to meet like minded people. We offered afternoon tea, and the event was held at our home and gardens so people could see actual seed saving at the growing stage in action as well.

We presented a talk and demonstration on seed cleaning methods for Tomatoes, Capsicums and Pumpkins, as these are relatively easy for beginners to work with. We discussed among the group how to select and clean the best seeds for each variety of plant then explained the drying procedures for each, to show how to get good storage life from each variety.

We then went out into the garden to show some plants in various stages of growth and discussed cross pollination and isolation issues for Brassica plants such as Kale and Broccoli, and Chenopodiaceae such as Silver Beet, Rainbow Chard and Perennial Spinach. During the garden session we covered selection of best 'true to type' plants from which to save seed, and roguing out plants that are small or non-typical poor forms. This was followed back inside by a general discussion on why we should be saving our own seeds, covering issues such as loss of our garden heritage and biodiversity, GMOs and local adaptation to climate and soil conditions.

The afternoon was wound up with afternoon tea, a bit of a chat and seed swap material offered around to those interested. The day was well received by all and a great opportunity for people with a common interest in growing their own plants from their own saved seed to meet and share their skills and knowledge. It was also good to see families with young kids come along and get involved too.

Keith and Dianne Davis, email October 2002.

Invitation

Seed Saving get together and shared lunch

We will be practicing the ancient art of saving, storing, swapping seeds from fruit and veggies that have been growing in our garden. If you haven't done it before, come and learn from what we know. If you are a practicing seed saver, come along and share your knowledge and bring any spare seeds you have to swap.

- 11am – 1pm, Sunday 11 May 2002
- At John & Loret's house, 11 Hughes Avenue, Lawson 2783 ph 4759 2118.
- We will have some fresh bread and tea, bring a plate to share.
- Wet weather – we'll call it off and arrange another time.

Drop in if you want, give us a call and confirm would be even better.

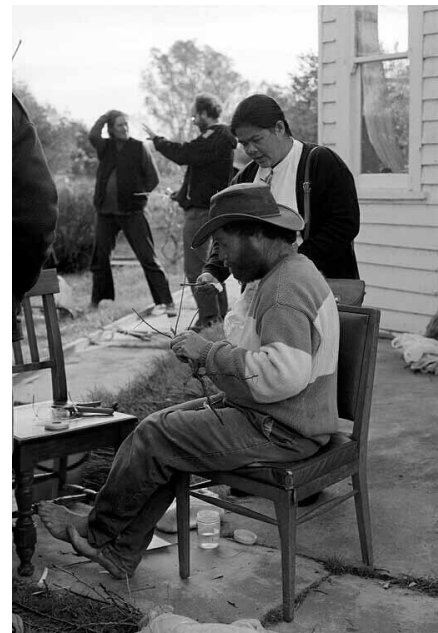


Photo courtesy of Violet Town Seed Savers

Neil Barraclough demonstrating grafting at Violet Town Seed Savers Heritage Fruit Tree grafting day held early August 2002.


Newsletters

Beware before embarking on publishing a regular newsletter as it is a very time consuming job. It is however a great way to keep members informed of your activities, disseminate information and share seeds and planting material. A newsletter of one or two pages is adequate.

Some LSNs produce regular newsletters such

as Seed Savers Up North (see below) and Dennis Grimshaw from Care Flight Seed Network in Rylstone. Dennis produces a monthly newsletter in Word taking snippets from Seed Savers' and Diggers Club Newsletters, he charges about 40 cents to cover photocopying and has had lots of response.

Winter 2003



**Seed Savers'
Up North**

PO Box 710
Malanda Qld 4885
seedsavers@hotmail.com
www.seedsavers.net
☎ 07 4096 6595

Far North Queenslanders preserving the genetic basis of tomorrows food

Welcome to our first newsletter for Seed Savers' Up North. The Seed Savers' Network is a non-profit group of like-minded individuals who are passionate about saving our plant heritage, and growing those fantastic fruit and vegetables that have been passed down through families and friends.

We are currently looking for people who are interested in becoming involved with Seed Savers' Up North. As a member you can learn about the preservation, distribution and exchange of open-pollinated seeds in your local area, and share in the experiences of others.

Membership benefits include:

- © Field days with guest speaker
- © Social seed swap & information gatherings
- © Newsletters
- © Access to non-hybrid local seeds & plants

If you are keen to join, please cut out and complete the membership form at the end of this newsletter.

We're aiming to keep you informed of what is happening in each others gardens, providing useful bits of information to help your plantings prosper and enabling us all to exchange and save seeds. When you have a spare 10 minutes grab a drink, put your feet up and have a read. If you have any suggestions for improvement or would like to contribute to the next issue, please contact us.

Happy gardening.
Annie Jenkins, Co-ordinator & Nicole van Beuningen, Editor

In this issue

	Page
Stan Grant's Lettuce	2
In Possum's Kitchen	2
Another Point of View	3
Garlic Garlic Garlic	3
Medicinal Herbs - Aloe Vera	4
Wildlife Focus – Frogs	4
Bad Bug Munchers	5
Why Save Seeds?	5
Butterfly Host	5
Spring & Summer	
Planting Guide	6
Buy Local Eat Organic	7
Seed Swap Emails	7
Membership Form	7

Events

A big **THANK YOU** to Kevin & Possum Rosser of Peeramon, our hosts for the first meeting of Seed Savers' Up North in May. From getting up close and personal with a special seed, to explaining the differences between perennial and biannual – Jane 'Many Leaves' Lawrance kept the audience enthralled as she took us through the seed saving journey.

Come along and bring your friends (non members and visitors always welcome) to our next social gathering where we'll have the opportunity to show off our achievements and talk about solving some gardening problems.

Plans are underway for an event at Gordonvale on 15 November following the Seed Savers Network conference in Byron Bay.

Check www.seedsavers.net or look in the Tablelander under 'Club News' for event details.

Mark your calendars.....

Social Gathering

When: Saturday 9 August 2003
Time: 1-4 pm
Where: Max & Sue Brandenberger's Place
'Living Rock' Willows Road, Tolga
☎ 4095 4312

Directions
Travel 1km north from Tolga Post Office on Mareeba Road, turn right into Willows Road.

What to bring

- Any information or plants to swap or sell
- Chair
- Afternoon tea to share
- Donations for raffle

Seed Savers' Up North

Winter 2003

Page 1

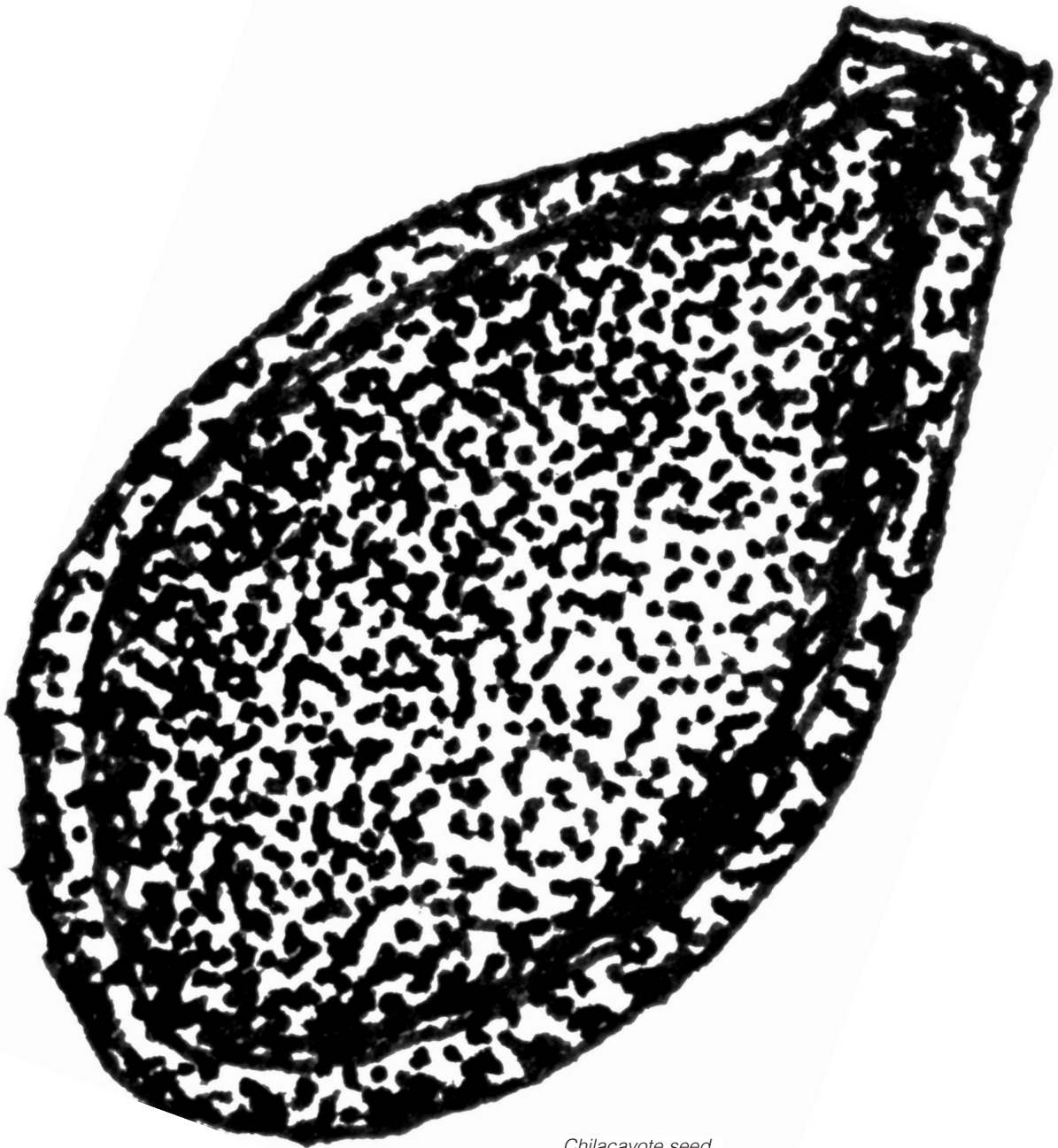


Wally Field showing Seed Savers' course participants over his Suffolk Park garden. On a quarter acre block Wally and his wife Dot are nearly self sufficient in food and even sell produce at the local grocery shop.

Conservation of local plant varieties is all about having the skills to utilise these varieties. Sharing these and others skills is a fun and rewarding experience and it is vital for the sustainable future of home food gardening with traditional plant varieties.

When Distributing Seeds (8) is undertaken it is important that the people receiving the seeds also have gardening and seed saving skills. The main Reasons for Local Seed Networks (1) are the fact that they facilitate the exchange of skills and knowledge. Holding skill sharing events is a good way of Promoting Seed Saving (10).

10. Promoting Seed Saving



Chilacayote seed

The media is very appreciative of novel and interesting local news. Let them know about your achievements, international perspectives on seed issues and upcoming events. Photos, posters and pamphlets help to put the message out.



The Seed Savers' Network

Creative banners with clever slogans work well to attract attention. Seed Savers' 'Give Peas a Change' banner is pictured above with Yuki Gota from ILFA (International Life and Food Association) a Japanese organisation conserving traditional millets, staff member Amy Glastonbury and volunteer Maggie the dog.

Speaking to the Media

When you talk to the media, stick to what you know. Remember you do not have to answer a question you do not like or do not know the answer to. Just repeat the message you want to put over (like the politicians do!), e.g., "We appeal to gardeners and farmers for seeds of local varieties and the knowledge that goes with them".

You can source media contact details from the Yellow Pages and Media Guides that are often available in the local library. They list relevant newspapers, magazines and radio programmes, the names of journalists and editors. Margaret Gee's Australian Media Guide is one example.

Media feeds on media: Once you have had a good interview on the radio or on the paper chances are that others will want to talk to you.

We redirect media inquiries to LSNs when they call us from your region.

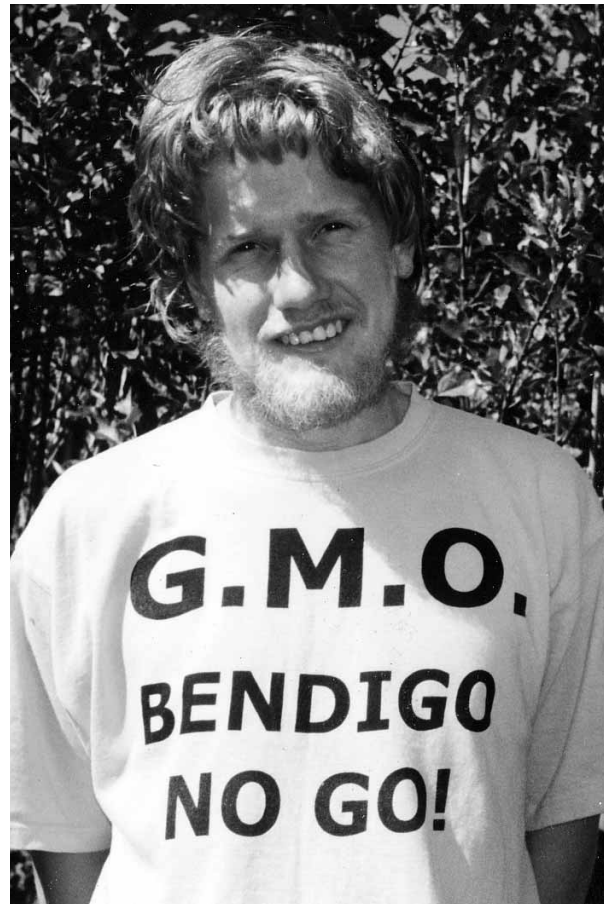
Radio

The old ABC is a good ally. The morning rural presenters are down to earth people that are more often than not on-side. They may come to visit you with a small voice recorder, tape twenty minutes and only use five. They will edit it so relax if you make a mistake. The morning local ABC programmes often have lifestyle segments (gardening, food preparation, home medicine) where they invite experts to come in for a series of interviews. Local ABC interviews are sometimes used statewide or nationwide on other programmes.

Try your local FM and commercial radio as well, as they can be linked with local papers. Presenters with a show may be happy to have you to do a spot on gardening and seed saving.

Jane Lawrance from Seed Savers Up North has a regular programme about gardening. Jude and Michel were interviewed weekly for one year on North Coast ABC which was recorded at first in the studios in Lismore but later by telephone.

Talk-backs - local, state and national - are a very good way to get your point across. 'Australia



The Seed Savers' Network

Design and produce T-shirts like Evan Davies' from Bendigo Gravel Hill Community Gardens Seed Savers, to promote your LSN or speak out for a cause.

All Over' with Macca gets you a nationwide coverage - you may need to be persistent ringing in. Always give your name and the LSN you represent. Some presenters do your promotion and invite you to give the LSN contact details. If they don't you can always ask nicely if you can mention them. Remember to give Seed Savers' web site and how to find your LSN from the front page.

Television

If you have something that is visual the local commercial television station may come to film you especially if you can guarantee to them that you will have more than twenty people at a particular meeting or function.



Press Releases

The rule here is to keep it short - journalists do not take notice of long and wordy press releases - limit the body of the text to 200 words. Always address your release to one person in particular and if it is possible, to someone who knows your work or has interviewed you in the past.

If you send your press release by mail it will more likely be read especially if you add a sam-

ple of seeds or a photo. Faxing is second best, with emails last. Choose an attention grabbing photo that shows something unusual and beautiful, such as different coloured rhubarb or the flat pod of a noodle bean. Do not forget to give a short, interesting caption. Anything looking succinct, sincere and fresh will attract journalists' attention.



The Seed Savers' Network

This is a display of local produce that provides a good talking point for members of the public. A photo such as this can be sent with a press release with a caption such as: Local Seed Networks connect people with a diversity of fresh, local, home grown produce.

Press Release: Ancient rhubarb dug up from the past in elderly couple's garden

A rare and quite possibly endangered variety of climbing bean with striped stems that are exceptionally tender and juicy has been re-discovered by Seedsville Seed Savers in the garden of Beryl and Merv Simpton. The Simptons have kept this variety, given to them by Beryl's mother, in Seedsville for fifty years. No locals have ever seen or heard of such a rhubarb. Mrs Simpton says, "We are glad to share this around as it is really an excellent dessert."

The Seedsville Seed Savers is looking for gardeners who would like to grow this variety, take care of it and pass it around for posterity. The Seedville Seed Savers (a non-profit organisation) has already rescued several such local varieties of vegetables that do not feature in commercial seed catalogues. As new overseas varieties come on the market local varieties that have been in the community sometimes since the settlement of Australia are replaced.

If anyone has such interesting old varieties that they would like to share around, please let The Seedville Seed Savers know. Meetings are at 7.30pm on the third Tuesday of each month at Seedsville Town Hall.

Press Release: The Seed Savers' Network's Sixteenth Annual Conference will be held on Saturday October 25th and Sunday 26th in Byron Bay at The Seed Centre.

Theme: The Quality of our Food in Question.

Expert speakers will give talks and demonstrations on producing quality seeds, growing and using unusual food, medicine and other useful plants, alternatives to genetically engineered food, and many other topics.

There will also be practical workshops on a wide range of topics and tours of the demonstration gardens and seed bank. \$15.00 per day with teas and lunch fresh from the garden available. Open to all who are interested in gardening and food quality.

Friday 24th October there is an associated tour of local Permaculture farms.

Please telephone 02 6685 6624 or 02 6685 7560, email at info@seedsavers.net, or write to The Seed Saver's Network, PO Box 975, Byron Bay, NSW, 2481

Articles

Submitting articles and pictures to magazines and papers is the main way Seed Savers has been promoting seed saving since 1986. We find you need to change the angle you deliver regularly to keep readers interested. We have written about upcoming activities, local varieties of food plants, the latest Seed Savers work overseas and genetic engineering issues (See Appendix C).

Advertising

Community announcements are free, on the radio, television and in the local papers. Be sure to get your notice in before the deadline.

Ads can also be posted in the local supermarket, green grocers, naturopath's or garden centre. If you are crafty and have resources then a banner across the street for a major event is the best possible way of letting everyone know.

Paid ads are unlikely to deliver value for non profit LSNs. With the exception of two or three lines in the classified section, you may never have to pay for advertising.

The Web

Seed Savers hosts all LSNs on its website with a webpage that can be updated from your own computer. See an example in Appendix J of Beelarong Community Farm Seed Savers web page. We are grateful to Australian Community Foods for this facility. By changing your webpage with information about upcoming events, posting images of your activities and seed lists, you are promoting your work and the whole concept of conserving locally adapted seeds to a wide audience. Please contact Seed Savers for assistance on how to update your web page.

Speeches

First acknowledge the people inviting you and those working with you and then the place you are in. Make sure your speech has an opening, body and conclusion. Be sincere and enthusiastic and stick to what you know. Use good eye contact; holding eye contact with people has impact. Body language is also important. It adds interest to your speech and flowing movements will ensure the words keep flowing. Small palm cards are very handy to remind you of the main points and be sure to keep to the time limit. End your speech on a positive note and give actions for audience members to take. See Appendix I for

some startling statistics which can be used when making speeches.

ABC Open Garden Scheme

If your gardens are well kept and interesting, ABC Open Gardens are a very good way of becoming known in your region and beyond, moving rare seeds into the community and raising funds. We had more than one thousand people in two days at the Seed Savers Open Days in May 2003 despite heavy rain and intermittent storms.



The Seed Savers' Network



The Seed Savers' Network

Through the sale of seeds and planting material coordinated by Ai Morikawa (top), handbook sales and subscriptions coordinated by Marian Warren (bottom) and entrance fees, Seed Savers made over \$3000 profit at the ABC Open Garden Weekend.

Events

Seed Savers has had many stalls over the years. We find that the ones that attract the most people are those where we spend time making the stall very colourful and attractive with posters, seeds, flowers, plants, books and pamphlets. To give dimension to displays we have used cardboard boxes cascading from the back to the

front. We cover them with cloth then place dishes and baskets of seeds and produce on them. People love to see and touch unfamiliar objects. Semi-permanent displays can also be set up in libraries and local shops.

The ABC garden magazine, The Organic Gardener, has compiled a list of farmers markets. Market managers sometimes give free space for charities or non profit community organisations. Information about farmers markets can also be found at www.farmersmarkets.org.au and www.rfm.net.au. Other markets such as flea and craft markets can also be approached for a space. You will need to be well signed so market goers know who you are even if they do not stop at the stall. You will see that soon you will have a crowd of gardening friends and members of your LSN that will stop over and chat.



A display set up by Childers Seed Savers in the local library.

School fetes are an opportunity to entertain kids with activities, games and hands-on, colourful displays. Cleaning, winnowing, sieving seeds never fails to attract children and their parents. It can also be a chance to disseminate seeds out into the community via raffles and to show that local seeds are reliable and easier to grow.

Some shopkeepers are happy to have stalls on their footpaths or in their car parks. Some trade shows and fairs can cost thousands of dollars but

again often exceptions are made for non profit organisations.

Agricultural shows are probably the best value of all as you have a selected audience. It may be more difficult to get a free stall but if you combine this with a talk it is possible to get a freebee.

See also Chapter 9 - Sharing Skills for more ideas on events.

Other Ideas

Donating seeds along with information about them is a sure way to walk the talk and make allies for your organisation. We suggest that you use the polyfoil seed packet provided by Seed Savers in Byron Bay (see page 49) so that the seeds are more likely to last. Giving seeds is also a way to let other gardeners know that you are interested in local seeds. They are then more likely to come to you with seeds they have kept.

Keep a scrapbook of events and articles that are published about your Local Seed Network, including photos of people, plants, gardens and seeds. It is useful at markets to show this to prospective new members or potential funders.

Make posters and banners about the issues. We have found old sheets made into banners make a strong impression. Slogans we have used are: "Give Peas a Chance" and "Save Our Seeds" (see page 72).



Use bright, eye-catching posters and have a welcoming demeanour.



The Seed Savers' Network

People are always eager to get their hands on good quality seed. Be sure to have some seeds available at events.



The Seed Savers' Network

Be seen in the community at Agricultural Shows.

Jude and Michel at Gardening Australia Live

Homebush, Sydney, Thurs 20th to Sun 23rd September 2001
10 - 11.30am Children's activities:

1. Sort Seeds - macadamias, bunya nuts, pecans, beans, differently coloured maize. Resources: seeds; large poster of the plants; and several containers of the appropriate size.
2. Clean Seeds - pigeon peas, basil, lettuces, amaranth and cotton - vary combinations of them for each sessions. Resources: seeds collected from Seed Centre gardens; white paper plates with a small amount of the uncleaned seeds placed on each for each session; a roll of butcher's paper; 10 or so winnowing baskets; 5 pro sieves, 10 kitchen sieves; a large box or container for disposing of the chaff; a broom, brush and pan



The Seed Savers' Network

3. Pack Seeds Into Packets - Resources: 300 small white envelopes; 30 pencils; models of the envelopes already written or the information written on the paper plates, including how and when to plant and how to prepare.
- 1.30 - 3.30pm Advice about seed saving and heritage food gardening at the indoors Advice Clinic. We came with a panoply of seed saving:- colanders, ladies' pantyhose, old jars, paper bags, pens, ribbons to tie up seeding plants, tomato stakes, seed baskets made by Shona in Zimbabwe, Iban in Borneo, Negros and Cebu, etc., heads of carrots, jars of fermenting tomatoes, and more.
- 3.30 - 4pm Presentation on the demonstration stage: How to clean seeds and local seed networks talk.

As a non profit voluntary organisation an LSN will probably never need to pay for advertising. Promotion at local events gives your ideas and seeds exposure to a wide audience that is in a relaxed mood and ready to talk. Although time-intensive this is sure way to be seen and grow your organisation.

When you have a **Sharing Skills (9)** event, it is a good idea to promote it locally. Ideas for promotion can be drawn from records your Local Seed Network has kept: **Keeping Records (4)**. **Distributing Seeds (8)** is a great way of promoting yourselves. In **Forming a Network (2)** you will need to promote your LSN and it is helpful to outline the **Reasons for Local Seed Networks (1)** when doing so.





The Seed Savers' Network

Open Day, May 2003 at The Seed Centre, when over 1000 people visited. Promotion of seed saving is achieved en masse with many signs, plants going to seed and garden guides.