



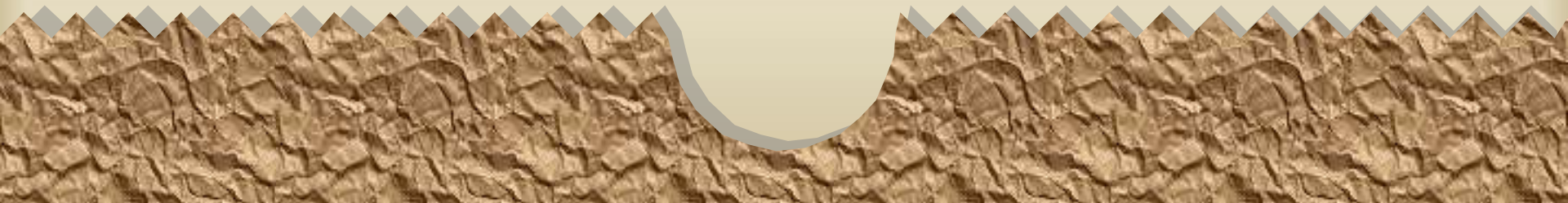
# Saving Our Seed



Why we should save our seed

# Why Is It Important To Save Our Seed?

- Our heirloom varieties are fast disappearing
- We can't save seed from hybrids as they won't reproduce true to type
- Open pollinated seed are adaptable to local climatic conditions- hybrid seed aren't

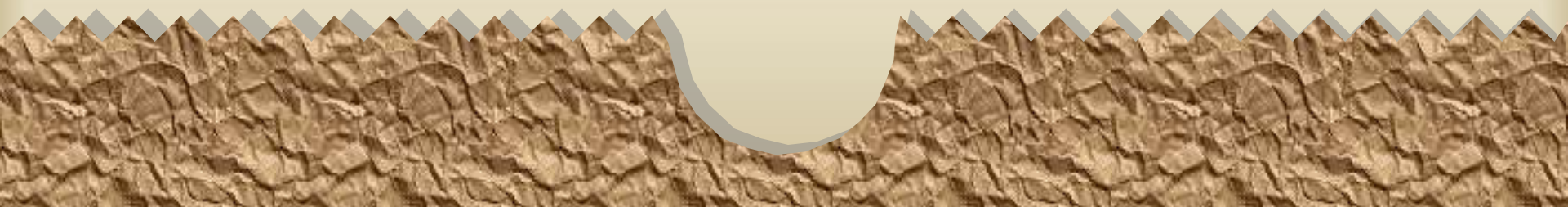


Today over 90% of the world's nutrition is provided by 30 different plants and only 4 - wheat, rice, corn and soybeans provide 75% of the calories consumed by humans.

Once, diverse strains strengthened each local ecosystem, now a few super-hybrid varieties are 'monocropping' farms and gardens worldwide.

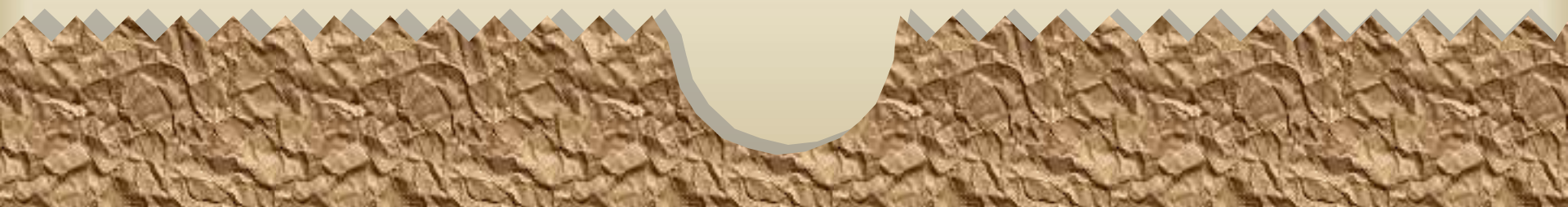
# Our Food Security

- We need to exercise responsibility to preserve our heritage seed as the large seed companies are taking these out of circulation
- They are using them to hybridise seed and for the genetic modification of our food



# The Dooms Day Seed Bank

- Spitsbergen; a Norwegian Island from the Svalbard Islands, has the doom's day seed bank in its permafrost to preserve our open pollinated- organic seed from all over the world from potential impending global disaster

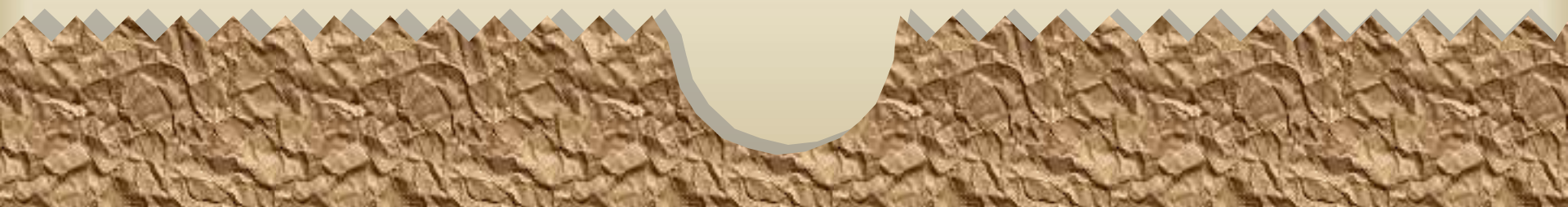


# Good Intentions

- Crop diversity will soon prove to be our most potent and indispensable resource for addressing climate change, water, and energy supply constraints, and for meeting the food needs of a growing population.

# Seed saving

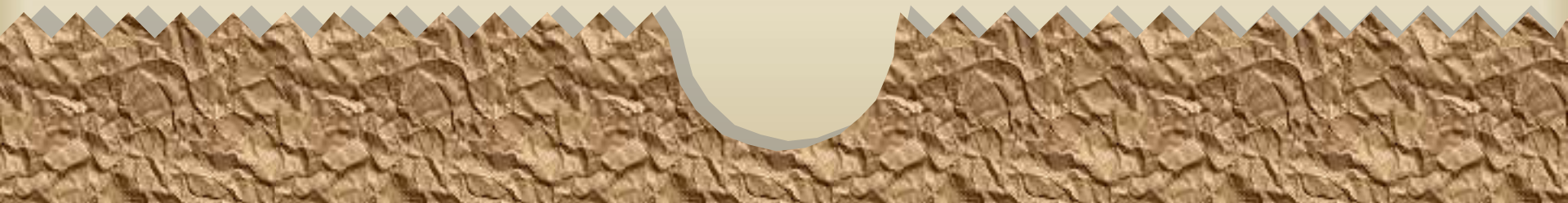
- People can be truly self-reliant on their own food and seed production.
- Healthier, more genetically diverse plants, suitable for their region.
- No dependence on Multinational Agricorporations for seed, fertilizer or biocides.
- Crop diversity, dietary diversity, healthy diets, healthy people.





# Svalbard Global Seed Vault opened 26<sup>th</sup> February 2008

- 100 million seeds from over 100 countries.
- The most comprehensive and diverse collection of food crop seeds to be held anywhere in the world.
- At least 1500 seed vaults in the world but none as securely funded as Svalbard. Many in dangerous places or at risk of natural disasters.





# Dooms Day Seed Bank at Spitsbergen



# Who Are The Main Players?

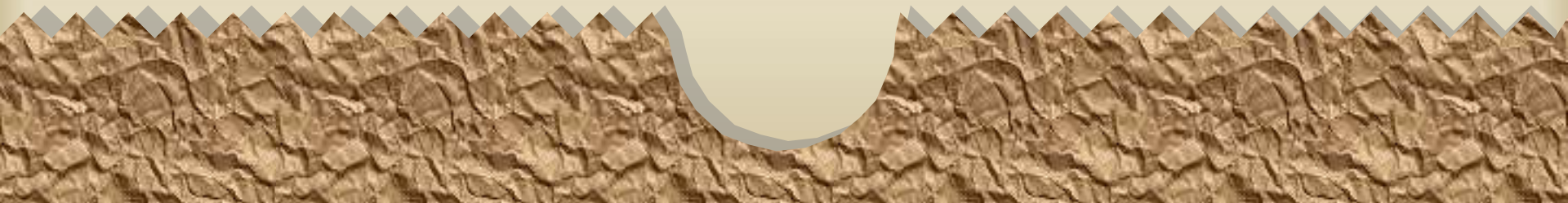
- Plant breeders and researchers are the major users of gene banks
- Today's largest plant breeders are Monsanto, DuPont, Syngenta and Dow Chemical, the global plant-patenting *GMO* giants

# Some Reasons Why We Should All Save Our Own Seed

- Since early in 2007 Monsanto holds world patent rights together with the United States Government for plant so-called 'Terminator' or **Genetic Use Restriction Technology (GURT)**. Terminator is an ominous technology by which a patented commercial seed commits 'suicide' after one harvest. Control by private seed companies is total. Such control and power over the food chain has never before in the history of mankind existed

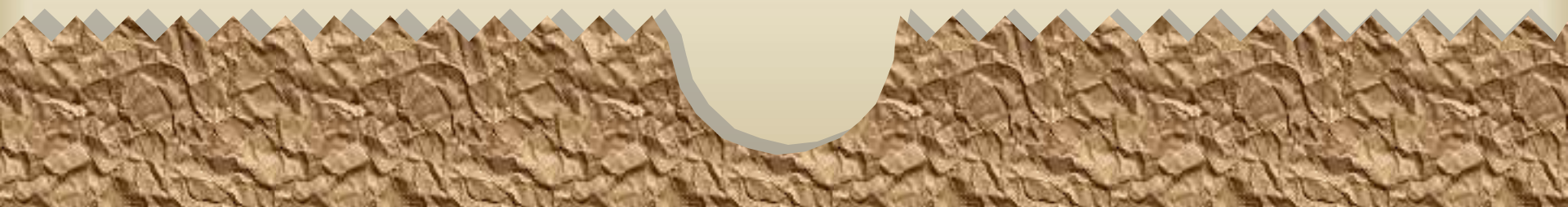
# Getting A Bit Hot Under The Collar?

- Not only are these large seed companies in control of up to three million different varieties of seeds from the entire world, so that crop diversity can be conserved for the future,
- but they have complete access to these seed as they are share holders in this venture.
- The top ten seed companies control 57% of the commercial seed market world wide



# Something To Worry About

- Now we come to the heart of the danger and the potential for misuse inherent in the Svalbard project. Can the development of patented seeds for most of the world's major sustenance crops such as rice, corn, wheat, and feed grains such as soybeans ultimately be used in a horrible form of biological warfare?



# GM Sterilisation Through Food

- A small California biotech company, Epicyte, in 2001 announced the development of genetically engineered corn which contained a spermicide which made the semen of men who ate it sterile





# And Causing Abortions In Women

- In the 1990's the UN's World Health Organization launched a campaign to vaccinate millions of women in Nicaragua, Mexico and the Philippines between the ages of 15 and 45, allegedly against Tetanus, a sickness arising from such things as stepping on a rusty nail. The vaccine was not given to men or boys, despite the fact they are presumably equally liable to step on rusty nails as women. Because of that curious anomaly, *Comite Pro Vida de Mexico*, a Roman Catholic lay organization became suspicious and had vaccine samples tested. The tests revealed that the Tetanus vaccine being spread by the WHO only to women of child-bearing age contained human Chorionic Gonadotrophin or hCG, a natural hormone which when combined with a tetanus toxoid carrier stimulated antibodies rendering a woman incapable of maintaining a pregnancy. None of the women vaccinated were told.



# We Can Do Something About This!



And Have Fun In The Process



## Practical seed saving around the house and garden

### Selecting plants for seed saving

- seed selection criteria
- have ribbons, strings, labels etc handy for earmarking plants

### Pen or pencil for writing on the labels

- where? -----  
-----

### Collecting seed for processing

- Have secateurs, knife or cutting implement handy harvesting

- where? -----

Have bags handy for transporting seed heads in from the garden

- where? -----  
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Have an area where you can store seed heads until ready for cleaning, drying and packaging

- where? -----  
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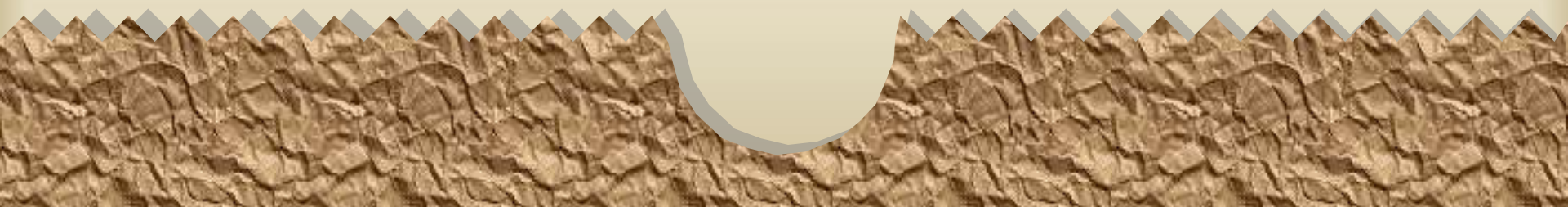
### Bench top

- place for hanging green plant material to dry
- seed processing area for cleaning and packaging

- where? -----

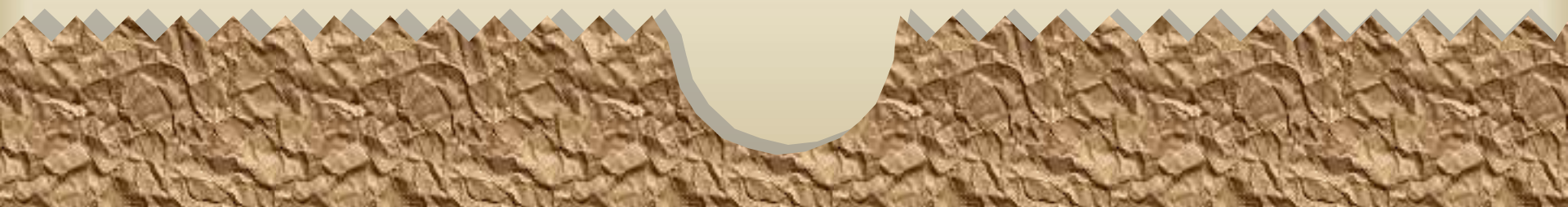
# What Are Open Pollinated Seed?

- Organic or heirloom seed
- Pollinated by the wind and insects
- Open pollinated seed reproduce true to type
- They are nutritious and adaptable to local climatic conditions



# What is Cross- Pollination?

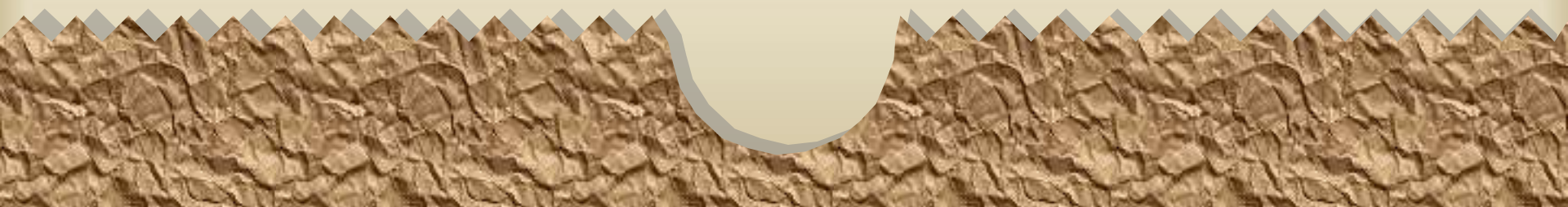
- Some varieties need pollen from the **same variety** to produce fertile seed
- When **two different varieties** of the same family of plants pollinate each other there is a loss of that particular strain.
- This is how a particular variety is lost
- We have around 15% of our heritage seed left today





# What are Hybrid Seed?

- Hybrid seed comes from two parent plants that do not cross pollinate in nature
- Hybridising produces hybrid vigour
- This suits the farmer for uniform ripening, even sized produce and dependable harvesting times to suit the market
- These crops need higher inputs of **fertilisers** and **pesticides**



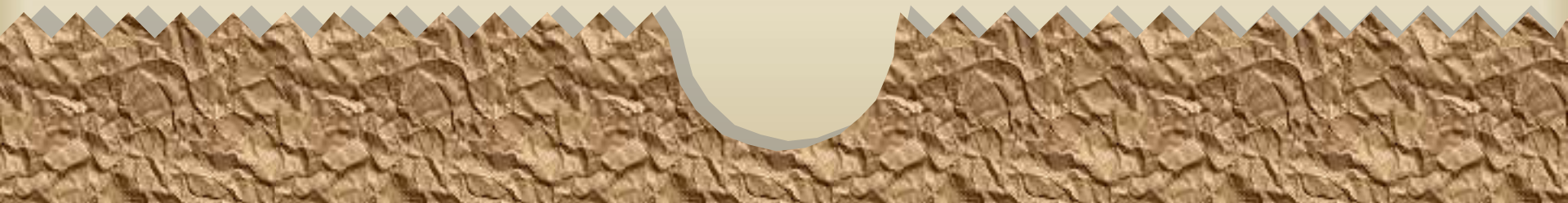
# Hybrid plants

- Hybrid plants are genetically uniform so all succumb at once to disease or pests.
- OP plants ripen progressively, providing food for a longer period of time.
- Hybrid plants are designed to all mature at the same time.
- Hybrid plants are engineered for specific commercial features and other valuable characteristics, such as flavour, may be lost.
- Hybrid seeds must be purchased every year - expensive and make us dependant on corporations.



# Why Are Hybrid Plants So Dependant On Chemical Input?

- Narrowed gene pool makes the plants more susceptible to pests and disease
- Hybrids have been designed to depend on chemical intervention!
- Very profitable for every one



# Except Mother Nature



For 10,000 years gardeners and farmers created and sustained our rich genetic heritage.

As late as 1900 - 1500 different plants with thousands of different cultivated varieties.

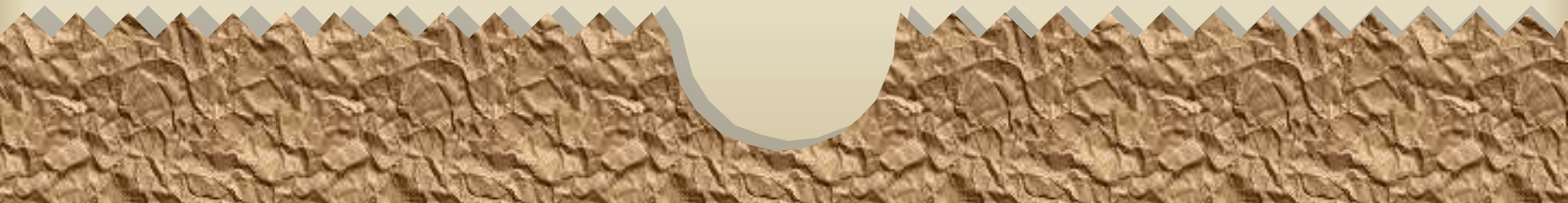
# A Lot Of Seed Are Easy To Save

- Self pollinators such as legumes, lettuce and tomatoes are easy to save seed from and have them true to type



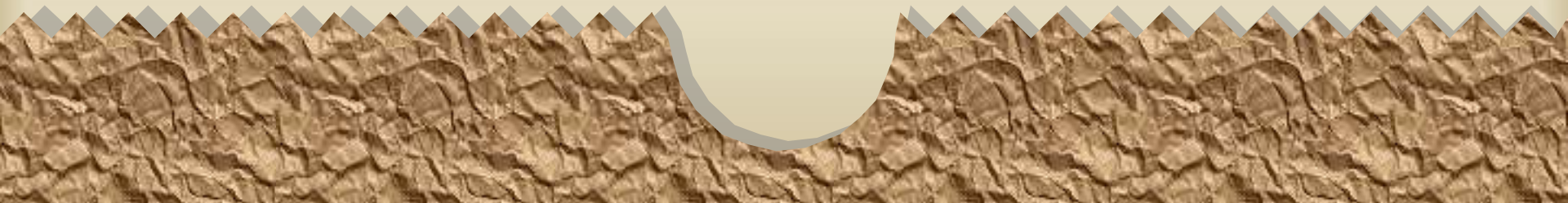
# Automatic Self Pollinators

- These are plants with flowers that self pollinate inside the flower before it opens
- Also called complete flowers



# Cross Pollination

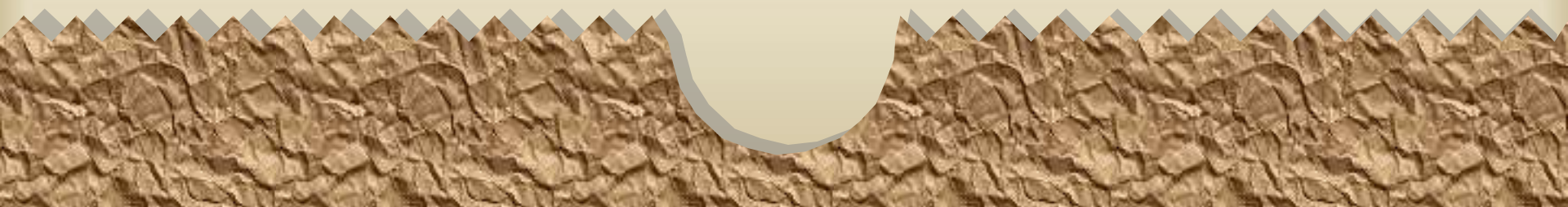
- Other types of complete flowers require cross pollination. They need insects or wind to create fertile seeds
- Some plants from the brassica family have a chemical barrier that prohibits self-pollination within the flower
- Pollen from other varieties of brassicas can easily cross and varieties are then lost





# Criteria For Seed Selection

- Select from plants the traits you wish to dominate
- How do we choose the best lettuce plants to save seed from?
- How many plants do we choose to save seed from?
- What about corn for seed saving?





# Assess Each Individual Plant For Seed Saving Criteria

- Learn how to seed save all types of seed
- Refer to the Seed Savers Handbook
- Look up individual plants on the internet

# Above All Make Sure You Keep Your Seeds Pure

- Organic, open pollinated seed reproduce true to type if the varieties are kept from crossing with other plants of the same family.
- Become a plant breeder and grow plants that adapt to your local climatic conditions.



# Keep Local Seed Accessible To Your Local Community



- Contribute seed from your garden to the Permaculture Noosa Seed Bank
- Processed and unprocessed seed welcome
- Ask for tips on seed saving techniques if you're not sure how to do it
- Just do it!

