

Open Source Food

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Bifurcated Carrots

<http://bifurcatedcarrots.eu>

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<http://seedsavers.nl>



Open Source Food vs. Software

- Size of the Movement
- Food Has Already Lost a Lot of Ground
- Marketing vs. IPR (EU Seed Laws)
- The FAO Treaty (ITPGRFA) and the SMTA (Basically an EU Treaty)
- The Future is Participatory Plant Breeding

Biodiversity

- Biodiversity is not:
 - A choice between red and yellow tomatoes, or tomatoes and cucumbers.
- Biodiversity is:
 - A choice between thousands or even tens of thousands of tomatoes.

Agroecological Contexts

- Integration of soil, air, plant, insect, animal and plant biodiversity, together with climate and other local growing conditions.
- No fertilizer or chemicals – organic.

How It Used To Be

- Search for the person with the best vegetables.
- In situ vs ex situ biodiversity
- Now we go to the garden center.

Modern Foods

- Intended to Facilitate IPR
- Dependent on Chemicals/Machinery
- Foods as Commodities
- Conversion of Fossil Fuels to Food
- World's Largest Source of Greenhouse Gases
- Obesity and 'Sustainable Intensification'

WWII

- Intended to Increase Productivity
- Need to Recycle Chemical Waste
- Need to Convert Industry –
Chemical/Mechanical
- Genetic Purity (Ideas from the 1920s)
 - Distinct, Uniform and Stable (DUS)
 - Value for Cultivation and Use (VCU)
- Now About 45% of the EU Budget!

The Lies

- Horse Meat
- The Need to Feed a World of 9 Billion
- The Need For Simplified Rules
- The Need for High Quality Seed
- Diversity != Biodiversity
- Security Through Obscurity
- Support For Small Farmers

Genetic Purity...

- More Disease Problems
- More Chemicals Needed (Vitamins and Antibiotics)
- Over-Exploiting Natural Resources (Ground Water, Fossil Fuels, Phosphorus)
- Not Adapted to Agroecological Contexts
- Partly the Fault of Consumers

More Genetic Purity...

- More Vulnerability of Food Supply
- Less In Situ Conservation of Biodiversity
- Unsustainable/Environmental Degradation
- Generally Not Able to Save Your Own Seeds (Loss of Food Sovereignty)
- Too Difficult for Independent Plant Breeders/Community Plant Breeding

Concentration of the Seed Market

- Three largest (Monsanto, DuPont/Pioneer and Syngenta) control > 50%
- Five Largest (together with Mitsui and Aventis) about 90%

Loss of Knowledge and Genetic Resources

- According to the FAO we have lost about 75% of our pre-WWII biodiversity.
- Seed Saving and Plant Breeding Are Very Specialized Skills. Shortage of University Programs.
- We are Losing the Knowledge Necessary to Feed the Planet.

EU Seed Laws

- Illegal Fruits and Vegetables
- Marketing Rules
- Registration and Defining
- Patents and PVP
- Other Barriers to Small Farmers
- Council of Ministers

Seed Law Changes

- Regulation Instead of Directives
- Written By Industry
- Starting By Forbidding Everything
- Delegated Acts
- Micro-Enterprises and Cost Recovery
- Operators

Free Trade Agreement

- TAFTA/TTIP
- Laws of the Destination Country
- Exports Seed Laws Around the World
- Cooperation With Free Software Movement

What Can You Do?

- Eat Less Meat
- Buy Locally From Farmers, Organic But not Necessarily Certified (see next slide)
- Grow Some of Your Own Food, and Use This To Develop Knowledge and Biodiversity
- Save Your Own Seeds
- Do Simple (Participatory) Plant Breeding

Weet Wat Je Eet

- <http://weetwatjeeet.nl>

Your Own Garden

- Don't Use Any Chemicals
- Develop Biodiversity in All Parts of Your Garden
- Use Biodiverse Seeds
- Do Seed Saving and Plant Breeding

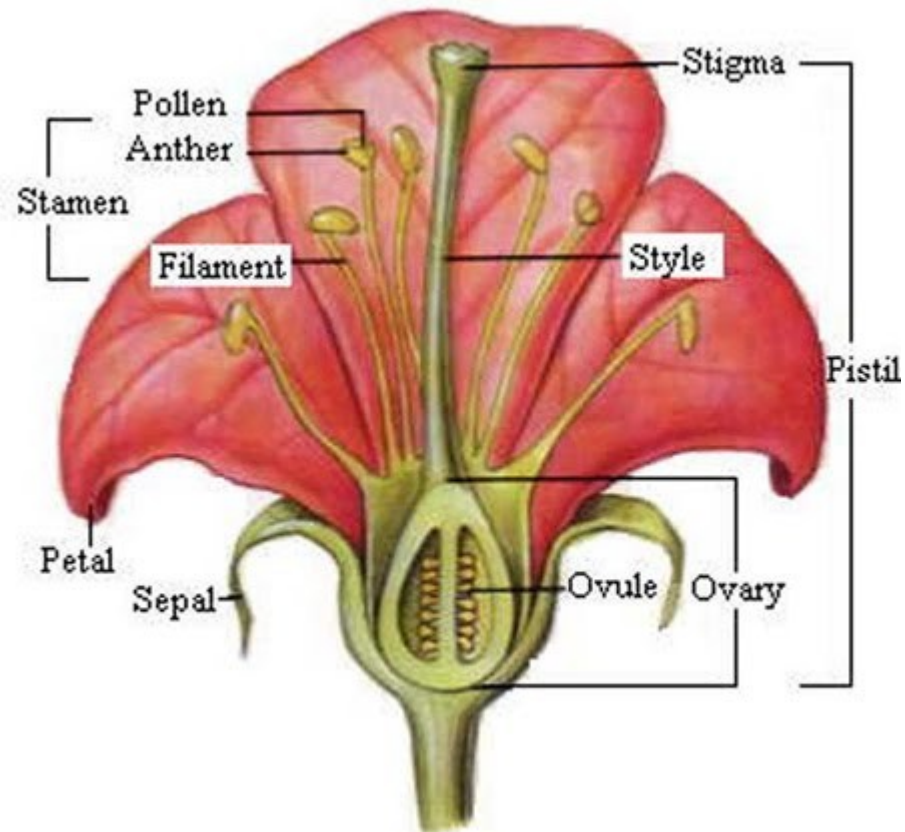
Saving Your Own Seeds

- Start With the Right Seeds (OP, non-F1)
- Think About Isolation and Population Size
- Can Be Very Simple or Very Complicated
- Start with the Easy Ones: Beans, Peas, Herbs, Lettuce.
- For Others, Research What's Needed
- Save Seeds From the Best Plants!

Plant Breeding

- Selection is the Most Important Thing
- Make Your Own Crosses
- Get Crosses From Another Plant Breeder
(Participatory Plant Breeding)

How to Make a Cross



Mendel Cross – Punnett Squares

F2:

	T	t
T	TT	Tt
t	Tt	tt

Tt x Tt

F1:

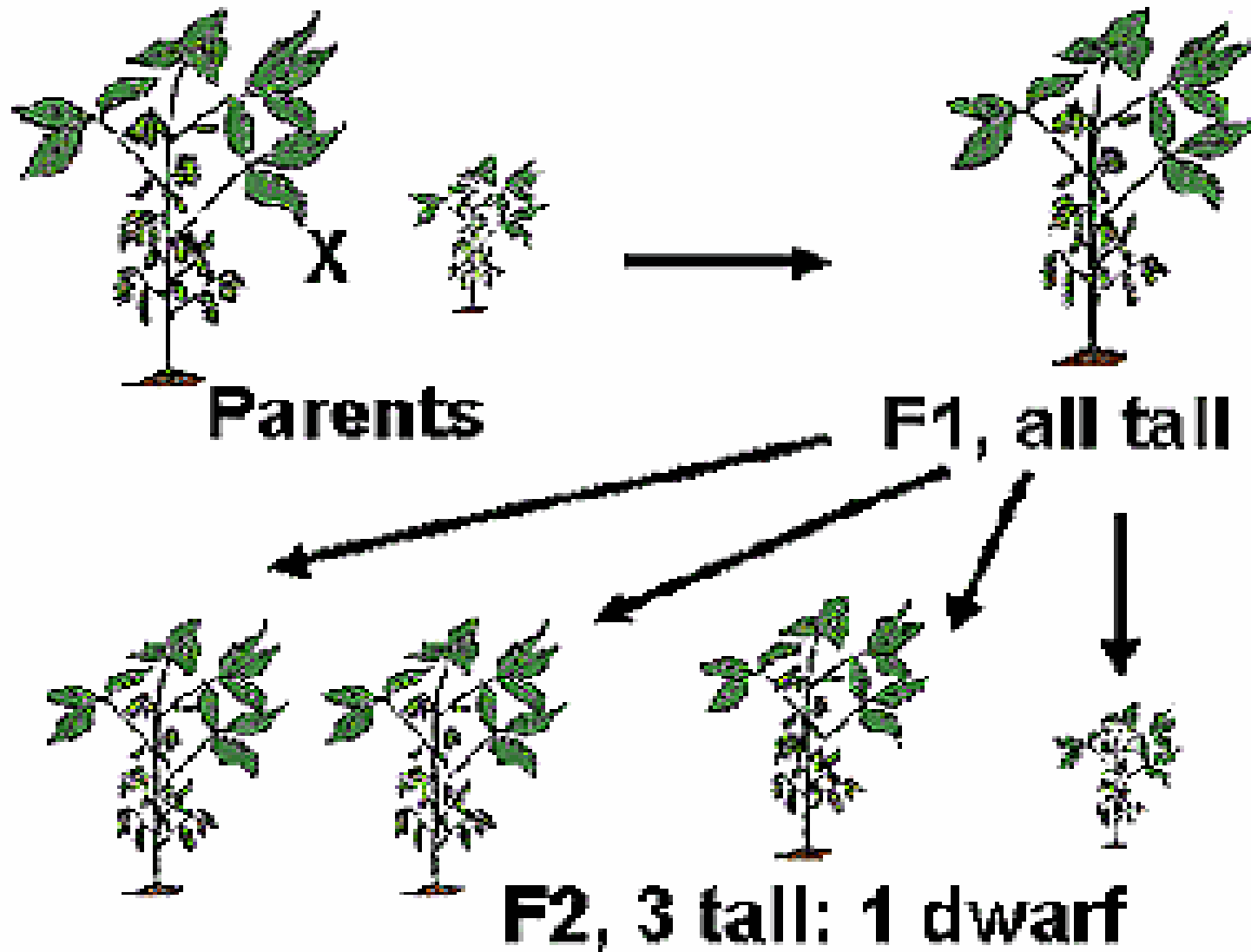
	t	t
T	Tt	Tt
T	Tt	Tt

TT x tt

Key:

T = Tall
t = Short
Tall is a dominant trait;
short is a recessive trait

Mendel Cross – Picture



How to Get The Right Seeds



- Abroad (USA)
- Other Gardeners/Seed Swaps
- Independent Seed Companies (those that don't sell F1s)