

## Welcome to the webinar!

- The webinar will start at the top of the hour.
- Find a handout of the slides in the “handouts” section of your gotowebinar control panel.
- To type in a question, use the question box on your control panel.
- The webinar is being recorded and you can find it and additional resources in our archive within the next 2 weeks at <http://articles.extension.org/pages/74451> and on the eOrganic YouTube channel


A large graphic for the Organic Seed Alliance. The top left shows a grid of 12 small paper bags filled with various colored seeds (brown, orange, yellow, pink, green). To the right, the text "ORGANIC seed ALLIANCE" is displayed in white on a dark brown background, with a stylized leaf icon. Below this, the title "Seed Production 101" is written in large white letters on a green background. At the bottom, the Organic Seed Alliance logo is on the left, the tagline "Advancing the ethical development and stewardship of the genetic resources of agricultural seed" is in the center, and a circular "Celebrating 10 Years 2002-2012" badge is on the right.

**ORGANIC seed ALLIANCE**

# Seed Production 101

**ORGANIC seed ALLIANCE**

*Advancing the ethical development and stewardship of the genetic resources of agricultural seed*

**Celebrating 10 Years 2002-2012**



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Course

## Organic Seed Production

This six-month certificate program combine hands-on education, farm-based independent study, and classroom and online learning. The program is a joint effort of Organic Seed Alliance(OSA) and the Multinational Exchange for Sustainable Agriculture (MESA).

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## Which seed crops can you handle?

- Isolation
- How many can you grow?
  - Multiples of same species
- Integrating into existing system
- Harvest time demands
- Additional equipment or tools required?



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**CELEBRATING 10**  
2003 - 2013

## Annual Plants

Complete their reproductive cycle in one season

- Widely variable flowering times
- Must plant early enough to mature seed
- Tender perennials – Tomato, Pepper
- Lettuce, Sunflower, Garden Pea  
Cucumber, Broccoli, Common Bean, Corn



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**CELEBRATING 10**  
2003 - 2013

## Biennial Plants

Complete their reproductive cycle in two seasons

- Vegetative and storage stages
- Vernalization: 8 – 10 wks @ < 50° F
- Plant for optimum over-wintering size and condition
- Expect to lose some during winter
- Carrot, Beet, Cabbage, Celery, Onions, Parsnip, Swiss Chard, Turnip



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## Pollination Systems Selfers

- Biological mechanisms to ensure selfing
  - Always have perfect flowers
  - Anthers and stigma in close proximity
  - Often with petals that remain closed
    - e.g. Fabaceae family (garden beans and peas)
- Sometimes petals will open after sexual union
  - e.g. Asteraceae family (lettuce, endive)

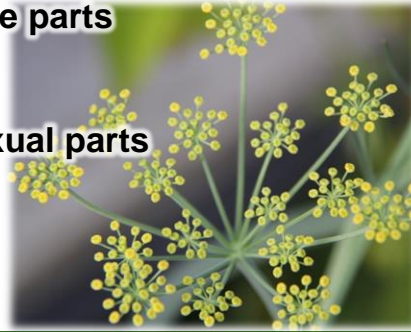


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# Pollination Systems - Crossers

- Biological mechanisms to ensure crossing
  - Separation of male & female parts
  - Self-incompatibility
  - Temporal separation of sexual parts
  - Showy flowers
  - Copious pollen producer



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# Self & Cross-Pollinating Species Spectrum

## SELFERS

## CROSSERS



Peas Lettuce

Tomato

Pepper

Squash

Umbels  
Corn

Brassicas  
Chenopods

5 plants  
acceptable

12 plants  
minimum

60 plants  
minimum

200 + plants  
desirable

**Selfers need  
minimum isolation**

**Crossers need  
much greater isolation**



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## Planning your seed crops

- What can you grow?
- How much should you grow?
- Where can you grow it?
- When to plant?



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## What can you grow?

- Environment
- Isolation (crops and weeds)
- Skill set
- Tools



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# How much should you grow?

- Working backwards:
  - What is your market?
  - How much overage is possible?



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# How much should you grow?

- Working backwards:
  - Estimating yield
  - Best info: your own experience
  - Invest in R&D – small contracts, trials



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# How much should you grow?

- Working backwards:
  - Estimating yield
  - Best info: your own experience
  - Second best: local farmers, seed companies
  - Finally, Knott's Handbook



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## Putting it together

Crop	Variety	# ordered	\$/#	total \$	est.yield/bed	beds needed	adjusted	\$/bed
Arugula	x	600	\$35.00	\$21,000.00	15	40.0	40.0	\$525.00
Carrot	x	100	\$100.00	\$10,000.00	12	8.3	8.5	\$1,200.00
Chard	x	50	\$30.00	\$1,500.00	20	2.5	2.0	\$600.00
Collard	x	100	\$45.00	\$4,500.00	20	5.0	5.0	\$900.00
Cosmos	x	25	\$75.00	\$1,875.00	10	2.5	3.0	\$750.00
Eggplant	x	5	\$200.00	\$1,000.00	3	1.7	2.0	\$600.00
Fennel	x	3	\$100.00	\$300.00	15	0.2		\$1,500.00
Lettuce	x	25	\$65.00	\$1,625.00	7	3.6	4.0	\$455.00
Lettuce	x	25	\$65.00	\$1,625.00	7	3.6	4.0	\$455.00
Lettuce	x	15	\$65.00	\$975.00	7	2.1	2.0	\$455.00
Lettuce	x	10	\$100.00	\$1,000.00	7	1.4	2.0	\$700.00
Melon	x	25	\$50.00	\$1,250.00	6	4.2	4.0	\$300.00
Mustard	x	100	\$35.00	\$3,500.00	20	5.0	5.0	\$700.00



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## Where can you grow it?

- Isolation requirements?
- Crop rotations



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## Where can you grow it?

- Isolation requirements?
- Crop rotations
- Irrigation planning



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## Putting it all together – field maps

[illegible]

# When to plant?

- Working backwards
- Critical times:
  - Flowering – dry, correct temps



## When to plant?

- Working backwards
- Critical times:
  - Flowering – dry, correct temps
  - Harvest – before rains and frost
- Flexibility in planting date? Pick the best time, not the earliest



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## Additional Resources

**Seed Saving Guide:** <http://seedalliance.org/publications/seed-saving-guide-gardeners-farmers/>

**Climate Guide:** <https://seedalliance.org/publications/climatic-considerations-for-seed-crops-guidelines-and-field-trainings-for-organic-and-specialty-vegetable-seed-producers/>

**Seed Crop Record:** <http://seedalliance.org/publications/seed-crop-record/>  
Harvest and Handling Record: <http://seedalliance.org/publications/harvest-handling-seed-record/>

**Field Activities Worksheet:**

<http://www.eorganic.info/sites/eorganic.info/files/u461/FieldActivitiesWorksheet.xlsx>

**Example Crop Plan:**

<http://www.eorganic.info/sites/eorganic.info/files/u461/ExampleCropPlan.xlsx>

**Tourne Sol Seed Cooperative Sample Brassica rapa seed budget:**

<http://www.eorganic.info/sites/eorganic.info/files/u461/Brassica%20Rapa%20Seed%20Budget%20for%20OSA.xls>



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- Have an organic farming question? Use the eXtension Ask an Expert service at <https://ask.extension.org/groups/1668/ask>
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- Thank you for coming!

