
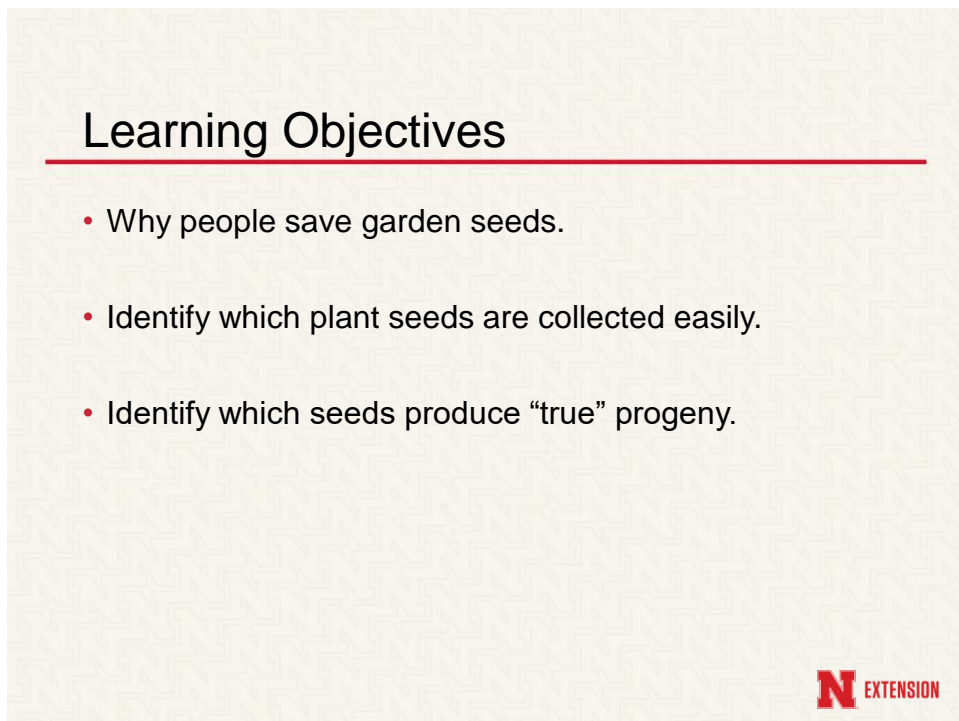
The slide features a red vertical bar on the left side containing the white 'N' logo and the word 'EXTENSION' below it. The main background is a light beige color with a repeating geometric pattern. The title 'Saving and Storing Seeds' is centered in a large, black, sans-serif font, underlined with a red line. Below the title, the presenter's name 'David E. Lott, Horticulture Educator' is written in a smaller, black, sans-serif font.

# Saving and Storing Seeds

David E. Lott, Horticulture Educator




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The slide has a light beige background with a repeating geometric pattern. The title 'Learning Objectives' is centered in a large, black, sans-serif font, underlined with a red line. Below the title, there are three bullet points in a black, sans-serif font. The 'N' logo and 'EXTENSION' text are located in the bottom right corner of the slide.

## Learning Objectives

- Why people save garden seeds.
- Identify which plant seeds are collected easily.
- Identify which seeds produce “true” progeny.



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## Learning Objectives

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- How to collect and dry seeds.
- How to store seeds.
- How to conduct a simple germination test.
- How long stored seeds are viable.



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## Why save seeds?

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- A shortage of seeds!
- Collect your favorites from your garden.
- Keep growing family heirlooms.
- Have seeds immediately available.
- Self sufficiency.



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## Which seeds to collect?

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- Annuals – Complete entire cycle in one year and are self pollinating
- Biennials – Collect seeds on the second year.
- Perennials – Usually propagated by cuttings or divisions, some can be collected by seed.



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## True progeny...

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- Open pollinated, non-hybrid are best to collect and save.
- Hybrid seeds tend to not produce the same progeny or sterile seeds.
- Vine crops tend to cross pollinate. Partly due to requiring a pollinator.
- Cross pollinated plants – Use manual pollination.



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## Not seeds are the same...

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- Easily Saved Seeds
- Difficult-to-Save Seeds
- Flower Seeds
- Storing Seeds
- Test Germination



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## Easy to save seeds...

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- Tomato/Pepper/Eggplant
  - Collect from Ripe Tomatoes
  - Collect Seeds on Screens or Paper Towel
  - Allow to Dry at Room Temperature
- Beans/Peas
  - Leave in Pods Until They “Rattle”
  - Dry Intact Pods Complete – Then Remove
- Lettuce
  - Allow Bolting and Blooming
  - Remove Chaff and Store



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## Difficult to save seeds...

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- Vine Crops
  - Can Cultivar Cross Easily
  - Collect/Cure Seeds After Produce is Very Ripe!
  - Clean and Dry at Room Temperature
- Biennial
  - Cabbage Family Inter-Crosses and Wild Crucifers
  - Carrots Cross with Wild Carrots
  - Store Desirable Carrot/Beet Roots and Onion Bulbs in Sand During Winter
  - Plant Roots and Bulbs in Spring – Harvest Seed



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## Flower seeds to collect...

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- Gather Mature Seed Pods/Structures
- Allow Seeds to Dry
  - Cure in Warm, Dry Location – Normally One Week
- Store in Sealed Containers
- Cool and Dry Location
  - Moisture – Leads to Mold
- Germination Variables
  - Seed Coat
  - Treatments
  - Time



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## Steps to collect...

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- Dry Method –
  - Leave the plant dry naturally with the seeds
  - Can pull whole plants and dry upside down
  - Works for most vegetable, herbs and flowers
  
- Wet Method –
  - Used on fleshy fruits, like tomatoes
  - Scoop seeds, place in water for three days.
  - Strain, rinse by 20% bleach and rise again
  - Dry on paper towels



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## How to store...

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- Use jars, sealing containers or envelopes
  
- Small amount of dried milk powder in tissue paper
  - Place in containers to draw out moisture
  
- Label the containers with dates and seed types
  - Collection Dates
  - Cultivar Names
  - Days to germination
  
- Containers must not collect moisture/humidity
  
- Store in a dark, cool, low humidity place or refrigerator



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<http://www.extension.umn.edu/garden/yard-garden/flowers/starting-seeds-indoors/>

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## A simple germination test...

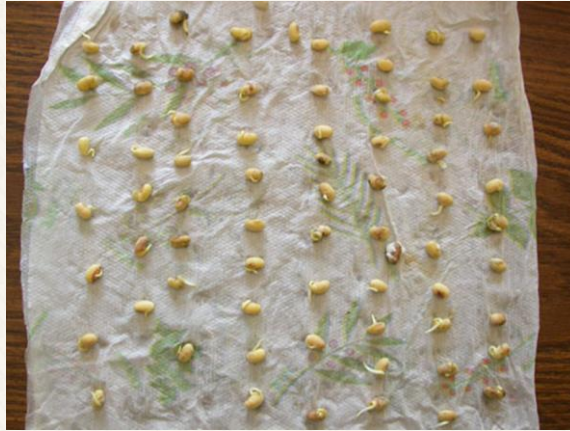
- For annual seeds - veggies, flower and herbs
- Take 10 seeds place in a double layer of wet paper towel.
- Place in the sun to warm up for two weeks.
- Count how many germinated and determined percentage germinated.

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<http://extension.entm.purdue.edu/pestcrop/2007/issue9/>

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## How long to store?

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- Preferably use seeds for the next year.
- Correctly dried seeds are usually viable up to three years.
- Plant more seeds as they age to achieve higher germination percentages.
- Source:  
[http://extension.oregonstate.edu/lane/sites/default/files/collecting\\_and\\_storing\\_seeds.pdf](http://extension.oregonstate.edu/lane/sites/default/files/collecting_and_storing_seeds.pdf)

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## Seed storage life spans vary...

- **Short** – Corn, Onion, Parsley, Parsnip, Pepper
- **Intermediate** – Asparagus, Bean, Broccoli, Carrot, Celery, Leak, Pea, Spinach
- **Long-** Beet, Chard, Cabbage Family, Turnip, Radish, Cucumber, Lettuce, Muskmelon, Pumpkin, Squash, Tomato, and Watermelon



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## How long to store?

Table 1: Federal and Colorado minimum germination, seed count and relative longevity of selected vegetable seed.

Kind of seed	Minimum germination (percentage)	Average number of seed per:		Relative longevity (years)
		gram	ounce	
Asparagus	60	50	1,400	3
Beans	70	4	100	3
Beets	65	70	2,000	4
Broccoli	75	290	8,100	3
Brussels sprouts	70	300	8,500	4
Cabbage	75	280	7,700	4
Cabbage, Chinese	75	250	7,000	3
Carrot	55	790	22,000	3
Cauliflower	75	310	8,600	4
Celeriac	55	1,800	50,000	3
Celery	55	2,700	76,000	3
Chard, Swiss	65	50	1,500	4
Chicory	65	710	20,000	4
Corn, sweet	75	5	140	2
Cucumber	80	40	1,100	5
Eggplant	60	260	7,200	4
Endive	70	610	17,000	5
Kale	75	360	10,000	4
Kohlrabi	75	330	9,200	3
Leek	60	350	9,900	2
Lettuce	80	930	26,000	1
Muskmelon	75	40	1,100	5
Okra	50	18	500	2
Onion	70	300	8,500	1



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## How long to store?

Kind of seed	Minimum germination (percentage)	Average number of seed per:		Relative longevity (years)
		gram	ounce	
Parsley	60	640	18,000	1
Parsnip	60	240	6,800	1
Pea	80	7	200	3
Pepper	55	160	4,500	2
Pumpkin	75	7	200	4
Radish	75	110	3,100	4
Rutabaga	75	390	11,000	4
Salsify	75	70	2,000	1
Spinach	60	100	2,900	3
Spinach, New Zealand	40	20	430	3
Squash	75	10	300	4
Tomato	75	360	10,000	4
Turnip	80	500	14,000	4
Watermelon	70	10	300	4



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## Resources...

- Saving Seeds – Oregon State Extension
- <https://extension.oregonstate.edu/sites/default/files/documents/12281/savingseeds.pdf>
- Storing Vegetable and Flower Seeds – Colorado State Extension
- <https://extension.colostate.edu/docs/pubs/garden/07221.pdf>



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## Questions?

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