



# Starting a Garden From Seed

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Flower Shop, Nursery, and Garden Center

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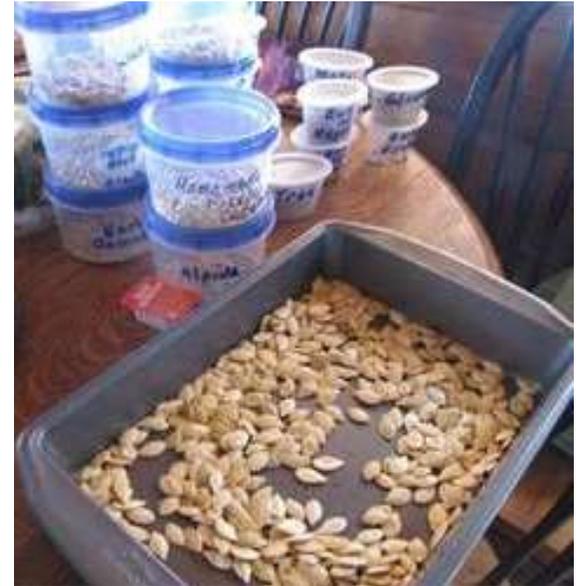
Website: [www.countrysideflowershop.com](http://www.countrysideflowershop.com)

Facebook: [Countryside Flower Shop](#)

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# Seed Sources and Viability

- Seed can be purchased retail or online.
- Seeds can be saved from previous year's plants.
- Check for viability by:
  - Soaking in water
  - Testing on moist paper towel



# Starting from Seed Trends

- The Cooking Garden
- Vegetables as Ornamentals
- Herbs for Year Round Use
- Gardening for Generations
- Mixing It Up
- Vibrant Color and Texture
- Perennials and Grasses
- Organic
- Managing Budgets
- Buying Local
- Farmer's Markets
- Community Gardens



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# Growing from Seed Indoors or Out?

- Fresh packaged seeds have the best germination rates.
- Older seed packages will have less of a germination percentage (not worth the losses)
- There are some seeds that don't need to be started indoors and can be directly sown into the soil outdoors, weather permitting.
  - Vegetables such as squash, pumpkins, & cucumbers
  - Flowers such as nasturtiums, poppies & sunflowers



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# Starting From Seed: Top Ten Vegetables

- Beans
- Broccoli
- Brussel Sprouts
- Cabbage
- Cauliflower
- Cucumber
- Eggplant
- Lettuce
- Pepper
- Tomato



# Starting From Seed: Top Ten Annuals

- Ageratum
- Celosia
- Coleus
- Cosmos
- Marigold
- Morning Glory
- Pansy
- Snapdragon
- Verbena
- Zinnia



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# Starting From Seed: Top Ten Perennials

- Achillea
- Aster
- Candytuft
- Centaurea
- Columbine
- Daisy
- Dianthus
- Hollyhock
- Monarda
- Rudbeckia



# Starting From Seed: Top Ten Herbs

- Basil
- Chives
- Catnip
- Mint
- Lavender
- Oregano
- Rosemary
- Sage
- Marjoram
- Thyme



# Seed Starting Schedule

Plant	Weeks Before Last Frost to Plant	Time to Germinate (Days)	Temperature	Light
Ageratum	8	5 to 10	70	Light
Alyssum	8	5 to 10	70	Either
Aster	6	5 to 10	70	Either
Begonia	12 or more	10 to 15	70	Light
Broccoli	8	5 to 10	70	Either
Cabbage	8	5 to 10	70	Either
Cauliflower	8	5 to 10	70	Either
Celosia	8	5 to 10	70	Either
Centurea	6	5 to 10	65	Dark
Coleus	8	5 to 10	65	Light
Columbine	8	20 - 25	70	Light
Cosmos	4 or less	5 to 10	70	Either
Cucumber	4 or less	5 to 10	85	Either
Dianthus	10	5 to 10	70	Either
Eggplant	8	5 to 10	70	Either
Geranium	12 or more	10 to 20	70	Light
Impatiens	10	15 to 20	70	Light

# Seed Starting Schedule

<b>Plant</b>	<b>Weeks Before Last Frost to Plant</b>	<b>Time to Germinate (Days)</b>	<b>Temperature</b>	<b>Light</b>
Larkspur	12 or more	5 to 10	55	Dark
Lettuce	8	5 to 10	70	Light
Marigold	6	5 to 10	70	Either
Muskmelon	4 or less	5 to 10	85	Either
Pansy (Viola)	12 or more	5 to 10	65	Dark
Pepper	8	5 to 10	80	Either
Petunia	10	5 to 10	70	Light
Phlox	8	5 to 10	65	Dark
Portulaca	10	5 to 10	70	Dark
Snapdragon	10	5 to 10	65	Light
Squash	4 or less	5 to 10	85	Either
Stock	10	10 to 15	70	Either
Tomato	6	5 to 10	80	Either
Verbena	10	15 to 20	65	Dark
Vinca	12 or more	10 to 15	70	Either
Watermelon	4 or less	5 to 10	85	Either
Zinnia	6	5 to 10	70	Either

# Getting Started

## Growing Containers

- Flats filled with seed starter mix
- Peat Pots (soak before seeding )
- Jiffy Pots
- Egg cartons or other creatively recycled pots (sterilized)



## Cleanliness

- 10% bleach to 90% water
- Dip containers in solution and rinse

## Drainage

- Water drainage holes necessary in pots



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# Getting Started

## Soil

- Nothing beats a good commercial growing medium because it is sterile and free of unwanted seeds
- We recommend Metro Mix 200 for starting seeds (it has a fine light texture)
- Soil must be watered before planting (soak soil twice)



## Soil Temperature

- Seeds will germinate faster if you can maintain
- a soil temperature of 80 – 85 degrees  
(this is where soil heat mats come in handy)



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# Seeds

## Germination

- It is best to check directions on the back of the seed packet. It will tell you how to seed, when, where, how deep, germination time, spacing and transplanting information.
- Seed size often determines the planting depth in the soil
- A general rule is to bury seeds at a depth that is roughly two times the size of the seed itself
- Some seeds need light to germinate, others, do not
- Certain seeds need stratification, or scarification to germinate properly



Germination of Seeds

# Sowing

- Fill containers with dry potting soil
- Thoroughly soak soil two times
- Plant and cover seed at proper depth
- Moisten soil again with a light spray (a strong spray can wash seeds and soil out of the container)
- Do not forget to label what you planted and the date sown



# Proper Growing Conditions

Optimal growing conditions require the perfect combination of light, moisture, air circulation and temperature

## Moisture

- The soil surface should be kept moist until germination
- After germination, it's best to water from below allowing soil to soak the water up
- To help promote germination many gardeners
- will cover flats with clear plastic covers or plastic wrap (the covers need to be removed as soon as germination occurs)



# Temperature

- A temperature of 80-85 degrees is optimal for germination; use heat mats to speed up process
- At lower temperatures, seeds takes longer to germinate
- After germination, the best temperature to grow seedlings varies by crop type:
  - Cole crops like temps in the 50's
  - Tomatoes like it at 55-60 degrees
  - Peppers like it at 68-70 degrees
- When temperatures are too warm the seedlings will begin to stretch creating a less vigorous seedling
- Remove heat mats after germination



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# Light

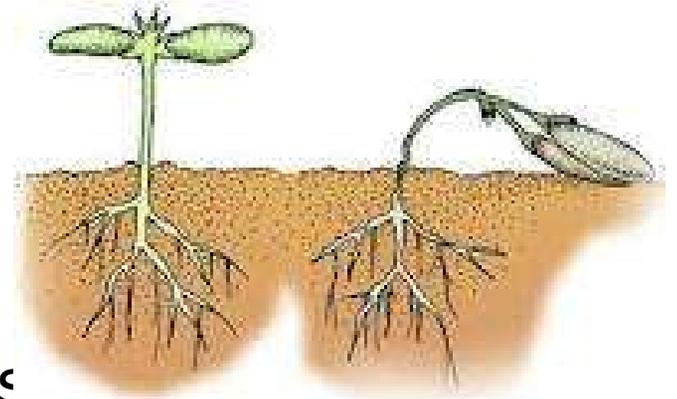
- Light is the single most important factor for growing your seedlings once they have germinated
- A sunny southern or western window is the best location, but supplemental lighting is highly recommended
- When seedlings receive insufficient lighting they will also begin to stretch and fall over
- Reflectors built from aluminum foil and cardboard can help to introduce more light to plants
- Fluorescent lighting is the best way to supplement light for your seedlings
- Fluorescent lights are ideal because they don't produce much heat, are more cost efficient in electricity use, and are fairly inexpensive



# Avoiding Damping Off

## Signs

- Fallen seedlings
- Spores on the soil surface that look like tiny white hairs
- Stems of newly emerged seedlings appear bent or discolored at the soil line



## Preventive Care

- Sow seeds thinly. Crowded seedlings do not dry out quickly, resulting in humid moist conditions. (the perfect environment for fungus spores to grow)
- Sprinkle a thin layer of perlite on the surface of the soil to help keep the stem dry where damping off occurs

# Avoiding Damping Off

- Avoid over-watering seedlings
- Always place a fan near the seedling tray. The added air circulation will prevent fungus from developing and encourage stronger branch and stem growth
- Water from the base of the plants once they emerge from the soil to avoid wetting the foliage
- If at first you don't succeed, don't be afraid to try again



# Thinning Seedlings

- If you have over seeded or purposely put two seeds in a pot, the resulting sprouts should be thinned
- The weakest and spindliest seedlings need to be removed so the strongest ones can grow stronger
- With multiple strong seedlings in a single container you may opt to carefully remove and transplant them to their own containers
- When sowing outdoors, follow the seed packet's instructions for seed and sprout spacing



# Transplanting Indoors

- As seedlings get bigger they need to be moved to bigger pots in order to keep their growth momentum going
- Generally seedlings are ready to be transplanted four to six weeks after germination or after they have developed two sets of leaves
- This is the time to start fertilizing to encourage vegetative growth
- Once seedlings are big enough you can begin to give them a balanced fertilizer (i.e. 10-10-10) diluted to half the recommended strength once a week until transplanted outside
- Once transplanted, you may switch to any suitable full strength fertilizer



# Transplanting Outdoors

- Gradually introduce plants that have been protected from the wind, cool temperatures, and strong sun to their new outdoor environment.
- Start about one week before transplanting outdoors
- Move plants outdoors when night temperatures have consistently reached the 50's. Avoid late frosts.
- Start by placing plants outside for 2-3 hours at a time. Increase their outdoor time a little each day, also increasing the amount of sun they receive.
- Prevent transplant shock by planting on a cloudy day so strong sun won't wilt your seedlings.
- Water immediately and deeply so your plants won't develop shallow roots.
- Monitor plants closely for insect damage since tender young plants are a delicacy for insects.

# Planting Outdoors

- For the ambitious gardener who wants to plant early, or the one who just wants to provide extra seedling protection from the weather there are a variety of options:
  - Frost cloths for protection down to 28 degrees
  - Frost caps
  - Bell jars  
(made from glass or recycled plastic bottles)
  - Cold frame



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# Resources

## Great Resources on the Web

[www.vegvariety.cce.cornell.edu](http://www.vegvariety.cce.cornell.edu)

- Vegetable varieties rated by real gardeners

• [www.urbanext.uiuc.edu/veggies](http://www.urbanext.uiuc.edu/veggies)

- Gardening advice

• Seed Company websites:

• [www.burpee.com](http://www.burpee.com)

• [www.livingstonseed.com](http://www.livingstonseed.com)

• [www.parkseed.com](http://www.parkseed.com)

• [www.superseeds.com](http://www.superseeds.com)



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