

## Starting Seeds Outdoors

Be sure to sow seeds directly in the garden only when the daytime and nighttime temperatures are warm enough. Refer to the seed packet for minimum temperatures. Typically in our area the May Long Weekend is when you are safe to start seeds outdoors.

1. Prepare your garden as previously described.
2. Rake the top layer of soil smooth, remove any rocks or debris, then add a fine layer of peat moss, starting mix or sterilized potting soil.
3. Plant seeds as per the directions for indoor seeding, but be sure not to plant seeds too deep as it gets colder and more wet the deeper you sow, decreasing the chance of germination.
4. Keep seeds moist until germination.
5. After sprouting, thin plants according to seed packet directions and transplant with appropriate space between each plant.

*Tip:* For vegetable gardens, plant in rectangular blocks, not rows. This makes more efficient use of space.



## Troubleshooting

Here are a few frequently asked questions regarding propagation:

- ◆ *Why didn't my seeds come up?* Seeds purchased from reputable seed companies should have a high germination rate, but occasionally some seeds just won't germinate. Over watering and planting seeds outdoors too early (when it is still too cold for them to grow) are the two main reasons for failed crops. Don't overlook birds, rabbits and squirrels either!
- ◆ *Why are the leaves on my transplants purple?* Cold temperatures will cause leaves to purple. Plants may come around when temperatures rise, but try to avoid the situation by not planting seedlings outdoors too early.
- ◆ *How do I keep animals and insects away from young plants?* Remy cloth or crop cover gently laid over new transplants will help protect them.

## Checklist

- Starting trays**  
10"x20" flats, with or without holes, or window sill trays, 6"x20"
- Inserts for trays**  
For small seeds use 72, 96 or 288 unit trays.  
For large seeds, use 24 or 1201 trays, or peat pots in strips of 2"-4" pots
- Starting Mix**  
Starter Mix, Professional Mix #1, Mica Peat and/or Jiffy 7 or Jiffy 9 pellets
- Clear Dome Coverings**  
For use over trays to hold in humidity
- Heating Cables**  
With a 70°F/21°C preset built in thermostat or a cable and thermostat to control the exact germinating temperature you need for seedlings or cuttings
- Watering Can**  
Ideally a quality English Hawes watering can with the patented nozzle or a good mister bottle
- Lighting**  
A good overhead light, fluorescent or other high intensity light to ensure seedlings don't stretch
- Cold Frame**  
To place seedlings in a cool, protected environment to harden them off before they go outside



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## Starting Seeds & Transplanting

Simple steps to help you succeed at growing plants from seed

### The Basics

**Germinate:** To sprout or begin to grow. Refers to the earliest stage of plant growth.

**Propagation:** The process of breeding or growing. This includes starting plants from seed, cuttings, rootstock etc.

**Stratification:** A horticultural term for exposing seeds to chilling temperatures. Many seeds would, in nature, go through a period of cold dormancy before blooming, and placing seeds in the freezer mimics this process.

**Mica Peat:** A fine peat mixture containing flecks of mica rock. A popular germinating medium.

**Damp off:** A term given to the fungus that develops on young seedlings that have not had sufficient air circulation (a household fan can easily improve this) or have been over watered. Fungicides are available to help prevent damping off and other diseases that cause seedlings to rot.

**Hardening off:** The process of acclimatizing young plants to outdoor temperatures. A cold frame is ideal for adjusting plants from their warm indoor environment to their new home outdoors.

# Starting Seeds Indoors

The key to success in starting seeds indoors is high light, high humidity and good air circulation.

1. Freeze seeds for 48 hours before germinating to stratify them. This is not necessary for all seeds, but we have used this technique for 30 years with great success. When finished, seal and leave any extra seed in your freezer - they will keep better.
2. Fill your seed trays full of starting mix and level them to prevent low spots, where poor circulation may increase disease problems such as damping off.
3. Make shallow furrows in the soil (a pencil works well for this).
4. Cut open the seed package on one end and hold it on an angle to allow the seed to flow out slowly. I always hold the seed packet with one hand and use my other hand to tap it lightly. Another method is to use plastic seeders.
5. For small seeds, like begonias, add a pinch of clean, dry sand to the package to help separate the seed and prevent over seeding. The sand is visible, while the seed may not be, so it gives you a good guide. Never cover small seeds with soil. Poke large seeds such as sweet peas, nasturtiums and corn into the soil with a pencil. Note: It's better to seed too lightly than too thickly.
6. Once the seed is in place, water it in gently with hot (not boiling) water as hot water hastens germination. Use a Hawes watering can or a coarse sprayer or mister bottle.
7. Cover the seedlings with either glass, clear plastic sheeting or a clear plastic dome to hold in humidity.
8. Put the seed tray in a warm spot (65°F/18°C minimum) or use a heating cable. When using heating cables, use wooden stakes to separate the bottom of the flat from the cable. This will allow the warmth from the cable to be evenly distributed along the bottom of the tray.



9. Most seeds need light to germinate. A fluorescent tube placed 18-24" overhead will suffice. Keep the light on at least 16 hours per day. Violas and pansies need to be dark, so cover

10. Keep the soil evenly moist at all times and never let your seeds dry out. Avoid over watering by checking the weight of your flat.
11. As the first seeds sprout in earnest, remove the glass or plastic coverings on the trays. Use a fan to make sure the seedlings get good air circulation, and apply a fungicide like 'No Damp' to prevent damp off and other diseases.
12. As soon as the first true leaves appear, you can transplant seedlings into small trays or pots that will allow them to become rootbound quickly. Keep your young plants well lit to prevent stretching, and use Alaska Mor-Bloom 0-10-10 fertilizer to keep them compact and bushy.
13. When it becomes warm enough (minimum of 40°F/4°C), move your cool-loving plants, like pansies, stocks, lobelias and onions, to a cold frame to harden off. Keep them in the cold frame for about 3 days, then transplant them into the garden. Harden off other plants according to their warmth specifications (check the seed packet). Most summer plants require a minimum outdoor temperature of 65°F/18°C.

## Preparing the Garden

Late February is the time to begin getting soil ready for spring and summer planting.

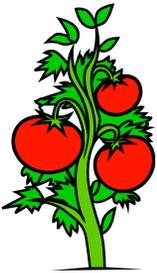
1. Check the pH level of your soil using a simple monitor and apply lime as necessary to get acidic soil to the 5-8 pH range. Avoid liming any area you plan to plant potatoes though, as lime may lead to scab.
2. Dig up or rototill your bed to a depth of 8-12". If your soil crumbles nicely when you squeeze a handful, you're all set. If it sticks together or clumps, break up this clay soil by adding up to 30% fir or hemlock bark mulch and 30% peat moss. Rototill again until the soil crumbles nicely. Liming can be done at the same time as well.
3. Mix organic material, like compost and well-rotted manures, into the soil. Be sure soil doesn't clump together but crumbles nicely after squeezing.
4. Using a rake, hill up the soil to raise the level up at least 8". Plants will be higher, drier and warmer by doing this and will get them off to a great start.



# Transplanting

The best time to transplant is on an overcast day as sun can scorch delicate new leaves. Covering new plants with Remay cloth or other crop cover material will give them protection and get them going faster.

1. In your prepared garden bed, add a layer (using packaged directions) of 6-8-6 fertilizer or bone meal to the area being planted and rake it in.
2. Loosen soil to a depth of 12" and dig a hole slightly deeper than you will need to receive your plant.
3. Ensure the plant is thoroughly moistened, then gently massage the plant pot. Tip the pot upside down with the plant stem supported between your fingers and allow the plant to fall into your hand.
4. If the roots are matted, use your fingers to gently spread the lowest third of the roots.
5. Pop the root ball into the soil at the same level it was in the pot. Tall, leggy plants can be set in a little deeper for extra support, but be sure not to plant too deeply (Tomatoes are an exception to this as they will root along their stock).
6. Gently fill soil in around the plant and give it a thorough watering.
7. Keep an eye on your new transplants to make sure they are adjusting well.
8. As soon as they are established and growing well, fertilize with 20-20-20. Always ensure plants are watered BEFORE feeding. Never feed anything when it is dry for fear of burning.



Tip: If your plants are in fibre pots, do not plant them in the pots. Break the edges away gently before planting being careful not to disturb the young roots.

