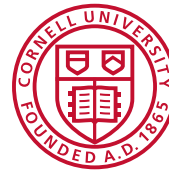


Cornell Cooperative Extension

Cornell Garden-Based Learning



Growing Food in Changing Climate Conditions Q & A's

Q: When can I plant my vegetable garden?

A: Planting your vegetable garden will depend on what you want to grow, whether you'll be direct sowing or planting transplants, and what your average last freeze date is for your area. Understanding the difference between cold-season crops (e.g. spinach and peas) and warm-season crops (e.g. tomatoes and peppers) will help guide your decisions as well.

Check the Northeast Regional Climate Center's [Average Last Frost Dates](http://www.nrcc.cornell.edu/services/blog/2011/05/10_last_frost/index.html) at http://www.nrcc.cornell.edu/services/blog/2011/05/10_last_frost/index.html or check with your local extension. Long Islanders can use this fact sheet as well: [Vegetable Planting Times Guidelines for LI](https://s3.amazonaws.com/assets.cce.cornell.edu/attachments/11705/Vegetable_Planting_Times_Guidelines_for_LI.pdf?1446826465) at [https://s3.amazonaws.com/assets.cce.cornell.edu/attachments/11705/Vegetable Planting Times Guidelines for LI.pdf?1446826465](https://s3.amazonaws.com/assets.cce.cornell.edu/attachments/11705/Vegetable_Planting_Times_Guidelines_for_LI.pdf?1446826465). Northern NY can use <http://cceclinton.org/resources/vegetable-growing-guide-beginners-edition-northern-ny>

Weather conditions will vary in any given year. The spring growing season may be "ahead" or "behind" schedule sometimes for a week or two or more. Another limiting factor in spring is wet soil conditions. Turning soil under or rototilling when soil is wet has the potential to damage the soil structure. This can cause a hard, crusty layer of soil at the surface as well as hard clods or balls of soil that interfere with seeding and good root development.

Q: Should I start seeds indoors or plant directly outside?

A: Eager gardeners who want to get their hands dirty can start warm-season vegetable crops indoors, given that they have the necessary materials and space. Those plants can then be planted in the garden when the time is right. Alternatively, plants can be purchased directly from nurseries and brought home to plant in the garden. Starting your own seeds indoors gives you the opportunity to grow an array of varieties that are not always available in nurseries.

See the factsheet "Indoor Vegetable Seed Starting, found here: <http://moodle.cce.cornell.edu/enrol/index.php?id=168>.

Either route you choose, make sure not to place warm-season crops out too early, and be sure to pay attention to the seed packet information. Plants that are started indoors too early tend to get leggy before the weather has warmed enough to plant outdoors.

Some vegetables prefer to be sown directly into the garden: peas, spinach, lettuce, to name a few. These are generally cooler season vegetables that like to get an early start in spring. Read seed packets carefully to determine whether seeds prefer to be direct-seeded or started indoors.

Q: None of my seeds germinated. What went wrong?

A: Seeds may not germinate if the soil is too cold, if seeds were planted too deep, or if the soil is too wet or too dry. Some seeds require light to germinate, while others require darkness. Some prefer to be soaked overnight, or even slightly "scarified" with some sand paper. It is important to read the seed packet for germination information to ensure that you give it the

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right conditions for germination. It is also possible that the seed you used was too old: seed viability decreases over time, though this depends on the vegetable seed type. Try germinating seeds on a moist paper towel placed in a plastic bag. Depending on the percent of germination, you may decide to use them or scrap them for new seeds.

Q: I have vegetables seeds from a few years ago, can I still use them?

A: It is recommended that about a month or so before the seed is to be planted, you test the percent germination of the seed. This is the percentage of the total number of seeds that have the capability to germinate and grow. This will help you decide how many seeds to plant, especially if the percent germination is low. The easiest way to do this is to moisten two or three layers of paper towels. Place an even number of seeds on the towels and roll them up. Do not roll tightly. A loose roll will provide more oxygen and create a more accurate test. Place the rolls in a plastic bag. Keep in a warm place such as the kitchen counter or on top of the water heater. Some seed will germinate in a matter of several days; therefore, it is necessary to check the rolls every two or three days. Count the number of seeds which germinate and change this to a percentage of the total seed tested to determine an approximate percent germination rate of the seed you have saved. The percent of germination for seed that you purchase can be 90% or higher, so this can be used as a guide in determining how successful you have been in saving your seed. If the germination rate is less than 50%, it is likely worth composting your old seed and starting over with fresh seed.

Q: My plants died as soon as I planted them outside, what happened?

A: Vegetable plants that are started indoors need a period of hardening off before they go outside full-time. Reduce the amount of water they receive, and increase their exposure to sun, wind, and cool temperatures by placing them outside in a lightly shaded area for increasingly longer periods for a week or two. Once you're ready to transplant them, choose a still, cool, cloudy day to plant outside or plant late in the day if sunny. In a prepared area, loosen soil and dig holes large enough to accommodate the root system, and at the proper spacing as specified on the seed packet or in another resource. Carefully slide the well-watered plants out of their containers by putting two fingers like a V, straddling the stem at the base of the plant and gently turning them upside down; do not hold by the stems or you may damage the seedlings. Turn them upright, cup your hand around the bottom of the seedlings and place them in their holes. Tap the soil gently around transplants to achieve good root-to-soil contact. Most vegetable seedlings want to be planted evenly with the ground soil, though tomatoes and some other crops want to be planted deeply. Keep soil moist for first week or two to allow seedlings to establish roots.

Q: How do I support my tomatoes?

A: The main reasons for staking and supporting tomato plants is to keep plants and fruit off the ground. This reduces losses from fruit rots when fruit touches the soil, and from sunburn when fruit are not shaded by foliage. Staking tomatoes also makes it much easier to harvest. There are a variety of ways to support your tomato plants: staking, trellising or caging. You can use wooden or metal stakes and tie the plants to the stakes for support. Caging usually uses metal wire cages that do not require you to use ties to support the plants.

Q: What should I consider before using collected rainwater for food gardening?

A: Studies have shown that harmful compounds may leach into rainwater from roofing materials and treatments. Check to see if your gutter contains lead solder or lead-based paint, if the roof is composed of treated cedar shakes, new wood shingles, asphalt shingles or copper;

or if your roof has been treated with chromate copper arsenate or chemicals to prevent moss, algae or lichen growth. If the answer is “yes” to any of these questions, do not use collected rainwater in your food gardens or orchards, as these compounds can end up in your fruits and vegetables. See this rain barrel resource for more information:

<http://cceonondaga.org/resources/how-to-build-a-rain-barrel>.

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