

Garden Update

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If only vegetable gardening was the straightforward task of planting seeds and starter plants outdoors without any attention to the annoying details of soil temperature and late frost. This isn't the case, however, and a little planning goes a long way towards success. Certainly, this year's cool start to spring has been a boon for cool season vegetables. Radishes and lettuce are just some of the vegetables requiring cooler soils to grow well.

Soil temperature charts list three temperatures for most vegetables—the minimum, the optimum, and the maximum. The minimum and maximum temperatures, like the terms imply, are the broadest range at which seeds will germinate and plant roots will grow. Optimum is the ideal temperature at which seeds not only germinate in the highest numbers but fosters robust plant growth. Let's take carrot seeds as an example. The minimum to maximum temperature range is 40° to 90° F, with an optimum temperature for seed germination at 80° F. Seeing how this plays out with different soil temperatures reveals:

No germination at 32° F.

51 days for seedling emergence at 41° F.

17 days for seedling emergence at 50° F

Just 6 days for seedling emergence at 68° to 86° F.

With cool season vegetables, planting seeds and starter plants in soils cooler than optimum won't lead to rotting seeds and plants. Often the seeds will "wait" until conditions are met, and then germination will be initiated. Warm season vegetables are different. Seeds and starter plants set into cooler soils often rot, necessitating the need to buy more seeds and starter plants. The last frost of the season also has a big impact on survivability of warm season vegetables while cool season vegetables weather light frosts with little impact.

These cool season crops can be planted outside before the last frost and when soils are above 45° F: Asparagus (crowns), beets (seeds), broccoli (plants), cabbage (plants), carrots (seeds), cauliflower (plants), Swiss Chard (seeds or plants), garlic (cloves), leeks (plants), lettuce (seeds), onions (bulbs), parsnips (seeds), peas (seeds), potatoes (divisions), radishes (seeds), spinach (seeds), and turnips (seeds).

These warm season vegetables should be planted outside after danger of frost is past and when soil temperatures are above 60° F:

Beans (seeds), corn (seeds), cucumber (seeds), eggplant (plants), muskmelon/cantaloupe (seeds), peppers (plants), pumpkins (seeds), squash (both summer and winter) (seeds), tomatoes (plants), and watermelons (seeds).

Soil temperature information can be accessed through the UNL CropWatch website: <https://go.unl.edu/soiltemperature> . Probabilities for the last spring frost date can be found at: <https://go.unl.edu/lastfrost> .