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Too Cool for Cool Season Crops?

By Dawn Pettinelli, UConn Home & Garden Education Center

Aghast, I lifted the shades last Saturday and this past Tuesday morning to see more snow. Thankfully, I had been keeping all my cool season seedlings, mostly 'Purple Rain' candytuft, a trial purple petunia and 'Point One' cabbage inside during most of this past week.

This has been an abnormally cold start to April and not only are the soils not coming is as fast as they normally do to the UConn Soil Testing Lab but local garden centers still have an abundance of pansies, lettuce and other cool season annuals as it is still a bit too cold to plant them. While not record setting, the cool temperatures and wet soil conditions have put many gardening activities on hold. A high pressure system in the North Atlantic has caused the cold air to filter down from Canada. Hopefully, it will break up soon.

If you purchased or received a pot of pansies my rule of thumb is to keep them inside or in a sheltered place until the temperatures outside reach at least 40 F. The same goes for other cool season annuals such as calendulas, sweet alyssum, snapdragons, nigella and sweet peas. Experiencing temperatures down in the 30's won't necessarily kill the plants but it can damage their flowers, flower buds and new growing points.

Once the month of April begins, many gardeners are itching to get their vegetable seeds and seedlings planted. Aside from the air temperature, it is also important to note the soil temperature. Cool season vegetables such as lettuce, Swiss chard, carrots, cabbage, kale, radish, peas and beets need a soil temperature of at least 40 F to germinate. Quicker germination, however, typically occurs at soil temperatures closer to 50 F. For instance, spinach will take 23 days to germinate if the temperature is 41 F but only 12 once it reaches 50 F. Often if the soil is cold, it is also wet and seeds can rot if they are sitting in the soil too long waiting for the temperature to increase.

If you have a soil or compost thermometer, you can find out what the soil temperature is. Insert the stem of the thermometer into the soil at the planting depth of the seed, usually about one-half inch deep. Take the temperature early in the morning and again before the sun sets. Average these two readings to determine the mean soil temperature. Seeds of cool season vegetables can be planted once it rises above 40 F but you might want to wait until it climbs a bit higher if the soil is very wet.



More impatient gardeners can think about using season extenders. These can range from a fancy, cold frame with an automatic door opener to simple wire cages covered with plastic or cloth. Hoops can also be purchased and topped with a row cover to increase the air and soil temperature under them.

A temporary cold frame could be made by forming a rectangle with 6 hay bales and topping it with an old window. Whether home-made or purchased, the covering of the cold frame permits sunlight to penetrate warming the soil and also the air in the structure. Seeds can be started earlier and transplants of lettuce, cabbage and other crops can be set in the warmed soil awaiting their move into the garden.

Most likely one would have to do some experimenting with the siting of the cold frame. Ideally it should be placed in full sun to capture as much light and heat possible during the late winter and early spring. On warm days, the top would need to be opened to let excess heat out. If used during colder parts of the year, insulation could be added and soil heating cables could even be purchased.

Hoops can be bought in several sizes and fitted over raised or regular garden beds. One benefit of raised beds is that they warm up and dry out quicker in the spring. Often the hoops are covered with a polyester row covers. They increase the ambient air temperature under the hoops by several degrees and offer frost protection down to about 24 F. As summer draws near and temperatures rise, the polyester row covers can be replaced with mesh ones which allow free circulation of air and greater amounts of sunlight but serve to keep insects and hungry critters out. They would have to be removed if pollinators are necessary for fruit production.



For small plantings of say a half dozen cabbages, one could cover individual plants with cloches or even with milk jugs with cut away bottoms if the temperatures start to drop close to freezing. Smaller tomato cages covered with plastic bags are another option. Retailers offer a number of clever plant protection items as well.

Keeping an eye on the weather is key to many gardening activities especially planting seeds and transplants. Look at the current temperatures, both day and night, and the extended 10-day forecast. If temperatures are still hovering in the 40's, you might want to wait a bit longer to plant or be prepared to use some plant protection techniques to keep your plants safe from the cold.

For more information on growing cool season crops or on season extenders or on other gardening topics, feel free to contact us, toll-free, at the UConn Home & Garden Education Center at (877) 486-6271, visit our website at www.ladybug.uconn.edu or contact your local Cooperative Extension center.