

Post Rock Answers

By Cassie Thiessen March 1, 2024

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Early Spring Soil Temperatures

One of the most neglected tools for vegetable gardeners is a soil thermometer. Soil temperature is a much better measure of when to plant than air temperature or the calendar. Planting when soil is too cool can cause seeds to rot and transplants to sit there and not develop more roots.

A number of vegetables can germinate and grow at cool temperatures. For example, peas will germinate and grow well at a soil temperature of 40 F. Though lettuce, parsnips, and spinach can sprout at a soil temperature of 35 F, they prefer at least 45 F for best germination and growth. Radishes also do well at a soil temperature of 45 F. Warm-season crops such as tomatoes, sweet corn and beans prefer at least 55 F for germination (or transplanting), but others such as peppers, cucumbers, melons and sweet potatoes need it even warmer, about 60 F.

Taking soil temperature accurately is a bit of a science. First, use a metal soil thermometer, which is sold in many garden, auto parts and hardware stores. Take the temperature 2.5 inches deep at about 10 to 11 a.m. Temperature variations throughout the day and night affect soil temperature, with lowest readings after dawn and warmest around mid-afternoon. The late-morning reading gives a good average temperature. If taking the soil temperature at this time is not practical, take a reading before you leave for work and a second when you return home and use the average. Also, be sure to get a consistent reading for four to five days in a row before planting, and make sure a cold snap is not predicted.

You can also check local soil temperature conditions on the K-State Mesonet Website. Go to mesonet.k-state.edu to find your counties approximate soil temperature. You can click on the weather tab and then the soil temperature tab. The website will tell you the current soil temperature, the 7-day minimum and maximum and the 7-day average which is a good estimate of consistent soil temperatures to use when planting vegetable crops.

This time of year, we are all excited to get some vegetables in the ground. Make sure you are taking soil temperatures into consideration before setting out your seeds or plants. If you have any questions, please call your local Extension office.

Post Rock Extension District of K-State Research and Extension serves Jewell, Lincoln, Mitchell, Osborne, and Smith counties. Cassie may be contacted at cchiessen@ksu.edu or by calling Beloit (785-738-3597).