

Pre-planting Care of Seed Potatoes Can Make All the Difference

Storing and prepping seed potatoes well is a vital investment in the success of your coming year's crop. Throughout dormancy, seed should be stored between 37-39°F/3-4°C and at 90-95% relative humidity. Several weeks prior to planting, however, growers should begin to think about pre-planting seed preparation.

Seed must be warmed prior to cutting and planting to avoid shatter bruise, to help break dormancy and to accelerate crop emergence. Warming seed also helps prevent post-planting condensation, which occurs if the seed is cooler than the dew point of the soil air and can lead to disease development.

Warming should proceed slowly and consistently at 90-95% relative humidity. Seed that has not sprouted can be warmed to 50-55°F/10-13°C and held for up to 10 days before cutting. If sprouts have already appeared, seed should be warmed to 45°F/7°C and cut immediately. Throughout warming, producers should keep a close eye on the dew point of the ventilating air to ensure no condensation develops.

When warmed, potatoes will progress from dormancy through predictable stages of sprout development. Physiologically young seed have just a few sprouts at the apical (bud) end of the tuber. When planted at this stage, they will produce a plant with few stems, lower tuber set, and fewer, larger tubers. Middle-aged seed have multiple sprouts over the whole tuber. Middle-aged seed produces plants with multiple stems and high tuber sets. Old seed have branched sprouts that may appear hairy. These sprouts are weak and, though they will produce plants with high tuber sets, they will lack the vigour to bulk tubers.

Most producers today pre-cut their seed potatoes prior to planting to decrease labour at planting and improve seedling emergence. Understanding physiological age is critical when choosing the timing for tuber cutting.

The standard cutting method and only option for physiologically old seed is to cut tubers a day or two before planting. Young to middle aged, sprouted seed can be cut a week to two weeks prior to planting; young to middle aged, unsprouted seed can be cut up to a month before planting. In all cases, pre-cutting should only be conducted if the recommended temperature, airflow and humidity can be maintained.

If cut seed is not to be planted immediately, it must be cured (suberized). Cut tubers should be held at 50-55°F/10-13°C and a relative humidity of 90-95% for a minimum of one week to allow cut surfaces to heal. Ensuring a consistent supply of fresh air during the curing process is essential in order to control CO₂. Once suberized, cut seed that must be stored should be cooled gradually to 38-40°F/3-5°C while maintaining relative humidity of 90-95%. Then, prior to planting, rewarm the seed to encourage sprouting and to prevent post-planting condensation.

