

Season Extenders

Cold frames and hot beds are the gardener's secret—a key into cheating mother nature by extending the growing season. Both structures can be used in early spring and late fall, when cold temperatures prevent open-air gardening. By utilizing either or both structures, gardeners can consume fresh produce for most of the year.

Cold frames and hot beds are both typically constructed as low, wooden boxes or frames with glass, polycarbonate or polyethylene film covers. These boxes are set in the soil or over the top of existing beds in your garden. If you're constructing a box for your bed, it should be at least 5-6' deep, whereas a frame needs to only be buried a few inches into the soil. Some frames are as wide as 12', but depending on your planting desires, they can be much smaller. Leaving adequate room for plant growth is key, height between soil and the covering (glass or plastic) should be 18" in the back and slope down to 12" in the front. This slope should be southern facing to allow maximum winter sunshine.

Don't let the word 'polyethylene' turn you off to this garden project; it's just plastic sheeting. For this use, the plastic should be 6 mils thick and treated with a UV blocking material, the same you would use for a high tunnel. The coating helps the plastic withstand sunlight without disintegrating. Untreated plastic will likely need replacing every year versus treated plastic that should last at least four years.

Gardeners are an inventive bunch—and purchasing materials is often a last resort. Almost every cold frame I've seen is made from an old window or other repurposed material. Hinged on the high part of the sloped frame, old windows make the perfect top to either structure.

Even in an open air garden, milk jugs and two-liters are used as mini-cold frames. With the bottoms cut out, both can be placed over tender seedlings on cold nights to insulate and protect.

The only construction difference between a cold frame and a hot bed is the presence of a heat source in a hot bed. Back in the days of horse and buggy's, homeowners would pile straw-laced horse manure in a pit under their hot bed. Today, when fresh manure can be harder to come by, electric heating cables are often used. Running warm water through pipes buried under the frame is also common. If manure *is* a product at your fingertips, take care to avoid any contact between the manure and food crops as they can contain pathogens.

The element of heat allows hot beds to be far more versatile than cold frames. You can start tender plants early in the year and produce plants more rapidly. In spite of these advantages, hot beds are not as commonly used. Popularity of indoor grow lights and backyard greenhouses have reduced interest in this once prevalent season extender.

Although their merits are many, neither cold frames nor hot beds are attention-free. Daily venting on bright, sunshiny days is essential. Even if the outside temperature is cool, plants will cook in a non-vented structure. A wooden block placed under the low end of the frame cover works well, but today automatic ventilators are also available. These do not require power, but use temperature-sensitive compressed gas to move the top up and down. If you're protecting seedlings with milk jugs, these too should be removed daily to prevent over-heating.

Now that your structure is constructed—what goes in it? Cool-season greens; spinach, lettuce, kale, green onions, carrots, beets, broccoli, cauliflower, leeks, cabbage and radishes. These yummy greens

can be planted much earlier in the spring and harvest can continue much later into the fall with the protection of a cold frame or hot bed.

You can also use your frame to overwinter pansies started in the fall for early spring color, harden off seedlings and overwinter dormant plants. Overwintering these plants allows gardeners to grow plants that wouldn't otherwise survive our winters.

Although some construction and care is required, cold frames and hot beds push the boundaries of what is generally considered growing season in Kansas. With the addition of a small cold frame to your garden, your family can enjoy fresh vegetables nearly year-round.