

# Season Extenders

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One of the challenges of living in Wyoming is the late frost in the spring and the early frost in the fall, which really shortens our growing season for vegetables unless we can provide some protection. Several tools and techniques will lengthen the growing season, making it possible to begin earlier in the spring and end later in the fall. These tools are: cold frames and hot beds, hoop houses, cloches, and floating row covers.

The most common method is a cold frame, a simple structure that provides warmth from the sun and blocks the wind. The sun's rays enter through a transparent cover. This creates a greenhouse effect that heats the interior of the cold frame.

The most common use of cold frames is to expand the growing season several months. Many gardeners use cold frames to harden off transplants, but another good use is raising cool season vegetables. Or in fall these same crops may be grown in the cold frame through November. A disadvantage can be the small size, unless you only have a small space.

Most cold frames are made of wood and have a hinged covering. Wood and glass windows make a great covering, but they are heavy and breakable. Alternative covers may be made of plexiglass or double layer of clear plastic.

On a sunny day, air in cold frames can get too hot for plants, therefore the lid should be propped open so cool air may enter the frame. Some mail order garden catalogs offer temperature controlled cold frame hinges that automatically open and close to vent the frame.

In general, cold frames should be located against a south or west wall near the building foundation to take advantage of its heat. Portable cold frames built of lightweight material allow the gardener to move the frame to different sun exposures as seasons and plants change. A cold frame may be made into a heat bed by adding heating cables. The bottom heat of a hot bed encourages root growth in plants.

A hoop house is similar to a cold frame, only larger. Metal or plastic pipes are bent into a series of hoops that are stuck into the ground or attached to a raised bed. The hoops are covered with polyethylene which is tucked into the soil along the sides. Gardeners can expect

an additional month or two of growing time inside a hoop house in the spring and fall. Like cold frames, hoop houses must be ventilated on warm days.

Frequently used for tomatoes or peppers, cloches and hot caps add three to four weeks to the spring growing season. There are many variations on cloches, but generally they are any transparent "house" that covers a single plant. The most common cloches are empty gallon milk jugs with the bottom cut out. Another inexpensive cloche is made by covering a tomato cage with clear polyethylene. Like cold frames and hoop houses, cloches should have some type of opening to allow hot air to escape on sunny days.

Floating row covers are made of spun polyester or polypropylene and look like fabric. They are permeable to light, water, and air. Floating row covers have multiple uses in the garden. Row covers keep covered plants 5-10 degrees warmer than the surrounding air and provide frost protection to a low of 28 degrees. They protect tender plants from wind and rain damage. In addition, row covers are an excellent barrier to insects.

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