



NEED MORE SEASON FOR GROWING YOUR VEGETABLES? WE CAN DO THAT

Vegetable varieties, row covers, location, high tunnels, greenhouses – no-cost to low-cost to high-cost options help promote longer growing seasons

Karen Panter

Many in Wyoming would love to have an extra month of growing season. There are several ways to accomplish this, ranging from easy and inexpensive to more complex and capital-intensive. Through various research projects, we're finding it easier to extend the season in the fall than to try to outwit Mother Nature in the spring.

Simple Choices to Try

The easiest and least expensive ways to increase the growing season don't involve structures or covers. Instead, choose varieties adapted to Wyoming's short growing seasons. Look for short days-to-maturity varieties and stick to plants known to thrive here.

Select garden sites on gentle slopes so cold air moves down away from them. If possible, use the south or southwest side of a building or wall to capture heat and light. The soil type matters, too, as sandy loam soil warms

up more quickly than clay soil. And don't forget mulch! A temporary layer of black plastic will warm soil up quickly in the spring, with the added benefit of keeping weeds to a minimum.

Starting seeds indoors a few weeks before the last frost date in the spring will give a jump-start, too. Just make sure to give the seedlings plenty of light to minimize stretching while they're inside and don't overwater.

Inexpensive items can be placed around spring plantings, like plastic jugs, large cans (remove the bottoms), and hot caps (for example, a cut-out milk jug over a plant). The plants in them will outgrow these items so don't forget to remove them.

Cold Frames, Hot Beds

Other structures like cold frames can be used a few weeks before the last spring frost date. These are typically wood or plastic set either on or in soil. They are covered at night or during cold days in spring. Covers can

be plastic or fiberglass or any material that will allow some light in on cold days. On sunny days, the covers should be taken off to allow light in and to let excess heat escape. It's easy to overheat plants in cold frames.

Hot beds are similar to cold



Water-filled plastic around a tomato plant helps retain heat, and a plastic covering also can be draped over the metal scaffolding to further increase heat retention.

frames but include some type of heating element on the bottom to keep plants warm at night. Heating elements can be electric or hot water; there are numerous types available, including heat mats. Make sure to purchase a system that won't be damaged by water from irrigation.

Row covers are another inexpensive way to extend the season. These are simple systems consisting of hoops bent over the crop rows. A layer of lightweight, white row cover cloth is spread over the hoops and held down either by clipping to the hoops or by burying the edges in a layer of soil along the sides.

High Tunnel Option

If a larger, more substantial structure is what you're looking for, think about a high tunnel. High tunnels are unheated hoop houses intended to be temporary. Most have sides that will roll up during warmer weather to allow ventilation.

Using high tunnels, a gardener can plant two to three weeks before the last frost date in spring. The biggest benefit, however, is in the fall when the season may be extended for many weeks.

We are researching the use of row covers within high tunnels to determine possible benefits. The project is being conducted in high tunnels at the University of Wyoming Sheridan Research and Extension Center and at the Laramie R&E Center.

Crops grown at the LREC under high and low tunnels are 'Ace 55' tomatoes, 'Anaheim Chili' peppers, 'EarliServe' green beans, and 'Thai Asian' basil. In Laramie, we've noticed the plants under the row covers in the high tunnels are developing more quickly than those not under row covers but still inside the high tunnels.

Preliminary results from Laramie in 2015 indicate using row covers



An example of a high tunnel, left, and a row cover.

within high tunnels did not necessarily lead to higher yields of the plants grown in the study. More data will be collected during this growing season.

Supreme Season Extender

For those wanting to extend the growing season to the entire year, try a greenhouse. These are the most expensive options but do allow for growing all year long.

Keep in mind the larger the greenhouse, the easier it will be to heat and cool. More air volume inside means temperatures will change more slowly. Kits can be purchased from numerous greenhouse supply companies, or they can be built from scratch.

No matter which option chosen, make sure to include not only heating equipment for the winter, but fans and cooling pads for the summer. Believe it or not, it's much easier to heat a greenhouse than it is to cool one.

For further information on these systems, check the following publications available on the Barnyards and Backyards website.

- *Gardening: Extending the Vegetable Growing Season*, Bulletin B-1148, bit.ly/veggieextend
- *Gardening: Hot Beds and Cold Frames*, Bulletin B-1151, bit.ly/hotbedcoldframe
- *Greenhouse Structures*, Bulletin B-1147, bit.ly/wyogreenhouses
- *Gardening: Vegetables in Wyoming*, Bulletin B-1115, bit.ly/wyoveggies
- *High Tunnel Handbook*, Bulletin B-1234, bit.ly/wyohightunnels



A do-it-yourself row cover lifted to let in light and let heat escape.

*We think **Karen Panter** could grow a palm tree in Anarctica. She's the University of Wyoming Extension horticulture specialist and can be reached at (307) 766-5117 or kpanter@uwyo.edu.*