

# FALL FROST PROTECTION

for extending the harvest

## FALL FROST PROTECTION CAN:

- Warm the soil and air by up to 10 degrees Fahrenheit
- Protect heat-loving, tender vegetables for several weeks
- Protect cold-tolerant, hardy vegetables for an extended period

## TENDER VEGETABLES

Are you growing any of these heat-loving, tender vegetables?

- |                                   |   |
|-----------------------------------|---|
| <input type="checkbox"/> Beans    | <input type="checkbox"/> Okra           |
| <input type="checkbox"/> Cucumber | <input type="checkbox"/> Pepper         |
| <input type="checkbox"/> Eggplant | <input type="checkbox"/> Pumpkin        |
| <input type="checkbox"/> Melon    | <input type="checkbox"/> Squash         |
|                                   | <input type="checkbox"/> Sweet potatoes |

Cover tender vegetables when temperatures cool to 60 degrees. Tender vegetables will peter out as fall temperatures cool the air and soil, but covering them can help extend the harvest for several weeks.

## COLD-TOLERANT VEGETABLES

Are you growing any of these SEMI-HARDY vegetables?

- |                                      |                                   |
|--------------------------------------|-----------------------------------|
| <input type="checkbox"/> Beets       | <input type="checkbox"/> Chard    |
| <input type="checkbox"/> Carrots     | <input type="checkbox"/> Lettuce  |
| <input type="checkbox"/> Cauliflower | <input type="checkbox"/> Potatoes |
| <input type="checkbox"/> Celery      | <input type="checkbox"/> Rutabaga |

These vegetables are hardy down to 29 degrees, and are excellent additions to the spring and fall gardens. Simply cover them when the temperature dips below 30 degrees to extend their life.

Are you growing any of these HARDY vegetables?

- |   |                                   |
|---|-----------------------------------|
| <input type="checkbox"/> Broccoli         | <input type="checkbox"/> Kohlrabi |
| <input type="checkbox"/> Brussels sprouts | <input type="checkbox"/> Leeks    |
| <input type="checkbox"/> Cabbage          | <input type="checkbox"/> Peas     |
| <input type="checkbox"/> Collard greens   | <input type="checkbox"/> Radish   |
| <input type="checkbox"/> Kale             | <input type="checkbox"/> Spinach  |
|   | <input type="checkbox"/> Turnip   |

These vegetables are hardy down to 25 degrees, and are excellent additions to the fall garden with the possibility of overwintering. Simply cover them when the temperature dips below 30 degrees to extend their life.

## FROST PROTECTION TECHNIQUES

There are many ways to protect fall crops from frost. Here are four techniques to investigate:

- Row cover
- Cold frame
- Hoop House
- Polytunnel

### #1: ROW COVER

Row cover goes by many names, including floating row cover, garden fabric, or garden quilt. Drape it over plants for a low-cost, low-maintenance solution. It stores easily in the off season.

To use, cut the row cover to match the size of your garden bed. Leave extra space on all sides so the plants aren't squished, and so the sides can be weighted down with rocks or stakes.

### #2: COLD FRAME

A cold frame is an unheated mini-greenhouse that can sit on top of existing garden beds. Cold frames have a signature front "face" that is essential to angle toward the sun (South in the northern hemisphere, North in the southern hemisphere).

Cold frames are typically used for shorter, cold-tolerant crops because there is not much clearance inside. Whether you purchase a ready-made cold frame or make your own, be sure to choose a design that can be disassembled and stored in the off season.

Ventilation is essential to prevent fungal diseases. Use a thermometer to monitor the inside temperature, which can increase rapidly on a sunny day. Open windows/vents when a safe temperature has been reached (65 degrees for heat-loving crops, 35 degrees for cold-tolerant crops).

### #3: HOOP HOUSE

A hoop house is a temporary structure that is built over existing garden beds. It's similar to a cold frame, but is a bit taller and can usually accommodate taller plants. It is often called a low tunnel, and occasionally you'll find a walk-in hoop house.

There are many different models of hoop houses and methods of constructing your own. One popular method includes hoops made of PVC piping with heavy-grade, greenhouse plastic. Much like the row cover, it is essential to weigh down the plastic with rocks or stakes on all sides to keep it from sailing away in the wind.

You'll want to monitor the temperature and open the ends for ventilation whenever possible.

#### #4: POLYTUNNEL

A polytunnel is like a walk-in greenhouse, except that it is a temporary, often portable structure. It is made from heavy-grade greenhouse plastic stretched over a frame. A polytunnel can also be referred to as a walk-in hoop house.

#### ADDITIONAL PROTECTION FOR EXTREME TEMPERATURES

When temperatures drop to the teens or single digits (or even lower!), consider adding additional protection inside your cold frame, hoop house, or polytunnel to keep your cold-hardy crops going. Some examples of additional protection are:

- Row cover
- plastic milk/vinegar jugs (bottom cut off, lid off)
- baskets that lie flat (turned upside down over plants)
- terracotta flower pots (turned upside down over plants)
- old sheets or blankets (sheets used on the inside, blankets draped over the outside)
- milk jugs filled with water (set among crops, water stores heat)
- Bales of straw or hay (set against structure on outside, at least on the windward side)

#### summary

Protecting fall crops from a killing frost can help extend your harvest by a few weeks and—with a few modifications—grow right into winter.

#### RESOURCES FOR FURTHER READING

- Protect Cold Weather Crops with a Cold Frame: <https://www.tenthacrefarm.com/2014/11/protect-cold-weather-crops-with-a-cold-frame/>
- Polytunnels: Extend Your Growing Season: <https://104homestead.com/polytunnel-extend-growing-season/>
- How to Make a Hoop House for a Raised Bed: <https://www.youtube.com/watch?v=NZmPDPx6GCQ>
- 10 Vegetables More Cold-Hardy than Kale: <http://www.motherofahubbard.com/10-vegetables-more-cold-hardy-than-kale/>
- Hoop Houses Open Source Portal: <https://www.onecommunityglobal.org/hoop-houses/>
- Plant Protection for Fall and Winter Vegetable Gardens: <http://www.veggiegardeningtips.com/plant-protection-for-fall-and-winter-vegetable-gardens/>
- *The Winter Harvest Handbook* by Eliot Coleman: <https://www.amazon.com/Winter-Harvest-Handbook-Deep-Organic-Greenhouses/dp/1603580816/>
- *The Polytunnel Book* by Joyce Russell: <https://www.amazon.com/gp/product/0711231702/>
- *The Year-Round Vegetable Gardener* by Niki Jabbour: <https://www.amazon.com/Year-Round-Vegetable-Gardener-Matter-Where/dp/1603425683/>