

Community Garden Guide Season Extension

Floating Row Cover

Extending the growing season in many Great Lakes States' gardens is essential if quality vegetables and seed are to be successfully grown. A number of season extension techniques are available to the gardener. Costs for season extension range from tens of dollars to tens of thousands of dollars, depending on the type of season extension employed.

Floating Row Covers are lightweight blankets made from spunbonded polyester or polypropylene. There are two basic types of Floating Row Covers: 1) frost protection, and 2) insect barrier. If the desire is to protect crops from low temperatures, be sure to purchase the frost protection type. Floating Row Covers generally come in rolls 6 to 30+ feet wide to nearly any length desired. Typical lengths range from 50 feet to over 2,000 feet.

Advantages/ Disadvantages

Advantages Using Floating Row Covers

- 1) Frost protection, +2-4 F.
- 2) Wind protection for plant seedlings.
- 3) Insect protection.
- 4) Low cost, 1.8 to 2.7¢/sq. ft.
- 5) Transmits light (85% average), water, and air.
- 6) May be reused 2 to 3 years.

Disadvantages Using Floating Row Covers

- 1) Disposal costs of worn Floating Row Cover material.
- 2) Weeding under covering requires removal and reinstallation of staples.
- 3) Installation time required per linear foot of row is significantly higher than unprotected crops.
- 4) Pollination of crops is prevented unless the Floating Row Cover is periodically folded back to expose flowering plants.
- 5) There is some potential for plant abrasion by the Floating Row Cover on sensitive plants such as tomato and pepper seedlings.



Floating spunbond polyester row cover supported by metal hoops

Row Cover Installation

Row covers can be anchored by piling loose soil over the edges or by using special staples. Two types of staples are available for anchoring row covers, plastic and metal. Plastic staples are easier to install in soft soil, are more expensive, and may be reused for many years.

Metal staples are easier to install in firm soil using a hammer and usually last about one year. They tend to accumulate rust scale below the ground. The rust scale tends to make it difficult to reuse the staples as they are more difficult to drive into the ground because of increased friction.

Most row covers come in standard widths of 83 inches (6-9 feet). These are designed for use over plants in beds 3 to 4 feet wide. Pick a calm day to install the Floating Row Cover. If the winds are over 2 to 3 mph, delay installation. The plant bed to be covered should be fertilized and planted prior to installation of the row cover. To properly install a Floating Row Cover, double up the fabric and pierce both layers with the staple and press firmly into the ground. This will help protect the fabric from ripping in windy conditions. Staple first one side with approximately 6 feet between staples, and then pull the fabric lengthwise to remove any folds. Then anchor the opposite side with several staples to hold it in place. After one side is stapled, secure the other side 3 to 4 feet parallel from the side (that was) first stapled in place. When properly installed, the fabric should be loose on the top to allow for plant growth.



Metal wire staple on the left and the plastic staple on the right. These are used to secure covering material.

Management of Row Covers

Floating Row Covers will last up to 3 years with proper care and if the season length is not too long. Once installed, plants can be watered directly through the row cover material. Increased protection of the planted crop can be achieved by using double row covers. Lay one row cover over the other and staple both in place. The additional row cover will add another 2 to 4° F of extra frost protection. Adding more than two layers of row cover is not recommended since each additional layer also reduces light transmission 10 to 12 percent.

Weeds will grow very well in the microclimate created under the row cover and it is essential that weeds be controlled for maximum crop production. To weed the covered plant beds, remove staples from one side (preferably the leeward side if there is any breeze). After pulling weeds, reinstall the row cover and all staples. To minimize the need to weed, plastic mulch can be used under the row cover. As the plants grow, the row cover will be lifted up, providing protection for the plants. The row cover can be left on until the plants pull the slack out of the row cover. At this point, the row cover must be removed to enhance plant growth. Remove the row cover when dry and roll it up, paying attention not to damage it and store for another season. Store in a dry place that is free of rodents. Many row covers are attractive sources for rodent bedding materials.

Recommended Garden Plants

The following plants will perform well when using Floating Row Covers for plant protection and season extension: carrots, chard, cucumber, green beans, lettuce, pumpkin, summer squash, and winter squash.

<i>Floating Row Cover Compatibly</i>						
<u>Field Tunnel</u>	<u>Greenhouse</u>	<u>High Hoophouse</u>	<u>High Hoophouse</u>	<u>Plastic Mulch</u>	<u>Trickle Irrigation</u>	<u>Overhead Irrigation</u>
No	Yes	Yes	Yes	Yes	Yes	Yes

Sources

Information and floating row covers can be found in gardening and vegetable seed catalogs, garden centers, hardware stores, and on the web.

Contributors

Thomas Cogger, Tribal Liaison, NRCS, Ashland, WI.

David Burgdorf, Plant Materials Specialist, NRCS, East Lansing, MI.

Wisconsin State Plant Materials Committee.

Rose Lake Plant Materials Center, NRCS, East Lansing, MI.

Glenn Lamberg, American Indian Liaison, NRCS, Fremont, MI.

Contact Information

- Rose Lake Plant Materials Center, NRCS, 7472 Stoll Road, East Lansing, MI 48823-9420; telephone (517) 641-6300.
- David Burgdorf, Plant Materials Specialist, NRCS, East Lansing, MI at: dave.burgdorf@mi.usda.gov
- John Leif, Plant Materials Center Manager, NRCS, East Lansing, MI at: john.leif@mi.usda.gov

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

