



Row Covers and Pollination

Michael Bomford

Kentucky State University

Organic Agriculture Working Group

Early cabbage
protected from
frost and insect
pests



Why use row covers?

- Retain heat to enhance plant growth and extend the growing season
 - Protect delicate crops from light frosts
- Reduce wind damage
- Exclude Pests
 - Protect crops from insect-borne diseases



Extra layer of frost protection for early tomatoes in a high tunnel

Pest exclusion

- Cabbageworms
- Flea beetles
- Squash bugs
- Colorado potato beetles
- Root maggots
- Leaf miners
- Deer
- Rabbits
- Birds
- Cucumber beetles
- Army worms
- Grasshoppers
- Squash vine borers

Row cover weight

- Light
 - Excellent light and water transmission
 - Pest exclusion
 - Little frost protection
 - Tear easily (single season use)
- Medium
 - Good light transmission (75-85%)
 - Good frost protection
 - Durable (several seasons)
- Heavy
 - Poor light transmission (50%)
 - Excellent frost protection
 - Very durable (4+ years)

Heavier row covers protect cool-season crops well into winter



Row covers can be anchored with bricks, boards, rebar, soil...



Pollination

- Many vegetables do not require pollination because the fruit (seed-bearing body) is not harvested. Row can be left on until harvest.
 - Leafy vegetables (e.g. lettuce, cabbage, kale)
 - Root vegetables (e.g. carrots, potatoes)
 - Stem vegetables (e.g. celery, rhubarb, chard)
- Some cucumber varieties produce seedless fruit without pollination. (Pollination of these degrades quality.) They can be grown under row covers, where they are safe from wilts vectored by cucumber beetle.
- Honeybees will forage under row covers that are open at the ends. Some other pollinators, like muscid flies, will not.
- Research is being conducted at the University of Kentucky to test small bumblebee hives under row covers for pollination.
- Row covers are usually removed at flowering for insect and wind-pollinated crops, such as melons and squash. They can be replaced after fruit set.