

TARPS TO SUPPRESS WEEDS AND REDUCE TILLAGE

How black polyethylene plastic can suppress weeds, preserve soil moisture, and prepare beds for planting.

Produced by Haley Rylander for the Cornell Small Farms Program

What Tarps Do

Tarps, commonly known as ‘silage tarps,’ are placed on the soil surface a number of weeks or even months prior to cash crop planting. They kill weeds, prevent emergence of living weeds, and can spark fatal germination of some species. They can allow farmers to get into the field a little earlier in the spring by keeping the soil at a more even moisture.

Tarps can also facilitate reduced tillage. Intensive tillage degrades soil structure, increases erosion, and decreases soil organic matter and moisture. Tarps can help reduce tillage by providing many of the same benefits and providing a weed-free bed in which to plant.

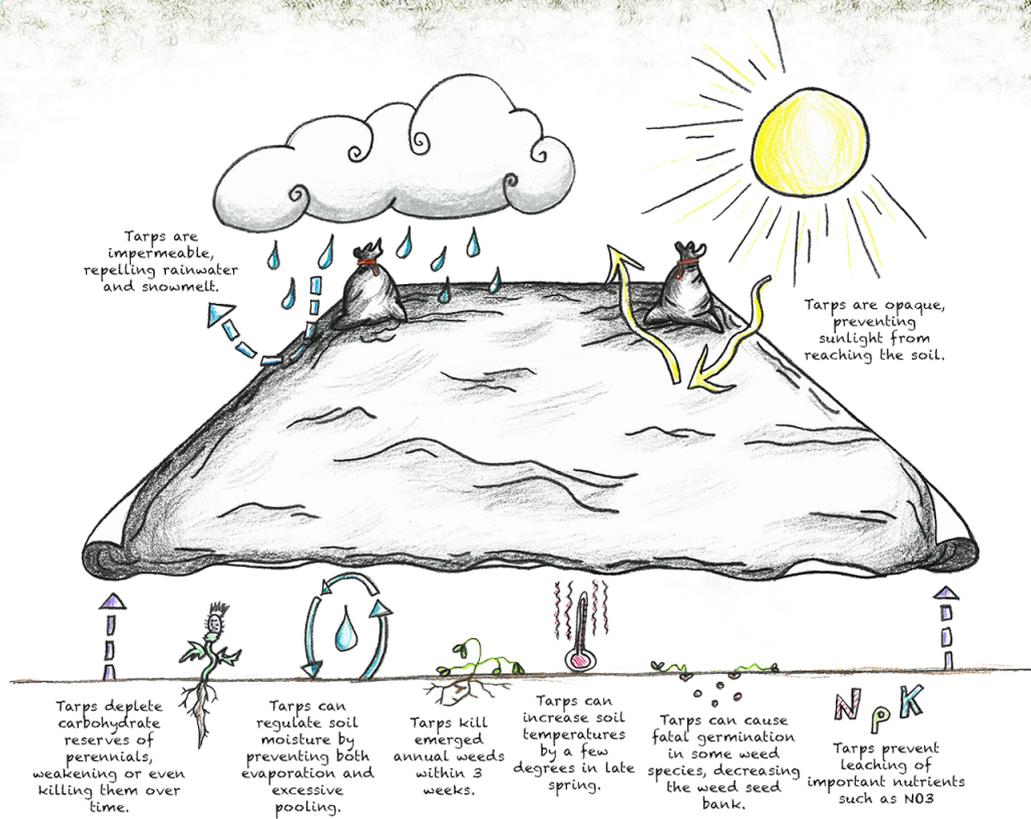
How These Tarps are Different

Silage tarps should be 6 mil weight, polyethylene plastic, black on at least one side, and treated for UV resistance.

Unlike landscape fabric, tarps are impermeable, preventing all sunlight and water from reaching weeds and seeds on the soil surface. Tarps are more effective at killing weeds and prevent leaching of nutrients from rainfall.

Tarps are thicker than plastic mulch and last much longer. They are not in the field when a crop is in place and require no specialized equipment.





How to Use a Tarp

Tarps can be laid over fully prepared soil (tilled, amendments added, etc.), over bare ground, over mature weeds, or over a mowed cover crop. They should be left in place at least three weeks to gain the most benefits, but can be kept in place for months. Perennial weeds may take much longer than three weeks to kill.

Some farmers leave tarps on over winter to protect the soil from erosion and leaching. Many recommend preparing the soil before laying a tarp so as to not re-introduce new weed seeds by disturbing the soil after the tarp is removed.

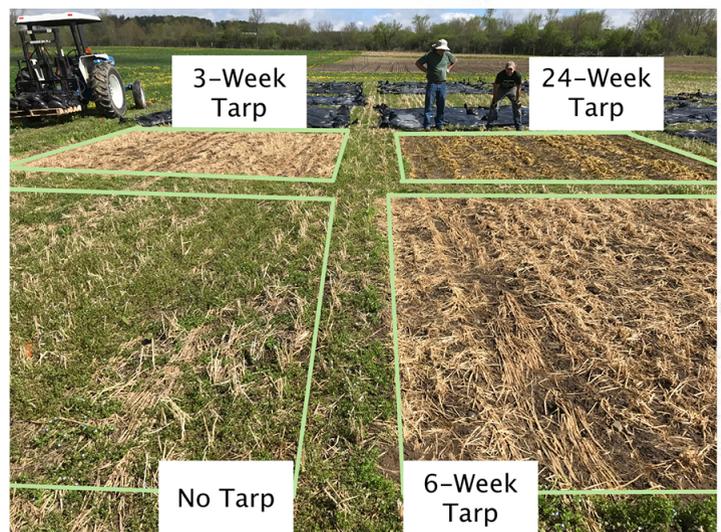


White-thread stage seedlings that emerged under a tarp in late-spring, only to be killed by lack of light.

Research

Cornell research trials at the Homer C. Thompson Research Farm in Freeville, NY, found that no weeds were present under any tarp of a three week duration or longer. Weed pressure remained significantly lower in tarped plots for ten days. At the end of the season, beet yield was increased by use of tarps, and the difference between reduced and conventional tillage was reduced for both yield and weed pressure when tarps were used.

Researchers also found that nitrate concentrations were significantly higher in tarped plots compared with bare ground.



Farmer Stories

Logistics of Tarps

Storage:

Tarps can be folded and stored in a shed, but most farmers keep them in the field. Tarps can be rolled and weighed down in between rows or at the edges of fields for added weed suppression.

Handling:

Most tarps are 100 feet long and vary in width from 24-50 feet, weighing between 50 and 120 lbs. Some farmers cut them in half lengthwise to make handling easier for two people. Avoid laying tarps on windy days!

Securing Edges:

Tarps are secured to the soil surface with heavy objects such as sandbags, rocks, or concrete slabs. Some farmers put shovels of soil around the edges.



Planning:

Tarps require some advanced planning to incorporate into cropping plans. Look ahead and decide which crops and fields could benefit from a tarp and how many weeks you can spare. Cover crops, snow cover, temperature, weed life cycles, and crop planting should all be considered when deciding the timing and duration of a tarp.



Liz Martin
Muddy Fingers Farm
Schuyler County
New York

“It’s been fun to try and to see how clean you can get - especially if you have a weedy spot. We’ve definitely tarped over weeds and then just left it, and then it’s neat to see how it breaks them down to nothing.”

Aaron Munzer
Plowbreak Farm
Schuyler County
New York



“I would say it’s been a learning curve. We... found that tarps are especially effective for killing grass and sort of readying planting beds - maintaining moisture levels. But as far as weed control, we’re still learning about how to use them most effectively.”



Nina Saeli
Centurion Farm
Cayuga County
New York

“I can tell you that the weed suppression alone makes the tarps worth it. When I timed myself when I weeded, on the tarped beans, it literally took me more time to walk the beds to look for weeds than it took me to actually weed.”



Buying a Tarp

Most farm supply stores carry silage tarps which have the qualities needed to reap the benefits of tarping. They come in various lengths and widths. We have found that a tarp of 24' width by 100' length may be a reasonable size and weight to be efficiently managed by two people applying and moving the tarp by hand.

Select a polyethylene tarp of at least 6 mil, black on at least one side, that has been treated for UV resistance. Silage tarps with this treatment generally have a 5 year warranty.

Tarps range in price from \$100-290 depending on the width and the supplier. Widths range from 24-50'.

Summary

Tarps can be a great tool to help suppress weeds, regulate soil moisture, and reduce tillage on a farm. There are numerous ways to make use of tarps, and individual farmers may have to experiment to see what methods work best on their farm. Try one out and help contribute to the growing knowledge of tarps!

For more information, visit:
<http://bit.ly/2QFIEvA>



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