



LAND STEWARDSHIP PROJECT

Updated April 2018

Frost Seeding Cover Crops

<https://landstewardshipproject.org/lspsoilbuilders>

This fact sheet is written by Myron Sylling, a long-time no-till cash grain farmer in southeastern Minnesota. He has been intensively using cover crops for six years. Sylling has planted mostly cereal rye as a cover crop, but has recently tried adding additional species to further promote soil health. Erosion has nearly been eliminated on his farm ground (it consists of up to “D” slopes) and he has seen his organic matter levels rise an average of 1 percent after three years of continuous cover cropping. To see more fact sheets written by Sylling, see <https://landstewardshipproject.org/lspsoilbuilders>.

Frost seeding—applying seed to frozen fields in early spring and allowing the freeze-thaw cycle to work it into the soil—is an option for farmers wanting to establish a cover crop but who did not get the time to do it in the fall or that want a more diversified cover crop mix that will not overwinter.

The species you can use for frost seeding will be restricted because you are at the mercy of weather conditions and the timing of the frost during the growing cycle. Oats, cereal rye and annual rye grass are good base options for frost seeding. Clearly, the growing window is controlled by the weather you experience in the spring. The warmer it is and the earlier spring starts, the more growth that can be seen in the cover crop. Frost seeding can be particularly effective if it’s used on ground that is going to be planted to a later crop, like soybeans.

Application methods are limited due to conditions such as frozen soil. Broadcast spreading is an option, as well as using a drill to just meter the seed on top of the ground. Ideally, the application is done with little to no snow cover to prevent the snow melt and/or rains from washing seed away. The best time to make the application is as temperatures are warming and the soil may be starting to thaw a little. At this stage, morning applications when the ground is frozen work well. That way, you are not compacting your soil and the seed can pull in water later that day.

Keep in mind that at this time, there is no cost-

share money available through USDA for this type of cover crop establishment.



John Meyer, a Stewartville Minn., farmer, had success frost seeding oats on 200 acres of frozen, snow-covered ground on March 10, 2017, with a pair of old John Deere 8300 grain drills. You can hear his story in LSP’s *Ear to the Ground* podcast episode 206:

<https://landstewardshipproject.org/posts/podcast/1052>.

John Troendle from Caledonia, Minn., frost seeded cereal rye in the spring of 2017 with a fertilizer spreader. He also had excellent results in establishing a good stand. During the spring of 2018, I spread 250 acres of cover crops with a fertilizer spreader (*pictured*) to cover ground that I was not able to get seeded in the fall of 2017.

Your cover crop goals will help you determine the best application method for you and your farm for each growing season. It is important to be in contact with a knowledgeable cover crop seed salesman or a neighbor that has been using cover crops in your area for a couple of years. They will be an excellent resource on what works in your area and what has not worked so well.

No one can tell you exactly what Mother Nature is going to throw at you. Be willing to change plans as the year progresses. This is key to cover crop success or failure.

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See reverse page for resources on cover cropping.

Resources

Organizations

The links below contain a vast amount of resources to get you started in cover cropping. A Google search will unearth many more resources:

- Land Stewardship Project's Soil Builders' Network: <https://landstewardshipproject.org/lpssoilbuilders>
- Practical Farmers of Iowa: <https://practicalfarmers.org>
- NRCS Soil Health page: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health>
- Midwest Cover Crops Council: <http://mccc.msu.edu/other-resources>
- Sustainable Farming Association of Minnesota: <https://sfa-mn.org>

Seeds

For help selecting a cover crop species or blends that will work well for you, the resources below will get you started. Your local cover crop seed dealer should be able to give you the best information for your particular situation.

- Albert Lee Seed: <http://alseed.com>
- La Crosse Seed: <https://lacrosseseed.com>
- Saddle Butte Ag: <https://saddlebutte.com>
- Green Cover Seed: <https://greencoverseed.com>

Cover Crop Decision Tools

- <http://mccc.msu.edu/covercroptool/covercroptool.php>
- <https://smartmix.greencoverseed.com>
- <https://landstewardshipproject.org/stewardshipfood/chippewa10croppingsystemscalculator>

LSP's Soil Builders' Network

The Land Stewardship Project invites crop and livestock farmers to join the southeastern Minnesota-based Soil Builders' Network to get regular updates on workshops, field days and on-farm demonstrations, as well as soil health and cover crop research. To sign-up, see <https://landstewardshipproject.org/lpssoilbuilders>. On that page, you will also find links to fact sheets, blogs, podcasts and videos. More information is also available by contacting these LSP staffers:

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