

8-27-2020

Cover Crop Options to Consider for Damaged Crops this Fall

Mike Henderson
Iowa State University

Mark A. Licht
Iowa State University, lichtma@iastate.edu

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Recommended Citation

Henderson, Mike and Licht, Mark A., "Cover Crop Options to Consider for Damaged Crops this Fall" (2020).
Integrated Crop Management News. 2654.
<https://lib.dr.iastate.edu/cropnews/2654>

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Abstract

Many fields have been ravaged by adverse weather this year in Iowa. On top of drought and hail we had a devastating derecho steam-roll a wide swath of Iowa starting in Sac County and progressing eastward along Highway 30. Along with the decision of how to handle this year's crop, consideration for protecting the soil and preparing for next year's crop should include cover crops.

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August 27, 2020

Many fields have been ravaged by adverse weather this year in Iowa. On top of drought and hail we had a devastating derecho steam-roll a wide swath of Iowa starting in Sac County and progressing eastward along Highway 30. Along with the decision of how to handle this year's crop, consideration for protecting the soil and preparing for next year's crop should include cover crops.

Use of cover crops after a crop is damaged by adverse weather can provide short term protection of the soil while enhancing the long-term benefits of increased water infiltration, improved nutrient cycling and soil organism diversity. Using a cover crop to scavenge nitrogen will be especially important in areas of Iowa that experienced reduced yields due to drought conditions. Cover crops have shown a significant reduction in nitrogen loss from fields the year following a drought.

Successful cover crop establishment will require managing the damaged crop residue to allow seed-to-soil contact and also considering the likelihood of sufficient soil moisture for cover crop establishment.

Cover crops and moisture concerns

Cover crops need moisture to germinate, soil to root in and sunlight to grow. Timing and method of cover crop seeding will be critical this year for successful cover crop establishment, especially given the expanding drought. Moisture is always a consideration for timing of seeding, this will be no different this year for all parts of the state. The decision on method of seeding; aerial, broadcast, broadcast/incorporate or drill, will be more important than ever this year.

Moisture concerns are not only to get the cover crop established but also for next year's crop. It has been proven that good cover crop growth will increase infiltration rate, allowing more rainwater to be captured by the soil during rain events. Terminating the cover crop earlier in the spring will conserve accumulated moisture if rain shortfalls continue through spring.

Cover crops and damaged crops

Best management practices for wind damaged corn should be based on severity of the damage and how, or if, the crop will be harvested. Fields flattened by wind or with a high degree of green snap will have varying degrees of dense leaf cover. Evaluate fields prior to aerial seeding for confidence in getting the seed in contact with soil. In most cases aerial application over these fields would be an acceptable method but considerations must account for planned method and timing of harvest.

For fields that will be unharvested and tillage will be used to size residue, seeding a cover crop after the tillage operation will provide soil cover and protection. Timing of planting will dictate what cover crop species are best suited to be planted. If the tillage is done prior to mid-September, a mix of non-winter hardy species will provide fall protection and will not need to be terminated in the spring. Winter hardy species are a great option anytime in the fall and will extend benefits of living roots and soil cover into the spring. Seeding dates vary across the state based on historical frost dates but anytime seeding is past mid-September, a winter hardy species is recommended.

For fields planned to be harvested for silage or baled, seeding the cover crop immediately after harvest will provide the best establishment window.

Harvesting downed corn pushes the limitations of both equipment and operator. Seeding a cover crop too early could provide enough cover crop growth to further visually impede harvest. Seeding after the crop is harvested with a drill to get good seed-to-soil contact will increase chances for successful establishment of the cover crop. Consider how the crop will be harvested along with severity of damage when deciding what cover crop species, method and timing of seeding will be used.

Seeding options

Aerial/broadcast application should be timed 10 to 14 days prior to the canopy opening up. This is when soybeans have 10-20% of the leaves in the upper canopy turning yellow. For corn planned for grain harvest, this will be when kernels are at half milk line (mid R5). Increased success with establishment will occur if moisture is received within 10

days of the aerial application. Use of aerial application on damaged corn needs to take into account planned harvest method and current level of soil exposed.

Drilling or broadcast with incorporation always provides the most consistent cover crop stand. A drawback to this method is the shortened time for fall growth of the cover crop but using a winter hardy cover crop like cereal rye or triticale are good options to consider. Physical disturbance of corn ears on the ground will promote germination of volunteer corn.

Management of fields with downed corn will be a challenge, but it does not eliminate the opportunity to seed cover crops yet this fall.

Category: [Crop Production](#)

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Crops:

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Authors:

[Mike Henderson](#)



Mark Licht Assistant Professor

Dr. Mark Licht is an assistant professor and extension cropping systems specialist with Iowa State University Extension and Outreach. His extension, research and teaching program is focused on how to holistically manage Iowa cropping systems to achieve productivity, profitability and en...