



Cornell University
Cooperative Extension
Regional Vegetable Programs

March 2011

Volume 7, Issue 3

Spring Management of Overwintering Cover Crops: *Don't Wait!*

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One of the frightening things about using a rye cover crop is when it rains all spring, and the rye is over your cap by the time you can get to it. Rye that tall is really challenging to manage, and even when you get the ground worked, it takes a long time for the ground to be good for vegetables. Fortunately, there is no need to cut it close on killing that winter cover crop. Most overwintering cover crops give you the most value if you kill them quite early. April is the best time to kill many cover crops. They can be killed with an herbicide that works at lower temperatures, and smaller plants can often be killed with shallow disking. April weather doesn't offer lots of chances to get on the ground, but it is worth taking those chances when they happen.

For getting nitrogen value out of grains like rye, the best time to kill them is when they have recently greened up and have just started to grow - perhaps six to eight inches tall. When rye is larger than that, the nitrogen concentration drops, leading to N tie-up when your crop needs it. An early kill can give you 30 to 50 lb N credit (yes, from those little plants!), while killing at boot can be a significant debit. Killing at boot also makes the rye slower to break down, gives less time for it to break down before you need to plant, and the crowns make it more difficult to prepare a seedbed. The risk of missing the chance to kill it also goes up.

Annual ryegrass, on the other hand, only becomes sufficiently sensitive to glyphosate when it's warm enough for it to really grow. Once that happens, don't delay because the young growth is the source of nitrogen.

Fall-sown crucifers usually die in the fall (radish, mustard) or early spring (turnip). The latter is better for recovering N. In either case, there is little regrowth in the spring. The reason to control them early in the spring is to avoid volunteers from stray survivors. If you see yellow (or pink radish) flowers in the field, it should be a signal to act.

The boot stage is a commonly recommended age for killing that is usually much too late. It is relevant in two situations: if the rye (usually a rye-vetch mix) is to be killed by mowing or rolling, the stems are susceptible at this point. The vetch is also at its maximum nitrogen content. I consider that a special case where the late kill is appropriate.

In my research program, we tested whether the crop inhibition is reduced if one uses triticale or wheat, which are less allelopathic. We killed all of them with herbicide at early to mid-boot, incorporated and let them break down. We transplanted tomatoes, peppers and cabbage, and direct seeded corn, beans and cucumber. All these crops showed about a 25% reduction in growth in the first month. It made no difference which cover crop. That result shows how deleterious late control of small grains can be, and it is not all allelopathy.

It may seem premature to kill cover crops before they put on much biomass in the spring. You do forego some addition of active carbon. However, the cost of adding the extra organic matter just before planting is too high. It is better to get the nitrogen value and the soil improvement for the extensive root growth, and to work on organic matter production at the end of the growing season. ■

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