



ADVANCED AG SYSTEMS'S

Crop Soil News

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"It is the crops that feed the cows that make the milk which creates the money."

8 – 15 tons/acre of High Quality Silage From Seeding Year Alfalfa

Farmers are reluctant to seed down (and hence – rotate) due to the work; high risk of less than ideal stands that will haunt them for the next three years; and the low yield on the seeding year. There is now an option that can produce 8 – 15 tons/acre of silage (2.8 – 5+ tons of dry matter/acre) seeding year with minimal work, and no economic weed pressure.

As winter triticale acreage continues to expand, work at the Cornell Valatie Research Farm found that it left the soil in excellent structure. We have tried to capitalize on this by no till seeding crops after harvest. Yes, some crops and a number of weeds are affected by alleopathy from the winter grain residue (see photo at right). Apparently legumes are not. In fact several farmers report excellent soybean yields when they were no tilled directly into stubble of winter grain harvested for silage.

In 2012, in mid June, a month after triticale harvest at flag leaf, the plots were sprayed with a low rate of glyphosate in 18 gal. /acre of water. This was to assure that no triticale or small emerging weeds were present. The alfalfa was planted, after a rain, directly into the stubble with a 1960's conventional drill with press wheels (picture next page).

The disks on the planter cut in about ¼ of an inch and the band tubes dropped the alfalfa into that shallow groove. The following press wheel pressed the seed either into the soil or pushed a small amount of soil over the seed and packed it. We had only a couple of rain events in June before the 2012 drought settled in for the summer with little or no rain the entire month of July. Rains returned again at the end of August. If this wasn't enough stress, potato leafhoppers descended in numbers to turn most of the farm's established alfalfa the color of yellow lines on the highway. When I looked at the field the end of September, the results were scary. It was the best alfalfa stand I had ever established on that droughty, sandy-gravel site. Adding to it was that fact that only 3-4 weeds appeared in the entire large plot (no post emergent herbicide). An agronomist who viewed it at the end of September said it looked like the second year of a stand because the alfalfa was so thick and robust.

Obviously, if it worked that well I must have missed something. We tried it again this past year. The triticale came off the 16th of May and the field was sprayed and planted early June after a



Capitalizing on the improved soil structure and the suppression of weeds by alleopathy from the winter triticale, outstanding seeding's can be made on a consistent basis.



Alleopathy are compounds exuded from winter grains that keep plants, including many weeds, from growing. Here the winter grain plot harvested May 20 has few if any weeds July 7. Weeds are rapidly growing in the alleyways. Legumes are apparently not affected by alleopathy.

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rain event. As a test a chisel was run at right angle across the plots in two different strips. 18 lbs of alfalfa were drilled with the same planter as above. Most of the alfalfa was up in less than a week. Again there were few if any weeds, except where it was chiseled (photo at right). Tillage was a waste of time as it did not improve the seeding at all. In addition to the triticale harvest, we also took one cutting of alfalfa in early August.

It is critical that a press wheel drill be used. A farmer who broadcast alfalfa and then ran a roller over the field reported less than desirable results. The same would happen if a cultipacker seeder was used. This is because the many small dips and bumps in the field keep the rollers from fully contacting the soil and a significant percentage of seed is lying on the surface. A press wheel drill follows up and down the bumps, exactly where the coulter drops the seed and is able to assure excellent seed soil contact for all the seeds.

The weed control system is a variant on the stale seed bed that many organic farmers use. Herbicide in early November the previous year removed any weed competition that might have got started in the winter grain. The triticale normally does not regrow after harvest and so does not need to be controlled. This past year was an exception because of the near complete lack of rain from the middle of April until May harvest. The dominate tillers grew while the secondary were starved for moisture. After harvest the remaining secondary tillers sprouted and put on a small amount of growth. Because we allowed time (get the first haycrop finished) and moisture for any weeds to get started, the low, non residual herbicide with high application of carrier, removed all of these potential plants. Only the soil where the alfalfa was planted was disturbed, so few new weed seeds were brought up. This is how a stale seedbed system works. The alleopathy from the winter grain keep most common weeds – lambsquarters, pigweed, mustard, from getting started. The alfalfa was not affected and got a running start without the weed competition. Organic farms could use this same system with earlier planted and narrow row drilled winter triticale smothering out any weed pressure in the fall. They then can plant earlier after triticale harvest will out compete any weed pressure.

The system gives the farmer 6 – 12 tons of highly digestible triticale silage in May, and another 3 – 6 tons of alfalfa silage in at least one cutting the beginning of August. The “no-till” with the press wheel drill eliminates the need to pick stones, especially if a no till drill or a decent job of rolling the triticale the previous fall was done. With the combination of alleopathy and possible pre-plant herbicide application, weeds become a non-issue. The alfalfa, planted into the warmer soil, jumps out of the ground and grows very rapidly in the warm, sheltered microclimate of the triticale residue. The deep roots of alfalfa capitalize on the deep tillage that removed plow pans before planting the triticale. Its growth and ability to weather adverse conditions put it far ahead in stand thickness, uniformity, and growth than traditionally plowed, harrowed and planted alfalfa in early April on these same soils the same year.



A press wheel drill is critical for success. A conventional drill or cultipacker seeder does not follow the bumps and dips and so many seeds are just dropped on the surface.



Chisel plowed on the right gave no better results than simply band drilling with a press wheel on the left



Chisel plowed on the right resulted in more weeds than band drilling on the left.

Sincerely,

Thomas Kilcer,
Certified Crop Advisor

172 Sunnyside Rd
Kinderhook, NY
12106

Tel: 518-421-2132

tfk1@cornell.edu

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