



ADVANCED AG SYSTEMS'

Crop Soil News

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May 2023

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

Advanced Ag Systems
Research, Education, Consulting

Winter Forage Harvest

Note: For northeast and north central, triticale and rye are rapidly approaching harvest stage. It was driven by that short burst of warm weather. The region is now facing extended rainy weather to delay harvest. The silver lining is that the temperatures are supposed to be below 60 during the day and lower 40F, upper 30F at night. When this happens the quality of the forage often holds. I have had headed triticale with the same digestibility as flag leaf when these conditions occur. The 12 hour NDFd may drop but the 30 hour NDFd holds. Thus the forage may still be good for high producers and excellent for the middle group. If you are forced to make wetter forage, we suggest to chop it like we learned with sorghum - 3/4 to 1 inch long to reduced leachate. Use a homolactic inoculant and we suggest a higher rate to make up for potentially lower sugars. We have made perfectly fermented triticale at upper teens and lower 20 dry matter. We don't like hauling all that water but you may not have a choice with the weather hand dealt this year.

Life after winter forage harvest.

More farms have added the high quality and high yields of winter forage to their rotation schedule. Some have even gone as far as eliminating alfalfa. In any case, after your winter forage is harvested, what is the next crop? The beauty of winter forage is that your options are open to what fits your farm best. The other is that there is 60% less moisture under a harvested winter forage than under bare soil so you can safely traffic these fields in wetter spring than bare ground. A farmer I know got his corn planted on winter forage stubble in a wet spring and then had to wait for the non-winter forage ground to dry out. For dry springs (probably not this one), the soil could be in excellent shape for deep zone tillage to start to remove the compaction that was limiting your yields.

Before we go into options, a huge concern, with major profit loss by the day, is to diddle around with planting the next crop into winter forage stubble while your haylage is getting past prime. If you are growing cool season grass or grass alfalfa, the next step is to get your haylage in as it is ready a day or two after winter forage harvest, and profit loss is measured by the day delay. If you grow just straight alfalfa then you may have time between planting the next crop into winter forage, and the timely alfalfa harvest.

The first step in the next rotation crop is to **NOT remove the stubble** or till the field. You have an excellent cover that (see [October newsletter](#)) with a mass of roots that go 6 to 16 inches deep in the profile. This channels water and oxygen into



Winter triticale stubble is an excellent medium to plant the next crop no till into.

the soil for maximum root growth. Those who have chiseled, or worse, disked winter forage stubble have realized they made a mess of softball lumps where the soil originally was. It takes a lot of work to beat them into a smooth seedbed again. Winter forage leaves the soil in excellent shape for no-till. It makes no sense to work 43,560 square feet of soil 7 to 8 inches deep (moving 1,000 tons/acre) to simply have a fine seedbed an inch or two around a properly planted seed.

One of the simplest crops is to no-till soybeans into the stubble. Allelopathic has no effect on soybeans and other legumes and the warm moist surface allows for rapid germination and emergence. The allopathy helps the herbicide by keeping most weeds from growing for a good part of the season. Soybeans have done very well for me in this rotation with the *early planting date maximizing yield*.

Another crop that works well is no-tilling corn (top photo at right). There is no residue for slugs to hide yet the stubble and massive root system nearly eliminates erosion. The easiest is to use a floating clearing colter (2nd photo right) to remove ½ inch of soil that has the allelopathic compounds so the corn will grow better. Caution: if you did not add manure and shorted the winter forage on nitrogen, the soil will be depleted of nitrogen and the corn grows slowly and is light green/yellow. Adding 20 lbs. of popup nitrogen with the seed can eliminate this early slow growth drag.

A better system is to first inject manure into 30-inch centers right where you are going to plant. Dr. Ketterings has researched this ([agronomy fact sheet #87](#) ; and [fact sheet #67](#)) and found in most cases, all the fertilizer needs for the crop could be met. You are simultaneously **getting rid of manure and saving money on fertilizer**. I prefer a rolling coulter type manure injector over the knife type as it takes much less horsepower and there is less soil disturbance to bring up stones. Coming back a day or so later (to let the manure soak into the profile) with the planter on the same zone allows the plant to quickly access the nutrients in the manure. Yes, it may take a little longer, but you are saving \$120 to \$150/acre of nitrogen at \$1 per pound. You are also saving even more fertilizer from the phosphorous and potassium needs as the manure had plenty to meet the crop needs. More farms each year are moving to inject all their manure to maximize the return on the work applying manure that you have to spread anyway, **plus savings on fertilizer**.

One of the most popular rotation changes that more farmers are adopting is to use the **winter forage as a setup for following legume seeding**. Traditionally legume seedings are done as early as possible to benefit from the spring rains. Unfortunately, at that time of year the first nice day you are a week behind with fieldwork, and on the second nice day, you are two weeks behind. Adding insult is that the cool/cold damp conditions of early spring are perfect for damping off and other fungal seedling diseases to decimate the seeds you put out there. By moving to plant all legume seedings no-till into winter forage stubble after haylage is complete, it balances the work load out in the spring. Our surprise when we first tried this is that we got better/thicker stands than when we planted in early spring. There were several factors. First, the soil is warmer, and the plants germi-



Injecting manure on 30 inch centers in harvested triticale stubble with corn planted over the injection can meet all the fertilizer needs of the crop while using the manure in an environmentally sound method.



A hugely popular practice is to no-till legumes hay crops into triticale stubble. Moving the planting date to end of May (NY climate zone) gives better seedings, balances the work load, eliminates most erosion while providing full haycrop total yield from the two crops of triticale and alfalfa.

nate and emerge quickly. Second, conventionally tilled seedings allow the drying wind to reach right to the surface. If the top inch of soil is dried out the tiny plant with an inch-long root will suffer/die. With a 3-inch stubble, the wind is kept off the soil surface so the soil is moist right to the top (see picture at bottom previous page). When it rains the stubble captures the moisture and channels it into the soil surface. The stubble then conserves that moisture for the tiny plants. An added benefit was that a farmer had 60 acres that he tilled, limed, worked into a smooth seedbed, and planted to alfalfa in early April (NY). Across the road, he had 50 acres of triticale that he harvested and then no tilled at the beginning of June. In late June he had several inches of partly cloudy in about 15 minutes. The conventional planted field was an eroded disaster with gullies, stones on top, and plants completely washed out. Across the road, the 50 acres no tilled into winter forage stubble looked perfect with no loss. The winter forage stubble is an excellent erosion control. The final bonus is that normally seeding years give ½ the yield of a normal hay crop. Because we are harvesting 3 to 4 tons of dry matter from winter triticale plus one or two cuttings of alfalfa, our total yield seeding year is equal to a full hay crop. Better seedings with no erosion at an off-peak workload time make this a clear winner.

The process is simple. Harvest your winter forage, then harvest your haylage as that is the most profitable spring step. After the haylage, spray the winter forage stubble with a low rate of glyphosate and 15 gal of water (to assure coverage of tiny emerging weeds). Give it an hour to dry and then plant with a no-till drill or a conventional drill with press wheels. A cultipacker seeder has not worked for us.

A new crop in the mix was added because its season matches that of winter triticale very well. That new crop is **BMR forage sorghum**. Male sterile BMR sorghum is the latest advance in producing very high-quality forage to support high milk/component production in dairy cows (see [March 2023](#) & [April 2023](#)). No sorghum likes to be planted no-till into winter forage stubble as you can see in the photo at right. Applying manure broadcast and immediately LIGHTLY incorporating it will both capture the 75% of nitrogen normally lost and break up the allelopathic compounds that inhibit the growth of the sorghum species planted after. The reverse, planting triticale no-till into sorghum stubble works very well.



In our research we no-tilled alfalfa and planted into plowed, disked triticale stubble. We had better stands and little or no weeds without tillage compared to 2 more trips over the field.



The top picture is a research farm, the above picture was sent to me by a farmer in western NY. Left side of the field was no-tilled while the right, which was ruted, was conventionally tilled. Legumes no-tilled into triticale stubble gives far superior results.



For sorghum to follow winter forage, a light surface tillage is needed to break the allelopathic effect from the previous grain crop.

Sincerely,

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Hand
to Better
Agriculture**

