Wisconsin Crop Manager

Volume 23 Number 4- - - University of Wisconsin Crop Manager - - -March 17, 2016

Contents

Factors to Consider While Assessing Your 2016 Winter Wheat Crop Stand and Spring Nitrogen Timing

Shawn P. Conley
Soybean and Wheat Extension Specialist

As the snow begins to melt and we finally put the 2015/16 winter behind us, many growers and consultants alike are beginning to venture out to their winter wheat fields to assess winter injury and nitrogen timings. Though it is a bit premature to make any rash decisions regarding crop destruction, here are a few considerations for assessing your spring 2016 winter wheat stands. To view the full report, please follow the link below:

http://thesoyreport.blogspot.com

Cover Cropping: Avoid Clover Competition When Frost Seeding Medium Red Clover Into Winter Wheat

Kevin Shelley, UW-Madison Nutrient and Pest Management Program

One cover cropping practice used by winter wheat growers involves frost seeding medium red clover seed into the wheat during freeze-thaw periods, usually in March or early April. The clover seed is broadcast over the fall-planted wheat, allowing the seed to fall into cracks and crevices on the soil surface. Freezing and thawing at the soil surface helps achieve adequate soil to seed contact for eventual germination and emergence of the clover during spring warm-up.

Typically, the established clover doesn't grow much beyond the seedling stage under the rapidly developing wheat canopy. After the wheat is harvested, the clover has access to sunlight and will grow to provide a nitrogen-fixing, weed smothering, soil improving cover crop. UW Extension guidelines suggest 60-80 pounds of nitrogen can be credited for a following year's corn crop. The red clover may also be harvested as a forage crop, possibly providing up to two tons of forage dry matter per-acre.

Success with this practice is dependent on a number of management and weather-related factors. See http://ipcm.wisc.edu/download/pubsnm/redclover_0109.pdf for management guidelines. Also, certain herbicides used in previous crops may inhibit clover establishment and may have implications for using the clover as feed

http://ipcm.wisc.edu/download/pubsPM/Herbicide-Rotation-Restrictions_FINAL.pdf. Inter-cropping with clover will generally not allow herbicides to be used for the wheat crop.

As mentioned above, if we have well-managed wheat, with a dense canopy cover, the frost seeded clover doesn't get much past the seedling stage until after wheat harvest. Research is limited, but observations suggest no apparent competition from the clover to the wheat. However, in 2015, two cases were observed in southcentral Wisconsin where the frost seeded clover did present significant competition, decreasing yield of wheat grain and harvestable straw. The two cases had similarities and differences.

In the first case, the wheat stand was somewhat light across the entire 11.5 acre field. UWEX wheat specialist, Shawn Conley offers a benchmark of 70 stems per square-foot in the spring to indicate adequate wheat plant population and tillering. Post-harvest stem counts from areas sampled across this field averaged only 53 stems per square-foot. In fact, the seeding rate in the field was low at an estimated 1.3 million (live) seeds per-acre compared to the recommended seeding rate of 1.6 to 1.8 million seeds planted October 10. In addition, the clover seeding rate ended up at 18 pounds per-acre (March 22), somewhat higher than the guideline of 10-12 pounds. The slightly low wheat seeding rate and stem counts suggest the wheat canopy may not have been adequate to keep clover at bay. The high seeding rate for clover may have helped it take advantage. Wheat yield was estimated at 15-30 bushels per-acre less than expected and there was no harvestable straw. In this case, the clover and wheat stem biomass left by the combine could have been harvested as forage, but was left as a tremendous green manure crop.

Too much clover, not enough wheat, no straw.

In the second case, the clover was competitively taller and thicker than normal only in repeating strips, or waves across the field. The distance between strip centers was consistent with the width of the passes made in the broadcast clover seeding operation. Clover seeding was done with an ATV-mounted spinner spreader. It appeared the spread pattern was narrower, and less even, than the farmer anticipated, such that there was a higher seeding rate close behind the seeder with a diminishing rate outward to the sides. In reviewing his GPS coverage map for the clover seeding, and comparing that with his GPS combine monitor wheat yield map, he determined that the denser clover (less wheat yield) generally matched up with the center of his ATV passes. The likely cause of the problem: the clover seed used in 2015 was uncoated seed. In previous years, the farmer had used coated seed in his seeder. The uncoated seed likely flowed and spread differently than the coated seed used in previous years, resulting in a different spread pattern.

Too much clover on left, more wheat and straw on right.

Post-harvest stem counts were higher at this farm than at the first. But they were lower in the dense clover areas (64 stems/ft2) than in the clover-sparse areas (76 stems/ft2). Wheat grain yield averaged 20 bushels per-acre less, as measured by the yield monitor, in the strips where clover was heavily competitive with the wheat.

There may also have been weather-related factors favoring rapid establishment of frost seeded clover relative to wheat growth in the fall and spring of 2014/15. However, these observations point out the importance of managing each of the components in a cropping system such as this. Winter wheat managed with the correct seeding rate, planting time and fertility is likely necessary

for the companion frost seeded red clover to work. If a wheat stand is determined to be light, perhaps due to winter kill, or is behind in growth at spring green-up due to late planting and slow growth, forgoing the frost seeding may be advisable. Although, no threshold has been established specifically for this purpose, the 70 stems/ft2 may be a guide.

Excess clover seeding rate may create competition with wheat

Perhaps more importantly for 2016, these observations also suggest care is needed when broadcast seeding to ensure the clover seed is distributed evenly across the field and at a rate that is not excessive. Whether seeding with a broadcast seeder or a drill, it should be calibrated such that the rate and distribution pattern is known and adjusted as needed. Guidelines for calibrating seeders can be found in a publication from the University of Arkansas at http://www.uaex.edu/publications/pdf/fsa-3111.pdf. With clover seed cost at about $3.00 per pound this year, avoiding over-application makes economic as well as agronomic sense.

Thanks to Jeff Gaska, Farmer, Beaver Dam, WI for assistance with this article.

Pub: Frost Seeding Red Clover in Winter Wheat

Grow your own nitrogen! If you plant winter wheat, you have an opportunity to "grow" your own nitrogen (N) to help manage input costs and accrue soil quality benefits. The age-old practice of green manuring, especially in conjunction with wheat, can produce significant credit-able N for corn the next year. It also protects the soil and may be eligible for cost share under local and Federal conservation programs.

Usually, ideal conditions for frost seeding occur in mid to late March. Low overnight temperatures cause the surface to freeze and crack. Warm daytime temperatures thaw the surface, sealing the cracks. If daytime thawing occurs, the daily "window" for seeding lasts only a few hours, beginning at dawn. Driving on thawing soil later in the day may compact it and injure the wheat.

This publication gives an overview of research results and offers advice on how to best manage the cropping system for good wheat and nitrogen yields. To view the publication, please follow the link below:

http://ipcm.wisc.edu/download/pubsNM/RedClover_0109.pdf

Video: Field Corn Disease Management Update

Damon Smith, Ph.D., Assistant Professor, Field Crops Pathology, Extension Field Crops Plant Pathologist

In this 25 minute presentation, Dr. Smith talks about scouting for and managing Goss's wilt and northern corn leaf blight of field corn in Wisconsin. Smith also presents research results from field trials, including a discussion on application timing and chances of recovering costs of fungicide applications.

If you would like to view this presentation, please click

the picture below:

Time Your Spring Nitrogen Applications to Maximize Winter Wheat Yield

Carrie A.M. Laboski, Professor and Soil Fertility/Nutrient Management Specialist

Proper timing of spring N application can significantly increase winter wheat yield. To maximize yields, growers should try to apply N as soon as possible in the spring, taking into consideration soil physical conditions. Applying N when the ground is barely traffickable will likely result in rutting, compaction, and possibly yield loss if plants are damaged. One tactic to accomplish early N application might be to apply N in the morning before the top few inches of soil have re-thawed. Care should be taken to ensure that N does not run off the field before it has a chance to move into the soil.

To see a brief overview of the research pertaining to wheat fertility, please follow the link below:

http://www.npketc.info/?p=325

UW Discovery Farms Publishes Practical On-Farm Conservation Tool

UW Discovery Farms

The new Field Walkover Guide is designed as a straight forward, practical document that will help farmers identify and prioritize their conservation needs and complement current conservation plans. It highlights simple ways to visually identify erosion risks and offers potential solutions and considerations for each farm's unique situation.

The walkover guide is a culmination of 60 farm walkovers on 15,000 acres in Wisconsin conducted by the program. Information gathered during the walkovers was used to identify field-specific areas of concern. During a follow-up farm visit, areas in need of improvement were identified and prioritized, and farmers were offered simple solutions for improving problem areas. The guide is based on common themes and feedback from these on-farm walkovers, as well as the 200 site years of data collected from Discovery Farms water quality monitoring.

"It's about layering information," explained Amber Radatz, co-director of the UW Discovery Farms program. "Our research on private Wisconsin farms has shown us that the months with the most runoff and soil loss are April through June. Combine that with the walkover information and you've got both the critical times for loss and the conditions that increase erosion risk during those times."

"We hope this is a simple tool farmers can use when they're out doing field work. We know that time and money are limiting factors and with that in mind we made sure our guide focused on solutions and assessments that wouldn't take too much of either," Radatz commented.

The document includes:

- Two decision trees to guide assessments of concentrated flow areas and in-field erosion
- Lessons learned from walkovers and 15 years of water quality monitoring
- What to consider when conducting your own field walkover
- Practical strategies for minimizing erosion risk

Find the Field Walkover Guide as an insert in upcoming issues of Agri-View, Wisconsin State Farmer, and The Country Today. It is also available online at www.uwdiscoveryfarms.org. If you would like a copy mailed to you contact Discovery Farms at 715.983.5668.

Crop Budget Analyzer

Ken Williams – UW-Extension-Waushara County

The decline in grain prices makes it essential for producers to accurately project the potential profitability of the crops they will plant in 2016. Production costs currently are around $500 to $550 per acre for unirrigated corn

and up to $700 per acre for irrigated corn. Production costs for soybeans and winter wheat run around $300 to $350 per acre. The cost to seed an acre of alfalfa will tally up to around $600 per acre. These costs include a land charge of $75 per acre.

Enterprise budgets for grain crop production are increasingly important as the market price for grain crops and the cost for inputs to grow these crops continue to increase. While working with area grain producers there was a need expressed for a simple and concise way to compare the potential production costs and returns for various crops. These spreadsheets enable anyone to easily see the production cost and the potential return for corn, soybeans, winter wheat, seeding alfalfa and established alfalfa. Each spreadsheet is concise enough to print on a standard 8½ x 11 page of paper. How to use instructions are included. The producer is able to enter the cost per ton for the fertilizer he uses as well as the amount applied per acre. Seed cost is calculated by entering the cost per bag and the population being planted. There are pop up directions as the cursor is moved from cell to cell. Tillage costs are covered by using custom rates for each operation. The grower may change these rates and simply enter a 0 or a 1 or 2 to indicate which tillage he is using and how many passes. For harvest there is a harvest, drying and trucking charge included. A line is included for land cost whether it is owned or rented land. At the bottom of the spreadsheet the grower can enter his expected yield and the expected selling price. The corn and soybean sheets have a sensitivity analysis table which provides the producer with net returns for changes in costs of production and selling price for 10 and 20 percent above and below the indicated cost of production and the expected market returns. The key goal of this spreadsheet was to develop an understandable, easy to use spreadsheet to collect the major expenses in a crop production system. Producers have stated that they are concerned with covering their major costs while still being able to compare the potential returns from alternative crops.

This spreadsheet is posted and available for download from the UW-Extension, Waushara County website, http://waushara.uwex.edu/agriculture. Click on "Crop-Budget-Analyzer Feb 16_2016". This spreadsheet has been used by producers, bankers, co-operatives, newspapers, technical school instructors and land conservation personnel from Wisconsin, Minnesota, Indiana, Arkansas and other neighboring states. For additional information or questions contact Ken Williams at ken.williams@ces.uwex.edu or 920-787-0416.

Follow us on