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Harvesting Irrigated Cover Crops as Forage

Wheat and rye (small grains) are being used on a regular basis as cover crops on irrigated fields in Michigan and Indiana. These cover crops do an excellent job protecting our soils from wind and soil erosion. A new practice is being evaluated that would harvest irrigated cover crops (wheat and rye) for animal forage in the spring prior to planting a specialty crop. This practice could give farmers another option for their irrigated farmland. This new strategy would provide cover on the soil throughout the fall and winter, while creating a second income for farmers by harvesting the forage in the spring.

Many of the irrigated fields in Michigan and Indiana plant short season crops like vegetables and seed corn. These crops have staggered planting dates from late April through early August to allow a nearly continuous flow of production at harvest time. This practice could also even out the workload involved in specialty crop production. Some crops such as green beans and cucumbers have a short enough growing season that farmers can grow up to two crops a season. Harvesting a cover crop for forage could give farmers another option for income before the planting of a short season specialty crop. This flexibility should leave open dates in the calendar for the individuals charged to create even harvest schedules on the farm. Planting to fill the gaps may leave fields without cover 3 to 6 weeks at the beginning or end of the growing season.

Irrigating the seeded cover crop can reduce the risk of establishing and improving germination vigor of that cover crop. You may also need to irrigate the cover crop ground prior to planting your specialty crop due to a dry soil profile from the cover crops growth. Harvesting the cover crop in the spring would replace killing it three or four weeks earlier to prevent excessive soil drying and build up of large volumes of fodder in the fields. Fodder can pull nitrogen from the soil as it decays and complicate the establishment of the specialty crop.

Higher than normal forage prices in spring of 2008 initiated a look at the value of harvesting cover crops, winter wheat and rye at the boot and soft dough stage as forages. Randomly selected plots of 100 square ft. were hand harvested and dried to allow harvest to be portrayed as dry hay. In the spring of 2008 boot stage yields of wheat and rye hovered around the 2.4 dry tons per acre area with a half to spread from high to low yields. Early summer soft dough yields of wheat and rye were slightly over 3 dry tons per acre with a .3 ton difference from high to low. Most producers with experience in the topic point that they would have expected rye to out yield wheat in most situations and the comparison of wheat and rye forage yields is clouded in this situation since the wheat fields were drilled and fertilized as for grain production where the rye was simple top spread seed disked into the ground in September of 2007 for a cover crop with no additional fertilizer.

An informal survey of four active large volume forage buyers predicts the value of the small grain forage to be about half of alfalfa hay. With a slight advantage to the boot stage hay which staggered greener, softer and assumed to be more palatable. Some expressed that these forages may fill a niche in dairy diets for dry cows and as a bulking agent like cotton seed hulls. As producers know it is not all income. Fall spreading/disking of 1.5 bushels of rye will cost a producer almost \$25 per acre with a harvest cost of \$45 to \$55 per acre can be expected, depending on yield. Handling and trucking can be costly, especially if the area lacks potential buyers.

To take advantage of this strategy large scale dairy farms and custom harvest forage operations are needed. A typical 160 acre irrigated field with a modest 1.5 ton yield of wheat hay will generate 240 tons of hay that needs to be cut and harvested in a two or three day window.

In 2009, we are looking for actual field harvest forage yields to supplement to the 2008 observation. Whole field yields, moisture content, acreage, plant stage at harvest, harvest date and approximate value can be provided to Lyndon Kelley, Irrigation Educator for MSU and Purdue Extension at 269-467-5511.