

MINNESOTA TURF SEED COUNCIL
NEWSLETTER
August 22, 2018

This will be the last weekly Ryegrass Newsletter for the year as the majority of the ryegrass has been harvested. The following are a few items to consider this late summer into fall as we look to the 2019 ryegrass crop

RYEGRASS SEED STORAGE MANAGEMENT

In many areas this year, ryegrass seed moisture was dry off the combine. In previous years, problems with ryegrass seed quality have been reported when ryegrass seed moisture is greater than 11-12%. Seed moisture greater than 12% may require supplemental heat, in addition to air, to dry the seed to a moisture level suitable for long term storage. Make sure to monitor moisture content of ryegrass seed in storage and be prepared add supplemental air, or move seed in order to reduce hot spots or lower seed moisture content of ryegrass seed in storage. Seed moisture levels in storage can be variable. It is **important** to monitor the seed moisture content of ryegrass seed in the bin. If hot spots develop in storage, air alone may not remove the moisture and heat fast enough. If hot spots are detected, be prepared to move seed from the bin as soon as possible as past experience suggests ryegrass seed moisture of less than 11-12% is required for long term seed viability and storage.

STRAW MANAGEMENT

The 2018 spring wheat harvest will soon be complete. One of the primary methods of ryegrass stand establishment is to seed ryegrass with spring wheat. Straw management is a **critical step** in the management of a profitable ryegrass seed crop. A uniform spread of wheat straw is the first step in successful 2019 ryegrass crop. After wheat harvest, a light harrowing operation will aid in the uniform spread of the wheat straw which is helpful to the growth and development of the ryegrass plants. If the straw is wet, clumps of straw will be the result. When the wheat straw is dry it will not clump and pass through the harrow without leaving piles of straw. In addition, a light harrowing operation may help incorporate P and K (if applied after wheat harvest) and will make these nutrients more available to the ryegrass root system.

RYEGRASS RUST

Light to moderate levels of rust have been observed on young ryegrass plants. No question rust on ryegrass leaves looks bad! However, previous research indicates leaf and stem rust will not survive northern Minnesota winters. Rust infections come from spores blown in from the southern United States. Fungicides applied in the fall are effective in rust control, but fall applied fungicides didn't show any benefits to the next years ryegrass growth, development and yield compared to ryegrass that didn't receive a fall fungicide treatment. The bottom line; rust on ryegrass in the fall looks bad, but rust controlled in the fall didn't reduce the incidence of leaf and stem rust the following summer.

FALL BROADLEAF WEED CONTROL

Winter annual broadleaf weeds can be a problem to control ryegrass fields as they emerge in late-spring into summer and produce a rosette of leaves in the fall. In early spring, these plants will bolt, flower and produce seed. Shepardspurse, cockle, field pennycress, black seed plantain, catchfly and green flower pepper weed are examples of winter annual weeds. Winter annual plants grow rapidly in the spring, and often times are flowering and/or have produced seed before a scheduled spring broadleaf herbicide treatment. In addition to winter annual weeds, a late summer/early fall herbicide treatment will have good activity on thistles, dandelion, dock, clovers and other broadleaf weeds.

FALL BROADLEAF WEED CONTROL - CONTINUED

Previous experience suggests herbicides should be applied in mid-September into early October to actively growing weeds. Herbicide performance on perennial broadleaf weeds may be improved if applications are made after a light frost. Cockle and winter annuals have a rapid growth rate in the spring and tend to produce seed before many of the other broadleaf weeds are out of the ground. Thus, herbicide applied in late summer/early fall will control weeds in the fall which will allow for a more timely application broadleaf weeds that emerge in the spring. Product use rates of dicamba and 2, 4-D will vary with the weed spectrum, but a tank mix of $\frac{3}{4}$ pint dicamba and $\frac{3}{4}$ pint 2, 4-D is a good base-line treatment. Talk to your agricultural supplier for tank mix rates that have been successful based on local experience.

FALL FERTILIZER

How much fertilizer should be applied to perennial ryegrass in the fall? That's a question ryegrass producers have struggled with for several years. In the last few years, there has been a shift away from 100% of the nitrogen requirements for ryegrass applied in the fall, to the majority of the nitrogen fertilizer applied in the spring.

What about Phosphorus (P) and Potassium (K) in perennial ryegrass seed production? P and K are important nutrients that promote root development and improve the winter survivability. Research from Montana indicates phosphorus is responsible for 75% of the adventitious (tiller) root development in winter wheat. In ryegrass seed production, tillering capacity in plants is important to maximize seed yields. Fall applied phosphorus will enhance adventitious root development. Tillering is important for ryegrass seed production and research data has confirmed tillers formation in the fall tend to produce more and heavier seed than tillers formed later in the growth cycle of ryegrass (source: K. R. Brown New Zealand Ag Research 1980). This is not to say spring tillering is not important, but tillers formed in the fall appear to be more productive than tillers formed in the spring. Fall applied P and K will promote fall tillering and help with the development of a vigorous crown region and enhanced root system which will improve the winter survivability of ryegrass.

What is the bottom line when it comes to fertilizer application timing in ryegrass? That's an on-going conversation to be had with your seed company fieldman and local agronomists. Fertilizer rates and timings in ryegrass seed production will depend upon time, labor and equipment constraints. Management decisions are made which strive to balance nutrient availability to the ryegrass, available labor and equipment and at the same time strike a balance with environmental stewardship. However, a fertility program with P and K with a small amount of N applied in the fall with the majority the nitrogen spring applied makes good agronomic sense in ryegrass seed production. In the event of a wet spring, a small amount of fall applied nitrogen will extend the application window for spring applied nitrogen which will make nitrogen timing in the spring less critical.

The following is an example of a best management fertility program in ryegrass based upon the latest research.

- P and K (based on soil test or 30 - 40 units of each) and 30 - 50 units of nitrogen applied in the early fall
- Up to 80% of nitrogen (based on yield goal) applied in the spring (early to mid-tillering) 400-600 GDD