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RESEARCH NEWSFLASH

Fall Management Tips for the Gly-Ryes™

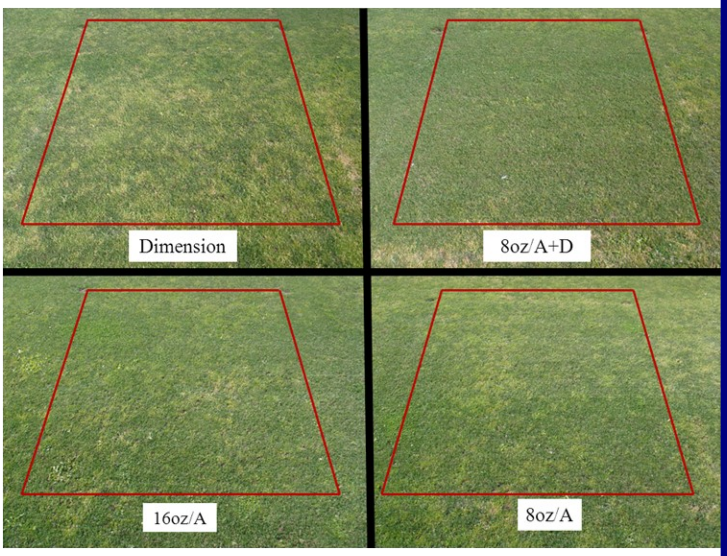
by Christian Baldwin, Ph.D.

Tank Mixing with a Preemergence Herbicide

A field trial was conducted in Post Falls, ID, to determine the safety and effectiveness of tank mixing glyphosate with a preemergence herbicide. Dimension (dithiopyr, Dow AgroSciences LLC) and glyphosate were either sprayed separately or tank mixed on September 15, 2010. Application rates were 32 oz/A for Dimension and 0, 2, 4, 6, 8, 12, or 16 fl oz/A for glyphosate.

Injury was not observed when tank mixing Dimension with glyphosate, regardless of the application rate. Therefore, when applying a preemergence herbicide, there is no need to make a separate glyphosate application, which results in less labor and equipment usage.

Secondly, plots had significantly less *Poa annua* the following spring when treated with a single fall glyphosate application at 8 oz/A tank mixed with Dimension compared to a 16 oz/A rate without. *Continued p. 2*



Post Falls Gly-Rye™ field study in spring 2011. (Photos top row) Dimension preemergence herbicide applied alone shows no control of existing Poa. Dimension tank mixed with 8 fl oz/A glyphosate is Poa free. (Photos bottom row) Poa regrowth (yellow spots) when 8 and 16 oz/A glyphosate rates were applied without Dimension.

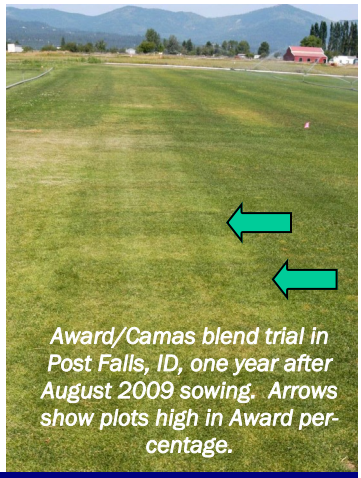
Blending Bluegrasses for Faster Germination

by Doug Brede, Ph.D.

One criticism of Kentucky bluegrass as a lawn turf is that it can be slow to establish. Some people are willing to use an inferior product (perennial ryegrass) in place of Kentucky bluegrass just to get two weeks faster establishment.

An amazing attribute of **Camas** Kentucky bluegrass is its rapid germination – easily as fast as fine fescue and normally with a week of ryegrass sprouting.

So the idea was hatched: Why not plant a blend of **Camas** and **Award** to get the best of both worlds – fast germ and good quality? *Continued p. 2*



Award/Camas blend trial in Post Falls, ID, one year after August 2009 sowing. Arrows show plots high in Award percentage.

Conclusions: Award-Camas blend trial

Seedling vigor

- Camas had a small but positive effect on seedling vigor of blends (see graphs, page 2). It might have had more contrast but year-old Award seed was used. The year-old Award germinated nearly as quickly as Camas.

Year-1

- After germination, Camas stuck around too long and nipped the first-year quality of Award.
- A 50:50 blend actually looked worse than 100% Camas during the first spring due to non-uniformity and the two varieties "fighting" each other.
- By summer, adding Camas took turf quality from an 8 down to a 2, mainly from leafspot disease.
- In conclusion, up to 20% Camas could be used with Award if 1 point lower turf quality is tolerable.

Year-2

- Camas had a strong positive effect on early spring greenup, increasing stand color from a 1 (brown) up to a 6 (medium green).
- By summer, ratios of up to 50% Camas performed similar to 100% Award. At higher Camas rates, however, quality plummeted.
- Therefore, if you're willing to tolerate an unattractive first year, ratios of up to half Camas can be used with positive long-term success. The Camas, in other words, acts as a nurse grass.

Gly-Rye™, continued

Therefore, when tank mixed with a preemergence herbicide, glyphosate can be applied at a lower rate, yet still maintain better long-term *Poa annua* control. The less *Poa annua* the following spring is important because glyphosate by itself will not result in a gradual removal of *Poa annua*; instead it turns the *Poa* completely brown within 10 to 20 days after application, depending on rate and environmental conditions.

Applying Glyphosate During Cool Weather

Two trials were initiated in Post Falls, ID in fall, 2010 investigating the effects of cool temperatures on the glyphosate tolerance of the **Gly-Rye™**'s. Past studies have shown that when glyphosate is applied between Memorial Day and Labor Day, the **Gly-Rye™** plants are able to safely tolerate a 16 oz/A application rate with minimal discoloration. Our recommended rate is 8 oz/A since this rate is high enough to remove *Poa annua*. The 16 oz/A tolerance provides protection against any overlaps that may occur.

The objective of this trial was to determine if our rate recommendation holds true in the cooler fall months. Rates tested included 0, 8, and 16 oz/A, which were applied at the end of September, and in a separate trial, at the end of October.

Just over one month after the September application, the 8 and 16 oz/A rate were rating 18% and 60% browning, the latter of which is unacceptable. Just under one month after the October application, the 8 and 16 oz/A rate were rating even higher levels of browning. As you can see, timing of application is critical in successfully managing the **Gly-Rye™**'s. Once overnight temperatures dip into the mid-40's, injury will occur as was noted following the late-September application. When night temperatures are consistently below freezing, complete turf discoloration is possible as noted following the late-October application. Fall is the time of year when perennial plants export metabolites downward in the plant for winter storage and survival. Evidently this downward metabolite flow causes stand injury if glyphosate is applied during this sensitive time.

Research has shown that it's important not to apply glyphosate to the Gly-Rye™'s in the fall when frost or even temperatures below 50°F are in the forecast.

Fall Management Recommendations

Based on the environmental conditions of the two fall trials, glyphosate at greater than 4 oz/A should be avoided as air temperatures dip below 50°F. Also, if your budget allows, a preemergence herbicide should be tank mixed, which will reduce the reoccurrence of *Poa annua* the following spring.

Germination, continued

In August 2009 we planted replicated blend plots in Idaho, Ohio, and Maryland to see if this concept might work. Monthly ratings were taken throughout the next two growing seasons, after which time the data were analyzed.

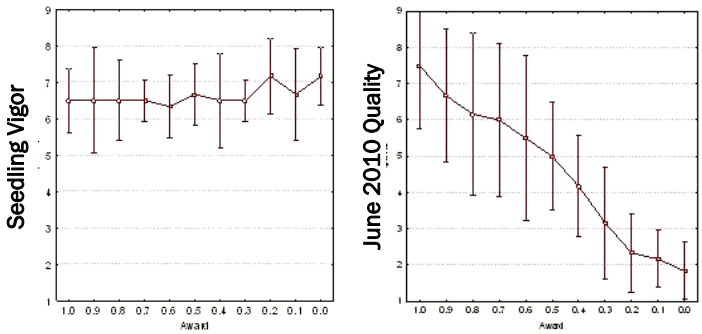
Results from all three sites were remarkably similar, therefore only data from Post Falls are presented.

The primary finding was that **Camas** did have a small but positive effect on seedling vigor of blends. In addition, the **Camas** provided a nice boost in early spring greenup in the second spring after planting.

The downside is that **Camas** stuck around too long and nipped into the first-year quality of **Award**. By year-2, much of the **Camas** yielded way in blends, making even a 50:50 blend perform similar to an **Award** monostand.

In conclusion, if you're willing to tolerate a somewhat rough-looking first year, blending **Camas** with **Award** might be a cost-saving answer.

Effect of Award-Camas blend ratio on seedling vigor and turf quality the first year after planting in Idaho. A ratio of 0.7 means 70% Award and 30% Camas. Addition of Camas improved seedling vigor by maybe 1 point while significantly dropping first-year quality. Vertical bars indicate statistical 95% confidence intervals.



Second-year data showing plot differences in spring greenup (left) and summer turf quality (right). Ratios of up to 50% Camas can be used with positive results if you're willing to tolerate a somewhat unattractive first year.