

# OVERSEEDING SPORTS TURFS IN SOUTHERN ARIZONA

*D. Kopec and K. Umeda*

Extension Turf Specialist and Area Extension Agent  
Plant Sciences Department and Maricopa County Cooperative Extension  
University of Arizona

Presented at the Turf Management Seminar on August 5, 2004 in Phoenix, AZ

Bermudagrass will stay green eight months of the year if we let it. But, we don't let it! If left alone, bermudagrass would be green from mid-March to late October, before it goes into cold-induced dormancy, followed by complete loss of color due to hard frosts. The solution.....overseed with cool season grasses.

The most popular grasses used for overseeding are perennial ryegrasses. On golf greens, perennial ryegrass is combined with *Poa trivialis*. *Poa trivialis* is also referred to as roughstalk bluegrass. Based on the intended use of the site to be overseeded, the following grasses are commonly used:

## **Annual Ryegrass**

Commonly used for home lawns by landscapers. It has poor turf performance when mowed under 1.5 inches height, poor color retention, and high mowing frequency requirements in the spring. Its only assets...it is cheap seed and has a predictable early spring transition back to bermudagrass. Landscapers will seed annual ryegrass at 600-800 lbs pure live seed [PLS] per acre. This is roughly 16-20 lbs/1000 ft<sup>2</sup>.

## **Perennial Ryegrass**

Perennial ryegrass is the best all-around grass for overseeding sports turfs. It is quick to germinate, mows well, and has fine leaf blades with a dark green color. Like annual ryegrass, it will be clumpy if not planted correctly. Perennial ryegrass is planted on fairways and sports fields (450-800 lbs PLS/A), tees (850-1000 lbs PLS/A), roughs (300-400 lbs PLS/A), and greens (1500-1750 lbs PLS/A).

## **Intermediate (hybrid) ryegrass**

Same use as for perennial ryegrass but not for greens or tees.

## ***Poa trivialis***

*Poa trivialis* is used almost exclusively on greens since its small seed size makes it easy to penetrate the low-cut ultradwarf bermudagrass varieties. When planted alone, *Poa trivialis* is seeded at 8-15 lbs PLS/1000 ft<sup>2</sup> on greens. If the practice is to plant multiple seedings, rates of 8 + 4 or 8 + 2 + 2 lbs PLS/1000 ft<sup>2</sup> are sometimes used. *Poa trivialis* should not be planted on any surfaces other than greens. They are often planted as a mixture with ryegrass for greens. Common mixtures include 18-25 lbs of ryegrass and 7-10 lbs of *Poa trivialis*.

**“Seed rates” need to be adjusted by the pure live seed (PLS) content.** This adjustment takes into account that not all of the material in the seed bag is actually seed, and that not every whole seed will germinate all the time.

Adjusting the seed rate based on PLS is just like using the fertilizer equation, since no fertilizer is 100% pure and the same is true for the contents in a seed bag. If you want to apply 1.25 lbs. of nitrogen from a 21-7-14 granular fertilizer, then you need more than 1.25 lbs. of fertilizer, since it's only 21% N. Therefore  $1.25 \text{ lbs. target} / 0.21 = 6.0 \text{ lbs. of product}$  is required to deliver 1.25 lbs. of N.

In seed, the purity of the seed is some value less than 100% since broken plant parts, seeds and soil are also included in the bag of the actual seed in the bag. As well, only a certain percentage of the actual seed will germinate (the rest will not). These two factors decrease the actual amount of seed expected to emerge. For example, if a 50-lb bag of seed has a purity of 90% (0.90) and germination rate of 85% (0.85). What is the PLS content? Multiply the percent seed purity and percent germination rate:  $0.9 \times 0.85 = 0.76$ . This means only 76% or 38 lbs of the 50-lb bag is PLS is "usable grass seed", if every seed capable of germinating on average did so. So we really have a 38-lb bag of seed to work with.

If you want to seed a fairway or soccer field at 600 lbs PLS/A, how much more seed do you need? The answer is  $600 \text{ lbs} / 0.76 \text{ PLS} = 790 \text{ lbs}$  of actual seed which is almost four extra bags of seed on top of the twelve that you thought you originally needed.

**Field preparation is critical.** The keys are to slow down the bermudagrass (since no one is allowed to wait for the right weather conditions), avoid over-aggressive disturbance to existing stolons and rhizomes, and to put down the right amount of seed in two directions.

To slow down bermudagrass:

- a) stop all N-fertilization about 30 days before overseeding;
- b) increase potash applications at 30-45 days before overseeding;
- c) decrease water 7 days out to one-half or less of normal evapotranspiration (ET) requirements.

For field preparation:

- 1) do not aggressively de-thatch at overseeding (do this 6 weeks before);
- 2) elevate the grass canopy to promote leaf internode elongation by:
- 3) increasing mowing heights 15 days out by 1/3 or more, or stop mowing 10 days out;
- 4) mow at the original height (1st scalp);
- 5) drop again (2nd scalp);
- 6) drop seed;
- 7) drag or;
- 8) scalp again (3rd scalp) for "free mulch";
- 9) drag

Note: Tifway may need light verticutting between steps 4 and 5 above.

### **Options include:**

As part of the bermudagrass "slow down", the plant growth regulator (PGR) Primo\* can be applied on well-watered turfs at 5 days before overseed preparation. Label rates are 0.5 oz product/1000 ft<sup>2</sup> on fairways and 0.25 oz product/1000 ft<sup>2</sup> on greens. Turflon\*ester applied on non-green areas (1.0 qt product/A) will also knock the bermudagrass for a loop and still allow for good germination.

**Poa annua problems?** Rubigan\*, Barricade\*, and TranXit\* can be applied in the late summer before overseeding to prevent *Poa* germination and still allow ryegrass to come through. Rubigan\* can be applied either as two 6.0 oz product/A applications or three 4.0 oz product/A applications prior to overseeding. Barricade\* is labeled for the same use at 0.58 to 1.0 lbs product/A of the 65WG or 12 to 21 oz product/A of the liquid product at 6 to 8 weeks before overseeding. TranXit\* can be applied at 1.0-2.0 oz product/A at 10 to 14 days prior to overseeding.

\*Product names mentioned are registered trademarks. Any products, services, or organizations that are mentioned, shown, or indirectly implied in this publication do not imply endorsement by The University of Arizona.

The University of Arizona College of Agriculture is an Equal Opportunity employer authorized to provide research, educational information and other services only to individuals and institutions that function without regards to sex, race, religion, color, national origin, age, Vietnam Era Veteran's status, or disability.