

Another warm fall, and another difficult overseed

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The moans and groans started when September average air temperatures stayed stuck above 90F (with maximum temperatures hovering over 100F), and escalated to sobbing, kicking and screaming when they stayed high (rarely dipping below an average of 80F) through the first three weeks of October. In short, all of the elements for a difficult overseed were in place during the Fall of 2003. For while the objective of overseeding is to encourage the growth of cool-season turf types such as ryegrass and Poa trivialis, and to discourage the growth of bermudagrass, the weather this autumn conspired to create exactly the opposite effect. The above-average weather this fall has been absolutely ideal for bermudagrass, which flourishes when air temperatures are between 75 and 100F. These same warm temperatures have weakened the growth of ryegrass and Poa trivialis, both of which prefer lower air temperatures between 60 and 75F. When average temperatures climb to above 80F, ryegrass and Poa trivialis take a big dive. The survival of these cool-season turf types is further compromised by the fact that bermudagrass growth escalates rapidly at these temperatures, crowding out the weaker rye and Poa triv stands.

How does the warm September and October of 2003 compare to previous years in terms of overseed temperatures? Warning: don't read any further unless you are willing to hear an unpleasant answer. Because when we looked at weather data from the last six years (from Cathedral City, CA, weather station 118 of the California Irrigation Management Information System), the fall of 2003 has been warmer, and therefore less conducive to rye/Poa triv growth than any other year from 1998 on.

To help illustrate the effect of weather on overseeding, we developed the concept of **turf growth potential**, which takes into account the optimal temperatures for growth of each turf species and compares it against the actual temperatures. When temperatures are either too high or too low for a given species of turf, the growth potential values will decline. In other words, the higher the growth potential, the better the turf is growing.

In Figure 1 below, we have plotted the accumulated growth potential of ryegrass and Poa trivialis from September 1 through October 19, for each of the past six years.

There are a few important things to note in this graph:

1. The lowest accumulated growth potential for ryegrass occurred in 2003. Other years with poor ryegrass growth potential were 1999 and 2001. This low growth potential is due to temperatures that are too high for optimum growth of ryegrass and Poa trivialis. As a result, we would expect to see poorer establishment of ryegrass and/or Poa trivialis in these years, and particularly in 2003.
2. Years with higher accumulated growth potentials for cool-season turf included 1998, 2000 and to a lesser extent, 2002. We would expect to see good establishment of the overseed in these years.
3. The "make or break" time period for determining a poor vs. a good overseeding year seems to occur after the 3rd week of September. Note that until this point, the cool-season turf growth potential was similar in most years. But starting in late September, the differences start showing up. It is at this point that the

accumulated growth potential either zooms up (as it did in 1998, 2000 2002), or stagnates, leading to a poor overseed (as it did in 1999, 2001 and 2003). That late September stagnation has in the past spelled trouble for the remainder of the season – the accumulated growth potential just never caught up to the levels it had in years with good overseeding.

This sounds fairly gloomy, but it is better to know what to expect than to be surprised. Knowing that rye and Poa trivialis may be struggling with heat and with bermudagrass competition can allow you to address the problem proactively by:

- Monitor average air temperatures closely, and be prepared to re-seed when average air temps start dipping below 80F.
- Keep an eye out for diseases. Pythium is a warm weather disease that has caused problems in the past in the Valley. In addition, gray leaf spot, which recently caused an epidemic on ryegrass for the first time ever in California (primarily along the coastal strip, but as close to the Desert as Beaumont) is a potential danger. If you suspect a disease, contact Dr. Frank Wong of the University of California (909- 315-0101) as soon as possible.
- Make your membership, management and/or greens committee aware of the unusual and difficult situation, and manage their expectations regarding the success of the overseed.

Figure 1. Accumulated Rye and Poa trivialis Growth Potential. Note that 2003 has had the poorest fall weather for rye or Poa trivialis growth, and therefore the poorest weather for a successful overseed. Other years with poor overseeding weather were 1999 and 2001.

