

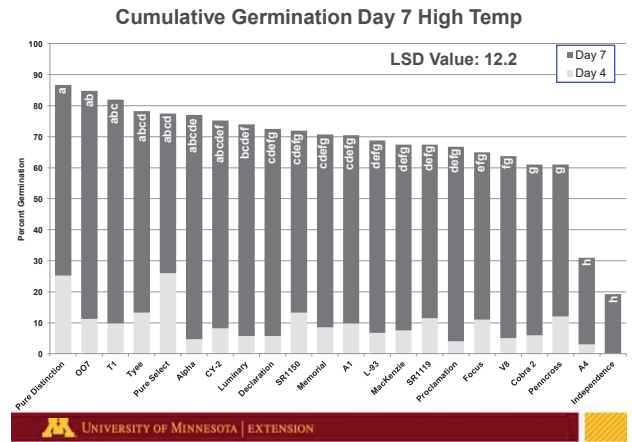
BENTGRASS INTERSEEDING & CONVERSION - IT DOES WORK!

The introduction of new creeping bentgrass cultivars with superior genetics into stands of annual bluegrass, perennial ryegrass or creeping bentgrass can reduce costs and increase golfer satisfaction. Lower inputs and less fear of turfgrass loss from cold or heat make conversion a long term solution. Superior disease resistance, higher density, improved cool temperature growth with drought and heat tolerance make these cultivars long term solutions.

KEY CONCEPTS

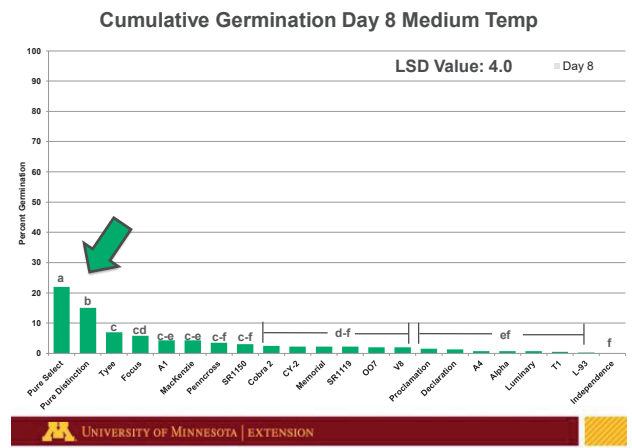
- Bentgrass seedlings are very small and initially weak. Varieties such as: Mackenzie, Focus, Futura Pro, Futura Fairway, and MacDonald (DLPS-AP/3018) have been selected for greater seedling vigor and faster tillering to increase your chances of success.
- In competition for resources including light, water and nutrients an established plant has an advantage over seedlings.
- Creeping bentgrass germination is favored by warmer soil temperatures (above 71 degrees F or 22 degrees C) (See Figures 1 and 2 from University of Minnesota, Horgan, Bauer and Cavanaugh 2015). Timing the overseeding to correspond with favorable growing conditions in summer or early fall increases your chance of success.
- Poa annua* germination primarily occurs in the fall when temperatures are below 68 degrees F (20 degrees C) see Figure 3 (Kaminski and Dernoeden, 2007) and in Pennsylvania this corresponds to most germination in a 2 week period between late September and mid-October.
- Existing plants must be weakened to give seed or holes created to give young seedlings a chance.

FIGURE 1 - BENTGRASS SEEDLINGS



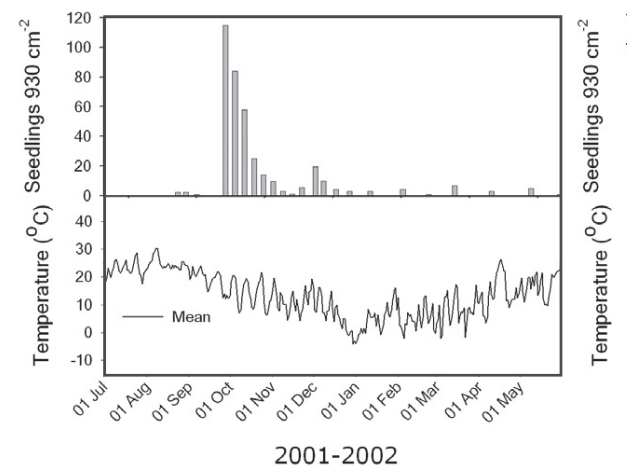
Poa annua not germinating
High Temp = 21.7 Degrees C (71 degrees F)

FIGURE 2 - BENTGRASS SEEDLINGS



Poa annua germinating rapidly
Medium Temp = 16.1 Degrees C (61 degrees F)

FIGURE 3 - POA ANNUA SEEDLINGS



Temps Below 20 Dearees C (68 dearees F)