

## Do Mutations Occur with the Ultradwarf Bermudagrasses?

*By Patrick O'Brien and Christopher Hartwiger, USGA Green Section SE Region Agronomists*

Mutation issues occurred frequently on older hybrid Tifgreen and Tifdwarf bermudagrass putting greens. Mutations are genetic alterations caused by ultra violet radiation from the sun and these off type plants caused a deterioration of the putting surfaces over time. Ultradwarf bermudagrasses that include Champion, TifEagle, and Mini Verde, have now been planted at hundreds of golf courses in the southern US since the late 1990's and so far it appears that these varieties are not producing off type patches like Tifdwarf or Tifgreen. So far, there have been a few cases where the older bermudagrasses have survived from the previous green and very few instances of contamination from the producer, quite an achievement after hundreds of plantings.

According to Dr. Earl Elsner, retired Director of the Georgia Seed Development Commission, now a consultant who advises producers and superintendents on turfgrass production and genetics, "mutant off type plants do occur in the ultradwarf production fields." "These mutants are usually, but not always, tennis ball to basketball size patches and they can survive in the production fields."

Ultradwarf sod producers are well aware of this fact. Sod producers have done a great job so far of roguing their fields to maintain ultra dwarf genetic purity for the customers. The other key has been careful examination of the fields by certification



Comparison of ultradwarf stolon (left) to moderately aggressive mutant stolon (right) from an ultradwarf production nursery. (Photo courtesy of Dr. Earl Elsner).



Stoloniferous mutant in ultradwarf nursery. (Photo courtesy of Dr. Elsner).

agencies. Both these mechanisms have kept a low frequency of contamination issues at ultra dwarf putting greens.

Ultradwarf putting greens have a great track record of producing excellent putting surfaces without any deterioration due to mutations. Ultradwarf producers have done a very good job on their end maintaining genetic purity so far. Hopefully the next 10 years of the ultradwarfs will be as successful as the first 10 years.

Source: Patrick O'Brien 770-229-8125 or [patobrien@usga.org](mailto:patobrien@usga.org) and Chris Hartwiger 205-444-5079 or [chartwiger@usga.org](mailto:chartwiger@usga.org)