BY RON HALL / SENIOR EDITOR

Turf's brave new world

Turfgrasses resistant to the herbicide Roundup (a.i. glyphosate) should be in the marketplace within the next five years, says Dr. Virgil Meier of The Scotts Company.

In fact, seeds for glyphosate-resistant bentgrass may be available by the fall of 2003. The most optimistic forecast is for transgenic Kentucky bluegrass to be available in 2004, and genetically modified St. Augustinegrass not too many years later, said Meier at The Ohio Turfgrass Conference this past December.

All the pieces seem to be in place for these first transgenic turfgrasses to become reality. Researchers/cooperators have been assessing them for several years, and Scotts awaits approval from government agencies such as USDA's Animal Plant Health Inspection Service (APHIS) so that it can begin its commercial production. (Scotts, so far, is the only company to have stated that it has specific plans for genetically modified turfgrasses.)

These plants will contain the same gene that imparts glyphosate resistance to crops like corn and soybeans. The Monsanto Company, which also manufactures and markets Roundup, one of the most widely used herbicides in the world, owns that gene.

Meanwhile, researchers search for genes that can be inserted into turfgrass plants to make them resistant to insects, diseases or drought. Development of turfs with these genes, however, is at least a decade away — probably more — and turfgrass breeders, relying on the traditional selection process, will almost certainly make great strides in these directions, too.

Even so, prepare for the coming of glyphosate-resistant turfgrasses. They offer exciting benefits for turfgrass professionals, but also huge management challenges for landscape and lawn care managers. First, let's take a look at their potential benefits.

What good are they?

Because the first releases of genetically altered turfgrass will not be harmed by glyphosate, you can apply the herbicide to turf to control grassy and broadleaf weeds on the property. It's likely you won't need to put down a pre-emergent. You wait for weeds to appear before you make an application, and you treat only where weeds are present.

Over time, weeds may become resistant to Roundup, admitted Meier. If or when that happens, though, other herbicides can be used to control them.

Of more immediate concern is the management challenge that Roundup-resistant turf will pose to turf managers. Consider the case of a lawn care professional who has customers with both glyphosate-resistant properties and others with lawns of "traditional" turfgrass.

Imagine the damage resulting to customers' properties should a spray technician misread the route sheet and treat the wrong properties with glyphosate.

Imagine the complexity of treating properties of both glyphosate and insect-resistant turfs. Or disease and insect-resistant turfgrasses? Or any other combination of improved transgenic turfs that may be developed. The task of properly treating each individual property could become a nightmare.

"It's going to take a lot more recordkeeping and a lot better communications with your customers," said Meiers of the arrival of transgenic turf.

Transgenic turf's promise and challenge may seem to be years away, and they probably are. But the years have a way of creeping up on all of us.

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Genetically modified turfgrasses will contain the same gene that imparts glyphosate resistance to crops like corn and soybeans.