Attack *Poa* on All Fronts. Then What?

BY KARL DANNEBERGER

THE KEY TO LONG-TERM CONTROL IS REALIZING WHY IT'S THERE IN THE FIRST PLACE

As much as an issue divides Republicans and Democrats, *Poa annua* divides those who try to manage it and those who try to kill it. For those trying to control it, straddling the issue may be the key.

Traditionally on warm-season turfgrasses such as bermudagrass, dinitroanilene herbicides have been used effectively for pre-emergence control of *Poa annua*, while the triazines and pronamide have been used for both pre- and postemergent control. Recently, a new class of herbicides — sulfonylurea — has been developed that is effective for *Poa annua* control on bermudagrass and other selected warm-season grasses.

Although sulfonylurea herbicides have been around since the late 1970s, the new products have high activity at low rates with extremely low environmental risk. It appears that sulfonylurea chemistry can be effectively altered to target specific weeds. The potential exists within this herbicide class for future product development.

For permanent cool-season turfgrasses such as creeping bentgrass, perennial ryegrass and Kentucky bluegrass, pre-emergent control of *Poa annua* has been marginal at best. Postemergent control for several years was limited to ethofumasate primarily used on perennial ryegrass fairways. A new herbicide, bispyribac-sodium, which is an ALS (acetolactate synthase) inhibitor similar to sulfonylurea, has come to the market showing effectiveness for controlling *Poa annua* in creeping bentgrass.

Although these new herbicides show great promise, potential variability in controlling *Poa annua* exists. One cause of variability may have to do with learning how to use them. Rate, timing, application methods and environmental conditions often influence efficacy.

However, the greatest variability in control is because of *Poa annua* itself. With repeated use of the dinitroanilines, triazines and pronamide, *Poa* resistance or tolerance has occurred. Also, a population shift from annual to more perennial species has occurred.

The effectiveness of new herbicide technology will be based on knowing why and what type of *Poa annua* is present. Globally, *Poa* is adapted to a range of climatic conditions. It is one of the most widely dispersed in the world, located on all seven continents. Regionally, *Poa* behaves primarily as a true annual. But a more perennial behavior occurs the farther you move into the northern United States and Canada.

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On a smaller scale, variability exists on golf courses. Studies have found that *Poa annua* varies considerably from greens, fairways and roughs on a single golf course in the temperate regions of the United States. Gene flow can occur among greens but is restricted among fairways. The potential for "blending" and "isolation" increases the potential for resistance or tolerance.

Poa annua is a formidable opponent. If every herbicide that was labeled for *Poa annua* control in the last 70 years worked, *Poa annua* would be on the endangered species list.

The key to long-term control is realizing why it's there in the first place. Management practices targeted for making conditions less favorable for *Poa annua* will in turn make herbicide applications more efficient and effective.

I'm reminded of when World War II Japanese leaders asked Admiral Yamamoto if he could destroy the U.S. Navy's Pacific fleet at Pearl Harbor. Yamamoto said he could and added he would be able to freely sail the Pacific Ocean for six to 12 months. But then what? Yamamoto's point was, after attacking and destroying the U.S. Navy, it would eventually come back and "do what we do."

After attacking your *Poa annua*, if you do not know why it was there in the first place, then what?

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