

***Poa annua* Control in Bentgrass Greens**

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Oregon State University Turf Field Day
September 16, 2011

A new herbicide from South Korea methiozolin [aka, MRC-01, PoaCure, or (5-(2,6-difluorobenzyl) oxymethyl-5-methyl-3-(3-methylthiophen-2-yl)-1,2-isoxazoline)] is currently being tested in eastern Washington for the selective control of *Poa annua* in bentgrass golf greens. This relatively new herbicide was initially used for weed control in rice. Methiozolin was registered in 2010 in South Korea for *Poa annua* control in creeping bentgrass greens and perennial ryegrass and Kentucky bluegrass fairways. Mohgu Research Center Ltd, S. Korea, is presently trying to register the product in Japan and the USA.

The mode of action is an inhibition of cell wall biosynthesis. Methiozolin has been shown to have control of both bio-types of *Poa annua*; *Poa annua* f. *annua* and *Poa annua* f. *reptans* (personal communication with Harold Walker, Auburn Univ., 2011) in creeping bentgrass golf greens and has shown excellent bentgrass tolerance.

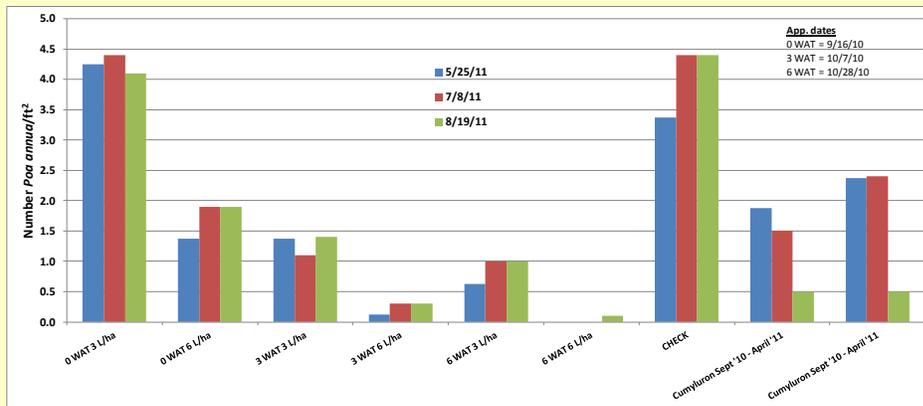
In the fall 2010, two studies were initiated at Palouse Ridge Golf Club, Pullman, WA and at the Chewelah Golf and Country Club, Chewelah, WA. The PRGC site was a USGA green with 'T-1' bentgrass. The CGCC site is a sand-based nursery green of an unknown bentgrass cultivar (probably 'Penncross'). *Poa annua* infestation was 2 to 3 % and 25 to 30 % at PRGC and CGCC, respectively.

Individual treatment plots (experimental units) were 6 x 7 ft with three replications in a randomized complete-block experimental design. At PRGC, single applications were applied at 3 or 6 L/ha on 9/16/10, 10/7/10, or 10/28/10. At CGCC, single and multiple applications were applied at 3 or 6 L/ha on 9/17, 10/8/10, and/or 10/29/10. Treatments were applied at 80 GPA with a bicycle-wheeled CO₂ pressurized (40 psi) sprayer with 11008 flat fan TeeJet nozzles. *Poa annua* plants per sq ft were counted on 5/25/11, 7/8/11, and 8/19/11 at PRGC. Visual rating of percentage of *Poa annua* present in the plots was rated initially on 9/17/10 and again on 5/23/11, 7/1/11, and 9/2/11 at CGCC and expressed as % change. At CGCC, phytotoxicity and injury was evaluated 5/23/11. A second herbicide, cumyluron, was also evaluated at both sites; however, this product is no longer being considered for registration in turf.

At Palouse Ridge Golf Club (Fig. 1) where single applications of methiozolin were applied, the most effective treatment was 6 L/ha applied on 10/28/10. *Poa annua* was essentially reduced to zero by the spring and summer of 2011.

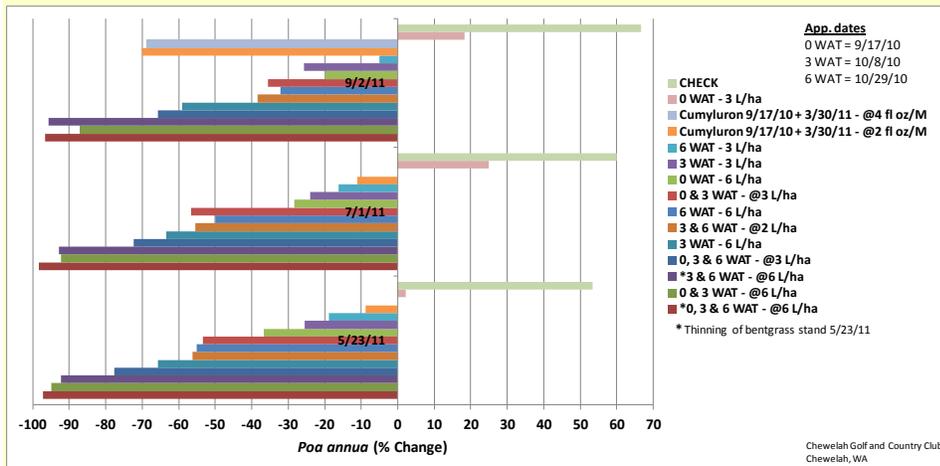
At Chewelah Golf and Country Club (Fig. 2) where both single and multiple applications of methiozolin were made, there was approximately a 90% reduction in *Poa annua* with multiple applications of methiozolin at 6 L/ha. The late fall applications at 6 L/ha did show slight phytotoxicity and thinning of the bentgrass, however, the green quickly recovered. The early fall applications (9/17/10 and 10/8/10) gave essentially 90% *Poa annua* control the following spring and summer with no noticeable bentgrass injury.

Several additional studies are planned for fall 2011 (Chewelah Golf and Country Club, Palouse Ridge Golf Club, and Colfax Golf Club) as well as spring 2012 applications of methiozolin at several additional sites. Greenhouse studies are also planned for 2011-2012 to determine seedling tolerance, effect of wetting agents, etc.



Palouse Ridge Golf Club # 9 green
 Single applications: Sept. 16, Oct. 7, or Oct. 28, 2010
Poa annua counts (#/sq ft): May 25, July 8, and Aug. 19, 2011

Fig. 1. Palouse Ridge Golf Club, Pullman, WA.



Chewelah Golf and Country Club
 Single and multiple apps.: Sept.17, Oct. 8, and Oct. 29, 2010
 Rating (% change): May 23, July 1, and Sept. 2, 2011

Fig. 2. Chewelah Golf and Country Club, Chewelah, WA.