

Investigation of Suspected Dollar-Spot Resistance to a New Fungicide

David Gilstrap and J.M. Vargas, Jr.

Department of Crop and Soil Sciences, and Plant Pathology

Dimoxystrobin (BAS 505) is a new fungicide that belongs to the Qo1 (strobilurin) class that includes azoxystrobin (Syngenta's Heritage™), trifloxystrobin (Bayer's Compass™), and pyraclostrobin, BASF's soon-to-be released Insignia™. Dimoxystrobin's manufacturer, also BASF, has trade named it Honor and projects EPA registration in 2005 or 2006. It is to be the first Qo1 labeled for dollar spot, and there have been no prior reports of suspected resistance to the fungicide.

Isolates of the dollar-spot pathogen (*Sclerotinia homoeocarpa* or *Rutstroemia floccosum*) were collected during a DMI-resistance study concluded in 1998, grown in culture, analyzed for DMI resistance, and preserved. In February 2002, ten of these isolates were challenged with dimoxystrobin, and three appeared to be resistant. The fungicide was first tested in other areas here at the Hancock Turf Research Center in 2001, three years after the isolates were collected.

Beginning in July 2002, four applications of Honor (50WG) at the label rate of 0.2 oz per 1,000 sq ft (M) at 21-day intervals were applied to the area where the suspects were discovered. The fungicide had not been previously applied to the area. Dollar-spot damage became increasingly severe. In September, isolates were collected and stored for future lab analyses.

In this experiment, Honor was applied at the same rate and intervals as above; Daconil Ultrex was applied at 1.3 oz per M on 7-day intervals, plus an untreated control. All treatments were replicated three times. The plot area is annual bluegrass maintained as a golf-course fairway. Treatments began on June 25; some dollar-spot damage was evident and the area was fertilized with 0.5 pounds of nitrogen per M. As of July 9, disease activity appeared to have temporarily subsided on all treatments.