Registration of ORARHR-G93 and ORARHR-M93 Italian Ryegrass Germplasm with Tolerance to Diclofop-Methyl

Two Italian ryegrass (Lolium multiflorum Lam.) germplasms, ORARHR-G93 (Reg. no. GP-72, PI 593742) and ORARHR-M93 (Reg. no. GP-73, PI 593743), with high levels of tolerance to diclofop-methyl \((\pm)-2-[4-(2,4\text{-dichlorophenoxy})\text{phenoxy}]\text{propanoic acid}\) were developed at the USDA-ARS National Forage Seed Production Research Center in cooperation with Oregon State University. The two germplasms were developed through a backcross selection program to obtain near-isofrequent populations of genes conditioning all other traits. Diclofop is an aryloxyphenoxypropionate, a class of herbicides developed to control grasses and broadleaf crops and some cereals. These germplasms will be useful for further breeding and for studies on development of herbicide tolerance in grasses. The germplasms were released on 25 Mar. 1996 by the USDA-ARS and the Oregon, Idaho, and Washington Agricultural Experiment Stations.

ORARHR-G93 and ORARHR-M93 were developed from plants collected in Italian ryegrass populations surviving several treatments of diclofop-methyl in two commercial wheat (Triticum aestivum L.) fields grown near Salem, OR. Open-pollinated seed was harvested from 20 individual plants originating along diagonal transects in one field and from a composite seed sample from the other field. Commercial certified seed of ‘Gulf’ (1) and ‘Marshall’ (2) were obtained and used as recurrent maternal parents. Inheritance of tolerance to diclofop at recommended field application rates is conditioned by two incompletely dominant complementary genes (3).

References and Notes