

EFFICACY OF ORIENTAL MUSTARD (*Brassica juncea* L. Czern.) SEED MEAL FOR WEED AND DISEASE CONTROL IN TURF

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ABSTRACT

Pest management in turf involves the use of fumigants such as methyl bromide, as well as selective pesticides. However, the loss of methyl bromide and development of disease resistance to fungicides suggests that more integrated practices are needed. Residual material from the extraction of oils of oriental mustard seed may provide an integrated approach. Research was conducted comparing the effects of MSM to dazomet on the germination of different weeds and turfgrasses. Comparisons were also conducted with MSM to iprodione to determine effectiveness for control of dollar spot. Finally, plant-back intervals with cool-season turfgrasses were identified following applications of MSM. Results indicate that plant counts and plant biomass were reduced from 19 to 81% and 10 to 99% for all weed and turfgrass species tested in both field and greenhouse experiments, respectively. Rates of MSM < 840 kg/ha reduced dollar spot counts from 50 to 74% compared to the untreated control and also increased overall turfgrass quality and color over time. Reductions in plant counts and biomass were observed for all cool-season turfgrasses tested when planted the same day following MSM applications. Tall fescue and perennial ryegrass were least sensitive to oriental mustard seed meal with no phytotoxic affects present when seeded 7 days after application of oriental mustard seed meal. From these results, MSM suppresses a number of weed and turfgrass species as well as dollar spot as rates of MSM increases. However more research is needed to determine effective MSM rates/ plant-back intervals.