

REPLACEMENTS FOR METHYL BROMIDE IN A CENTIPEDEGRASS-BASED SOD ROTATION SYSTEM

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Experiments were initiated spring 2006 and 2007 at Tallassee and Fairhope, Alabama as part of a CSREES funded methyl bromide transition grants research. Weeds and nematodes are troublesome pests in sod production. Herbicides registered for use in centipede grass have greater potential to improve weed control especially bermudagrass compared to herbicides registered in other warm-season turfs. After harvesting centipede grass, other warm-season sods can be planted in rotation. Treatments in 2006 were: methyl bromide 98/2 (MeBr) at 400 lb ai/A; Basamid 400 lb ai/A without tarp; tillage + herbicides; velvetbean rotation (Rodriguez-Kabana et al.). Same treatments plus Eptam (EPTC), and Basamid + Eptam were evaluated in 2007. Centipede grass was seeded at 12 and 24 lb live seed/acre within each treatment. All plots received two applications of Roundup Pro (glyphosate) + Fusilade DX (fluazifop) and mold board plowing prior to receiving above treatments.

2006 Tallassee: Tillage + herbicides and velvetbean rotation proved to be ineffective systems due to lack of weed control. Even with judicious use of herbicides, quality sod has not been produced. MeBr and Basamid provided good but incomplete control of common bermudagrass and yellow nutsedge. Crabgrass infestation was a major problem with MeBr treatment while crabgrass, goosegrass, pigweed and pink purslane were major problems with the Basamid treatment. The higher seeding rate increased centipede grass ground cover and reduced weed competition from annual weed species. Tenacity (mesotrione) herbicide was not a useful scouting tool to help identify bermudagrass (whitening from chlorophyll destruction) infestation when other weeds were present. However, Tenacity + AAtrex (atrazine) combination was an excellent tool for control of annual weed species in centipede grass.

2007 Fairhope: Eptam has been shown to provide control of common bermudagrass, nutsedge species and several annual weed species. This along with a short soil half-life increases its potential for use in sod production. At Fairhope, Eptam alone provided better weed control than MeBr and Basamid and produced equivalent centipede grass ground cover. Eptam + Basamid provided near complete weed control but centipede grass ground cover was delayed.

2007 Tallassee: Compared to MeBr, Basamid + Eptam provided superior weed control and equivalent centipede grass ground cover. Eptam and Basamid alone were not as efficacious as MeBr or Basamid + Eptam. Again, the higher seeding rate increased ground cover and reduced weed infestation.

Conclusion: Basamid + Eptam showed good potential as a replacement for MeBr. The addition of Eptam adds approximately \$40 chemical costs/A and an additional application and tillage operation since separate applications are required. Eptam may add 1 to 2 weeks additional planting delay over Basamid alone (2 to 3 weeks). In this research, Basamid was used at a rate of 400 lb ai/A. Research is needed to determine if the rate can be reduced when combined with Eptam. Following Roundup Pro and tillage, Eptam alone may prove acceptable for many producers. A potential problem with continuous use of dithio- (dazomet) and thio- (EPTC) carbamate pesticides is accelerated microbial degradation (Pietro Di Primo et al., Tal et al.) However, sod fields would rarely be treated on an annual cycle.

References:

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