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## Monosodium Methanearsonate Influence on Broadleaf Weed Control with Selected Postemergence-Directed Cotton Herbicides

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Postemergence-directed herbicides are often applied with monosodium methanearsonate (MSMA) to increase control of emerged broadleaf weeds, grasses, and sedges in cotton (*Gossypium hirsutum* L.). Improved efficacy by MSMA is species and herbicide dependent, although this subject has not been fully investigated. Field experiments were conducted in Arkansas from 1989 through 1991 to determine the effect of MSMA on efficacy of cyanazine {2-[[4-chloro-6-(ethylamino)-1,3,5-triazin-2-yl]amino]-2-methylpropanenitrile}, diuron [*N*-(3,4-dichlorophenyl)-*N,N*-dimethylurea], fluometuron {*N,N*-dimethyl-*N*'-[3-(trifluoromethyl)phenyl]urea}, lactofen {(±)-2-ethoxy-1-methyl-2-oxoethyl 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoate}, and oxyfluorfen [2-chloro-1-(3-ethoxy-4-nitrophenoxy)-4-(trifluoromethyl)benzene] applied to emerged broadleaf weeds. Cyanazine and MSMA were the most effective individual herbicides for controlling entireleaf morningglory (*Ipomoea hederacea* var. *integriuscula* Gray) and tall morningglory (*I. purpurea* L.). Cyanazine and lactofen controlled palmleaf morningglory (*I. wrightii* Gray) and pitted morningglory (*I. lacunosa* L.) more effectively than the other herbicides. Mixing herbicides with MSMA improved control of all morningglory species; however, MSMA did not improve hemp sesbania [*Sesbania exaltata* (Raf.) Rybd. ex A. W. Hill] or velvetleaf (*Abutilon theophrasti* Medikus) control. Oxyfluorfen, lactofen, and cyanazine were the most effective herbicides on hemp sesbania and velvetleaf. The MSMA was needed for acceptable sicklepod [*Senna obtusifolia* (L.) Irwin and Barneby] control.