MORNINGGLORY CONTROL WITH STAPLE AND BUCTRIL APPLIED IN A LOW VOLUME SPRAY

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Abstract

Field experiments were conducted in 1994 and 1995 at E.V. Smith Research Center, Tallassee, Alabama, to determine if a low-volume air-assist spray system provides comparable weed control to a conventional hydraulic fan (Spraying Systems Co., model 11003VS) spraying system and to determine if herbicide rates could be reduced when using the low-volume spraying systems. Herbicide treatments included pyrithiobac at 0.035 and 0.071 kg ai ha^{-1} and bromoxynil at 0.56 and 1.12 kg ai ha^{-1}, applied alone and in combinations with DSMA at 1.68 kg ai ha^{-1}, MSMA at 1.68 kg ai ha^{-1}, and clethodim at 0.105 kg ai ha^{-1}. Spraying systems were calibrated to deliver 26.2L ha^{-1} and 140.3L ha^{-1} for the low-volume and conventional systems, respectively. Weeds evaluated were *Ipomoea* morningglory (50/50 mixture of *I. lacunosa* var. *integruiscula* and *I. hederacea*) and smallflower morningglory (*Jacquemontia tamnifolia*).

Overall, no significant differences were detected between low-volume and conventional spray systems when herbicides were applied at the x rate. However, when applied at the 1/2x rates, morningglory control was significantly reduced for all spraying systems. Bromoxynil alone generally controlled morningglory better than pyrithiobac alone regardless of rate and application method. However, pyrithiobac generally provided better control of smallflower morningglory than bromoxynil. Adding MSMA or DSMA to bromoxynil and pyrithiobac increased control of both weed species.

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