

PRE-EMERGENCE WEED CONTROL WITH VEGETABLE CROPS IN EASTERN WASHINGTON

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Chemical weed control has been an important part of our company agricultural research program since 1945. The concept of pre-emergence herbicides has developed to become an accepted practice in many vegetable crops since about 1950. Our research evaluations have necessarily included both post and pre-emergence herbicides. This paper will be confined to our experiences with the pre-emergence materials.

Pre-emergence weed control research has been conducted on asparagus, sweet corn, snap beans, and green peas during the past eleven years. The following summary lists the most promising chemicals tested and the resulting recommendations for individual crops.

Asparagus (producing beds) - chemicals tested have been diuron, monuron, amiben, CDAA, and simazine for annual grass and broadleaf weed control. Monuron and simazine applied in late fall or early spring at approved rates are recommended.

Snap beans - chemicals tested include dinitro amine and EPTC. Dinitro amine is a surface active compound with the greatest activity on broadleafed weed species; whereas EPTC requires soil incorporation, and has greater activity on grass weed species. Both chemicals are recommended at approved rates for their best adapted use.

Sweet corn - chemicals tested include atrazine, simazine, EPTC, lorox, and R-1910. Atrazine and simazine have both given satisfactory weed control when surface moisture after planting was adequate to maintain activity of the chemical. Light surface incorporation helps enhance this activity. The soil residual of these chemicals is a hazard to succeeding susceptible crops. Lorox has greater post-emergence activity on both grass and broadleaved species than as a pre-emergence treatment. R-1910 in preliminary trials in 1963 looks very promising. No recommendations for pre-emergence applications at this time.

Green peas for processing - chemicals tested for wild oat control include the following: IPC, avadex, and avadex BW. These three are currently recommended for wild oat control in peas. Our results however, favor the avadex applied as a soil incorporated pre-plant application. Other herbicides evaluated for pre-emergence activity on broadleaf weed species were dinitro amine, amiben, trietazine, sodium PCP, R-4572, CDAA, atrazine, simazine, and others. None of these have given consistent enough results to warrant a recommendation. Broadleaf weed control for peas is still dependent on approved post-emergence treatments. (Green Giant Co., Dayton, Washington).