Fall Application of Herbicides for Common Broomweed Control

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Highlight: *Common broomweed periodically infests large acreages of Texas rangeland. Spring applications of 1 lb of 2,4-D per acre is currently recommended for control. Fall (1972) applications of either 2,4,5-T low volatile ester, 2,4,5-T amine, or Tordon 225 Mixture applied to individual stumps of shredded honey mesquite trees concomitantly controlled common broomweed infestations during 1973.*

Common broomweed (*Xanthocephalum dracunculoides*) often infests large acreages of rangeland in Texas. Though not poisonous, it utilizes much of the available soil moisture early in the spring when more desirable plants begin growth. Common broomweed prevails on the High and Rolling Plains, although local infestations occur throughout Texas. It usually occurs during the spring following a fall characterized by abundant precipitation.

Common broomweed is relatively easy to control with spring applications of 2,4-D (2,4-Dichlorophenoxyacetic acid) low volatile ester or amine (Hoffman,

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Fig. 1. Infestation of common broomweed on the study area in the fall, 1973.

1970; Fisher et al., 1972). The phenological development and chemical control of common broomweed has been reported by Scifres et al. (1971). They found that the broomweed was easily controlled with spring applications of phenoxy herbicides, dicamba (3,6-dichloro-o-anisic acid) and picloram (4-amino-3,5,6-trichloropicolinic acid) applied alone and in combination with the phenoxy herbicides. Currently, the recommendations for control are to spray when the plants are 4 to 6 inches tall (before they bloom) with 1 lb of 2,4-D per acre. The recommended volume of spray varies according to the application technique (e.g., boom-type sprayer vs airplane). However, Fisher et al. (1972) reported excellent control when young plants

were sprayed with 0.5 lb of 2,4-D applied in volumes of solution ranging from 1 pint to 4 gal/acre. Although we had not set out to study the control of common broomweed, we observed some interesting results obtained simultaneously with chemical control of shredded honey mesquite (*Prosopis glandulosa* var. *glandulosa*).

Experimental Procedures

This study was conducted 7 miles south of Quanah, Tex., in the Rolling Plains region. The site was transitional between deep hardland and shallow clay characterized by clay to clay loam soils of the Tillman-Vernon series (Lofton et al., 1972). The soil is deep to shallow with a surface layer of clay loam. It is slowly to moderately permeable in the lower layers. The topography is nearly level to gently