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## **Current research reported by various states and agencies**

### **MONTANA**

- A. Sherry Turner is currently in Fredrick, Maryland screening pathogens for use on leafy spurge. Verticle and horizontal screenings are being made of 55 pathogens of *Euphorbia* sp. The pathogens were collected in Europe and most are rust fungi.
- B. In an effort to induce root rot pathogens into leafy spurge, a “spurge-puller” is used to extract 1 to 3 in. of root material from the soil. Afterwards a root rot pathogen is sprayed onto the soil.
- C. Various herbicides and herbicide combinations are being evaluated for leafy spurge control.
- D. Several studies are being conducted to evaluate the value of sheep for leafy spurge control. The ability of leafy spurge seed to germinate after being digested and the effect of lamb maturation when ewes are grazed on leafy spurge are being studied.
- E. The effect of fertilizer application on root carbohydrate levels is being evaluated.

### **NEBRASKA**

- A. Previous field applications of picloram in combination with chlorflurenol and mefluidide will be further evaluated. Treatments include tank mixes, sequential and rope wick applications.
- B. The effect of applying nitrogen fertilizers before treating leafy spurge with herbicides will be evaluated. The fertilizer has been fall applied and the herbicide treatments will be applied in the spring.
- C. The effect of chlorflurenol and mefluidide on leafy spurge physiology is being studied in the greenhouse. Also the effect of nitrogen on inducing underground bud break is being studied.

### **NORTH DAKOTA**

- A. Evaluation of picloram translocation alone and when applied with 2,4-D in leafy spurge. The study includes translocation of the herbicide from parent to daughter plants connected by root tissues growing in nutrient solution as well as translocation in mature plants grown in root boxes.

- B. Various growth regulators are being evaluated for their ability to cause bud break and/or increase herbicide translocation in leafy spurge.
- C. Competition studies are being conducted to evaluate the ability of sweetclover to compete with leafy spurge previously treated with herbicides or mowed.
- D. Soil bioassays are being conducted to monitor the picloram residue in leafy spurge plot areas. Treatments include picloram applied broadcast at various rates and dates and roller application using various solution concentrations, roller heights and dates of treatment.
- E. The ability of leafy spurge buds to begin growth from root segments taken from various depths is being evaluated.

## **WYOMING**

- A. Monitoring of repetitive herbicide treatments at four Wyoming locations will be continued.
- B. Evaluations will be made on the effect of DPX-4189 plus crop oil on leafy spurge.
- C. Evaluation of light rates of dicamba as original and retreatments for leafy spurge will be made.
- D. The effect of leafy spurge control on forage production and range utilization will be evaluated.
- E. Soil residues of various rates of dicamba and picloram will be monitored.
- F. Histological effects on leafy spurge tissue by soil application of picloram and dicamba will be studied.
- G. Various growth regulators are being screened for their effect on leafy spurge.