Toothed Spurge – A Weed on the Increase

Robert Wilson

9/28/2011

My first encounter with toothed spurge occurred in 1985 when I observed the weed growing in a sugarbeet field near Mitchell, Nebraska. Over the years, the weed became a permanent resident on the farm and has been a part of the weed flora when fields have been planted with corn, dry beans, onions, potatoes and sugarbeets. Over the last 10 years the novelty of the weed has increased to the extent that growers in western Nebraska now ask about the weed and how to control it.

Before discussing control, a bit of background about toothed spurge maybe beneficial. The scientific name for toothed spurge is Euphorbia dentata and the plant is native to the eastern US and Mexico. Another common name for the plant is wild poinsettia. The plant is classified in the spurge family which includes leafy spurge (a noxious weed in rangeland), spotted spurge (a troublesome weed in turf), and cushion spurge (a flower garden spring perennial). Toothed spurge is considered a summer annual and reproduces by producing seeds which germinate in the spring. As the name suggests, the leaves of the plant are shaped like a lance, have toothed margins and all plant parts contain a milky sap that becomes evident when leaves or stems are broken. In this area, toothed spurge can attain a height of 2 to 3 feet, is more prevalent in spring planted crops but can also be found growing in range, pasture, and along roadsides. Toothed spurge seeds are borne in a 3 lobed capsule, seeds are oval in shape, dark brown to black in color, approximately 1/8 inch long and can remain viable in the soil for a number of years. Seeds are an important food for birds, especially morning doves which may help with the spread of the weed.

Compared to many of the weeds found in western Nebraska, toothed spurge is small in stature compared to sunflowers, kochia, lambsquarters and pigweeds. The weed does have a distinct advantage compared to other weeds, it has a degree of tolerance to

glyphosate (Roundup). As the reliance on glyphosate as a weed control tool has increased, the presence of toothed spurge has increased. Glyphosate kills its neighbors and leaves a nitch for toothed spurge to flourish. Research has shown a single application of glyphosate in sugarbeet will only control 50 to 60% of the toothed spurge, two applications of glyphosate can increase control to 70 to 80%. A reliance on only glyphosate for weed control has allowed toothed spurge to increase. A second advantage for toothed spurge is that many of the non-glyphosate herbicides (Dual Magnum, Eptam, Norton, Outlook, Prowl, Sonalan and Warrant) provide limited toothed spurge control. Fortunately, there are herbicides utilized in western Nebraska that will provide effective toothed spurge control, and in Roundup Ready sugarbeets and corn, these herbicides can be utilized with glyphosate (Table 1). A successful toothed spurge program will take several years and will require controlling the weed in each crop in a cropping rotation. Research also suggests the weed declines with no-till cropping systems compared to preplant tillage before planting.

Table 1. Herbicides which provide toothed spurge control.

Crop	Herbicides
Corn	Atrazine, Basis Gold, Balance, Buctril, Status
Dry beans	Preplant incorporated Intrro, Pursuit + Basagran or Raptor + Basagran (moderate control), Valor (excellent control)
Sugarbeets	Betamix, UpBeet
Potatoes	Sencor, Valor