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## Picloram translocation from various parts of leafy spurge topgrowth

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Previous field work has shown the roller and wick applicators to be an effective method of applying picloram for leafy spurge control. These applicators apply much less herbicide than broadcast applications on a per acre basis, yet often result in similar leafy spurge control. The roller and wick applicators apply the herbicide directly to the plant and are adjusted to treat the top half of the leafy spurge plant. Conventional broadcast sprayers apply herbicide mostly to the adaxial side of leaves, while the roller and wick apply herbicide to the stem and abaxial side of the leaf as well. The purpose of this experiment was to evaluate the translocation of picloram in leafy spurge when applied as a single spot to the adaxial or abaxial leaf surface or to the stem of leafy spurge plants. Leafy spurge plants were grown for 4 months in 6-inch plastic pots. Then each plant received 135,628 dpm of  $^{14}\text{C}$ -picloram. After one week the plants were sectioned into treated area, foliage above treated area, foliage below treated area and roots. Sections were frozen and dried before combustion in a biological material oxidizer. There were 5 plants per treatment in a completely random design and data are shown in the table.

$^{14}\text{C}$ translocation	$^{14}\text{C}$ -picloram application		
	Leaf surface		stem
	adaxial	abaxial	
	( % of total $^{14}\text{C}$ applied )		
Above treated area	0.1	2.5	3.5
Below treated area	0.2	0.8	0.4
Roots	0.3	2.6	0.3
Treated area	15.0	8.7	13.7

Application of  $^{14}\text{C}$ -picloram to the abaxial surface of a leafy spurge leaf resulted in the greatest  $^{14}\text{C}$  movement to the root system. The greatest  $^{14}\text{C}$  movement to the top of the plant occurred when  $^{14}\text{C}$ -picloram was applied to the stem. The effectiveness of picloram applied with a wick or roller applicator to leafy spurge may be enhanced due to application of the herbicide to the abaxial surface of the leaf, thus increasing translocation to the root system.