Cut surface (top) and basal application of herbicides on high black walnut stumps. Geyer, Wayne A. The objective of this study was to test various herbicides in deadening the stumps of recently cut black walnut (Juglans nigra) trees. Immediate herbicide treatment is recommended, but often is not practical. The efficacy of applying five different chemicals at two heights on 18- inch high stumps was tested. Treatments were applied at the ground line or the cut surface top. Not treating the trees results in many undesirable stump sprouts, defeating the reason for cutting. Large, dormant trees were cut in early April and treated 90 days later with early sprouting on the stumps evident. Tree diameters were similar among treatments. The study is located five miles north of Manhattan, Kansas on an alluvial site just below Tuttle Creek Reservoir. The study was laid out in a randomized design with 10 single-tree replications for a total of 110 trees. The herbicides were applied with a common garden sprayer. Either the cut surface or the basal 3 inches of the trunk were sprayed to the point of runoff. Low volatile ester formulations were used at the following rates: dicamba + 2,4-D + dichoprop at 5%, 2,4-D+ triclopyr at 5%, imazapyr RTU at 3%, fluroxypyr at 10%, and triclopyr at 5%. After one and two growing seasons the total number of sprouts were recorded as well as for the upper and lower 1/2 of the stump. Data were analyzed by an analysis of variance test for treatment effects.

No sprouts were found with some treatments after the second growing season. Residual stump height after cutting affects the number of live sprouts (1); at two years the number was higher with high stumps height (75cm). We achieved nearly complete sprout control when the herbicide was sprayed at the base of the stump (Table). When applied to the top of the stump, all treatments except dicamba + 2,4-D + dichlorop at 5% and 2,4-D+ triclopyr at 5% gave very good sprout control. In conclusion all herbicides as tested in this study can be used to control sprouting on recently cut black walnut trees when applied at the tree base. A previous study using the same herbicides with Siberian elm gave similar results (2). When a tree is cut high at 18 inches above the ground, as compared to the usual lower cut at four inches, then selected herbicides may be used such as imazapyr, fluroxypyr, and triclopyr to control sprouting.

Literature cited.

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Table. Number of live stump sprouts by position after two years using five herbicides (Geyer).

Herbicide	Rate	Spray level	Diameter	Upper ½	Lower ½	Total	
	(% a.i.)		(Inches)	(# sprouts)	(# sprouts) [*/]	(# sprouts)	(% no sprouts)
Dicamba+ 2,4-D+	0.27+	Top	7.7a	0a	4.1a	4.1a	30
dichorprop @ 5%	1.62+	--	--	--	--	--	--
(Trimec)	1.59	--	--	--	--	--	--
		Base	6.6a	0a	0.4b	0.4b	80
2,4-D+ triclopyr @ 5%	1.72+	Top	8.2a	0a	1.0b	1.0b	50
(Cross bow)	0.725	--	--	--	--	--	--
		Base	7.6a	0a	1.0b	1.0b	70
Imazapyr RTU @ 3%	0.86	Top	7.4a	0a	0b	0b	100
(Chopper)		Base	7.1a	0a	0b	0b	100
Fluroxypyr @ 10%	2.62	Top	7.3a	0a	0.4b	0.4b	70
(Vista)		Base	7.5a	0a	0b	0b	100
Triclopyr @ 5%	3.0	Top	7.8a	0a	0.8b	0.8b	60
(Garlon 4)		Base	7.8a	0a	0b	0b	100
Control	--	--	6.9a	0a	3.8a	3.8a	30
Probability	--	--	0.618	0.446	.0001	.0001	--

[*/] Values in the same column followed by different letters are significant at $p \geq 0.05$.