

Yaupon Control Using Individual Plant Treatment

Methods Result Demonstration 2019

Background: Yaupon holly (*Ilex vomitoria*) is a common understory deciduous shrub/tree found throughout Polk County. Yaupon, when managed properly is an important plant as it provides mast for a variety of birds and small mammals. It is also an important browse plant for whitetail deer. However, when left unmanaged yaupon will quickly form thickets and choke out herbaceous understory growth. This causes negative impacts to wildlife such as decreasing plant diversity and available food. Prescribed fire, large forestry equipment, and broadcast spraying are important management options for yaupon control. However, for smaller landowners in Polk County this is not an option due to economics and feasibility. This trial demonstrates individual plant treatment methods to effectively control yaupon on a small scale. Triclopyr is the active ingredient in the herbicide used which can be purchased without an applicator's license making it accessible to the average landowner. Only equipment needed is a utv/4 wheeler, spray tank, and depending on the method chainsaw/lopper. To determine results a transect of 20 points was walked across each plot on two separate dates. The closest yaupon at each point was recorded to determine survival.

Study Size: 8 plots of similar size (approximately 12 X 50 ft.) and number of Yaupon in each.

Treatments:

1. Control
2. Basal Spray: Triclopyr 25% in diesel mix
 - 16 oz. in ½ gallon mix
3. Basal Spray: Triclopyr 15% in diesel mix
 - 9.6 oz. in ½ gallon mix
4. Mechanical: Top Removal Only
5. Cut Stump: Triclopyr 25% in diesel mix
 - 16 oz. in ½ gallon mix

6. Cut Stump: Triclopyr 15% in diesel mix
 - 9.6 oz. in ½ gallon mix
7. Foliar Spray: Triclopyr 5% of water mix
 - 12.8 oz. in 2 gallon mix
8. Foliar Spray: Triclopyr 10% of water mix
 - 25.6 oz in 2 gallon water mix

Timeline:

1. Treatment May 1st
2. Mortality Survey July 15th
3. Mortality Survey November 4th
4. Field Day & Result Demonstration November 8th

Results: All treatments except for mechanical top removal only showed 85% mortality during both transect dates. Due to nearly 100% survival mechanical top removal only is an ineffective method to control yaupon. Basal spray method is the least effective of the three herbicide treatment methods. This is likely due to every single basal stem needing to be sprayed to achieve mortality which is extremely difficult in a dense yaupon thicket. Cut stump and foliar spray methods both had 90% mortality or higher. Cut stump 25% triclopyr treatment had 100% mortality compared to cut stump 15% triclopyr treatment which had 90% mortality. The difference between the triclopyr % in the foliar spray treatment methods appears to be negligible. It should be noted drift was an issue in the foliar spray methods and nearly all broadleaf plants had herbicide damage in the plots. Drift was not an issue in the basal spray or cut stump treatment plots. Grass and mature pine trees were not effected by the herbicide treatments.

<i>Transect results July 15th</i>								
<i>Treatment</i>								
	1	2	3	4	5	6	7	8
1	A	A	x	A	X	A	X	X
2	A	A	x	A	X	A	X	X
2	A	A	x	A	X	X	X	X
4	A	x	x	A	X	X	X	X
5	A	x	x	A	X	X	X	X
6	A	x	x	A	X	X	X	X
7	A	x	x	A	X	X	X	X
8	A	x	x	A	X	X	X	X
9	A	x	x	A	X	X	X	X
10	A	x	x	A	X	X	X	X
11	A	x	x	A	X	X	X	X
12	A	x	x	A	X	X	X	X
13	A	x	x	A	X	X	X	X
14	A	x	x	A	X	X	X	X
15	A	x	x	A	X	X	X	X
16	A	x	x	A	X	X	X	X
17	A	x	x	A	X	X	X	X
18	A	x	x	A	X	X	X	X
19	A	x	x	A	X	X	X	X
20	A	x	x	X	X	X	X	X
Total Alive	20	3	0	19	0	2	0	0
Mortality %	0	85	100	5	100	90	100	100

<i>Transect results November 4th</i>								
<i>Treatment</i>								
	1	2	3	4	5	6	7	8
1	A	A	A	A	X	A	X	A
2	A	A	A	A	X	A	X	X
2	A	A	x	A	X	X	X	X
4	A	x	x	A	X	X	X	X
5	A	x	x	A	X	X	X	X
6	A	x	x	A	X	X	X	X
7	A	x	x	A	X	X	X	X
8	A	x	x	A	X	X	X	X
9	A	x	x	A	X	X	X	X
10	A	x	x	A	X	X	X	X
11	A	x	x	A	X	X	X	X
12	A	x	x	A	X	X	X	X
13	A	x	x	A	X	X	X	X
14	A	x	x	A	X	X	X	X
15	A	x	x	A	X	X	X	X
16	A	x	x	A	X	X	X	X
17	A	x	x	A	X	X	X	X
18	A	x	x	A	X	X	X	X
19	A	x	x	A	X	X	X	X
20	A	x	x	A	X	X	X	X
Total Alive	20	3	2	20	0	2	0	1
Mortality %	0	85	90	100	100	90	100	95

Typically view of plots prior to treatment



Basal Spray Method (note blue dye used to mark where sprayed)



Treatment 8 (Grass is only herbaceous growth left in plot)



Treatment 6 (Grass and broadleaf plant unaffected by herbicide)



Treatment 2 (Grass and broadleaf plant unaffected by herbicide)



