

KUDZU MOP UP AFTER HERBICIDES TREATMENTS  
Sedalia Hunt Camp, Sumter National Forest  
After Action Report – Updated October 4, 2007

Property: Sumter National Forest, guidance & direction from Mary Morrison, Planning Team Leader, USDA Forest Service, Enoree Ranger District, Union, SC.

Objective: Complete removal of all kudzu at the Sedalia Hunt Camp. Document protocols for future such activity. Find ways to do it better – higher kill percentage & quicker.

Why We are Doing This: This treatment may possibly be a breakthrough. It may become a standard treatment after herbicides have been used several years to knock the kudzu back. This may lead to significant reduction in the use of herbicides on thousands of acres. It is also possible that this might enable a small reduction in kudzu control costs.

Keys to Success:

1. Finding all kudzu vines. Almost all will be on the ground with leaves smaller than normal. Many vines will be only three or four feet long.
2. Keep line of march straight so as to not leave any ground unsearched.
  - A. We will use construction flags to mark the edge of each pass.
  - B. Pick up flags on the return pass.
  - C. Use car parked alongside of road for visual target coming back.
3. Complete crown removal. Anything we miss will sprout again in 2008.

Treatments:

1. Walk through the property in line abreast (ten foot spacing) again & again.
2. Look carefully for surviving kudzu.
3. Trace each kudzu vine back to the crown.
4. Use the Kudzu Chop. Be sure to chop under the crown and not through the crown.
5. Achieve complete decapitation or else the kudzu plant will survive.

Note: Do NOT cut vines in trees. We are not gapping and that just wastes time. Find the crown and take it out. Do not pull vertical vines down. Let nature do that work.

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First work session: Oct. 3, 7:30 AM, five workers, two volunteers (Paul Savko & Newt Hardie), three contracted, experienced. Two contracted workers stayed two hours longer than others.

Treatment history per Ranger Steve Cobb: three or four years application of Transline sprayed by backpack, 7 feet high & below, vertical vines cut. Opinion: Charles Kemp appeared to be more successful “because he used more water”.

Surprises:

1. Deer had eaten leaves. Most vines were “naked” with almost no leaves and the ones present were mostly one inch in diameter. This makes kudzu much harder to detect and raises the percentage of kudzu missed (not seen).
2. All vines are current year. No vines had rooted this year. This means kudzu probably would not spread in 2007. Virtually all vines were less than 3/8ths of an inch in diameter. Virtually all will die during frost.

3. White Peach Scale was the heaviest ever seen on one vine but absent on all but half a dozen vines. This is due to the vines being mostly current year growth.
4. A dozen or so trees had many (6 or more) large, vertical, dead vines but no live kudzu. The live vertical vines were almost all at trees & bushes which did not have dead vines. No vertical vines as large as one inch in diameter were found.
5. We extracted a large root – about 12 inches in circumference – which was hollow. Inside portions were black - probably herbicide kills. Specimen will be used for show & tell.
6. Many crowns show signs of decay. Some roots are black - probably due to herbicide.
7. The crowns were unusually large for such small vines and were deeper than normal – often one or more inches deep. Herbicides probably have less effect on deeper crowns or else deeper crowns are larger and hence harder to kill.
8. Briars and brush made passage difficult. Paul’s cap was pulled off many times. The preliminary walk through analysis “briars will not be a problem” was incorrect.
9. Surgical Treatment & tools: Due to size and depth of crowns, the Kudzu Chop using the hand hoe only was largely not effective. The pruning saw was necessary on the majority of crowns. This slowed down the crown removal. The 26 inch handled grubbing tool was useful in a dozen or so crown excisions.
10. Difficulty: This was very difficult work. The more open areas may be different but this was no place for high school students or for “light” workers. Heavy duty workers only.
11. It went slower than expected and wore us out!

Wild Life Seen: Turtles.

Lessons Learned:

1. Need to factor in effect of deer. Identification is more difficult. Extra training helps.
2. Bright tape worked better than construction flags for marking edge of pass.
3. Place tape in back pocket with edge hanging out. Wrap lightly at eye level.
4. It is very difficult to maintain line abreast in briars and thick underbrush.

Possible Improvement Next Time: Sharpen the edge of the hand hoes.

Measures:

1. Area covered: Approximately six acres (one fourth of total).
2. Working hours excluding travel time: 29.
3. Note: These were experienced, dedicated, motivated workers & probably 50% more productive than most.
4. Travel time: 80 minutes per worker, 6 2/3 total hours.
5. Working hours per acre: Approximately 5.
6. Estimated rate of crown removed: 11 per hour.
7. Estimated number of crowns removed: 315.
8. Estimated number of crowns removed per acre: 53 (Over 200 per acre in open).
9. Estimated time utilization: 50 % walking & looking, 50% crown removal (most required pruning saw).
10. Note: Area covered was probably the most difficult in passage.
11. Estimated Effectiveness:
  - a. Walked effectively: 90% of area covered (Heavy brush).
  - b. Kudzu spotted: 90% of area walked (Deer stripped leaves).
  - c. Kudzu killed: 95% of crowns worked.
  - d. Overall effectiveness:  $.90 \times .90 \times .95 = 76\%$  of all present.

Caution: Do not draw major conclusions from just one work session.