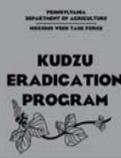


(2006-2007) PILOT KUDZU ERADICATION PROGRAM RESULTS

Pennsylvania Department of Agriculture

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■ Spatially Distinct Populations

■ Treated in Program

■ Sites "Controlled"

30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0

INTRODUCTION
Kudzu became a PA Noxious Weed in 1989. Current sites are most often roadside banks, forest-edges, quarries, slag mine deposits, homeowner property boundaries and rarely open space locations such as pipelines. As of October 2007, 121 properties consisting of 80 spatially distinct populations of kudzu are known in Pennsylvania.

Due to the complexity of control options and the expansiveness of kudzu growth, most property owners are not equipped to manage kudzu eradication without technical assistance. PDA began assisting property owners in 2000 and these efforts have evolved into the state-wide Pilot Kudzu Eradication Program. As of October 2007, **34 spatially distinct populations** in 13 counties are enrolled.

Herbicides used in the program since 2000 include aminopyralid, clopyralid, imazapyr, metsulfuron and triclopyr. Mechanical control is also an integrated component of the program. The program will treat sites for 3 consecutive years to assist property owners with eradication.

MATERIALS AND METHODS
Three types of treatment applications are applied throughout the season (May to October): **high volume foliar, low volume foliar and cut stump/basal bark**. The maximum use rate of 21.28 oz of clopyralid is determined based on the cumulative treated square feet of each site per season.

RESULTS (34 Sites)

The initial HVF treatments are essential as they provide season long suppression of the above ground biomass allowing technicians easy access to individual vines for cut stump treatments. Cut stump treatments kill the majority of non-woody vines in the first season. Regardless of the coverage and effectiveness of the initial HVF application, repeat visits to "find" and chemically treat every mature, woody, crown is necessary to maintain season long control.

All treated sites are less than 1 acre in size and often only .16 of an acre.

PREVIOUS YEARS TREATED SITES (24 sites)

Two of 22 previously treated sites have been eradicated and (2) other sites are manually controlled by property owners to prevent flowering. On average, the May 2006 treatments were still suppressing kudzu growth at 16 WAT in 2006 and cumulative 2006 clopyralid treatments were still holding at 52 weeks in May of 2007 but by 56 weeks in June 2007 all but the 2 eradicated sites had resumed some vegetative growth. For the 20 chemically treated sites in the 2nd year of the program we spent, on average, 2 hours spraying over 2 visits to regain season long control and used less than 4 ounces of clopyralid per site per season. 50% of the 20 treated sites are expected to be dead come spring of 2008 based on the minimal amount of regrowth that occurred at these sites throughout the growing season.

VIRGIN SITES (10 sites)

On average, for sites previously "uncontrolled" we spent 4.4 hours spraying per season and it required 3.6 visits to obtain season long control of above ground biomass. To gain season long control of a virgin site, we have usually used the maximum use rate of 21.28 ounces per acre of clopyralid by the end of October at every site.

TIME AND MANPOWER

PDA spent 78 hours treating 20 sites equating to 24 treated acres in 11 counties between May and October of 2007 using 2 licensed applicators, 2 back pack sprayers, hand bottles and a high volume foliar skid sprayer mounted in a full size pick-up truck.

SUMMARY OF KUDZU DISTRIBUTION AND ESTABLISHMENT IN PENNSYLVANIA

The current distribution of kudzu in PA seems limited to Zone 6 of the U.S. National Arboretum Plant Hardiness Zone Map. Data collected at each site suggests all current sites in PA are at least 30 years old if not older and were purposely planted for soil stabilization or other recommended uses in the late 1930's. All surveyed sites are self-seeding underneath the canopy of the current "parent" populations and seeds are viable. Where soil disturbance and removal of the parent canopy has occurred, seedlings emerged in August.

High Volume Foliar 13.33 to 18.55 oz per acre

Skid Mount / Turf Sprayer (50 US Gal)
Hypro Medium Pressure Diaphragm Pump
100 gal/acre delivery @ 170 psi
Transline (clopyralid) (6.0 to 8.35 oz)
Water (45.0 gal)
NIS (0.25% v/v) (14.4 oz)
NIS not used if sensitive vegetation present

Low Volume Foliar 2% v/v

Birchmeier Backpack (2.5 gal size)
Transline (clopyralid) (6.4 oz)
Water (319.2 oz)
NIS (0.25% v/v) (0.8 oz)
NIS not used if sensitive vegetation present

Cut Stump/Basal Bark 2% v/v

Plastic Bottle (24 oz size)
Transline (clopyralid) (0.48 oz)
Water (23.5 oz)
NIS (0.25% v/v) (0.06 oz)

*Milestone, Escort, Arsenal and Garlon 3A are sometimes used based on site characteristics.

*Mold grew in tank during idle periods and drift guard deposition in tank only compounded slime buildup.



PSU WEED GARDEN



Controlled: Any method to prevent above ground vegetation accumulation that also prevents seed production