

PRIMARY SCREENING OF FORESTRY HERBICIDES FOR CONTROL OF CHINESE PRIVET (*Ligustrum sinense*), CHINESE WISTERIA (*Wisteria sinensis*), AND TRUMPET CREEPER (*Campsis radicans*). J. H. Miller, USDA Forest Service, Auburn University, AL 36849.

ABSTRACT

Exotic and native invasive plants increasingly hinder land management, use, and restoration projects. Chinese and Japanese privet **are** rapidly becoming major threats to future hardwood culture and currently hinder ROW management throughout the SE region. Chinese wisteria occurs as severe, dense isolated infestations **in forest** stands. Native **trumpet creeper** can form dense ground **cover** under plantations that will **require** control before reestablishment. The objective of this research was to perform primary screening of **forestry** herbicides as foliar sprays on these three invasive species to **identify** efficacious active ingredients for further developmental **research** and **treatment** refinement. A **separate** study was established for each species. The **study** sites were in uniformly **infested** areas on the Piedmont near Auburn in **east-central** Alabama. Privet and **wisteria** were studied using completely randomized designs with four

and three replications, **respectively**. Trumpet creeper control was examined using a randomized complete block design with four replications. Plot sizes were 10 x 20 **ft** for privet, 10 x 10 **ft** for wisteria, and 12 x 24 **A** for trumpet creeper. A labeled maximum or high rate of each **herbicide** were tested at two timings each. Applications were by a **CO₂** sprayer with flat-fan nozzles and 40 gpa, except with Accord, which was at 20 or 30 gpa. Entry II at 0.25% was the **surfactant** used with all spray solutions. Activating rainfall occurred after 9 hours to 6 days.

Plots were rated 12 months after application using ocular estimates of percent volume **reduction**. Check plots were used as references, and for privet, before-treatment volumes were estimated and used in the analysis. Percents were **arsine squareroot** transformed and data were analyzed using Tukey's HSD Test ($\alpha = 0.05$) because all treatment-timing interactions were significant.

Privet control exceeded 90 percent with Accord (**glyphosate**) at 1.5 gpa and Arsenal (**imazapyr**) at 24 opa applied in August or September, while Escort (**metsulfuron**) provided 89 percent control at 3.3 opa applied in August. These herbicides and rates were not significantly different. Escort in September yielded only 73 percent control. Other **herbicides** when averaged by timing were as follows: Garlon 4 (**triclopyr**) at 1.5 gpa gave 64 percent control, Oust (sulfometuron) at 6 opa gave 31 percent control, Vanquish (dicamba) at 1.5 gpa gave 27 percent control, Tordon K (**picloram**) at 0.5 gpa gave 12 percent control, and Transline (clopyralid) at 21 opa yielded no control.

Wisteria control exceeded 90 percent with Tordon K at 0.5 gpa in September and Garlon 4 at 1.5 gpa in both July and September. Control between 80 and 90 percent was yielded by Tordon in July, Arsenal at 0.25 gpa in September, Accord at 2 gpa in September, and Transline at 21 opa in July. Control by the remaining herbicides-timings were 73 percent with Transline in **September**, 70 **percent** by Accord in July, 55 percent with Arsenal in July, 18 percent with Escort at 4 opa in July and 12 percent in September.

Trumpet creeper control was 99.7 percent with Arsenal at 0.25 gpa and 98 percent with Accord at 2 gpa, both in July. September applications of Arsenal and Accord gave only 64 **percent** and 43 percent control, respectively. Tordon at 0.5 gpa, Garlon at 1.5 gpa, and **Transline** at 21 opa yielded 5 to 26 percent control when applied in July or September. Escort applied at 4 opa resulted in no control at either timing.

Forestry herbicides were identified that should permit eradication of these invasive plants after further treatment refinements.