

CHEMICAL ERADICATION OF GOLDEN BAMBOO, *Phyllostachys aurea*¹

Bamboo may be planted in the landscape to achieve quick screening. While the bamboo's handsome leaf texture and fast growth have great ornamental value, its roots may become extremely invasive. "Running" bamboos that spread by rhizomes with long internodes can damage house foundations and break walkways as well as invade lawns and other garden areas. In such situations, landscapers or homeowners want to control or eradicate bamboo from their gardens.

The objective of the experiment described below was to evaluate certain herbicides and a fumigant for bamboo control.

Methods and Materials:

Golden bamboo, *Phyllostachys aurea*, was planted in three-foot rows, 5 feet apart, in May 1983 at the Santa Clara Experiment Station in San Jose, CA. Plants were left to grow for one year to become established. The bamboo clumps in plot 1 (4 replicates/treatment) were treated on May 2, 1984; the bamboo clumps in plot 2 (4 replicates/treatment)

Table 1: Rates of Chemicals and Methods of their Application in Controlling *Phyllostachys aurea*.

Treatment	Rate	Method
Glyphosate	1%	Spray on Foliage to Wet
Glyphosate	2%	"
Glyphosate	5%	"
Glyphosate	25%	Spray on 3" Stump (foliage removed)
Glyphosate	2%	"
Glyphosate	25%	Spray on Foliage to Wet
Amitrole-T	2%	"
Amitrole-T	25%	"
Dalapon=X77	10 lbs/A	Poured in 4 Holes Dug Around Plant (8" deep, 14" apart)
Vapam	3 lb/100 ft ²	"
Control		Untreated Bamboo Plants

were treated on August 1, 1984. Regrowth of rhizome shoots in plot 1 after the May applications were measured (Table 2). In plot 2, regrowth (shoot and rhizome weights and rhizome length) after the August applications were measured (Table 3).

Results:

Amitrole-T (25%) foliar spray achieved very good control when applied in May (Table 2). However, its treatment effect was best seen only after 17 months, by which time most of the sprayed plants had died, and those few that had survived displayed very little rhizome growth. After 24 months, a small amount of regrowth had occurred. Please note that Amitrole-T (25%) was used experimentally for this study and is not a registered label concentration.

Soil fumigation with *Vapam* was effective: treated plants displayed extensive dieback one month after application and shoot growth was significantly reduced for 24 months.

TABLE 2: Effect of Chemicals on Bamboo Killing and its Shoot and Rhizome Growth after the May Application (PLOT 1).

In contrast, **glyphosate** was mostly ineffective except when a 25% concentration of the chemical was sprayed on the cut stumps. This high concentration significantly reduced bamboo growth for three months, but then regrowth occurred.

TREATMENT	RATE	TOP KILL*			
		1 MO. (6/84)	3 MOS. (8/84)	17 MOS. (10/85)	24 MOS. (5/86)
Glyphosate (foliar)	1%	2.2	2.0	1.0	3.5
	2%	2.2	2.8	1.5	4.5
	5%	4.0	3.5	2.8	4.3
	25%	5.5	6.0	5.0	8.8
Glyphosate (stump)	2%	3.7	5.3	3.5	4.5
	25%	8.7	8.3	5.25	7.8
Amitrole-T	2%	3.5	4.3	2.0	3.0
	25%	4.2	5.8	9.0	8.0
Dalapon	10 lbs	5.0	5.5	2.5	6.0
Vapam	3 lbs	8.3	8.2	7.8	8.6
Control		1.0	1.0	1.0	1.0

*Top Kill: 10 = Dead Plants; 1 = No effect

Conclusions:

1. A single foliar application of 25% Amitrole-T will give good control of golden bamboo, *Phyllostachys aurea*, when applied during the growing season, but some regrowth may be seen after 21 months. Complete control may be achieved in a shorter time period by treating regrowth as it occurs.
2. Vapam fumigation at the rate of 3 lb/100 ft, poured in four holes drilled 8" deep and 14" apart around the plants' root zone, was the most effective.
3. Caution should be used when controlling bamboo in a mixed planting: Contact by Vapam is likely to cause injury to the roots of neighboring plants. In such a case, it would be preferable to use Amitrole-T as a foliar treatment.

TABLE 3: Effects of Chemicals on Bamboo Killing and its Shoot and Rhizome Growth after the August Application (PLOT 2)

Treatment	Rate	Top Kill*	
		14 MOS. (10/85)	21 MOS. (5/86)
Glyphosate	1%	1.3	1.0
Foliar	2%	3.8	3.0
	5%	5.0	4.0
	25%	5.3	4.0
Glyphosate	2%	2.5	1.0
(stump)	25%	6.0	4.2
Amitrole-T	2%	6.5	4.2
	25%	9.75	7.8
Dalapon	10 lbs.	5.0	4.0
Vapam	3 lbs.	10.0	10.0
Control		1.0	1.0

*Top Kill: 10 = dead plants: 1 = no effect

¹ From : Amitrole-T or Vapam Control Bamboo.

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