Bishopwood (*Bischofia javanica*)

PHYLLANTHACEAE FAMILY

GROWTH HABIT

Bishopwood (*Bischofia javanica*) is an evergreen broadleaf tree that generally grows from 30 to 50 feet tall (with some reports of individuals 90-130 feet) with a dense, rounded crown, smooth branches, and milky sap. **Flowering** occurs in the spring. **Leaves** are trifoliate, alternate, with long petioles. Leaflets are smooth, shiny, bronze-toned, oval-elliptic, 6-8 inches long, with finely toothed serrate margins. **Flowers** are male or female, small and without petals, greenish-yellow, and clustered at the leaf axil. **Fruits** are pea-sized, berry-like drupes, fleshy, about 1/3 inch in diameter, brown, reddish, or blue-black. **Seeds** are oblong or curved, 3 mm wide and 4-5 mm in length. There are typically 1 to 2 seeds per fruit.

DISTRIBUTION IN FLORIDA

Found in South and Central Florida as far north as Pinellas and Brevard counties.

Table 1. Herbicide options for Bishopwood.
Herbicides are expressed on a (% v/v) by product basis.
The label is the law. Always refer to product label before use.

HERBICIDE ACTIVE INGREDIENTS	PRODUCT(S)	Recommended Approach				
		FOLIAR	BASAL BARK	CUT STUMP	FRILL & GIRDLE	REDUCED HACK & SQUIRT
AMINOCYCLOPYRACHLOR	METHOD	0.25%	NR	NR	NR	50%[1]
AMINOPYRALID	MILESTONE	0.25%	NR	NR	NR	NR
TRICLOPYR AMINE	GARLON 3A	NR	NR	50%	NR	NR
TRICLOPYR ESTER	GARLON 4	2%	10-20%	NR	20%	NR

NR= Not Recommended
[1] Make one hack for every four inches of stem diameter and apply 1 ml of herbicide mix into each hack.

NOTES SECTION

Herbicide Notes for Bishopwood:

- Always consult the herbicide label for specific concentration recommendations.
- Foliar treatments of all recommended herbicides are extremely effective on seedlings and saplings but may not be as effective on mature trees.
- Although general basal bark concentrations are 10-20% for triclopyr ester products, Bishopwood can be difficult to control with lower concentrations and 20% is recommended. Basal bark treatment can also occasionally be ineffective and stimulate adventitious roots from the trunk, especially on larger individuals.
- Bishopwood is a prolific stump sprouter. Extremely large multi-stem stumps tend to resprout in the year following cut stump treatment, but single stemmed individuals are generally controlled. Cut stump treatment may not control lateral root sprouts originating away from the trunks.
- Reduced hack and squirt concentration for aminocyclopyrachlor (Method) is 50%. This technique is extremely effective when 1 ml of a 50% solution is applied to one hack per 4 inches of stem diameter.

Adjuvant Considerations: A nonionic surfactant has been effective for foliar treatments. Adjuvants are not required for any non-foliar treatment.

Seasonality of Treatments: Although deciduous in many parts of the world Bishopwood generally remains evergreen in south Florida and treatments are generally effective throughout the year. In Florida, Bishopwood flowers in the early spring and produces fruits in the late summer and fall. Treatments should be applied by early flowering to prevent seed production.

Specific Hydrologic Considerations: Aminopyralid, aminocyclopyrachlor, and triclopyr ester are labeled for use in uplands and seasonally dry wetlands but not when standing water is present. Triclopyr amine may be used when standing water is present.

Specific Considerations for each Herbicide for Potential Non-Target Damage:

- Aminocyclopyrachlor may injure or kill cypress, beautyberry and several other trees, shrubs and forbs. While it is safe to apply under oaks, it is still generally recommended for IPT only.
- Aminopyralid is most injurious to plants in the Asteraceae, Fabaceae, Solanaceae, and Polygonaceae families.
- Triclopyr ester may be volatile at temps > 85 F.

Retreatment Interval Consideration:
Foliar treatments are generally the weakest approach on large Bishopwood, where resprouting may occur 6 to 12 months after treatment. Seedling recruitment generally occurs over the summer. Bishopwood has a very short-lived seedbank, so a single treatment the following year after initial treatment can substantially reduce an infestation. However, birds spread the seed, so reinfestation is generally from off-site following control. Bishopwood takes approximately eight years to reach sexual maturity. This is quite slow among invasive trees in Florida, which allows for a much longer retreatment interval of six to seven years following initial control.

Calculations for % v/v:
(Volumes must be in the same units, i.e., gallons, ounces, liters, etc).

% v/v = (Volume of herbicide product / total herbicide plus carrier volume) * 100%

Reference Table for % v/v

% V/V	Ounces of herbicide to add for 1 gallon (128 oz) total mix size
0.25	0.32
0.5	0.64
1.0	1.28
2.0	2.56
5.0	6.4
10.0	12.8
20.0	25.6