Melaleuca (*Melaleuca quinquenervia*)

MYRTACEAE FAMILY

GROWTH HABIT

Melaleuca (*Melaleuca quinquenervia*) is a tall, evergreen tree that can reach heights up to ~80 feet, with whitish, spongy, peeling, many-layered bark. **Flowering** occurs year-round but most commonly in winter. **Leaves** are alternate, simple, narrowly elliptic, short-stalked, and up to 5 inches long. Veins are nearly parallel. **Flowers** are white, small, and crowded in bottlebrush-like spikes at the tips of branches. **Fruits** are short, cylindric or squarish, woody capsules. **Seeds** are very tiny and number in the hundreds per capsule. A single mature tree may produce millions of seeds per year.

DISTRIBUTION IN FLORIDA

Found throughout the Southern and Central peninsula up to Marion County.

Table 1. Herbicide options for Melaleuca.
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	CUT STUMP	FRILL & GIRDLE	REDUCED HACK & SQUIRT
AMINOCYCLOPYRACHLOR	METHOD	NR	NR	NR	50%
GLYPHOSATE	ROUNDUP (SEEDLINGS + SAPLINGS)	5%	50%[1]	NR	NR
GLYPHOSATE + IMAZAPYR	ROUNDUP + ARSENAL	3qts + 3qts	40% + 10% or 25% +25%	40% + 10% or 25% +25%	NR
GLYPHOSATE	ROUNDUP	NR	50-100%	NR	NR
HEXAZINONE	VELPAR L	2 gal/A[2]	NR	NR	NR
IMAZAPYR	ARSENAL OR HABITAT	NR	10-25%	20-50%	NR
TRICLOPYR AMINE	GARLON 3A	2%[2]	50%	NR	NR

NR= Not Recommended

[1] **Glyphosate applied as a cut stump treatment is the safest treatment when mangroves are present.**

[2] **Foliar applications are most effective on seedlings and small saplings. Resprouting is common on adults following treatment.**

NOTES SECTION

Herbicide Notes for Melaleuca:

- Always consult the herbicide label for specific concentration recommendations.
- A girdle/spray using glyphosate and imazapyr has been the standard treatment for Melaleuca for over thirty years.
- Triclopyr amine is effective as a cut stump treatment. Cut stump is labor intensive but is effective to prevent stump sprouting.
- Hexazinone is primarily soil active, but there is some foliar uptake that can result in the initial defoliation. It requires approximately 0.25 to 0.5 inches of precipitation for activation. Best results are with late winter and early spring treatments.
- Aminocyclopyrachlor is effective as a reduced hack and squirt treatment. This technique is extremely effective when 1 ml of a 50% solution is applied to one hack for every 4 inches of stem diameter. The primary issue is successfully delivering the herbicide through the thick outer bark to the inner bark and cambium. If the herbicide is retained in the outer bark, this treatment is not effective.

Adjuvant Considerations: Methylated seed oils are typically used for waxy leaved species including melaleuca.

Seasonality of Treatments: Treatments are generally effective throughout the year. However, there is some evidence that foliar treatments may be somewhat better when applied in the winter when melaleuca produces a new flush of growth.

Specific Hydrologic Considerations:

- Aminocyclopyrachlor cannot be applied when standing water is present.
- In deep-water conditions (many applicators report more consistent control by switching to a 25% glyphosate/25% imazapyr tank mix for girdle/spray or cut stump treatments.
- Excessive rainfall and highly porous substrates can result in hexazinone leaching and a loss of efficacy.

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

- Aminocyclopyrachlor may injure or kill cypress, mangroves, and many forbs.
- Imazapyr may injure or kill many other species and should not be used near desirable vegetation, especially oaks. Selectivity is better with individual plant treatments than broadcast treatment.
- Cut stump treatment with glyphosate is the safest approach when mangroves are present

Retreatment Interval Consideration:
Although most seeds do not survive more than one year, a small percentage of seed can remain viable for up to two years. Seeds require inundation to germinate and plants may become sexually reproductive within twelve months. However, most do not initiate sexual reproduction for two years. If possible, monitoring/treatment should be done every two years. This may be longer if there are heavy populations of the biocontrols present, which can greatly inhibit the growth of seedlings and saplings.

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