

Water Hyacinth Spray Techniques

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Introduction

Water hyacinth management relies on chemical solutions; however, the public is very concerned with herbicide use. This plant has been a management challenge for over 130 years because it impedes navigation, irrigation, and recreation while reducing water quality and sheltering mosquitos.

Current Conditions

Traditional high carrier volumes can provide excellent spray coverage, yet spray droplet retention and spray solution concentration are often low. High carrier volume applications are oftentimes conducted on public waterways in full view of recreational users.

This application technique is accomplished with high-pressure hand-guns that will commonly deliver sufficient volume for plant control at distances over 10 meters. However, this technique can appear to be excessive and imprecise to stakeholders.

Carrier volume and nozzle selection affect aquatic plant management.

With that in mind, UF/IFAS CAIP researchers explored effective management solutions.

So What?

The results of this experiment suggest applicators and scientists can manage invasive, aquatic floating plants with reduced spray coverage and reduced carrier volumes with greater efficiency.

MANAGING
WATER HYACINTH
IS CRITICAL FOR
PROTECTING
FLORIDA'S
WATERWAYS.



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Carrier volumes

The illustrations below show the general visual differences between three common carrier volumes used in aquatic plant management. UF/IFAS CAIP researchers tested these treatments in this study.

20
gallons
per acre



50
gallons
per acre

100
gallons
per acre



Experiment

CAIP researchers conducted trials in 2020 to evaluate the effects of carrier volume and application method on water hyacinth.

Researchers documented carrier volume and spray pattern effects on glyphosate, 2,4-D, and diquat efficacy on water hyacinth.

2 Objectives

- Evaluate alternative spray patterns for floating plant control.
- Evaluate reduced carrier volumes for floating plant control.

Results

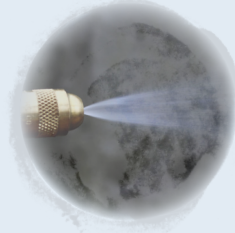
Overall, these data suggest lower carrier volume herbicide applications made to water hyacinth provided high levels of efficacy with reduced spray coverage.

Reducing carrier volumes appear to be more precise while providing greater efficacy. This will result in less herbicide in the water, less drift, and likely great acceptance by the general public.

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Application methods

Adjustable cone



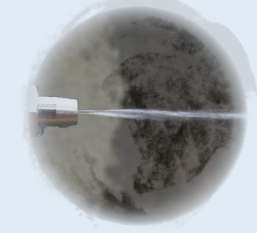
Conventional cone



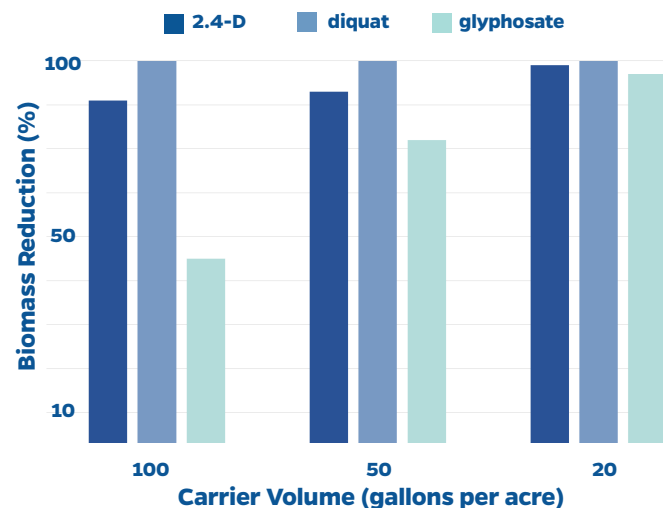
Conventional stream



Drizzle stream



Results



Carrier volume and herbicide active ingredient affects on Water hyacinth biomass reduction.

FOR MORE
INFORMATION
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