



# PRESS RELEASE

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## Endothall - Get to the Root of Your Problem!

*A new study classifies endothall as a systemic aquatic herbicide vs. a contact herbicide - reinforcing its status as an excellent choice for a short contact, systemic herbicide in both large- and small-scale management programs.*

Endothall, the active ingredient in Aquathol® K, Aquathol® Super K, Hydrothol® 191, Hydrothol® Granular, Cascade® and Teton®, has been registered as an aquatic herbicide since 1960. It has been successfully implemented as an effective control measure for hydrilla [*Hydrilla verticillata* (L. f.) Royle], early-season control of Eurasian watermilfoil (*Myriophyllum spicatum* L.) and curlyleaf pondweed (*Potamogeton crispus* L.), as well as a tool for providing weed and algae control in irrigation canals.

Throughout its history, endothall has been considered a contact herbicide in aquatic systems<sup>1</sup>. While this has been the assumption for many years, recent research conducted by Dr. Scott Nissen and graduate student Mirella Ortiz at Colorado State University has revealed that there is a significant amount of endothall translocated to the roots of hydrilla and Eurasian watermilfoil. The amount of herbicide translocated to the roots of these species are equal to or greater than translocation observed for other systemic aquatic herbicides. The data is summarized in the table below.

**Percentage of Total Absorbed Herbicide Present in Roots at 192 Hours After Treatment**

Herbicide	Eurasian Watermilfoil	Dioecious Hydrilla	Monoecious Hydrilla
Endothall	13.0% ± 1.3	23.6% ± 2.6	29.0% ± 3.4
Fluridone	2.6% ± 0.3 <sup>2</sup>	9.0% ± 2.2 <sup>2</sup>	
Penoxsulam	1.3% ± 0.3 <sup>2</sup>	6.1% ± 1.5 <sup>2</sup>	~20% <sup>2</sup>
Triclopyr	2.0% ± 0.4 <sup>2</sup>		

### Significance of these data:

- Endothall can now be classified as a systemic aquatic herbicide, no longer a contact herbicide.
- There is a greater percent of endothall translocation to root tissues compared to other aquatic herbicides classified as systemic.
- The conclusions support the versatile use of endothall as a short contact, systemic herbicide in both large- and small-scale management programs.

According to Dr. Nissen, "Based on our endothall studies in flowing water, we thought that endothall must have some systemic activity, and now we have data that confirms that endothall does translocate from shoots to root tissue. In fact, the ratio of endothall in the root vs. shoot tissue after 192 hours of exposure was greater for endothall than for other systemic herbicides that we have evaluated."

We look forward to hearing additional details from Dr. Nissen and Ms. Ortiz at regional APMS meetings this year, where they will share more in-depth data on this subject.

If you have any questions about the study, or about how endothall can benefit your waterways, a UPI representative would be happy to help.

Sources:

1

Gettys, L.A., W.T. Haller, and D.G Petty (2014). *Biology and Control of Aquatic Plants, A Best Management Practices Handbook: Third Edition*. pp 74.

2

Vassios, J.D. (2012). *Herbicide Absorption and Translocation by Eurasian watermilfoil and Hydrilla* (Doctoral dissertation). Retrieved from [https://dspace.library.colostate.edu/bitstream/handle/10217/67656/Vassios\\_colostate\\_0053A\\_10996.pdf?sequence=1](https://dspace.library.colostate.edu/bitstream/handle/10217/67656/Vassios_colostate_0053A_10996.pdf?sequence=1)

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True Meadows, S.L. (2013). *Monoecious Hydrilla Biology and Response to Selected Herbicides* (Doctoral dissertation). Retrieved from <https://repository.lib.ncsu.edu/bitstream/handle/1840.16/9246/etd.pdf?sequence=2>