



# Environmental Horticulture Program Research Project Sheet

<https://www.ir4project.org/ehc/ehc-registration-support-research/env-hort-extension-resources/>

**Project Name:** Nostoc Efficacy

<b>New</b>		<b>Ongoing</b>	X	<b>Completed</b>		<b>Duration if ongoing or completed:</b>	2020 – 2023
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**Project Description:**  
 The economic impact of Nostoc is difficult to calculate. It is a health and safety concern (Slipping hazard) for employees. Preliminary data is available for Captain XTR and there is at least one other potential active to screen, SP8010. Additional research is needed on the optimum dose and frequency of applications.

**Research Project Abstract (if available):**  
 n/a

**Target Species (Phytotoxicity, or common and Latin name of arthropod, pathogen, weed):**  
 Nostoc (*Nostoc sp.*)

**Target Crops (list tested crops if ongoing or completed project)**  
 n/a

**Target Product(s)(list tested products or numbered compounds if ongoing or completed project)**  
 Badge X2 (Copper Oxychloride + Copper Hydroxide)  
 Captain XTR (copper ethanolamine complex)  
 Diuron 4L IVM (Diuron)  
 Finale XL (Glufosinate ammonium)  
 Kalmor (copper hydroxide)  
 Marengo 74SC (Indaziflam)  
 M-Pede (Horticulture Soap)  
 Scythe (Pelargonic acid)  
 TDA-A-F2B (TDA-A-F2B)  
 TDA-A-F4A (TDA-A-F4A)  
 TDA-A-F4B (TDA-A-F2B)  
 Terracyte Pro (PerCarb, GC Pro, GreenClean Max) (Sodium carbonate peroxyhydrate)

<b>Product Registration and Research Status</b>			
	<b>Fully Screened (also includes standards)</b>	<b>Partially Screened through IR-4 <sup>1</sup></b>	<b>Need Data Across Species?</b>
Labeled Generally & Commercialized			
Labeled Generally But NOT Commercialized			
Labeled Specifically & Commercialized			
Labeled Specifically but NOT Commercialized			
Not yet registered or Labeled			
No longer available for development			
* IR-4 Data contributed to registration decision – either adding pest to label or not pursuing further research			
1 At least one species screened fully			

PROS	CONS
Nostoc on hard surfaces is a health and safety concern (Slipping hazard) for employees.	Captain XTR provided good efficacy in research to date
No products are specifically labelled for management of Nostoc Algae on hard surfaces such as gravel	May need crop safety for ground cloth
Copper products fairly consistent control in past – Captain & Kalmor	Concerned with splash in contact with foliage
Diuron used to be good performer	
Not as concerned with root uptake	
<p><b>Comments:</b> Other copper compounds, such as Junction, were tested and were less effective. Although less effective, Junction is already labeled for use in nurseries. Thus, this should probably also be considered for additional testing.</p>	

IR-4 Efficacy Trials to Date
<p>Average rating on a scale of 1 – 5 with 1 = 0 to about 50% efficacy and 5 = 100 efficacy or equivalent to non-inoculated control; minimum to maximum rating; number of trials. For product/insect combinations that are blank, IR-4 has not screened this combination.</p> <p>A rating of 2 or lower is considered unacceptable efficacy (<i>red text</i>). A rating of 3 or higher is considered commercially acceptable and those with more than 3 trials are complete (<i>green text</i>). ‘Labeled’ indicates that IR-4 generated data in at least one trial and that this insect species or genera is listed on the label. For insect/product combinations that are blank, IR-4 has not screened this combination.</p>

MOA	Product (Active Ingredients)	Nostoc ( <i>Nostoc sp.</i> )
FRAC M1	Kalmor (copper hydroxide)	<i>2.3 (1 - 3) n4</i>
unknown	Captain XTR (copper ethanalamine complex)	<i>3.0 (1 - 5) n5</i>
unknown	Finale XL (Glufosinate ammonium)	<i>3.5 (2 - 5) n2</i>
unknown	TDA-A-F2B (TDA-A-F2B)	<i>1.0 (1 - 1) n3</i>
WSSA 7	Diuron 4L IVM (Diuron)	<i>1.7 (1 - 3) n3</i>