

**Date of Request:** 8/12/2025 2:02:00 PM **Related PRNumbers:**

**Name:** Stepanie Goesmann

**Affiliation:** Alexaner Hay

**State:** FL

**ProjectType:** UpdateLabel

**Crop Information:** Herbaceous Flowering Plant

**Scientific Name:** *Lilium longiflorum*

**Common Name:** Easter lilies

**Plant Stage:** any time after potting

**UseSite:** greenhouse

**TradeName:** sil-matrix

**ActiveIngredients:** potassium silicate

**Rate Per Application:** 7oz/100

**Volume Per Application:** 100~ ft^2 for 200~ plants involved in trial

**Number of Applications:** 1-3

**Application Interval:** once weekly

**Research Target:** Efficacy

**Efficacy Target:** Boron toxicity

**Economic Impact:** using potassium silicate can greatly reduce the effect of boron toxicity in easter lilies. this can be used by smaller greenhouses to increase their yield of saleable easter lilies

**Labeled Products:** none

**Comments:** trial was preformed early 2025 based on other research using potassium silicate to negate boron toxicity. spread of boron toxicity was halted after initial treatment, though I did 4 separate treatments to see if there was phytotoxicity, and none was found. Trial reports to be printed in GPN in either oct or feb.

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**Date of Request:** 8/21/2025 12:44:00 PM **Related PRNumbers:**

**Name:** Inga Meadows

**Affiliation:** NC State University

**State:** NC

**ProjectType:** ConductCropSafety

**Crop Information:** Herbaceous Flowering Plant

**Scientific Name:** *various*

**Common Name:** various

**Plant Stage:** transplant and mature

**UseSite:** greenhouse and nursery

**TradeName:** Elumin

**ActiveIngredients:** ethaboxam

**Rate Per Application:** 8 fl oz/acre

**Volume Per Application:** 20-100gal

**Number of Applications:** ?

**Application Interval:** ?

**Research Target:** Efficacy

**Efficacy Target:** phytophthora, pythium

**Economic Impact:** Phytophthora and Pythium continue to cause losses. In NC, growers estimate about 5 to 10% crop loss due to this disease, and sometimes more.

**Labeled Products:** unsure

**Comments:** Ethaboxam is registered for fruiting vegetables for downy mildew and phytophthora. Perhaps it can have some efficacy in greenhouse and nursery ornamentals.

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**Date of Request:** 8/27/2025 3:11:00 PM **Related PRNumbers:**

**Name:** William Crow

**Affiliation:** University of Florida

**State:** FL

**ProjectType:** ConductEfficacy

**Crop Information:** Herbaceous Flowering Plant

**Scientific Name:** *Chysanthemum spp.*

**Common Name:** Chysanthemum

**Plant Stage:** Established

**UseSite:** greenhouse, nursery fiel

**TradeName:** Broadform

**ActiveIngredients:** Fluopyram & Trifloxystrobin

**Rate Per Application:** 4-8 ounces/100 gal

**Volume Per Application:** until drip

**Number of Applications:** 3

**Application Interval:** 14 days

**Research Target:** Efficacy

**Efficacy Target:** Aphelenchiodes spp.

**Economic Impact:** Foliar nematodes are in increasing problem in Florida nurseries and landscapes, particularly on asters and ferns. Infection causes leaf spots that make plants unmarketable.

**Labeled Products:** chlorfenapyr (Pylon)

**Comments:** Pylon can only be used in enclosed nurseries due to avian toxicity. Broadform is labeled for outdoor use and has no known avian effects.

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**Date of Request:** 8/27/2025 3:31:00 PM**Related PRNumbers:****Name:** William Crow**Affiliation:** University of Florida**State:** FL**ProjectType:** ConductEfficacy**Crop Information:** Herbaceous Flowering Plant**Scientific Name:** *Chysanthemum spp.***Common Name:** Chysanthemum**Plant Stage:** Established**UseSite:** greenhouse, nursery fiel**TradeName:** Kontos**ActiveIngredients:** Spirotetramat**Rate Per Application:** 1.7-3.4 ounces/100 gal**Volume Per Application:** until drip**Number of Applications:** 3**Application Interval:** 14 days**Research Target:****Efficacy Target:** Aphelenchiodes spp.**Economic Impact:** Infection by foliar nematodes is increasing in Florida nurseries and landscapes, particularly on asters and ferns. Foliar nematodes cause leafspots that make infected plants unmarketable**Labeled Products:** chlorfenapyr (Pylon)**Comments:** Pylon can only be used in enclosed nurseries due to avian effects, However, Kontos can be used outdoors and is not known to have avian effects.

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**Date of Request:** 8/27/2025 3:45:00 PM**Related PRNumbers:****Name:** William Crow**Affiliation:** University of Florida**State:** FL**ProjectType:** ConductEfficacy**Crop Information:** Herbaceous Flowering Plant - Annual**Scientific Name:** *Coleus spp.***Common Name:** Coleus**Plant Stage:** Preplant**UseSite:** greenhouse, nursery fiel**TradeName:** Trefinti**ActiveIngredients:** cyclobutrifluram**Rate Per Application:** 1.5-6.4fl ounces/100 gal**Volume Per Application:** 1-2 pints/ ft2**Number of Applications:** 1**Application Interval:** NA**Research Target:****Efficacy Target:** Meloidogyne spp.**Economic Impact:** Root-knot nematodes are among the most common soilborne pests/pathogens on annual bedding plants in Florida. Root-knot nematode infestation leads to wilting and stunting, and constant replacement of infected plants.**Labeled Products:** Several biologicals but to chemical pesticides.**Comments:** None of the labeled biologicals have been found to be effective against root-knot nematode on bedding plants.

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**Date of Request:** 8/27/2025 3:52:00 PM**Related PRNumbers:****Name:** William Crow**Affiliation:** University of Florida**State:** FL**ProjectType:** ConductEfficacy**Crop Information:** Herbaceous Flowering Plant**Scientific Name:** *Chrysanthemum spp.***Common Name:** Chrysanthemum**Plant Stage:** established**UseSite:** greenhouse, nursery fiel**TradeName:** Trefinti**ActiveIngredients:** cyclobutrifluram**Rate Per Application:** 1.5-6.4fl ounces/100 gal**Volume Per Application:** 1-2 pints/ ft2**Number of Applications:** 1**Application Interval:** NA**Research Target:****Efficacy Target:** Aphelenchoides spp.**Economic Impact:** Foliar nematodes are increasing in importance in Florida nurseries and landscapes, particularly on asters and ferns. Infection by foliar nematodes causes leaf spots that make plants unmarketable.**Labeled Products:** chlorfenapyr (Pylon)**Comments:** Pylon can only be used in enclosed nurseries due to avian effects. Trefinti is not known to have avian effects. Since it has acropetal movement it could be applied to soil and translocated to leaves and control foliar nematodes.

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**Date of Request:** 8/27/2025 4:14:00 PM**Related PRNumbers:****Name:** William Crow**Affiliation:** University of Florida**State:** FL**ProjectType:** ConductEfficacy**Crop Information:** Herbaceous Flowering Plant - Annual**Scientific Name:** *Antirrhinum spp.***Common Name:** Snapdragon**Plant Stage:** Pre and post plant**UseSite:** Cut flower production**TradeName:** Salibro**ActiveIngredients:** Fluazaindolazine**Rate Per Application:** 30.7-61.4 fl oz/acre**Volume Per Application:** Drip injection to deliver 30.7-61.4 fl oz/acre**Number of Applications:** 2-4**Application Interval:** 2-4 week**Research Target:****Efficacy Target:** Meloidogyne spp.**Economic Impact:** Root-knot nematodes stunt plants and decrease yield quantity and quality of snapdragon**Labeled Products:** Fumigants**Comments:** There are no effective non-fumigant treatments for root-knot nematode management for cut flower production.

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**Date of Request:** 8/27/2025 4:23:00 PM**Related PRNumbers:****Name:** William Crow**Affiliation:** University of Florida**State:** FL**ProjectType:** ConductEfficacy**Crop Information:** Broadleaf Evergreen Tree/Shrub**Scientific Name:** *Pittosporum spp.***Common Name:** Pittosporum**Plant Stage:** Post plant**UseSite:** Cut foliage production p**TradeName:** Salibro**ActiveIngredients:** Fluazaindolazine**Rate Per Application:** 61.4 fl oz/acre**Volume Per Application:** Chemigation to deliver 30.7-61.4 fl oz/acre**Number of Applications:** 2 annually**Application Interval:** 4-6 months**Research Target:****Efficacy Target:** Meloidogyne spp.**Economic Impact:** Root-knot nematodes stunt plants and reduce growth, thereby slowing and preventing yield. Infested fields are either abandoned or planted to less valuable crops.**Labeled Products:** None**Comments:** Florida produces around 90% of cut foliage in the USA and root-knot nematode is the primary soilborne pest on variegated pittosporum, their most high-value crop. Since the deregistration of fenamiphos, cut foliage growers in Florida have no effective treatment options.

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**Date of Request:** 8/27/2025 4:34:00 PM

**Related PRNumbers:**

**Name:** William Crow

**Affiliation:** University of Florida

**State:** FL

**ProjectType:**

**Crop Information:** Broadleaf Evergreen/Deciduous Tree/Shrub

**Scientific Name:** *Pittosporum spp.*

**Common Name:** Pittosporum

**Plant Stage:** Post plant

**UseSite:** Cut foliage production p

**TradeName:** Nimitz

**ActiveIngredients:** Fluensulphone

**Rate Per Application:** 3.5-7.0 fl oz/acre

**Volume Per Application:** Chemigation to deliver 3.5-7.0 fl oz/acre

**Number of Applications:** 2 annually

**Application Interval:** 4-6 months

**Research Target:**

**Efficacy Target:** Meloidogyne spp.

**Economic Impact:** Root-knot nematodes are the major soilborne pest of variegated pittosporam, the highest-value cut foliage crop in Florida

**Labeled Products:** None

**Comments:** Since the deregistration of fenamiphos cut foliage growers in Florida have had no effective treatments for root-knot nematodes.

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**Date of Request:** 8/27/2025 4:38:00 PM**Related PRNumbers:****Name:** William Crow**Affiliation:** University of Florida**State:** FL**ProjectType:****Crop Information:** Broadleaf Evergreen/Deciduous Tree/Shrub**Scientific Name:** *Pittosporum spp.***Common Name:** Pittosporum**Plant Stage:** Post plant**UseSite:** Cut foliage production p**TradeName:** Velum**ActiveIngredients:** Fluopyram**Rate Per Application:** 13.7 fl oz/acre**Volume Per Application:** Chemigation to deliver 13.7 fl oz/acre**Number of Applications:** 2 annually**Application Interval:** 4-6 months**Research Target:****Efficacy Target:** Meloidogyne spp.**Economic Impact:** Root-knot nematodes stunt plants and reduce growth, thereby slowing and preventing yield. Infested fields are either abandoned or planted to less valuable crops.**Labeled Products:** None**Comments:** Florida produces around 90% of cut foliage in the USA and root-knot nematode is the primary soilborne pest on variegated pittosporum, their most high-value crop. Since the deregistration of fenamiphos, cut foliage growers in Florida have no effective treatment options.

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**Date of Request:** 8/27/2025 4:41:00 PM**Related PRNumbers:****Name:** William Crow**Affiliation:** University of Florida**State:** FL**ProjectType:****Crop Information:** Broadleaf Evergreen/Deciduous Tree/Shrub**Scientific Name:** *Pittosporum spp.***Common Name:** Pittosporum**Plant Stage:** Post plant**UseSite:** Cut foliage production p**TradeName:** Trefinti**ActiveIngredients:** cyclobutrifluram**Rate Per Application:** 6.4 fl oz/acre**Volume Per Application:** Chemigation to deliver 6.4 fl oz/acre**Number of Applications:** 2 annually**Application Interval:** 4-6 months**Research Target:****Efficacy Target:** Meloidogyne spp.**Economic Impact:** Root-knot nematodes stunt plants and reduce growth, thereby slowing and preventing yield. Infested fields are either abandoned or planted to less valuable crops.**Labeled Products:** None**Comments:** Florida produces around 90% of cut foliage in the USA and root-knot nematode is the primary soilborne pest on variegated pittosporum, their most high-value crop. Since the deregistration of fenamiphos, cut foliage growers in Florida have no effective treatment options.

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**Date of Request:** 8/28/2025 1:58:00 PM**Related PRNumbers:****Name:** William Crow**Affiliation:** University of Florida**State:** FL**ProjectType:****Crop Information:** Herbaceous Flowering Plant - Annual**Scientific Name:** *Antirrhinum spp.***Common Name:** Snapdragon**Plant Stage:** Pre and post plant**UseSite:** Cut flower production p**TradeName:** Trefinti**ActiveIngredients:** cyclobutrifluram**Rate Per Application:** 6.4 fl oz/acre**Volume Per Application:** Chemigation to deliver 6.4 fl oz/acre**Number of Applications:** 2 annually**Application Interval:** 4-6 months**Research Target:****Efficacy Target:** Meloidogyne spp.**Economic Impact:** Root-knot nematodes reduce yield quantity and quality of cut flower crops in Florida. Currently there are no effective non-fumigant nematode management options and no post-lant options for cut flower production**Labeled Products:** Preplant fumigants**Comments:** Trefinti has potentially less environmental impact than fumigants and can be applied both pre and post plant.

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<b>Date of Request:</b>	9/9/2025 1:37:00 PM	<b>Related PRNumbers:</b>
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<b>Name:</b>	Manjot Sidhu
<b>Affiliation:</b>	Assistant Professor & Ornamental H
<b>State:</b>	ME
<b>ProjectType:</b>	ConductEfficacy
<b>Crop Information:</b>	Herbaceous Flowering Plant
	<b>Scientific Name:</b> <i>Ornamentals</i>
	<b>Common Name:</b> Basil, Impatiens, verben
	<b>Plant Stage:</b> any
<b>UseSite:</b>	Greenhouse/ nursery
<b>TradeName:</b>	any
<b>ActiveIngredients:</b>	any
<b>Rate Per Application:</b>	any
<b>Volume Per Application:</b>	any
<b>Number of Applications:</b>	any
<b>Application Interval:</b>	
<b>Research Target:</b>	Efficacy
<b>Efficacy Target:</b>	Downy mildew
<b>Economic Impact:</b>	Downy mildew has inflicted significant economic damage on Maine's ornamental horticulture industry, particularly through severe outbreaks of impatiens downy mildew (IDM). The impact is felt through lost revenue from destroyed crops, added management costs, and shifts in consumer demand away from susceptible plants
<b>Labeled Products:</b>	
<b>Comments:</b>	

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<b>Date of Request:</b>	9/9/2025 1:38:00 PM	<b>Related PRNumbers:</b>
<b>Name:</b>	Manjot Sidhu	
<b>Affiliation:</b>	Assistant Professor & Ornamental H	
<b>State:</b>	ME	
<b>ProjectType:</b>	ConductEfficacy	
<b>Crop Information:</b>	Herbaceous Flowering Plant - Perennial	
	<b>Scientific Name:</b> <i>Ornamentals</i>	
	<b>Common Name:</b> Delphinium, verbena	
	<b>Plant Stage:</b> any	
<b>UseSite:</b>	Greenhouse/ nursery	
<b>TradeName:</b>	any	
<b>ActiveIngredients:</b>	any	
<b>Rate Per Application:</b>	any	
<b>Volume Per Application:</b>	any	
<b>Number of Applications:</b>	any	
<b>Application Interval:</b>		
<b>Research Target:</b>	Efficacy	
<b>Efficacy Target:</b>	Powdery mildew	
<b>Economic Impact:</b>		
<b>Labeled Products:</b>		
<b>Comments:</b>		

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<b>Date of Request:</b>	9/15/2025 6:53:00 PM	<b>Related PRNumbers:</b>
<b>Name:</b>	Brett Johnson	
<b>Affiliation:</b>	University of Maine Cooperative Ext	
<b>State:</b>	ME	
<b>ProjectType:</b>	ConductEfficacy	
<b>Crop Information:</b>	Broadleaf Evergreen Tree/Shrub	
	<b>Scientific Name:</b> <i>Abies balsamea</i>	
	<b>Common Name:</b> Balsam fir	
	<b>Plant Stage:</b> Active growth	
<b>UseSite:</b>	Christmas trees, Nurser	
<b>TradeName:</b>	Quadris Flowable Fungicide	
<b>ActiveIngredients:</b>	Azoxystrobin 22.9%	
<b>Rate Per Application:</b>	15.5 fl oz./acre	
<b>Volume Per Application:</b>	100 gal/acre	
<b>Number of Applications:</b>	2	
<b>Application Interval:</b>	21 day interval	
<b>Research Target:</b>	Efficacy	
<b>Efficacy Target:</b>	Delphinella shoot blight	
<b>Economic Impact:</b>	Maine is home to at least 238 farms producing Christmas trees and other short rotation woody crops according to the 2022 Census of Agriculture. The Christmas tree and wreath industry is estimated to generate an excess of \$18 million in direct economic impact in Maine and provide nearly 800 jobs. Delphinella shoot blight occurs commonly on balsam and Fraser fir Christmas tree's in Maine, causing current season needle necrosis and shoot dieback. Severely infection leads to reduced grade or culling of trees.	
<b>Labeled Products:</b>		
<b>Comments:</b>	Many products registered for use in christmas tree plantations are recommended for control of Delphinella shoot blight but labels do not currently include the disease. Examples include Echo 90 DF (Chlorothalonil 90%)and Dithane F-45 (Mancozeb 37%). These active ingredients listed previous are protectants. By contrast, Azoxystrobin employs a different mode of action to prevent disease. Adding Christmas tree plantations to use site would provide additional options for resistance management in Delphinella sp. causing Delphinella shoot blight.	

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**Date of Request:** 9/15/2025 6:18:00 PM **Related PRNumbers:**

**Name:** Marianne Elliott

**Affiliation:** Washington State University

**State:** WA

**ProjectType:** ConductCropSafety

**Crop Information:** Narrowleaf Evergreen Tree/Shrub

**Scientific Name:** *Abies spp.*

**Common Name:** Christmas trees

**Plant Stage:** pre-budbreak and/or during growing season

**UseSite:** Field grown Christmas tr

**TradeName:** Segovis

**ActiveIngredients:** Oxathiapiprolin

**Rate Per Application:** 1.2-9.15 fl. oz/25 gal

**Volume Per Application:** 19.3 fl. oz/acre

**Number of Applications:** 1 or 2

**Application Interval:** one application in spring or fall

**Research Target:** Efficacy

**Efficacy Target:** Phytophthora root and crown rot

**Economic Impact:** Phytophthora root disease is increasing due to climate conditions and causes major losses in Christmas tree production in Oregon and Washington. An effective fungicide treatment would be a valuable tool for managing this disease.

**Labeled Products:** Adorn (Fluopicolide), Subdue Maxx (mefenoxam), Sparra (mono- and di-potassium salts of phosph

**Comments:** Preliminary results of a field trial indicate that Segovis (oxathiapiprolin) has the potential to control Phytophthora root rot when it is applied in the spring prior to infections.

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**Date of Request:** 9/15/2025 6:40:00 PM**Related PRNumbers:****Name:** Brett Johnson**Affiliation:** University of Maine Cooperative Ext**State:** ME**ProjectType:** ConductEfficacy**Crop Information:** Broadleaf Evergreen Tree/Shrub**Scientific Name:** *Abies balsamea***Common Name:** Balsam fir**Plant Stage:** Active growth**UseSite:** Christmas trees, Nurser**TradeName:** Quadris Opti**ActiveIngredients:** Azoxystrobin 4.6%; Chlorothalonil 46.0%**Rate Per Application:** 3.2 pints/A**Volume Per Application:** 100 gal/acre**Number of Applications:** 2**Application Interval:** 21 day interval**Research Target:** Efficacy**Efficacy Target:** Lirula needlecast

**Economic Impact:** Maine is home to at least 238 farms producing Christmas trees and other short rotation woody crops according to the 2022 Census of Agriculture. The Christmas tree and wreath industry is estimated to generate an excess of \$18 million in direct economic impact in Maine and provide nearly 800 jobs. Lirula needle cast disease occurs commonly on balsam and Fraser fir Christmas tree's in Maine, causing severe needle loss leading to reduced grade or culling of trees.

**Labeled Products:**

**Comments:** Many products registered for use in christmas tree plantations are recommended for control of Lirula needlecast but labels do not currently include the disease. Examples include Echo 90 DF (Chlorothalonil 90%)and Dithane F-45 (Mancozeb 37%). These active ingredients listed previous are protectants. By contrast, Azoxystrobin employs a different mode of action to prevent disease. Adding Christmas tree plantations to use site would provide more options for resistance management in Lirula spp. causing Lirula needlecast disease.

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<b>Date of Request:</b>	9/15/2025 9:05:00 PM	<b>Related PRNumbers:</b>
<b>Name:</b>	Brett Johnson	
<b>Affiliation:</b>	University of Maine Cooperative Ext	
<b>State:</b>	ME	
<b>ProjectType:</b>	ConductEfficacy	
<b>Crop Information:</b>	Broadleaf Evergreen Tree/Shrub	
	<b>Scientific Name:</b> <i>Abies balsamea</i>	
	<b>Common Name:</b> Balsam fir	
	<b>Plant Stage:</b> Active growth	
<b>UseSite:</b>	Christmas trees, Nurser	
<b>TradeName:</b>	Quadris Flowable Fungicide	
<b>ActiveIngredients:</b>	Azoxystrobin 22.9%	
<b>Rate Per Application:</b>	15.5 fl oz./acre	
<b>Volume Per Application:</b>	100 gal/acre	
<b>Number of Applications:</b>	2	
<b>Application Interval:</b>	21 day interval	
<b>Research Target:</b>	Efficacy	
<b>Efficacy Target:</b>	Lirula needlecast	
<b>Economic Impact:</b>	Maine is home to at least 238 farms producing Christmas trees and other short rotation woody crops according to the 2022 Census of Agriculture. The Christmas tree and wreath industry is estimated to generate an excess of \$18 million in direct economic impact in Maine and provide nearly 800 jobs. Lirula needle cast disease occurs commonly on balsam and Fraser fir Christmas tree's in Maine, causing severe needle loss leading to reduced grade or culling of trees.	
<b>Labeled Products:</b>		
<b>Comments:</b>	Many products registered for use in christmas tree plantations are recommended for control of Lirula needlecast but labels do not currently include the disease. Examples include Echo 90 DF (Chlorothalonil 90%)and Dithane F-45 (Mancozeb 37%). These active ingredients listed previous are protectants. By contrast, Azoxystrobin employs a different mode of action to prevent disease. Adding Christmas tree plantations to use site would provide more options for resistance management in Lirula spp. causing Lirula needlecast disease.	

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<b>Date of Request:</b>	9/15/2025 9:08:00 PM	<b>Related PRNumbers:</b>
<b>Name:</b>	Brett Johnson	
<b>Affiliation:</b>	University of Maine Cooperative Ext	
<b>State:</b>	ME	
<b>ProjectType:</b>	ConductEfficacy	
<b>Crop Information:</b>	Broadleaf Evergreen Tree/Shrub	
	<b>Scientific Name:</b> <i>Abies balsamea</i>	
	<b>Common Name:</b> Balsam fir	
	<b>Plant Stage:</b> Active growth	
<b>UseSite:</b>	Christmas trees, Nurser	
<b>TradeName:</b>	Quadris Flowable Fungicide	
<b>ActiveIngredients:</b>	Azoxystrobin 22.9%	
<b>Rate Per Application:</b>	15.5 fl oz./acre	
<b>Volume Per Application:</b>	100 gal/acre	
<b>Number of Applications:</b>	2	
<b>Application Interval:</b>	21 day interval	
<b>Research Target:</b>	Efficacy	
<b>Efficacy Target:</b>	Delphinella shoot blight	
<b>Economic Impact:</b>	Maine is home to at least 238 farms producing Christmas trees and other short rotation woody crops according to the 2022 Census of Agriculture. The Christmas tree and wreath industry is estimated to generate an excess of \$18 million in direct economic impact in Maine and provide nearly 800 jobs. Delphinella shoot blight occurs commonly on balsam and Fraser fir Christmas tree's in Maine, causing current season needle necrosis and shoot dieback. Severely infection leads to reduced grade or culling of trees.	
<b>Labeled Products:</b>		
<b>Comments:</b>	Many products registered for use in christmas tree plantations are recommended for control of Delphinella shoot blight but labels do not currently include the disease. Examples include Echo 90 DF (Chlorothalonil 90%)and Dithane F-45 (Mancozeb 37%). These active ingredients listed previous are protectants. By contrast, Azoxystrobin employs a different mode of action to prevent disease. Adding Christmas tree plantations to use site would provide additional options for resistance management in Delphinella sp. causing Delphinella shoot blight.	

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**Date of Request:** 9/15/2025 9:36:00 PM **Related PRNumbers:**

**Name:** Brett Johnson

**Affiliation:** University of Maine Cooperative Ext

**State:** ME

**ProjectType:** ConductEfficacy

**Crop Information:** Broadleaf Evergreen Tree/Shrub

**Scientific Name:** *Abies balsamea*

**Common Name:** Balsam fir

**Plant Stage:** Active growth

**UseSite:** Christmas trees, Nurser

**TradeName:** Armada 50 WG

**ActiveIngredients:** Triadimefon 41.67%, Trifloxystrobin 8.33%

**Rate Per Application:** 9 oz/acre

**Volume Per Application:** 100 gal/acre

**Number of Applications:** 2

**Application Interval:** 21 day interval

**Research Target:** Efficacy

**Efficacy Target:** Lirula needlecast

**Economic Impact:** Maine is home to at least 238 farms producing Christmas trees and other short rotation woody crops according to the 2022 Census of Agriculture. The Christmas tree and wreath industry is estimated to generate an excess of \$18 million in direct economic impact in Maine and provide nearly 800 jobs. Lirula needle cast disease occurs commonly on balsam and Fraser fir Christmas tree's in Maine, causing severe needle loss leading to reduced grade or culling of trees.

**Labeled Products:**

**Comments:** Many products registered for use in christmas tree plantations are recommended for control of Lirula needlecast but labels do not currently include the disease. Examples include Echo 90 DF (Chlorothalonil 90%)and Dithane F-45 (Mancozeb 37%). These active ingredients listed previous are protectants. By contrast, Azoxystrobin employs a different mode of action to prevent disease. Adding Christmas tree plantations to use site would provide more options for resistance management in Lirula spp. causing Lirula needlecast disease.

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<b>Date of Request:</b>	9/15/2025 9:29:00 PM	<b>Related PRNumbers:</b>
<b>Name:</b>	Brett Johnson	
<b>Affiliation:</b>	University of Maine Cooperative Ext	
<b>State:</b>	ME	
<b>ProjectType:</b>	ConductEfficacy	
<b>Crop Information:</b>	Broadleaf Evergreen Tree/Shrub	
	<b>Scientific Name:</b> <i>Abies balsamea</i>	
	<b>Common Name:</b> Balsam fir	
	<b>Plant Stage:</b> Active growth	
<b>UseSite:</b>	Christmas trees, Nurser	
<b>TradeName:</b>	Armada 50 WG	
<b>ActiveIngredients:</b>	Trifloxystrobin 42.6%	
<b>Rate Per Application:</b>	9 oz/acre	
<b>Volume Per Application:</b>	100 gal/acre	
<b>Number of Applications:</b>	3	
<b>Application Interval:</b>	14 day intervals	
<b>Research Target:</b>	Efficacy	
<b>Efficacy Target:</b>	Delphinella shoot blight	
<b>Economic Impact:</b>	Maine is home to at least 238 farms producing Christmas trees and other short rotation woody crops according to the 2022 Census of Agriculture. The Christmas tree and wreath industry is estimated to generate an excess of \$18 million in direct economic impact in Maine and provide nearly 800 jobs. Delphinella shoot blight occurs commonly on balsam and Fraser fir Christmas tree's in Maine, causing current season needle necrosis and shoot dieback. Severely infection leads to reduced grade or culling of trees.	
<b>Labeled Products:</b>		
<b>Comments:</b>	Many products registered for use in christmas tree plantations are recommended for control of Delphinella shoot blight but labels do not currently include the disease. Examples include Echo 90 DF (Chlorothalonil 90%)and Dithane F-45 (Mancozeb 37%). These active ingredients listed previous are protectants. By contrast, Azoxystrobin employs a different mode of action to prevent disease. Adding Christmas tree plantations to use site would provide additional options for resistance management in Delphinella sp. causing Delphinella shoot blight.	

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<b>Date of Request:</b>	9/11/2025 4:30:00 PM	<b>Related PRNumbers:</b>
<b>Name:</b>	Brett Johnson	
<b>Affiliation:</b>	University of Maine Cooperative Ext	
<b>State:</b>	ME	
<b>ProjectType:</b>	ConductCropSafety	
<b>Crop Information:</b>	Broadleaf Evergreen Tree/Shrub	
	<b>Scientific Name:</b> <i>Abies balsamea</i>	
	<b>Common Name:</b> Balsam fir	
	<b>Plant Stage:</b> Active growth	
<b>UseSite:</b>	Christmas trees, Nurser	
<b>TradeName:</b>	Quadris Opti	
<b>ActiveIngredients:</b>	Azoxystrobin 4.6%; Chlorothalonil 46.0%	
<b>Rate Per Application:</b>	3.2 pints/A	
<b>Volume Per Application:</b>	100 gal/acre	
<b>Number of Applications:</b>	2	
<b>Application Interval:</b>	21 day interval	
<b>Research Target:</b>	Efficacy	
<b>Efficacy Target:</b>	Delphinella shoot blight	
<b>Economic Impact:</b>	Maine is home to at least 238 farms producing Christmas trees and other short rotation woody crops according to the 2022 Census of Agriculture. The Christmas tree and wreath industry is estimated to generate an excess of \$18 million in direct economic impact in Maine and provide nearly 800 jobs. Delphinella shoot blight occurs commonly on balsam and Fraser fir Christmas tree's in Maine, causing current season needle necrosis and shoot dieback. Severely infection leads to reduced grade or culling of trees.	
<b>Labeled Products:</b>		
<b>Comments:</b>	Many products registered for use in christmas tree plantations are recommended for control of Delphinella shoot blight but labels do not currently include the disease. Examples include Echo 90 DF (Chlorothalonil 90%)and Dithane F-45 (Mancozeb 37%). These active ingredients listed previous are protectants. By contrast, Azoxystrobin employs a different mode of action to prevent disease. Adding Christmas tree plantations to use site would provide more options for resistance management in Delphinella sp. causing Delphinella shoot blight.	

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