

Eastern Region Nursery and Greenhouse Program
Danny Lauderdale, Area Specialized Agent



Eastern NC Nursery News

April 2019

Find the latest information about nursery production in Eastern NC below!

[Visit Danny's Website](#)

Chamaecyparis and Thuja Diagnoses

Last year I included an article in this newsletter about historical diagnoses of problems with *Cryptomeria japonica* plants sent to the NC State University Plant Disease and Insect Clinic. You might recall, if you read that information, that the majority of this plant species issues were diagnosed as abiotic or general which was a combination of unknown non-disease damage, environmental stress, cold injury, low pH, and high soluble salts.

Marshall Warren, Extension Agent in Johnston County, recently shared during a Nursery and Greenhouse working group planning meeting that the Johnston County Nursery Association had discussions concerning production problems with not only *Cryptomeria* but also *Chamaecyparis* and *Thuja* species. So I decided to dig a little deeper and get more information on these two as well.

Mike Munster with the Clinic shared diagnosis information on samples submitted from nurseries between 2008 and 2018.

I guess it should not be a surprise that the overwhelming majority of samples had similar diagnoses (general or abiotic). Reports were a range of unknown disorders (no disease or insect), cultural, environmental, low pH, and high soluble salts. The second most common in both genera were crown, root, and stem rots caused by *Phytophthora* species. This should not be a big surprise since both are not tolerant of wet conditions that encourage these diseases. There were also a mix of other fungi caused diseases including



Water management is key to avoid problems with *Thuja* (in image), *Chamaecyparis*, and *Cryptomeria* species.

Phomopsis, *Pythium*, and *Rhizoctonia* species that are encouraged by wet conditions.

Although it is impossible to control the weather conditions that may have led to the resulting decline of many of the plants, it is possible to organize production based on irrigation needs to avoid overwatering sensitive species, ensure planting of field stock in well drained areas and not too deep, closely monitor pH and soluble salts, ensure adequate spacing, monitor sales and species demand to avoid holding container plants too long, plant field grown stock where there is good air drainage to help prevent cold injury, avoid heavy summer or fall quick release fertilizer applications, and provide adequate winter protection of container plants. If you have container production of any of these and disease problems are a frequent issue, growing them in a covered production area where you can better manage water might be an option?

If you have a specific production issue you need assistance with contact me and/or your County Extension Agent and we will work with you to devise a plan of action.

Red Headed Flea Beetle Update



RHFB larva in container.

It is time to think about management of red headed flea beetle (RHFB), *Systema frontalis*, for 2019. As temperatures warm over the next few weeks we will start to make great gains in Growing Degree Days based on 50 degrees F (GDD). Plants kept in overwintering houses may have first generation larvae hatch as early as 250 GDD. Those outdoors for the winter may not have it begin until after 400 GDD. As of April 1 we have accumulated the following GDD at these general locations:

Raleigh 177 GDD, Greenville 246.5 GDD, Fayetteville 302.5 GDD, Wilmington 420 GDD

You can scout for larvae on warm days shortly after irrigation of container plants by pulling root balls out of containers and rotating them looking for larvae. When larvae are active in containers they are very susceptible to

acephate based on my research with Acephate 97UP. I have achieved 92% and 100% control of larvae with container drenches mixed at a rate of 12 ounces of this product per 100 gallons of water. This treatment, if applicable in your situation, can get you off to a great start with management of RHFB because you control many of them before they ever become adults.

If you want to monitor GDD yourself try one of these sites:

<http://uspest.org/cgi-bin/ddmodel.us>

<http://www.greencastonline.com/growing-degree-days/home>

I have posted links to several informational resources about RHFB on my [website](#).

If you have questions about controlling RHFB, need help getting started monitoring GDD, or want to develop an Integrated Pest Management Plan for this insect, contact me and we can work on a management plan for your situation.

Intelligent Sprayer

During visits to Ohio and Tennessee last year I was able to learn about intelligent sprayer technologies being worked on by the USDA-ARS, The Ohio State University, University of Tennessee, and Oregon State University. These sprayers are modified orchard/nursery

air-blast sprayers with a laser scanning system, variable flow rate controller, and multi-channel air-assisted nozzles.

These sprayers reduce under- and over-spray, reduce spray loss and drift beyond tree canopies by 40 to 87%, reduce ground spray loss by 68 to 93%, reduce spray volume by 47 to 73%, and save \$100 to \$230 per acre in pesticide products while providing effective pest control.

More information including video and availability of this sprayer can be found at:
[The World's First Intelligent Sprayer](#)
[Nursery Management: Intelligent Sprayer](#)



**One version of the intelligent sprayer.
(photo by Amy Fulcher, UTIA)**

Pesticide disclaimer: Recommendations for the use of agricultural chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by NC Cooperative Extension nor discrimination against similar products or services not mentioned.

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The Eastern Region Nursery and Greenhouse Program at NC Cooperative Extension is your source for research-based production information for greenhouse and nursery crops in Eastern North Carolina.

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