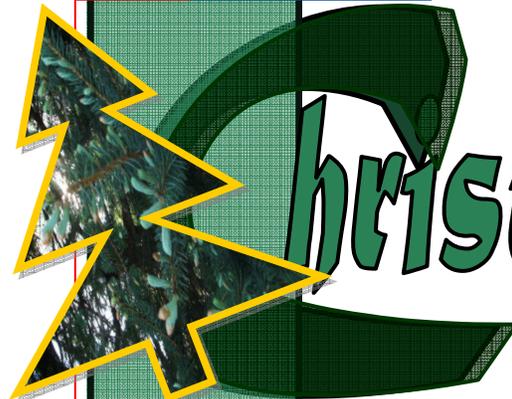


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Christmas Tree Newsletter

November - January 2018

National Christmas Tree Survey

Each year, the National Christmas Tree Association contracts with Harris Interactive, nationally recognized market research firm, to conduct the annual consumer tracking poll. To give an accurate measurement of consumer trends, the poll asks the same core questions, uses the same methodology and is conducted at the same time each year.

Real Market Value 2016

Tree Type	Mean Dollars Spent	Number Purchased	Retail Value (\$)
Real Trees	\$74.70	27.4 million	\$2.04 billion
Fake trees	\$98.70	18.6 million	\$1.86 billion

WHAT THE NUMBERS MEAN

- These figures are from the annual consumer tracking poll commissioned by NCTA and conducted by Nielsen.
- Note: Mean average dollars spent is NOT a measurement of the average price/cost of trees. It is only a measurement of what consumers taking the poll spent on the trees they purchased. It is inaccurate to report that the "average Christmas Tree cost \$74.70 in 2016."
- Recent price increases are due to a tighter supply of harvestable size Christmas trees. The current tight supply situation results from fewer trees being planted 7 to 10 years ago. This was due to a combination of excess supply at that time and the recession both pushing prices downward, along with some growers exiting the business.

Real Tree Type Purchases in 2016

Pre-Cut 77% Cut My Own 23%

Christmas Tree Purchase Figures Since 2006 (in millions)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Real	28.6	31.3	28.2	28.2	27.0	30.8	24.5	33.02	26.3	25.9	27.4
Fake	9.3	17.4	11.7	11.7	8.2	9.5	10.9	14.7	13.9	12.5	18.6

Where People Buy Real Christmas Trees

Location	2008	2009	2010	2011	2012	2013	2014	2015	2016
Choose & Harvest Farm	31%	32%	33%	31%	24%	27%	26%	32%	23%
Nursery/Garden Center	11%	10%	12%	15%	11%	8%	13%	10%	16%
Chain Stores	24%	20%	21%	16%	24%	33%	28%	26%	29%
Retail Lots	7%	17%	13%	14%	15%	22%	19%	10%	20%
Non Profit Groups	18%	13%	9%	13%	15%	6%	9%	12%	9%
Other	9%	8%	12%	11%	11%	4%	5%	10%	4%

Source Consumer Surveys commissioned by NCCTA. Data can be found at <http://christmastree.org/dnn/News-Media/Industry-Statistics/Consumer-Survey>

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Update - Elongate Hemlock Scale in Southern Markets

In recent years Florida officials have expressed concern over the Elongate Hemlock Scale (EHS) and its impact on their native conifers. Growers are naturally concerned how this might impact their shipments, inspections and ultimately whether or not their trees make it to their final destination.

Jim Corbin NCDA & CS Plant Inspector (now retired) shares some helpful tips:

1. Florida has 0 tolerance for hemlock elongate scale.
2. How can we address this issue?
 - Quality control at the farm, mark infected plants during scouting, utilize a power spray when bailing infected trees. Entry into Florida is based on live insects, if not present entry is not a problem.
 - Inform growers to use quality control on bought out trees to fill gaps in orders, do not accept substandard trees, in the end this effects the entire industry.
 - Inform growers to treat pests based on yearly life cycles for heightened control.



Note - If requested NCDA & CS issues State and Federal Phytos according to strict operational procedures based on receiving state and country requirements and data bases. During the shipping season NCDA Specialists need a 10 to 14 day notification to conduct an inspection. In order to maintain our integrity we do not deviate from these rules. A fact to remember, as growers send clean trees, each year integrity is established.

To better understand the incidence of EHS, Dr. Jill Sidebottom and Christy Bredenkamp traveled to stores/lots in North Carolina, Georgia and Florida from November 23 to December 3, 2016. Locations visited include Marion, Morganton, Hickory, Sylva, Franklin in North Carolina; Clayton, Cornelia, Commerce, Athens, Madison, Valdosta in Georgia; and Gainesville, Ocala, Lady Lake, Leesburg, Inverness, Crystal River in Florida.

Trees were evaluated by walking past baled trees stacked at the varying lots looking for visual signs of EHS. Only those trees that were easily visible along the walkways and outside periphery were inspected. A tally was kept of the total number of trees examined as well as the number of trees with scale. Trees were categorized as lightly infested (from as little as one scale on the tree to scales on one to several shoots), heavily infested (the majority of the foliage infested) or somewhere in-between (medium infested). Wreaths and other greenery were also inspected.



Overall, 70% of stores had some level of scale infestation and this didn't vary between the states. EHS was also observed on Douglas fir in both Georgia and Florida, these trees coming from somewhere other than North Carolina.

Monies to help fund this research project is from the North Carolina Christmas Tree Association, and includes additional work on Evaluating Sivanto for Cinara aphid control in the fall, how elongate hemlock scale (EHS) is impacting Christmas tree markets in Florida and the the extent of EHS in hemlocks and other conifers in Georgia and eastern North Carolina.

Elongate Hemlock Scale Host Study

By now many of you may have heard of Florida's request for a host study to determine the potential for EHS to become a pest of conifers grown in Florida. This "host" work is being supported through grants from the Christmas Tree Promotion board. Dr. Jill Sidebottom is working with Dr. Adam Dale, Turf and Ornamental Entomologist at the University of Florida in Gainesville on this project.

Dr. Trevor Smith, Division of Plant Industry Director in Florida, stated in a January 31, 2017 letter to Mr. Phil Wilson, State Plant Regulatory Officer, North Carolina that a "robust" host study of trees in the families of Cupressaceae, Pinaceae and Taxaceae would "alleviate some of the concerns" in Florida. A list of potential hosts of 19 conifer species was included. In working with Dr. Dale, several species were dropped and others added to reflect the major conifer species in Florida and those that could potentially be impacted. Also included in the study are known hosts not grown in Florida like hemlocks, Fraser fir, and blue spruce to demonstrate that the infestation techniques are working and perhaps determine if even known hosts vary in their susceptibility.

The host species in Florida included in the study are listed below. Note that Florida USDA Plant Hardiness Zones go from 8a in northern Florida to 11a in the Keys:

1. Florida torreyia (*Torreya taxiflora*) – native to Florida, endangered species, USDA Plant Hardiness Zone 6a – 9a
2. Florida yew (*Taxus floridana*) – native to Florida, endangered species, Zone 8a - 9b
3. Atlantic white cedar (*Chamaecyparis thyoides*) – native to North America, documented in north-central Florida Zone 4 – 9
4. Leyland cypress (*Cupressus X leylandii*) – widely planted across the US and Florida, Zone 5 - 9
5. Sand pine (*Pinus clausa*) – widespread in Florida, most common choose and cut Christmas tree in Florida, Zone 8 - 9
6. Spruce pine (*Pinus glabra*) – found in northern Florida, occasionally grown by Florida Christmas tree growers, Zone 8 - 9
7. Virginia pine (*Pinus virginiana*) – native to eastern North America, occasionally grown by Florida Christmas tree growers, Zone 4 - 8
8. Southern eastern red cedar (*Juniperus virginiana* var. *silicicola*) – native to Florida and used by Florida Christmas tree growers. I couldn't find the planting zone for this variety. Eastern red cedar is found in USDA zone 2 - 9. Reports of some southern eastern red cedar as far as Ohio.
9. 'Green Giant' arborvitae (*Platycladus orientalis*) – occasionally grown by Florida Christmas tree growers, Zone 5 – 7
10. 'Blue Ice' Arizona cypress (*Cupressus arizonica*) – native to southwestern US not found in Florida but grown by Florida Christmas tree growers, Zone 6 - 9
11. Slash pine (*Pinus elliottii*) – widespread throughout Florida, important forest tree, Zone 7 - 11
12. Loblolly pine (*Pinus taeda*) – widespread throughout Florida, important forest tree, Zone 6b – 9b
13. Deodar cedar (*Cedrus deodara*) – native to Asia, found single EHS in landscape in Hickory, not commonly grown in Florida and considered an invasive species, Zone 7 - 9
14. Eastern hemlock (*Tsuga canadensis*) – not grown in Florida but known host – used as check to make sure infestation techniques are working, Zone 3 - 7
15. Fraser fir (*Abies fraseri*) – not grown in Florida known host – used a check to make sure infestation techniques are working, Zone 4 - 7
16. Blue spruce (*Picea pungens*) – not grown in Florida and not as common a host as Fraser fir and hemlocks but found occasionally – used as an intermediary host, Zone 3 - 7

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Host Study continued from pg 3.



The study will be conducted in the greenhouse at the Mountain Horticultural Crops Research Station in Mills River. The greenhouse will be maintained above 50°F at night through the winter to mimic conditions in Florida. Twenty-five plants of each species will be arranged in five replications of five trees each on benches in the greenhouse. A four-inch branch of heavily infested Fraser fir will be attached to each plant with a zip-tie in late September. A second infested branch will be attached in mid-November which will more closely mimic the potential for spread from cut Fraser fir sold in Florida at Christmas. Trees may be infested again in May depending on results through the winter. A plant will be considered a host if the EHS is able to attach, feed, grow to maturity, and support reproduction.

A preliminary study this spring to test infestation techniques resulted in abundant crawlers moving onto Fraser fir and hemlocks, but few surviving on the blue spruce. Immature scales were found on needles within two weeks and adult scales within two months.



Happy Holidays

Christy Bredenkamp, Extension Agent
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