

Pest management Resources Online for New England (*PRONewEngland.org*)

Christmas Tree Pest Management Survey



This survey should be completed by the person most responsible for crop management decisions on your farm.

Do you grow Christmas trees for sale? (Please circle your answer)

Yes ----> continue with question A1.

No ----> if no, please answer the questions on the **last page** and return this questionnaire using the self-addressed stamped envelope – Thank you!

Please fill in the blanks or circle your answers where indicated in the questions below for Christmas trees.

A1. How many acres of Christmas trees did you manage in 2007? _____ Acres

A2. Over the past five years, what is your average annual yield of harvested Christmas trees per acre?

_____ Crop unit/Acre

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A3. What percentage of your Christmas trees is:

Balsam Fir	_____ %
Frasier Fir	_____ %
Douglas Fir	_____ %
Scotch Pine	_____ %
White Pine	_____ %
Blue Spruce	_____ %
Concolor Fir	_____ %
Others (specify _____)	_____ %

Total = 100 %

A4. What percentage of your Christmas tree crop is sold through each of the following markets?

Cut-your-own	_____ %
Fresh market, wholesale	_____ %
Fresh market, retail farm stand	_____ %
Other (specify _____)	_____ %

Total 100 %

Horticultural Management for Christmas trees

B1. Which of the following pruning practices do you use? Please circle all that apply.

Shearing
Thinning
Other (please specify) _____

B2. Do you use needle analysis to determine fertilizer needs? Please circle yes or no.

Yes or No

If yes, how frequently is it performed? Please circle the answer that best fits your practices.

1 time each year
Every other year
Every third year
Other (please specify) _____

Continue to next page

B3. Do you use a soil sample to determine fertilizer needs in most years? Please circle yes or no.

Yes or No

If yes, how frequently is it performed? Please circle the best answer.

1 time each year

Every other year

Every third year

Other (please specify) _____

B4. Which soil and/or nutrient management practices do you use? Please circle all that apply.

Annual broadcast fertilizer application

Alternate year broadcast fertilizer application

Annual banded fertilizer application

Alternate year banded fertilizer application

Annual compost application

Foliar fertilization

Other (please specify) _____

General Pest Management Information for Christmas trees

C1. Which of these insects/mites require routine annual management, require occasional management, or are never a problem in your Christmas trees? Please circle and rate all that apply.

<u>Insects & Mites</u>	<u>Frequency of required management</u>		
Sawfly larvae	Routine, annual management	Occasional	Never a problem
Pine webworm	Routine, annual management	Occasional	Never a problem
Spruce budworm	Routine, annual management	Occasional	Never a problem
Spruce needleminer	Routine, annual management	Occasional	Never a problem
Balsam gall midge	Routine, annual management	Occasional	Never a problem
Spruce spider mite	Routine, annual management	Occasional	Never a problem
Pine shoot borer	Routine, annual management	Occasional	Never a problem
White pine weevil	Routine, annual management	Occasional	Never a problem
Spruce gall adelgid	Routine, annual management	Occasional	Never a problem
Pine needle scale	Routine, annual management	Occasional	Never a problem
Pine root collar weevil	Routine, annual management	Occasional	Never a problem
Other insect/mite (Specify: _____)	Routine, annual management	Occasional	
Other insect/mite (Specify: _____)	Routine, annual management	Occasional	

Continue to next page

C2. Which of these diseases require routine annual management, require occasional management, or are never a problem on your Christmas trees? Please circle and rate all that apply.

<u>Diseases</u>	<u>Frequency of required management</u>		
Rhizosphaera needlecast	Routine, annual management	Occasional	Never a problem
Rhabdocline needlecast	Routine, annual management	Occasional	Never a problem
Repeating spruce needle rust	Routine, annual management	Occasional	Never a problem
Cytospora canker	Routine, annual management	Occasional	Never a problem
Diplodia shoot blight	Routine, annual management	Occasional	Never a problem
Sirococcus Blight	Routine, annual management	Occasional	Never a problem
White Pine blister rust	Routine, annual management	Occasional	Never a problem
Botrytis Blight	Routine, annual management	Occasional	Never a problem
Phytophthora root rot	Routine, annual management	Occasional	Never a problem
Swiss needlecast	Routine, annual management	Occasional	Never a problem
Other diseases:(Specify: _____)	Routine, annual management	Occasional	
Other diseases:(Specify: _____)	Routine, annual management	Occasional	

C3. Which of these weed types require routine annual management, require occasional management, or are never a problem on your Christmas trees? Please circle and rate all that apply.

<u>Weeds</u>	<u>Frequency of required management</u>		
Annual Broadleaf Weeds	Routine, annual management	Occasional	Never a problem
Perennial Broadleaf Weeds	Routine, annual management	Occasional	Never a problem
Annual Grasses	Routine, annual management	Occasional	Never a problem
Perennial Grasses	Routine, annual management	Occasional	Never a problem

C4. Which of these vertebrate pests require routine annual management, require occasional management, or are never a problem on your Christmas trees? Please circle and rate all that apply.

<u>Vertebrate pests</u>	<u>Frequency of required management</u>		
Deer	Routine, annual management	Occasional	Never a problem
Birds	Routine, annual management	Occasional	Never a problem
Pine Voles	Routine, annual management	Occasional	Never a problem
Mice	Routine, annual management	Occasional	Never a problem
Other Vertebrate pest (Specify: _____)	Routine, annual management	Occasional	
Other Vertebrate pest (Specify: _____)	Routine, annual management	Occasional	

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In order to document the importance of various pesticides and alternative strategies to Christmas tree production, the following sections D-F ask for information about your pest management methods and actual pesticide use.

D. Insect and Mite Pest Management for Christmas trees

D1. Which of the following methods did you use to manage insects or mite pests?

Please circle all that apply.

- a) Field scouting for mites
- b) Field scouting for other pests (Please specify _____)
- c) Release ladybeetles
- d) Release predatory mites
- e) Handpicking of insect pests
- f) Remove weeds that may harbor insect pests
- g) Provide wild host plants of beneficial insects
- h) Avoid excess N fertilizer application
- i) Read state or regional pest alerts/newsletter
- j) None
- k) Other (please explain) _____

Continue to next page

D2. Please indicate the number of applications that you made for Christmas trees in 2007 with the following insecticides and miticides. Please select a number of applications for each product, even if none.

<u>Insecticide(s) and Miticide(s) used</u>	<u>Number of Applications</u>					
Affirm, Avermectin, Avid (abamectin)	1	2	3	4	none	other _____
Asana XL, Halmark (esfenvalerate)	1	2	3	4	none	other _____
Carbax, Kelthane (dicofol)	1	2	3	4	none	other _____
Dipel (Bacillus thuringiensis var. kurstaki)	1	2	3	4	none	other _____
Dimilin (diflubenzuron + dormant oil)	1	2	3	4	none	other _____
Dursban (chlorpyrifos)	1	2	3	4	none	other _____
Floramite (bifenazate)	1	2	3	4	none	other _____
Horticultural oil	1	2	3	4	none	other _____
Merit (imidacloprid)	1	2	3	4	none	other _____
Orthene, Asataf, (acephate)	1	2	3	4	none	other _____
Sevin (carbaryl)	1	2	3	4	none	other _____
Talstar, Capture (bifenthrin)	1	2	3	4	none	other _____

Other Pesticide used:

Please specify: _____	1	2	3	4	none	other _____
Please specify: _____	1	2	3	4	none	other _____

Continue to next page

For each of the following insects and mites, indicate the **percentage of your total Christmas tree crop treated in 2007**. If you **did not treat for the pest**, put “0” in the “percent treated” slot. **Please do not leave the answer slot blank**. If question is left blank, we won’t know whether you meant zero percent treated or if you skipped the question.

Please circle the insecticides and miticides that you use and rate their effectiveness (Excellent, Good, or Poor). If you used non-pesticide methods to manage a pest, please list and rate them in the “Other Methods Used” area.

D3. Sawfly larvae

a) Percent of Christmas trees treated for sawfly larvae in 2007 _____%

b) **Insecticide(s) and Miticide(s) used.** Please circle and rate all the products that you used.

	<u>Effectiveness</u>		
	Excellent	Good	Poor
Sevin (carbaryl)	Excellent	Good	Poor
Dursban (chlorpyrifos)	Excellent	Good	Poor
Merit (imidacloprid)	Excellent	Good	Poor
Asana XL, Halmark (esfenvalerate)	Excellent	Good	Poor
Orthene, Asataf, (acephate)	Excellent	Good	Poor
Talstar, Capture (bifenthrin)	Excellent	Good	Poor
Other Insecticide or Miticide used: Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

Continue to next page

D4. Balsam gall midge

a) Percent of Christmas trees treated for Balsam gall midge in 2007 _____%

b) **Insecticide(s) and Miticide(s) used.** Please circle and rate all the products that you used.

	<u>Effectiveness</u>		
Sevin (carbaryl)	Excellent	Good	Poor
Dursban (chlorpyrifos)	Excellent	Good	Poor
Other Insecticide or Miticide used:			
Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

D5. Spruce spider mite

a) Percent of Christmas trees treated for Spruce spider mite in 2007 _____%

b) **Insecticide(s) and Miticide(s) used.** Please circle and rate all the products that you used.

	<u>Effectiveness</u>		
Affirm, Avermectin, Avid (abamectin)	Excellent	Good	Poor
Dursban (chlorpyrifos)	Excellent	Good	Poor
Carbax, Kelthane (dicofol)	Excellent	Good	Poor
Talstar, Capture (bifenthrin)	Excellent	Good	Poor
Other Insecticide or Miticide used:			
Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

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D6. White pine weevil

a) Percent of Christmas trees treated for White pine weevil in 2007 _____%

b) **Insecticide(s) and Miticide(s) used.** Please circle and rate all the products that you used.

	<u>Effectiveness</u>		
Dursban (chlorpyrifos)	Excellent	Good	Poor
Dimilin (duflubenzuron + dormant oil)	Excellent	Good	Poor
Talstar, Capture (bifenthrin)	Excellent	Good	Poor
Other Insecticide or Miticide used: Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

D7. Pine Root Collar Weevil

a) Percent of Christmas trees treated for Pine root collar weevil in 2007 _____%

b) **Insecticide(s) and Miticide(s) used.** Please circle and rate all the products that you used.

	<u>Effectiveness</u>		
Orthene, Asataf, (acephate)	Excellent	Good	Poor
Talstar, Capture (bifenthrin)	Excellent	Good	Poor
Other Insecticide or Miticide used: Please specify: _____	Excellent	Good	Poor
Other(non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

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D8. Pine shoot borer

a) Percent of Christmas trees treated for Pine shoot borer in 2007 _____%

Continue to next page

b) Insecticide(s) and Miticide(s) used. Please circle and rate all the products that you used.

	<u>Effectiveness</u>		
Merit (imidacloprid) foliar spray	Excellent	Good	Poor
Merit (imidacloprid) soil application	Excellent	Good	Poor
Talstar, Capture (bifenthrin)	Excellent	Good	Poor
Other Insecticide or Miticide used: Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

D9. Other Insect/Mite Pests. Please Specify _____

a) Percent of Christmas trees crop treated for Other Insect/Mite(s) in 2007 _____%

b) **Pesticide/Methods used.** Please list.

	<u>Effectiveness</u>		
_____	Excellent	Good	Poor
_____	Excellent	Good	Poor
_____	Excellent	Good	Poor
_____	Excellent	Good	Poor

Continue to next page

Disease Management for Christmas trees

E1. Which of the following practices did you use to manage diseases in Christmas trees?

Please circle all that apply.

- Remove all wild Christmas trees within 600 feet of planting
- Use certified pest-free plants
- Disease tolerant varieties
- Application of fungicides
- Prune out diseased plants
- Plant rows in direction of prevailing winds
- Plant on 5-6-ft spacing
- Other (Please specify) _____

E2. Please indicate the number of applications that you made for Christmas trees in 2007 with the following fungicides and bactericides. Please select a number of applications for each product, even if none.

<u>Fungicides and Bactericides(s) used</u>	<u>Number of Applications</u>					
Banrot (thiophanate-methyl plus etridiazole)	1	2	3	4	none	other _____
Subdue (mefenoxam)	1	2	3	4	none	other _____
Terrazol, Truban (etridiazole)	1	2	3	4	none	other _____
Ferbam, Carbamate (ferbam)	1	2	3	4	none	other _____
Daconil (chlorothalonil)	1	2	3	4	none	other _____
Cleary's 3336 (thiophanate-methyl)	1	2	3	4	none	other _____
Other Pesticide(s) used:						
Please specify: _____	1	2	3	4	none	other _____
Please specify: _____	1	2	3	4	none	other _____

Continue to next page

For each of the following diseases, indicate the **percentage of your total Christmas tree crop treated in 2007**. If you **did not treat for the disease**, put “0” in the “percent treated” slot. **Please do not leave the answer slot blank**. If question is left blank, we won’t know whether you meant zero percent treated or if you skipped the question.

Please circle the pesticides that you used and rate their effectiveness (Excellent, Good, or Poor). If you used non-pesticide methods to manage a disease, please specify them in the “**Other Methods Used**” area.

E3. Phytophthora root rot

a) **Percent of Christmas trees treated for Phytophthora root rot in 2007** _____%

b) **Fungicides & Bactericides used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
Barrot (thiophanate-methyl plus etridiazole)	Excellent	Good	Poor
Subdue (mefenoxam)	Excellent	Good	Poor
Daconil (chlorothalonil)	Excellent	Good	Poor
Terrazole, Truban (etridiazole)	Excellent	Good	Poor
Other fungicide or bactericide used: Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

E4. Botrytis blight

a) **Percent of Christmas trees treated for Botrytis blight in 2007** _____%

b) **Fungicides & Bactericides used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
Ferbam, (ferbam)	Excellent	Good	Poor
Cleary’s 3336 (thiophanate-methyl)	Excellent	Good	Poor
Daconil (chlorothalonil)	Excellent	Good	Poor
Protect (mancozeb)	Excellent	Good	Poor
Phyton 27 (copper sulfate pentahydrate)	Excellent	Good	Poor
Other fungicide or bactericide used: Please specify: _____	Excellent	Good	Poor
Other Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

E5. Sirococcus Blight

a) **Percent of Christmas trees treated for Sirococcus Blight in 2007** _____%

b) **Fungicides & Bactericides used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
TwoSome (chlorothalonil + fenarimol)	Excellent	Good	Poor
Spectro 90 WDG (thiophanate-methyl + chlorothalonil)	Excellent	Good	Poor
Bravo, Daconil 2787 (chlorothalonil)	Excellent	Good	Poor
Protect (mancozeb)	Excellent	Good	Poor
Heritage (azoxystrobin)	Excellent	Good	Poor
Other fungicide or bactericide used: Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

E6. Repeating Spruce Needle Rust

a) **Percent of Christmas trees treated for Spruce Needle Rust in 2007** _____%

b) **Fungicides & Bactericides used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
Daconil 2787, Daconil Ultrex, Bravo, Thalonil (chlorothalonil)	Excellent	Good	Poor
Other fungicide or bactericide used: Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

Continue to next page

E7. Rhabdocline Needlecast

a) **Percent of Christmas trees treated for Rhabdocline Needlecast in 2007** _____%

b) **Fungicides & Bactericides used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
TwoSome (chlorothalonil + fenarimol)	Excellent	Good	Poor
4 Flowable Mancozeb, Protect T/O) (mancozeb)	Excellent	Good	Poor
Bravo, Daconil 2787, daconil Weather Stik (chlorothalonil)	Excellent	Good	Poor
Other fungicide or bactericide used: Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

E8. Rhizosphaera Needlecast

a) **Percent of Christmas trees treated for Rhizosphaera Needlecast in 2007** _____%

b) **Fungicides & Bactericides used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
TwoSome (chlorothalonil + fenarimol)	Excellent	Good	Poor
Protect (mancozeb)	Excellent	Good	Poor
Bravo, Daconil 2787, (daconil Weather Stik) (chlorothalonil)	Excellent	Good	Poor
Spectro (chlorothalonil + thiophanate methyl)	Excellent	Good	Poor
Basicop (Elemental Copper)	Excellent	Good	Poor
Other fungicide or bactericide used: Please specify: _____	Excellent	Good	Poor
Other (non-chemical) Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

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E9. Swiss needle cast

a) **Percent of Christmas trees treated for Swiss needle cast in 2007** _____%

b) **Fungicides & Bactericides used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
Bravo, Daconil 2787 (chlorothalonil)	Excellent	Good	Poor
Protect (mancozeb)	Excellent	Good	Poor
TwoSome (chlorothalonil + fenarimol)	Excellent	Good	Poor
Other fungicide or bactericide used: Please specify: _____	Excellent	Good	Poor

Other (non-chemical) Methods Used:

Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

E10. Other Diseases. Please list. _____

a) **Percent of Christmas trees treated for other diseases in 2007** _____%

b) **Pesticide/Methods used.** Please list.

	<u>Effectiveness</u>		
_____	Excellent	Good	Poor
_____	Excellent	Good	Poor
_____	Excellent	Good	Poor

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Weed Management for Christmas trees

F1. Which of the following weed management methods did you use for Christmas trees? Please circle all the methods that you used and rate their effectiveness: Excellent, Good, or Poor.

<u>Method</u>	<u>Effectiveness</u>		
Mechanical cultivation	Excellent	Good	Poor
Hoeing	Excellent	Good	Poor
Hand pulling	Excellent	Good	Poor
Banded herbicide application (over the row only)	Excellent	Good	Poor
Shielded application (between rows)	Excellent	Good	Poor
Spot treatment	Excellent	Good	Poor
No-till or zone-till	Excellent	Good	Poor
Mulch (please specify type) _____	Excellent	Good	Poor
Other (please specify) _____	Excellent	Good	Poor
Other (please specify) _____	Excellent	Good	Poor

F2. Please indicate the number of applications that you made for Christmas trees in 2007 with the following herbicides. Please select a number of applications for each product, even if none.

<u>Herbicide(s) used</u>	<u>Number of Applications</u>						
Caliber 90 (simazine)	1	2	3	4	none	other	_____
Casoron 50WP/4G (dichlobenil)	1	2	3	4	none	other	_____
Crossbow, Garlon (triclopyr)	1	2	3	4	none	other	_____
Fusilade DX (fluazifop)	1	2	3	4	none	other	_____
Princep 4L (simazine)	1	2	3	4	none	other	_____
Ronstar (oxadiazon)	1	2	3	4	none	other	_____
Roundup Weather Max (glyphosate)	1	2	3	4	none	other	_____
Stinger (clopyralid)	1	2	3	4	none	other	_____
Surflan 4AS (oryzalin)	1	2	3	4	none	other	_____
Touchdown (sulfosate)	1	2	3	4	none	other	_____
Vantage, Poast (sethoxydim)	1	2	3	4	none	other	_____
Other herbicides used:							
Please specify: _____	1	2	3	4	none	other	_____
Please specify: _____	1	2	3	4	none	other	_____

Continue to next page

For each of the following weed management practices, indicate the **percentage of your total Christmas tree crop managed in 2007**. If you **did not use the practice**, put “0” in the “percent treated” slot. **Please do not leave the answer slot blank**. If question is left blank, we won’t know whether you meant zero percent treated or if you skipped the question.

Please circle the pesticides that you used and the effectiveness of the management strategy (Excellent, Good, or Poor). If you used non-pesticide strategies to manage weeds please specify them in the “Other Methods Used” area.

F3. Pre-emergence weed control

a) Percent of Christmas trees acreage treated with pre-emergent herbicides in 2007 _____%

b) **Herbicide(s) used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
Casoron 50WP/4G (dichlobenil)	Excellent	Good	Poor
Princep 4L (simazine)	Excellent	Good	Poor
Ronstar (oxadiazon)	Excellent	Good	Poor
Surflan 4AS (oryzalin)	Excellent	Good	Poor
Other Herbicide(s) used: Please specify _____	Excellent	Good	Poor
Other Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

F4. Post-emergence weed control

a) Percent of Christmas tree acreage treated with post-emergent herbicides in 2007 _____%

b) **Herbicide(s) used.** Please circle and rate all that you used.

	<u>Effectiveness</u>		
Fusilade DX (fluazifop)	Excellent	Good	Poor
Roundup Weather Max (glyphosate)	Excellent	Good	Poor
Crossbow, Garlon (triclopyr)	Excellent	Good	Poor
Stinger (clopyralid)	Excellent	Good	Poor
Touchdown (sulfosate)	Excellent	Good	Poor
Vantage, Poast (sethoxydim)	Excellent	Good	Poor
Other Herbicide(s) used: Please specify _____	Excellent	Good	Poor
Other Methods Used:			
Method 1	Excellent	Good	Poor
Method 2	Excellent	Good	Poor
Other (Please specify) _____	Excellent	Good	Poor

G. Vertebrate Pest Management for Christmas trees

G1. Which methods do you use to manage birds in Christmas trees? Please circle all the methods that you used and rate their effectiveness: Excellent, Good, or Poor.

<u>Type of protection used</u>	<u>Effectiveness</u>		
Avitrol bait	Excellent	Good	Poor
Cannons	Excellent	Good	Poor
Recorded distress call devices	Excellent	Good	Poor
Scare-eye balloons	Excellent	Good	Poor
Shell crackers	Excellent	Good	Poor
Other visual or sound devices Please specify _____	Excellent	Good	Poor
Other strategies: Please Specify _____	Excellent	Good	Poor
Please Specify _____	Excellent	Good	Poor

G2. Which methods did you use to manage deer in Christmas trees in 2007? Please circle all the methods that you used and rate their effectiveness: Excellent, Good, or Poor.

<u>Deer damage prevention methods used.</u>	<u>Effectiveness</u>		
Fence (non electric)	Excellent	Good	Poor
Electric fence	Excellent	Good	Poor
Baited (peanut butter) electric fence	Excellent	Good	Poor
Capsaicin (feeding deterrent)	Excellent	Good	Poor
Hinder (feeding deterrent)	Excellent	Good	Poor
Deer Away (feeding deterrent)	Excellent	Good	Poor
PlantSkyd	Excellent	Good	Poor
Other repellents: Please specify _____	Excellent	Good	Poor
Dogs	Excellent	Good	Poor
Hunting	Excellent	Good	Poor
Hanging soap	Excellent	Good	Poor
Other strategies: Please specify. _____	Excellent	Good	Poor
Please Specify _____	Excellent	Good	Poor

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G3. Other Vertebrate Pests and Strategies. Please list the vertebrate pest name, the methods used, and rate their effectiveness.

Please Specify Pest(s)	Methods used	Effectiveness		
		Excellent	Good	Poor
_____	_____	Excellent	Good	Poor
_____	_____	Excellent	Good	Poor
_____	_____	Excellent	Good	Poor
_____	_____	Excellent	Good	Poor

H. Pest Management Decision Making:

H1. Please select the single option that best describes your use of monitoring for insect and mite pests.

- a) Treatments primarily made on calendar basis, with few decisions based on monitoring.
- b) Informal observations influence decisions, but formal sampling methods and thresholds not used.
- c) Sampling according to standard procedures or with traps, observations compared to pest threshold.
- d) Sampling or trapping with thresholds, plus use of pest models to determine need or timing for control.

H2. Please select the single option that best describes your use of monitoring for disease management.

- a) Treatments primarily made on calendar basis, with few decisions based on monitoring.
- b) Decisions based on informal observations, but formal leaf/fruit sampling or infection period tracking not used.
- c) Infection period duration or intensity estimated, leaf or fruit sampling for symptoms.
- d) Detailed infection period tracking and sampling or use of disease models.

H3. Please select the single option that best describes your use of monitoring for weed management.

- a) Treatments made on calendar basis, with few decisions based on monitoring.
- b) Decisions based on informal observations, but no formal weed scouting or weed mapping.
- c) Decisions based on informal observations, but weed scouting records or weed map used for a few special situations.
- d) Weed scouting records or weed map used for most plantings.

H4. Who does insect trapping or field scouting on your farm? Please circle ALL that apply.

- a) You
- b) Farm employee or family member
- c) Private IPM scout/consultant
- d) University or Extension staff
- e) No one
- f) Other: Please specify: _____

H5. How important are these information sources in making your pest management decisions?

Please circle a rating for each item.

a) Twilight meetings, field days	Very important	Somewhat impt.	Not impt.
b) Off-season educational meetings	Very important	Somewhat impt.	Not impt.
c) University/Extension staff	Very important	Somewhat impt.	Not impt.
d) Extension newsletters or pest alerts	Very important	Somewhat impt.	Not impt.
e) Web sites	Very important	Somewhat impt.	Not impt.
f) Trade publications	Very important	Somewhat impt.	Not impt.
g) Other growers	Very important	Somewhat impt.	Not impt.
h) Suppliers/dealers	Very important	Somewhat impt.	Not impt.
i) Private consultant	Very important	Somewhat impt.	Not impt.
k) Other _____	Very important	Somewhat impt.	Not impt.

H6. How often do you use the following weather information in making your pest management decisions? Please circle a rating for each item.

a) Forecasts for timing of next rain	Frequently	Occasionally	Rarely
b) Rainfall accumulation (for effect on spray residue)	Frequently	Occasionally	Rarely
c) Temperature or degree days	Frequently	Occasionally	Rarely
d) Humidity or leaf wetness hours	Frequently	Occasionally	Rarely
e) Wind speed forecast	Frequently	Occasionally	Rarely

H7. How would you describe your crop production practices? Please circle the answer that best describes your practices.

Conventional

IPM

Organic

Other (please specify: _____)

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I. Pesticide Practices:

I1. How important are these factors to you when choosing pesticides for use on your farm?

Please circle a rating for each item.

	<u>How Important?</u>		
a) Applicator hazard (toxicity to humans)	Very important	Somewhat imp.	Not imp.
b) Cost per Treatment	Very important	Somewhat imp.	Not imp.
c) Customer relations	Very important	Somewhat imp.	Not imp.
d) Effectiveness against pest compared to alternative products	Very important	Somewhat imp.	Not imp.
e) Formulation (liquid vs. dry, water soluble bags, etc.)	Very important	Somewhat imp.	Not imp.
f) Impact on beneficial species (parasites, predators, pollinators)	Very important	Somewhat imp.	Not imp.
g) Label restrictions (reentry & preharvest interval, protective equip.)	Very important	Somewhat imp.	Not imp.
h) Size or type of packaging	Very important	Somewhat imp.	Not imp.
i) Other potential nontarget and environmental impacts	Very important	Somewhat imp.	Not imp.
j) Storage requirements	Very important	Somewhat imp.	Not imp.

I2. How often do you use the following personal protective equipment and protective clothing when mixing and/or applying pesticides? Please circle a rating for each item.

<u>Personal Protective Equipment</u>	<u>How Often do you wear</u>			
Long Pants	Always	Occasionally	Never	Not applicable
Long-sleeved shirt	Always	Occasionally	Never	Not applicable
Gloves	Always	Occasionally	Never	Not applicable
Goggles	Always	Occasionally	Never	Not applicable
Face Shield	Always	Occasionally	Never	Not applicable
Nitrile Gloves	Always	Occasionally	Never	Not applicable
Latex Gloves	Always	Occasionally	Never	Not applicable
Cotton Gloves	Always	Occasionally	Never	Not applicable
Chemical Resistant Suit	Always	Occasionally	Never	Not applicable
Respirator	Always	Occasionally	Never	Not applicable
Boots (chemical resistant)	Always	Occasionally	Never	Not applicable

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I3. Which of the following pesticide application equipment do you use for Christmas trees? Please circle all that apply.

- a) Air blast sprayer
- b) Backpack mist blower
- c) Tractor mounted mist blower
- d) Shielded sprayer
- e) Backpack sprayer
- f) Wipers for contact herbicides
- g) Air assisted sprayer
- h) Other (specify: _____)
- i) None of the above

I4. Please indicate how often each of the listed activities would require worker presence in an area within 30 days after that area had received a pesticide (insecticide, fungicide, herbicide etc.) application.

For this question, “Frequently” means that for a typical acre of this crop, there is a **50% or greater chance** that the activity would require worker presence at least once during a typical growing season within 30 days after a pesticide application.

“Occasionally” means that there is a **10-49% chance**.

“Rarely” means that there is **less than a 10% chance**.

Please circle an answer for each item.

a) Soil preparation	Frequently	Occasionally	Rarely
b) Planting	Frequently	Occasionally	Rarely
c) Hand weeding	Frequently	Occasionally	Rarely
d) Pruning	Frequently	Occasionally	Rarely
e) Fertilization, irrigation	Frequently	Occasionally	Rarely
f) Scouting	Frequently	Occasionally	Rarely
g) Harvest	Frequently	Occasionally	Rarely
h) Post harvest field work	Frequently	Occasionally	Rarely
i) Other (please specify) _____	Frequently	Occasionally	Rarely

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J. Priorities and Feedback:

J1. Please identify ideas that you think should be given high priority for Christmas tree pest management research, Extension programs, education, or regulation.

J2. Have you visited the PRONewEngland.org web site? (PRO = *Pest Resources Online*)

Please circle Yes or No: **Yes** **No**

If Yes, was it useful enough that you plan to visit again? Yes No

If you have visited PRONewEngland.org, please share any comments or suggestions.

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