

PESTICIDES LABELED FOR USE ON CHRISTMAS TREES IN NORTH CAROLINA

Prepared January 2011 by Jill R. Sidebottom
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The following are pesticides with a Christmas tree label, listed in alphabetical order. Information about each material is provided as a convenience to the reader. There may be additional important information on the label including extra personal protective equipment for mixers and loaders or differences in PPE with engineering controls. Read the label and follow all directions.

This is not a complete list of materials labeled for Christmas trees. Some pesticides such as Roundup (glyphosate) are labeled under many brands. Not all are listed here. For a product to be considered legal to use, Christmas trees should be on the label. For any questions as to whether a product is labeled for Christmas trees, contact the North Carolina Department of Agriculture and Consumer Services Pesticide Division at 919.733.3556.

ADMIRE PRO <i>Systemic Protectant</i>	Active ingredient: imidacloprid	Chemical family: neonicotinoid	Manufacturer: Bayer CropScience
EPA Reg. No.: 264-827	Use/Signal Word: Caution	REI: 12 hours	4.6 pounds a.i. per gallon

Uses: Insecticide for control of white grubs.

Rate: 7.0 – 14.0 fluid ounces/Acre; Maximum per season: 14.0 fluid ounces/Acre (0.5 lb AI/Acre)

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or Viton; shoes plus socks

AKARI 5SC	Active ingredient: fenpyroximate	Chemical family: Phenoxypyrazole	Manufacturer: SePRO
EPA Reg. No.: 71711-4-67690	Use/Signal Word: Warning	REI: 12 hours	0.42 pounds a.i. per gallon

Uses: Contact miticide controlling all stages of SSM and HRM.

Rate: 16 – 24 fl. oz/100 gal.

PPE: Long-sleeved shirt and long pants; protective eyewear; waterproof gloves; shoes plus socks

APOLLO SC	Active ingredient: clofentezine	Chemical family: unknown mite growth inhibitors	Manufacturer: Makhteshim Agan of North America
EPA Reg. No.: 66222-47	Use/Signal Word: Caution	REI: 12 hours	4 pounds a.i. per gallon

Uses: Ovicide/miticide controlling all but mature SSM.

Rate: 4 – 8 fluid ounces/Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinylchloride (PVC) or Viton; shoes plus socks

ASANA	Active ingredient: esfenvalerate	Chemical family: synthetic pyrethroid	Manufacturer: DuPont
EPA Reg. No.: 352-515	Use/Signal Word: Restricted/Warning	REI: 12 hours	0.66 pounds a.i. per gallon

Uses: Insecticide for control of BWA. Also controls BTA and partial control of EHS.

Rate: 5.6 – 9.6 fl. oz/100 gal.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate, or neoprene, or nitrile rubber, or Viton; shoes plus shocks; protective eyewear.

AVID 0.15 EC	Active ingredient: abamectin	Chemical family: avermectins	Manufacturer: Syngenta
EPA Reg. No.: 100-896	Use/Signal Word: Warning	REI: 12 hours	0.15 pounds a.i. per gallon

Uses: Suppression of aphids and mites, young immatures must be contacted by the spray.

Rate: 4 – 8 fl. oz/100 gal.

PPE: Coveralls over short-sleeved shirt and short pants; chemical-resistance gloves – EPA chemical-resistance category B (e.g., barrier laminate or butyl rubber \geq 14 mils); chemical resistant footwear plus socks; protective eyewear; chemical-resistant headgear for overhead exposure.

BARRICADE 4FL	Active ingredient: prodiamine	Chemical family: dinitroaniline	Manufacturer: Syngenta
EPA Reg. No.: 100-1139	Use/Signal Word: Caution	REI: 12 hours	4 pounds a.i. per gallon

Uses: Herbicide for selective pre-emergence control of grass and broadleaf weeds.

Rate: 21 – 48 ounces/Acre.

PPE: Long-sleeved shirt and long pants; shoes plus socks.

BARRICADE 65WG	Active ingredient: prodiamine	Chemical family: dinitroaniline	Manufacturer: Syngenta
EPA Reg. No.: 100-834	Use/Signal Word: Caution	REI: 12 hours	0.65 lbs a.i. per pound

Uses: Herbicide for selective pre-emergence control of grass and broadleaf weeds.

Rate: 1.0 – 2.3 lbs/Acre. Maximum rate per year 2.3 lbs/Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves such as butyl rubber >14 mils, or neoprene rubber >14 mils, or nitrile rubber >14 mils; shoes plus socks.

BROADSTAR	Active ingredient: flumioxazim	Chemical family: N-phenylphthalimide	Manufacturer: Valent
EPA Reg. No.: 59639-128	Use/Signal Word: Caution	REI: 12 hours	0.25 pounds per pound

Uses: Preemergence weed control.

Rate: 150 pounds per Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride; shoes plus socks.

CONFIRM 2F	Active ingredient: tebufenozide	Chemical family: diacyhydrazines	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62710-420	Use/Signal Word: Caution	REI: 4 hours	2 pounds a.i. per gallon

Uses: Insecticide for control of caterpillars; must be ingested to be effective.

Rate: 4 – 8 fluid ounces/Acre; do not exceed 16 fl oz per year.

PPE: Long-sleeved shirt and long pants; waterproof gloves; shoes plus socks.

CONSERVE SC	Active ingredient: spinosad	Chemical family: spinosyns	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-291	Use/Signal Word: Caution	REI: 4 hours	1 pound a.i. per gallon

Uses: Insecticide for control of caterpillars.

Rate: 4 – 16 fluid ounces/Acre; do not exceed 58 fl oz per year.

PPE: Long-sleeved shirt and long pants; shoes plus socks.

DACONIL Weather Stik	Active ingredient: chlorothalonil	Chemical family: chloronitrile	Manufacturer: Syngenta
EPA Reg. No.: 50534-209-100	Use/Signal Word: Warning	REI: 12 hours with 6.5 days requiring eye flush	6 pounds a.i. per gallon

Uses: Fungicide for control of foliar diseases.

Rate: 2 ¼ – 8 pints /Acre; do not apply more than 31.5 pints/Acre each growing season.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks; protective eyewear.

DACONIL ZN	Active ingredient: chlorothalonil	Chemical family: chloronitrile	Manufacturer: Syngenta
EPA Reg. No.: 50534-202-100	Use/Signal Word: Warning	REI: 12 hours with 6.5 days requiring eye flush	4.16 pounds a.i. per gallon

Uses: Fungicide for control of foliar diseases.

Rate: 1 ½ – 5 pints /Acre; do not apply more than 22 pints/Acre each growing season.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks.

DIMETHOATE 400	Active ingredient: dimethoate	Chemical family: organophosphate	Manufacturer: Loveland Products
EPA Reg. No.: 34704-207	Use/Signal Word: Warning	REI: 10 days	4.0 pounds a.i. per gallon

Uses: General insecticide controlling BTA and RBM among other pests. Also partial control of EHS. Control of living SSM and HRM but not the eggs.

Rate: 1 – 1 ½ pints /Acre.

PPE: Long-sleeved shirt and long pants; shoes plus socks; chemical-resistant gloves; a NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter.

DIMILIN 25W	Active ingredient: diflubenzuron	Chemical family: benzoylureas	Manufacturer: Chemtura
EPA Reg. No.: 400-465	Use/Signal Word: Restricted/Caution	REI: 12 hours	0.35 pounds a.i. per pound

Uses: Insect growth regulator for control of caterpillars, HRM.

Rate: 1 – 8 ounces/Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, PVC or Viton; shoes plus socks.

DI-SYSTON 15G	Active ingredient: disulfoton	Chemical family: organophosphate	Manufacturer: Bayer CropScience
EPA Reg. No.: 264-723 NC 8800001	Use/Signal Word: Restricted/Danger	REI: 48 hours	0.15 pounds a.i. per pound

Uses: Insecticide for control of BTA and SSM. WILL NO LONGER BE LEGAL TO USE AFTER JULY 31, 2012.

Rate: 20 – 30 pounds/Acre.

PPE: With engineering controls (closed-jug and applicator) long-sleeved shirt and long pants; shoes plus socks.

DITHANE F-45 RAINSIELD	Active ingredient: mancozeb	Chemical family: Ethylene bisdithiocarbamate (EBDC)	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-396	Use/Signal Word: Caution	REI: 24 hours	4 pounds a.i. per gallon

Uses: Fungicide for control of needle casts.

Rate: 1.6 – 3.2 quarts (51.2 – 102.4 fluid ounces) per Acre.

PPE: Coveralls over long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks.

DITHANE 75DF RAINSIELD	Active ingredient: mancozeb	Chemical family: Ethylene bisdithiocarbamate (EBDC)	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-402	Use/Signal Word: Caution	REI: 24 hours	0.75 pounds a.i. per pound

Uses: Fungicide for control of needle casts.

Rate: 1.5 pounds per Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks.

DITHANE M45	Active ingredient: mancozeb	Chemical family: Ethylene bisdithiocarbamate (EBDC)	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-387	Use/Signal Word: Caution	REI: 24 hours	0.8 pounds a.i. per pound

Uses: Fungicide for control of needle casts.

Rate: 2 – 4 pounds per Acre.

PPE: Coveralls over long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks.

ENDEAVOR	Active ingredient: pymetrozine	Chemical family: unknown feeding blockers	Manufacturer: Syngenta
EPA Reg. No.: 100-913	Use/Signal Word: Caution	REI: 12 hours	0.5 pounds a.i. per pound

Uses: Insecticide controlling BTA.

Rate: 2 ½ – 5 ounces/100 gallons.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material – Category A (e.g., barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or Viton; shoes plus socks.

ENVIDOR 2SC	Active ingredient: spirodiclofen	Chemical family: Tetronic acid derivative	Manufacturer: Bayer CropScience
EPA Reg. No.: 264-831	Use/Signal Word: Caution	REI: 12 hours	2pounds a.i. per gallon

Uses: Miticide controlling all stages including eggs of SSM and HRM.

Rate: 18.0 – 24.7 fluid ounces/Acre; make only one application per year.

PPE: Long-sleeved shirt and long pants; waterproof gloves; shoes plus socks.

FLAGSHIP 25 WG	Active ingredient: thiamethoxam	Chemical family: neonicotinoid	Manufacturer: Syngenta
EPA Reg. No.: 100-955	Use/Signal Word: Caution	REI: 12 hours	4 ounces a.i. per pound

Uses: Systemic control of aphids (not tested in Christmas trees), white grub control.

Rate: 40 – 120 pounds/Acre; do not exceed 120 pounds/Acre per crop or year whichever is shorter.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material Category A (e.g., barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or Viton; shoes plus socks; protective eyewear.

FLAGSHIP 0.22 G	Active ingredient: thiamethoxam	Chemical family: neonicotinoid	Manufacturer: Syngenta
EPA Reg. No.: 100-960	Use/Signal Word: Caution	REI: 12 hours	0.035 ounces a.i. per pound

Uses: Systemic control of aphids (not tested in Christmas trees), white grub control.

Rate: 2 – 8 ½ ounces/100 gallons or 4 – 7 ounces per Acre; do not exceed 17 oz/A per crop or year.

PPE: Long-sleeved shirt and long pants; gloves made of any waterproof material – Category A (e.g., natural rubber ≥14 mils); shoes plus socks; protective eyewear.

FLORAMITE SC	Active ingredient: bifenazate	Chemical family: carbazate	Manufacturer: OHP solutions
EPA Reg. No.: 400-508-59807	Use/Signal Word: Caution	REI: 12 hours	2 pounds a.i. per gallon

Uses: Control of SSM.

Rate: 4 – 8 ounces/100 gallons; do not make more than 2 applications per year; do not apply more than 32 oz/A/year.

PPE: Long-sleeved shirt and long pants; shoes plus socks.

FUSILADE II	Active ingredient: fluazifop-P-butyl	Chemical family: aryloxyphenoxy-propionic	Manufacturer: Syngenta
EPA Reg. No.: 100-1084	Use/Signal Word: Caution	REI: 12 hours	4 ounces a.i. per gallon

Uses: Herbicide for control of grass weeds.

Rate: 2 – 8 ½ ounces/100 gallons or 4 – 7 ounces per Acre; do not exceed 17 oz/A per crop or year.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate or nitrile rubber or Viton or neoprene; shoes plus socks.

GALLERY 75 DF	Active ingredient: isoxaben	Chemical family: benzamide	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-145	Use/Signal Word: Caution	REI: 12 hours	0.75 pounds a.i. per pound

Uses: A preemergence herbicide for control of certain broadleaf weeds.

Rate: 0.66 – 1.33 pounds per Acre.

PPE: Long-sleeved shirt and long pants; shoes plus socks.

GARLON 3A	Active ingredient: triclopyr	Chemical family: pyridine carboxylic acid	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-37	Use/Signal Word: Danger	REI: 48 hours	3 pounds a.i. per gallon

Uses: For the control of woody plants and broadleaf weeds.

Rate: 2 – 5 pints (32 to 80 fluid ounces) per Acre.

PPE: Long-sleeved shirt and long pants; shoes plus socks; protective eyewear; chemical resistant gloves (≥ 14 mls) such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber.

GOAL 2XL	Active ingredient: oxyfluorfen	Chemical family: nitrophenyl ether	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-424	Use/Signal Word: Warning	REI: 6 days for conifer trees 3 days for conifer seedlings	2 pounds a.i. per gallon

Uses: Broad-spectrum herbicide, pre-emergent at high rates and post-emergent at low rates.

Rate: 4 – 8 pints per Acre; do not exceed 16 pints per acre per year.

PPE: Coveralls over long-sleeved shirt and long pants; chemical-resistant footwear plus socks; chemical-resistant gloves (such as barrier laminate, Viton); chemical-resistant headgear for overhead exposure; chemical-resistant apron when exposed to the product concentrate.

HORTICULTURAL OIL	Active ingredient: Refined petroleum distillate	Chemical family: ---	Manufacturer: various
EPA Reg. No.: various	Use/Signal Word: Caution	REI: 4 hours	

Uses: Broad-spectrum insecticide will give some control of all Christmas tree pests.

Rate: Recommended at 2% solution – 2 gallons per 100 gallons.

PPE: Long-sleeved shirt and long pants; shoes plus socks.

IMIDAN 70-W	Active ingredient: phosmet	Chemical family: organophosphate	Manufacturer: Gowan
EPA Reg. No.: 10163-169	Use/Signal Word: Warning	REI: 13 days	0.7 pounds a.i. per pound

Uses: Insecticide for control of European pine shoot moth, gypsy moth, Nantucket pine tip moth, pitch eating weevil, Pales weevil, adult root collar weevil and sawfly.

Rate: 1 $\frac{1}{3}$ – 1 $\frac{1}{2}$ pounds per Acre or for individual trees 1 $\frac{1}{3}$ lbs per 100 gallons.

PPE: Long-sleeved shirt and long pants; shoes plus socks; chemical-resistant gloves for mixers and loaders, applicators using hand held equipment; chemical-resistant headgear for overhead exposure.

KERB 50-W	Active ingredient: pronamide	Chemical family: substituted benzamide	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-397	Use/Signal Word: Restricted/Caution	REI: 24 hours	0.5 pounds a.i. per pound

Uses: A selective herbicide for fall applications for the control of winter annual and perennial grasses and certain broadleaf weeds.

Rate: 2 – 4 pounds per Acre; do not apply more than 4 pounds per acre per year.

PPE: Coveralls over short-sleeved shirt and short pants; waterproof gloves; chemical-resistant footwear plus socks; chemical-resistant headgear for overhead exposure.

LORSBAN 4E	Active ingredient: chlorpyrifos	Chemical family: organophosphate	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-220	Use/Signal Word: Restricted/Warning	REI: 24 hours	4 pounds a.i. per gallon

Uses: General insecticide specifically for BTA, winter control of BWA and white grubs.

Rate: 1 quart per Acre; 3 quarts per Acre for *Pales* weevils; do not make more than 3 applications per year.

PPE: Coveralls over short-sleeved shirt and short pants; chemical-resistant gloves; chemical-resistant footwear plus socks; chemical-resistant headgear for overhead exposure; a NIOSH- approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter.

MONTANA 2F	Active ingredient: spirotetramat	Chemical family: Neonicotinoid	Manufacturer: Rotam North America, Inc.
EPA Reg. No.: 83100-83979	Use/Signal Word: Caution	REI: 12 hours; 7 day pre-harvest interval	2 pounds a.i. per gallon

Uses: Control of aphids, adelgids, and sawflies Active Ingredient: Imidacloprid Active Ingredient: 2 pounds per gallon

Rate: 3.2 -- 6.4 fluid ounces/Acre; Maximum per season: 32.0 fluid ounces/Acre (0.5 lb AI/Acre)

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or Viton; shoes plus socks

MOVENTO	Active ingredient: spirotetramat	Chemical family: tetronic acid derivatives	Manufacturer: Bayer CropScience
EPA Reg. No.: 264-1050	Use/Signal Word: Caution	REI: 24 hours	2 pounds a.i. per gallon

Uses: A systemic insecticide.

Rate: 5 to 10 fluid ounces per acre; maximum allowed per crop season: 20 fl. oz/Acre.

PPE: Protective eyewear, long-sleeved shirt and long pants; chemical-resistant gloves; shoes plus socks.

NATURALIS L	Active ingredient: <i>Beauveria bassiana</i> ATCC 74040	Chemical family: biological agent	Manufacturer: Troy Biosciences
EPA Reg. No.: 53871-9	Use/Signal Word: Caution	REI: 4 hours	No less than 2.3 X 10 ⁷ viable spores per milliliter of product

Uses: Biological product for the control of insects.

Rate: 30 – 100 fluid ounces/100 gallons.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves; mist filtering respirators with NIOSH standards of at least N-95, R-95, P-95; shoes plus socks.

ONYXPRO	Active ingredient: bifenthrin	Chemical family:	Manufacturer: FMC Corporation
EPA Reg. No.: 279-4269	Use/Signal Word: Warning/Restricted	REI: 12 hours	2 pounds per gallon

Uses: Control of BWA, BTA, SSM, Cinara aphids and various other pests

Rate: 1.8 to 14.4 fluid ounces per 100 gallons

PPE: Coveralls worn over short-sleeved shirt and shot pants. Socks. Chemical resistant footwear. Chemical resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, polyvinyl chloride or viton.

PENDULUM 2G	Active ingredient: pendimethalin	Chemical family: dinitroaniline	Manufacturer: BASF
EPA Reg. No.: 241-375	Use/Signal Word: Caution	REI: 24 hours	0.02 pounds a.i. per pound

Uses: A preemergence herbicide for control of certain grasses and broadleaves.

Rate: 75 – 150 pounds per Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves; shoes plus socks.

PENDULUM 3EC	Active ingredient: pendimethalin	Chemical family: dinitroaniline	Manufacturer: BASF
EPA Reg. No.: 241-341	Use/Signal Word: Caution	REI: 24 hours	3.3 pounds a.i. per gallon

Uses: A preemergence herbicide for control of certain grasses and broadleaves as they germinate.

Rate: 2.4 – 4.8 quarts (76.8 – 153.6 fluid ounces) per Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils; shoes plus socks.

PENNANT MAGNUM	Active ingredient: S-metolachlor	Chemical family: chloroacetanilide	Manufacturer: Syngenta
EPA Reg. No.: 100-950	Use/Signal Word: Caution	REI: 24 hours	7.62 pounds a.i. per gallon

Uses: A herbicide which controls many annual grasses, certain annual broadleaf weeds, and yellow nutsedge.

Rate: 1.3 – 2.6 pints (20.8 – 41.6 fluid ounces) per Acre; do not exceed a total of 4.2 pints per acre per year.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate or Viton; shoes plus socks.

PRINCEP <i>Liquid</i>	Active ingredient: simazine	Chemical family: triazines	Manufacturer: Syngenta
EPA Reg. No.: 100-526	Use/Signal Word: Caution	REI: 48 hours	4 pounds a.i. per gallon

Uses: Herbicide for control of grass weeds.

Rate: 2 – 4 quarts per Acre; do not exceed apply more than 4 quarts per acre per year.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves; shoes plus socks.

RANGER PRO	Active ingredient: glyphosate	Chemical family: organophosphorus	Manufacturer: Monsanto
EPA Reg. No.: 524-517	Use/Signal Word: Caution	REI: 4 hours	4 pounds a.i. per gallon

Uses: A broad spectrum postemergent herbicide.

Rate: Up to 10 gallons per 100 gallons.

PPE: Long-sleeved shirt and long pants; shoes plus socks.

ROUNDUP ORIGINAL MAX	Active ingredient: glyphosate	Chemical family: organophosphorus	Manufacturer: Monsanto
EPA Reg. No.: 524-539	Use/Signal Word: Caution	REI: 4 hours	4.5 pounds a.i. per gallon

Uses: A broad spectrum postemergent herbicide.

Rate: Up to 7 gallons per 100 gallons.

PPE: Long-sleeved shirt and long pants; shoes plus socks; chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

ROUNDUP PRO	Active ingredient: glyphosate	Chemical family: organophosphorus	Manufacturer: Monsanto
EPA Reg. No.: 524-475	Use/Signal Word: Caution	REI: 4 hours	4 pounds a.i. per gallon

Uses: A broad spectrum postemergent herbicide.

Rate: Up to 10 gallons per 100 gallons.

PPE: Long-sleeved shirt and long pants; shoes plus socks.

Safer's INSECTICIDAL SOAP	Active ingredient: potassium salts of fatty acids	Chemical family: ---	Manufacturer: Safer
EPA Reg. No.: 42697-60	Use/Signal Word: Caution	REI: 4 hours	49.54% by weight

Uses: Broad-spectrum contact insecticide.

Rate: 1 – 2 gallons per gallon.

PPE: Long-sleeved shirt and long pants; shoes plus socks.

SANMITE	Active ingredient: chloropyridazin	Chemical family: pyridazinone	Manufacturer: Gowan
EPA Reg. No.: 81880-5-10163	Use/Signal Word: Warning	REI: 12 hours	0.75 pounds a.i. per pound

Uses: Control of all life stages of spider mites and hemlock rust mites.

Rate: 4 ounces/100 gallons or 4 – 7 ounces per Acre; do not exceed 21.34 ounces per acre per year.

PPE: Long-sleeved shirt and long pants; waterproof gloves; protective eyewear; shoes plus socks; chemical-resistant headgear for overhead exposure.

SAVEY 50 DF	Active ingredient: hexythiazox	Chemical family: hexythiazox	Manufacturer: Gowan
EPA Reg. No.: 10163-250	Use/Signal Word: Caution	REI: 12 hours	0.5 pounds a.i. per pound

Uses: Controls eggs and immatures of SSM.

Rate: 3 – 6 ounces per Acre; do not make more than one application per year.

PPE: Long-sleeved shirt and long pants; waterproof gloves; shoes plus socks

SNIPER	Active ingredient: bifenthrin	Chemical family: synthetic pyrethroid	Manufacturer: Loveland Products
EPA Reg. No.: 34704-858	Use/Signal Word: Warning	REI: 12 hours	2 pounds a.i. per gallon

Uses: For control of adelgids, mites and aphids.

Rate: 3.9 to 12.8 fluid ounces per acre; maintain a minimum of 21 days between applications .

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate or nitrile rubber or neoprene rubber or Viton; shoes plus socks.

STINGER	Active ingredient: clpyralid	Chemical family: picolinic acid	Manufacturer: Dow AgroSciences
EPA Reg. No.: 62719-73	Use/Signal Word: Caution	REI: 12 hours	4.5 pounds a.i. per gallon

Uses: For selective postemergence control of broadleaf weeds.

Rate: ¼ – ⅔ pints (4 to 10.7 fluid ounces) per acre; do not exceed ½ pint (8 fluid ounces) per acre per year .

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks; protective eyewear.

SUBDUE GR	Active ingredient: mefenoxam	Chemical family: pheylamides	Manufacturer: Syngenta
EPA Reg. No.: 100-794	Use/Signal Word: Caution	REI: 48 hours	0.01 pound a.i. per pound

Uses: Fungicide for control of PRR and other diseases caused by Pythium and Phytophthora.

Rate: 50 – 250 pounds per Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks.

SUBDUE MAXX	Active ingredient: mefenoxam	Chemical family: pheylamides	Manufacturer: Syngenta
EPA Reg. No.: 100-796	Use/Signal Word: Caution	REI: 48 hours	22% a.i. by weight

Uses: Fungicide for control of PRR and other diseases caused by Pythium and Phytophthora.

Rate: 0.625 – 1.25 gallons per 50 gallons.

PPE: Long-sleeved shirt and long pants; waterproof gloves; shoes plus socks.

SUBDUE WSP	Active ingredient: mefenoxam	Chemical family: pheylamides	Manufacturer: Syngenta
EPA Reg. No.: 100-795	Use/Signal Word: Caution	REI: 48 hours	0.45 pound a.i. per pound

Uses: Fungicide for control of PRR and other diseases caused by Pythium and Phytophthora.

Rate: 1 – 5 pounds per Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks.

SURFLAN AS	Active ingredient: oryzalin	Chemical family: dinitroaniline	Manufacturer: Monsanto
EPA Reg. No.: 70506-44	Use/Signal Word: Caution	REI: 24 hours	4 pounds a.i. per gallon

Uses: A selective preemergent herbicide for control of annual grasses and many broadleaf weeds.

Rate: 2 – 4 quarts (64 to 128 fluid ounces) per acre; do not exceed 8 quarts per acre per year.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves; shoes plus socks.

TALSTAR SELECT	Active ingredient: bifenthrin	Chemical family: synthetic pyrethroid	Manufacturer: FMC Corporation
EPA Reg. No.: 279-3155	Use/Signal Word: Restricted/Caution	REI: 12 hours	0.67 pounds a.i. per gallon

Uses: General insecticide controlling BTA, BWA and SSM as well as other pests.

Rate: 5 – 40 fluid ounces per Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or Viton; shoes plus socks.

TALUS 70 DF	Active ingredient: buprofezin	Chemical family: buprofezin	Manufacturer: SePRO
EPA Reg. No.: 71711-21-67690	Use/Signal Word: Caution	REI: 12 hours	0.7 pounds a.i. per pound

Uses: Insect growth regulator for control of scales.

Rate: 14 ounces per Acre.

PPE: Long-sleeved shirt and long pants; waterproof gloves; shoes plus socks.

TALUS 40SC	Active ingredient: buprofezin	Chemical family: buprofezin	Manufacturer: SePRO
EPA Reg. No.: 71711-21-67690	Use/Signal Word: Caution	REI: 12 hours	3.6 pounds a.i. per gallon

Uses: Insect growth regulator for control of scales.

Rate: 21.5 fluid ounces per Acre.

PPE: Long-sleeved shirt and long pants; chemical-resistant (such as nitrile or butyl) gloves; protective eyewear; shoes plus socks.

THIONEX 3EC	Active ingredient: endosulfan	Chemical family: organochlorine	Manufacturer: Makhteshim Agan of North America
EPA Reg. No.: 66222-63 EPA SLN No. NC-080001	Use/Signal Word: Restricted/Danger	REI: 2 days	3 pounds a.i. per gallon

Uses: Insecticide for BWA control. IT IS UNLAWFUL TO USE THIS PRODUCT AFTER JULY 31, 2012.

Rate: 1 1/3 pints (21 1/3 fluid ounces) per 100 gallons; do not exceed a maximum of 4 quarts per acre per year.

PPE: A respirator with an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval prefix TC-14G), or a NIOSH-approved respirator with an (OV) cartridge or canister with any R, P, or HE prefilter; long-sleeved shirt and long pants; shoes and socks; goggles or face shield; chemical-resistant gloves except for applicators using enclosed cabs or cockpits; chemical-resistant headgear when exposed overhead.

Recommendations for the use of chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention of commercial products or services in this publication does not imply endorsement by the North Carolina Cooperative Extension Service nor discrimination against similar products or services not mentioned. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage and examine a current product label before applying any chemical. For assistance, contact an agent of the North Carolina Cooperative Extension Service in your county.