



ARBORJET POCKET GUIDE

TOP 25 TREATABLE TREES



A GUIDE TO COMMON INSECTS, DISEASES
AND THEIR TREATMENTS.

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36	Contact and Ordering Information	Order products from Arborjet or talk to a representative

This guide is color coded to help you find what you're looking for quickly. **For more information about all of our products, formulations, and services, visit our website www.arborjet.com, or call us at 781.935.9070 or toll free at 1.866.ARBORJT (1.866.272.6758).**

ABOUT ARBORJET



Arborjet was designed by arborists for arborists in order to effectively manage and control the many exotic and native insect pests and diseases threatening our natural and urban forest today. Arborjet's first prototype was a modification of the needleless medical injection device used post World War II for mass inoculation. With spraying and soil drenching becoming more and more controversial, injection's time has come.

Arborjet is one of the few private enterprises in the world committed to the research and development of target specific treatment formulations designed exclusively for trunk injection.

Arborjet has its own fully staffed laboratory and field research team tirelessly devoted to the discovery and development of formulations that are the most effective available.



AFFORDABLE • FAST • EFFECTIVE

INSTRUCTIONS FOR QUIK-JET

The QUIK-jet micro-injection device delivers Arborjet formulations directly into the vascular system of the tree. It is particularly effective for smaller trees with ample moisture and lower injection volumes. It is safe, effective and easy to use.

The QUIK-jet training manual contains more details on the proper use of the QUIK-jet. This procedure is for reference only to describe how the system works and should not be considered the instructions for actual application.



- Step 1:** Measure and record the diameter of each tree at breast height (DBH). Also record the amount of formulation and number of Arborplugs needed for each tree
- Step 2:** Determine the amount of medicament you will need to do your entire project and fill the QUIK-jet bottle with this amount.
- Step 3:** Identify the first tree you wish to treat and set the dose chamber to apply the proper dose per arborplug.
- Step 4:** Prime the device by slowly pushing the piston rod handle forward with the needle facing up & away. Repeat until all air is eliminated from the QUIK-jet dose chamber.
- Step 5:** Select Arborplug locations equally around the tree avoiding rotted tissue and flat spots. Apply the drill to the bark allowing it to be pulled through the bark stopping at the hard tissue. In one smooth motion, drill a hole at least 5/8 inches deep from this point.
- Step 6:** Tap in the Arborplug until it is seated firmly with the plug shoulder approximately even with the inside bark layer.
- Step 7:** Micro-inject an equal dose into each injection site by maintaining an even, LIGHT pressure on the device. Putting heavier pressure will NOT likely advance the dose more quickly.

INSTRUCTIONS FOR TREE I.V.

- Step 1:** Measure and record the diameter of each tree at breast height (DBH). Also record the amount of formulation and number of Arborplugs required.
- Step 2:** Identify your first tree and fill the TREE I.V. bottle with the amount of formulation required for that tree. Be sure all valves are in the off position and pressurize the bottle with the pump provided until you hear the relief valve pop at approximately 60 psi.
- Step 3:** Prime the device by slowly opening the main valve. Next, slowly open each valve individually with the needle facing away until all air is eliminated from the lines. The valves are designed to allow you to do this without losing any formulation so do it very slowly.
- Step 4:** Select Arborplug locations equally around the tree avoiding rotted tissue and flat spots. Apply the drill to the bark allowing it to be pulled through the bark stopping at the hard tissue. In one smooth motion, drill a hole at least 5/8 inches deep from this point.
- Step 5:** Tap in the Arborplug until it is seated firmly with the plug shoulder approximately even with the inside bark layer.
- Step 6:** Micro-infuse™ the formulation by pushing each needle from the I.V. firmly into the Arborplug and opening the valves. You are now ready to take your other bottle and set up your next tree while this tree is treating itself.

The TREE I.V. is our most versatile tool, allowing you to treat several trees of varied size, species and condition, simultaneously.

The TREE I.V. is particularly helpful for stressed trees, difficult uptake trees or trees requiring higher volumes of formulation.

The TREE I.V. training manual contains more details on the proper use of the TREE I.V. This procedure is for reference only to describe how the system works and should not be considered the instructions for actual application.



ARBORJET INJECTION TIPS

- **Caution!** Do not mix any product with water or any other product unless specified on the product label.
 - Injection times will be fastest in the Spring and Fall when trees are in leaf and moisture conditions are cool and wet.
 - Proper Arborplug setting is essential for delivery, speed, effectiveness, wound protection and closure.
 - Clean your equipment daily with CLEAN-jet. It lubricates and stops build up of scale and precipitates.
 - When selecting Arborplug locations, avoid flat spots, dead tissue, wounds or other damaged areas where internal vessels may be compromised.
- Poor or incomplete uptake could be an indication of serious decline, poor treatment conditions or other disease or infestation issues.
 - Avoid exposing formulations and equipment to extreme temperatures.
 - Use a sharp drill bit and drill to proper depth, using a single, straight, smooth motion.
 - To observe uptake rate, momentarily invert pressurized I.V. bottle, introducing an air bubble into the injection line.
 - When using the QUIK-jet apply only a moderate amount of pressure. Applying heavier pressure may cause hand soreness and will not likely speed up your injection.

FORMULATIONS AND EQUIPMENT

Arborjet's internationally recognized formulations are known for their ability to work with the tree's vascular system to achieve exceptional results.



We carry a complete line of formulations, from insect and disease control to nutritional supplements.

- IMA-jet Insecticide
- ACE-jet Insecticide
- TREE-äge® Insecticide
- AzaSol™ Insecticide
- PHOSPHO-jet Fungicide
- Alamo® Fungicide
- MIN-jet Iron Nutrition
- ROOT-jet Iron Nutrition
- PALM-jet

EQUIPMENT OPTIONS

QUIK-JET PRO KIT



TREE I.V. 2 PACK KIT



HOW TO USE YOUR TREE INDEX

TREE INDEX

Name and picture of tree, listed in alphabetical order. If you already know the insect or disease, and you are looking only to treat it, refer to the Insect and Disease Index for quick treatment solutions.



INSECTS & DISEASES

Most common treatable insects and diseases that are found in this tree. For a complete listing of treatable insects and diseases, refer to the Insect and Disease Index.



PAGE

Page numbers refer to pictures and descriptions of your pest to help you identify and treat your problem.



TREATMENT

The Arborjet treatment that is recommended for your insect or disease. To be used with either the QUIK-jet or TREE I.V. injection systems.



TREE INDEX

INSECTS & DISEASES

PAGE

TREATMENT

APPLE






Apple Scab	23	PHOSPHO-jet
Bagworm	23	AzaSol™, ACE-jet
Fall Webworm	28	AzaSol, ACE-jet
Fireblight	29	PHOSPHO-jet
Japanese Beetle	30	ACE-jet, AzaSol
Plant Bug		ACE-jet, AzaSol
Tent Caterpillar	26	ACE-jet, AzaSol
Winter Moth	36	ACE-jet, AzaSol

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TREATMENT

ASH		Anthracnose	22	PHOSPHO-jet
		Aphids	22	IMA-jet, ACE-jet, AzaSol™
		Clearwing Borer	27	TREE-äge®, ACE-jet, AzaSol
		Emerald Ash Borer	28	TREE-äge, IMA-jet, ACE-jet
		Lace Bug		IMA-jet, ACE-jet
		Whitefly		IMA-jet, AzaSol, ACE-jet
		Winter Moth	36	TREE-äge, ACE-jet, AzaSol
BEECH		Anthracnose	22	PHOSPHO-jet
		Leafminer	31	IMA-jet, TREE-äge, ACE-jet, AzaSol
		Stem Canker	25	PHOSPHO-jet
BIRCH		Anthracnose	22	PHOSPHO-jet
		Bronze Birch Borer (Flathead Borer)	24	TREE-äge, IMA-jet
		Fall Webworm	28	TREE-äge, ACE-jet, AzaSol
		Leafminer	31	TREE-äge, ACE-jet, IMA-jet, AzaSol
		Interveinal Chlorosis	26	MIN-jet Iron
		Japanese Beetle	30	ACE-jet, AzaSol
		Stem Cankers	25	PHOSPHO-jet
		Tent Caterpillar	26	TREE-äge, ACE-jet, AzaSol

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TREATMENT

CHERRY



Cankerworm	25	ACE-jet, AzaSol™
Fall Webworm	28	ACE-jet, AzaSol
Japanese Beetle	30	ACE-jet, AzaSol
Leafminer	31	ACE-jet, IMA-jet, AzaSol
Oak Looper (Caterpillar)	26	ACE-jet, AzaSol
Phytophthora (Root Rot)	33	PHOSPHO-jet
Tent Caterpillar	26	ACE-jet, AzaSol
Winter Moth	36	ACE-jet, AzaSol

CRAB APPLE



Apple Scab	23	PHOSPHO-jet, Alamo®*
Bagworm	23	TREE-äge*, ACE-jet, AzaSol
Fall Webworm	28	TREE-äge*, ACE-jet, AzaSol
Fireblight	29	PHOSPHO-jet
Japanese Beetle	30	ACE-jet, AzaSol
Plant Bug		ACE-jet, AzaSol
Tent Caterpillar	26	TREE-äge*, ACE-jet, AzaSol
Winter Moth	36	TREE-äge*, ACE-jet, AzaSol

DOGWOOD



Anthracnose	22	PHOSPHO-jet
Dogwood Borer (Clearwing Borer)		TREE-äge, ACE-jet, AzaSol
Dogwood Phytophthora (Root Rot)	33	PHOSPHO-jet
Gall Midge		ACE-jet, AzaSol
Scale (soft)	34	ACE-jet, IMA-jet, AzaSol
Scale (armored)	34	ACE-jet, AzaSol
Thrips	35	ACE-jet, IMA-jet, AzaSol

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TREATMENT

ELM



Dutch Elm Disease	27	Alamo®
Stem Canker	25	PHOSPHO-jet
Cankerworm	25	ACE-jet, AzaSol™
Carpenterworm (Caterpillar)	26	ACE-jet, AzaSol
Gall Midge		ACE-jet, AzaSol
Leaf Beetle		ACE-jet, IMA-jet, AzaSol
Leafminer	31	TREE-äge, ACE-jet, IMA-jet, AzaSol
Spanworm (Caterpillar)	26	ACE-jet, AzaSol

FIR



Budworm	24	ACE-jet, AzaSol
Pine Coneworm (Caterpillar)	26	TREE-äge, ACE-jet, AzaSol
Fir Tussock Moth (Caterpillar)	26	TREE-äge, ACE-jet, AzaSol
Western Spruce Budworm		TREE-äge, ACE-jet, AzaSol
White Pine Weevil		ACE-jet, AzaSol

HAWTHORN



Apple Scab	23	PHOSPHO-jet
Black Spot		PHOSPHO-jet
Fireblight	29	PHOSPHO-jet
Phytophthora (Root Rot)	33	PHOSPHO-jet
Tent Caterpillar	26	TREE-äge, ACE-jet, AzaSol
Lacebug		IMA-jet, ACE-jet

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TREATMENT

HEMLOCK



Hemlock Elongate Scale
 Hemlock Woolly Adelgid
 Phytophthora (Root Rot)
 Spider Mites

34
 21
 33
 32

ACE-jet, AzaSol™
 ACE-jet, IMA-jet
 PHOSPHO-jet
 ACE-jet

HICKORY



Cankerworm (Caterpillar)
 Eastern Oak Looper (Caterpillar)
 Gall Midges
 Tussock Moth (Caterpillar)

25
 26

 26

ACE-jet, AzaSol
 ACE-jet, AzaSol
 ACE-jet, AzaSol
 TREE-äge, ACE-jet, AzaSol

LINDEN



Anthrachnose
 Stem Canker
 Bagworm
 Lacebug
 Linden Looper (Caterpillar)
 Japanese Beetle

22
 25
 23

 26
 30

PHOSPHO-jet, Alamo®
 PHOSPHO-jet
 TREE-äge, ACE-jet, AzaSol
 ACE-jet, IMA-jet
 ACE-jet, AzaSol
 ACE-jet, AzaSol

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TREATMENT

LOCUST



Bagworm	23	TREE-äge®, ACE-jet, AzaSol™
Carpenterworm (Caterpillar)	26	ACE-jet, AzaSol
Calico Scale (armored)	34	ACE-jet, AzaSol
Gall Midge		ACE-jet, AzaSol
Leafminer	31	TREE-äge, ACE-jet, IMA-jet, AzaSol
Plant Bug		ACE-jet, AzaSol
Tussock Moth (Caterpillar)	26	TREE-äge, ACE-jet, AzaSol

MAGNOLIA



Magnolia Scale (armored)	34	ACE-jet, AzaSol
Leaf Spot		PHOSPHO-jet
Cankers	25	PHOSPHO-jet

MAPLE



Anthracnose	22	PHOSPHO-jet, Alamo®
Aphids	22	ACE-jet, IMA-jet, AzaSol
Bagworm	23	TREE-äge, ACE-jet, AzaSol
Cankerworm (Caterpillar)	25	ACE-jet, AzaSol
Cottony Maple Scale (soft)	34	ACE-jet, IMA-jet, AzaSol
Interveinal Chlorosis	26	MIN-jet Iron
Thrips	35	ACE-jet, IMA-jet, AzaSol
Winter Moth	36	TREE-äge, ACE-jet, AzaSol

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TREATMENT

OAK



Anthracnose	22	PHOSPHO-jet
Gypsy Moth	30	TREE-äge®, ACE-jet, AzaSol™
Interveinal Chlorosis	26	MIN-jet Iron
Oak Worm (Caterpillar)	26	TREE-äge, ACE-jet, AzaSol
Oak Borer		ACE-jet, AzaSol
Oak Leaf Caterpillar	26	ACE-jet, AzaSol
Oak Wilt	32	Alamo
Winter Moth	36	TREE-äge, ACE-jet, AzaSol

PEAR



Anthracnose	22	PHOSPHO-jet
Apple Scab	23	PHOSPHO-jet
Black Spot		PHOSPHO-jet
Stem Canker	25	PHOSPHO-jet
Fireblight	29	PHOSPHO-jet
Tent Caterpillar	26	ACE-jet, AzaSol
Fall Webworm	28	ACE-jet, AzaSol

PINE



Bagworm	23	TREE-äge, ACE-jet, AzaSol
Bark Beetles* (Certain Species)	34	TREE-äge
Budworm	24	ACE-jet, AzaSol
Pine Tip Moth (Caterpillar)	26	ACE-jet, AzaSol
Pine Coneworm (Caterpillar)	26	TREE-äge, ACE-jet, AzaSol
Pine Needle Miner (Caterpillar)	26	TREE-äge, ACE-jet, AzaSol
Sawfly		TREE-äge, ACE-jet, IMA-jet, AzaSol
Scale (armored)	34	ACE-jet, AzaSol
White Pine Weevil		ACE-jet, IMA-jet, AzaSol

* Bark Beetles on TREE-äge label include: Ips Engraver Beetle, Mountain Pine Beetle, Southern Pine Beetle, Spruce Beetle, Western Pine Beetle, Pine Cone Seed Bug, Pine Needle Scale

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TREATMENT

POPLAR



Bagworm	23	TREE-äge®, ACE-jet, AzaSol™
Cottonwood Twig Borer		ACE-jet, AzaSol
Japanese Beetle	30	ACE-jet, AzaSol
Poplar Tentmaker (Caterpillar)	26	ACE-jet, AzaSol
Tent Caterpillar	26	TREE-äge, ACE-jet, AzaSol

SPRUCE



Bagworm	23	TREE-äge, ACE-jet, AzaSol
Budworm	24	ACE-jet, AzaSol
Pine Coneworm (Caterpillar)	26	TREE-äge, ACE-jet, AzaSol
Root Weevil		ACE-jet, AzaSol
Spruce Beetle		TREE-äge
Spruce Gall Adelgid	21	ACE-jet, IMA-jet
Western Spruce Budworm		TREE-äge, ACE-jet, AzaSol
White Pine Weevil		ACE-jet, IMA-jet, AzaSol

SYCAMORE



Anthracnose	22	PHOSPHO-jet, Alamo®
Aphids	22	ACE-jet, IMA-jet, AzaSol
Bagworm	23	TREE-äge, ACE-jet, AzaSol
Lacebug		ACE-jet, IMA-jet
Stem Canker	25	PHOSPHO-jet

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TREATMENT

TULIP TREE



Aphids	22	ACE-jet, IMA-jet, AzaSol™
Scale (soft)	34	IMA-jet, AzaSol
Scale (armored)	34	ACE-jet, AzaSol
Stem Canker	25	PHOSPHO-jet

WALNUT



Anthracnose	22	PHOSPHO-jet
Aphids	22	ACE-jet, IMA-jet, AzaSol
Fall Webworm	28	ACE-jet, AzaSol
Phytophthora (Root Rot)	33	PHOSPHO-jet
Walnut Caterpillar	26	ACE-jet, AzaSol
Walnut Lacebug		ACE-jet, IMA-jet

WILLOW



Carpenterworm (Caterpillar)	26	ACE-jet, AzaSol
Phytophthora (Root Rot)	33	PHOSPHO-jet
Poplar Tent Maker (Caterpillar)	26	ACE-jet, AzaSol
Tussock Moth (Caterpillar)	26	TREE-äge, ACE-jet, AzaSol
Willow Leaf Beetle		ACE-jet, IMA-jet, AzaSol

HOW TO USE YOUR INSECT AND DISEASE INDEX

INSECTS AND DISEASES

Name of insect or disease listed in alphabetical order. If you know the insect or disease, but not the tree, see our Tree Index for quick identification.



PAGE

Pages refer to problems including a picture and detailed descriptions to help identify and treat your insect or disease.



COMMON TREES

Listings of the most common host trees for insect or disease specified.



TREATMENT

The Arborjet treatment that is recommended for your insect or disease. To be used with either the QUIK-jet or TREE I.V. Injection systems. (AzaSol™ may be sprayed)



INSECTS AND DISEASES

PAGE

COMMON TREES

TREATMENT

Adelgids	21	Hemlock, Spruce, many other host species	ACE-jet, IMA-jet
Anthracnose	22	Ash, Maple, Beech, Birch, Elm, Linden, Oak, Willow	PHOSPHO-jet
Anthracnose	22	Dogwood	PHOSPHO-jet
Anthracnose	22	Sycamore	PHOSPHO-jet, Alamo
Aphids	22	Ash, Oak, Maple, Willow, Fruit trees	ACE-jet, IMA-jet, AzaSol™
Apple Scab	23	Crabapples; Hawthorne, Ornamental Pear	PHOSPHO-jet, Alamo [*] (Alamo for crabapple only)
Asian Longhorned Beetle		Elm, Maple, Birch, Willow, Ash, Poplar, Sycamore	IMA-jet
Bagworm	23	Juniper, Arborvitae, Cedars, Pine, Hemlock, Spruce, Locust, Maple, Sycamore, Willow, Linden, Poplar.	TREE-äge®, ACE-jet, AzaSol
Birch Leafminer	31	Birches: White, Gray, Yellow, European, Cut-leaf	TREE-äge, IMA-jet, AzaSol
Black Spot		Crabapple, Hawthorne, Pear	PHOSPHO-jet

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INSECTS AND DISEASES	PAGE	COMMON TREES	TREATMENT	17
Black Vine Weevil		Many host species (see root weevils)	ACE-jet, IMA-jet, AzaSol™	
Boxelder Bug		Boxelder, Ash, Maple, Fruit trees	ACE-jet, AzaSol	
Bronze Birch Borer (Flathead Borer)	24	Birches: White , Water, Paper, Yellow, Whitebarked, Himalayan, Gray, Sweet	TREE-äge®, IMA-jet, ACE-jet	
Browntail Moth (Caterpillar)	26	Oak, Shadbush, Apple, Cherry, Beach Plum, Hawthorn	ACE-jet, AzaSol	
Budworms	24	Spruce, Fir, Fraser Fir, Tamarack, Pine, Hemlock	TREE-äge (<i>Western Spruce Budworm Only</i>) , ACE-jet, AzaSol	
Cankerworms	25	Red and White oaks, Maples, Elms, Hickories, Ash, and Cherry	ACE-jet, AzaSol	
Carpenterworm (Caterpillar)	26	Red Oak, Black locust, Cottonwood, Elm, Maple, and Willow	ACE-jet, AzaSol	
Casebearer (Caterpillar)	26	Elm, Pecan, Larch, Paper, Gray, White Birch	ACE-jet, AzaSol	
Chlorosis	26	Oak, Birch	MIN-jet Iron	
Chlorosis	26	Maple	MIN-jet Iron	
Citrus Collar Rot	25	Citrus spp.	PHOSPHO-jet	
Citrus Longhorned Beetle (Roundheaded Borer)		Hardwood	TREE-äge, IMA-jet	
Citrus Root Rot	33	Citrus spp.	PHOSPHO-jet	
Clearwing Borers	27	Ash, Linden, many other host species	TREE-äge*, ACE-jet, AzaSol	
Coconut Bud Rot /Nut Fall		Coconut (Cocos nucifera)	PHOSPHO-jet	
Cottonwood Twig Borer		Cottonwood, Poplar	ACE-jet, AzaSol	
Dogwood Phytophthora (Root Rot)	33	Dogwood	PHOSPHO-jet	
Dutch Elm Disease	27	Elms	Alamo®	
Eastern Oak Looper (Caterpillar)	26	Red and White oaks, Maples, Elms, Hickories, Ash, and Cherry.	ACE-jet, AzaSol	
Eastern Tent Caterpillar	26	Crabapple, Hawthorn, Maple	TREE-äge*, ACE-jet, AzaSol	

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INSECTS AND DISEASES	PAGE	COMMON TREES	TREATMENT
Elm Leaf Beetle (larvae)		Elms	ACE-jet, IMA-jet, AzaSol™
Elm Spanworm (Caterpillar)	26	Elms	ACE-jet, AzaSol
Emerald Ash Borer	28	Ash	TREE-äge®, IMA-jet, ACE-jet
Eucalyptus Borer		Eucalyptus	ACE-jet, IMA-jet, AzaSol
Eucalyptus Longhorned Beetle (Roundheaded Borer)		Eucalyptus	TREE-äge, IMA-jet, AzaSol
Fall Cankerworm	25	Red and White Oaks, Maples, Elms, Hickories, Ash	ACE-jet, AzaSol
Fall Webworm	28	Crabapple, Birch, Willow, Cottonwood	TREE-äge, ACE-jet, AzaSol
Fireblight	29	Crabapples; Hawthorne, Ornam. Pear	PHOSPHO-jet
Flathead Borers (Buprestid Borers)	28	Many Species	TREE-äge, IMA-jet, ACE-jet
Forest Tent Caterpillar	26	Maples, Aspens, Oaks, Cottonwood, Elms, Willow, Birch, Linden, Ash	TREE-äge, ACE-jet, AzaSol
Frizzle Top		Palms	PALM-jet
Gall Midges		Oak, Willow, Elm, Maple, Walnut, Hickory, Pine, Locust	ACE-jet, AzaSol
Gypsy Moth	30	Many Oak Species, white preferred	TREE-äge, ACE-jet, AzaSol
Hemlock Woolly Adelgid	21	Hemlock	ACE-jet, IMA-jet
Japanese Beetle	30	Maple, Birch, Citrus, Walnut, Apple, Poplar, Oak, Sassafrass, Linden, Elm	ACE-jet, AzaSol
Lacebugs		Sycamore, Oak, Hackberry, Basswood, Hawthorne, Crabapple, Mt. Ash, Shadbush	ACE-jet, IMA-jet
Leafminers	31	Oak, Birch, Beech, Elm, Hawthorn, Holly, Locust	TREE-äge, IMA-jet, ACE-jet, AzaSol
Leaf Spot Diseases		Crabapples, Apple, Birch, many other species	PHOSPHO-jet, Alamo®** <i>(Alamo for crabapple only)</i>
Leafhoppers		Many Host Species	ACE-jet, IMA-jet
Leafrollers		Many Host Species	ACE-jet, AzaSol
Linden Looper (Caterpillar)	26	Linden, Birch, Hickory, Ash, Elm, Cherry, Maple	ACE-jet, AzaSol

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INSECTS AND DISEASES	PAGE	COMMON TREES	TREATMENT	19
Longhorned Borers (Roundheaded Borers)		Many Host Species	TREE-äge®, IMA-jet, ACE-jet	
Mealy Bug		Many Host Species	ACE-jet, IMA-jet, AzaSol™	
Nantucket Pine Tip Moth (Caterpillar)	26	Pines: Pitch, Virginia, Scotch, Shortleaf, Monterey, Loblolly	ACE-jet, AzaSol	
Oak Wilt	32	Red & White Oaks	Alamo®	
Oak Worms (Caterpillar)	26	Most Species Oaks	TREE-äge, ACE-jet, AzaSol	
Phytophthora (Root Rot)	33	Tan Oak, Coast Live Oak, Black Oak, Crabapples, Hawthorn, Pear	PHOSPHO-jet	
Phytophthora Canker (Root Rot)	33	Avocado	PHOSPHO-jet	
Phytophthora Root Rot	33	Avocado	PHOSPHO-jet	
Pine Bark Beetles (<i>Bark Beetles included for TREE-äge: Ips Engraver Beetles, Mountain Pine Beetles, Southern Pine Beetle, Spruce Beetle, Western Pine Beetle</i>)	33	Pines: Loblolly, Lodgepole, Pinyon, Pitch, Ponderosa, Shortleaf, Slash, Virginia	TREE-äge, ACE-jet, AzaSol	
Pine Cone Worm (Caterpillar)	26	Pines: Loblolly, Longleaf, Pond , Sand, Shortleaf, Slash, Virginia. Spruce, Douglas Fir, True Fir	TREE-äge, ACE-jet, AzaSol	
Pine Needle Miner		Pines: Pitch, Jack , Scotch , Virginia, Shortleaf, Longleaf, Table Mountain, Ponderosa, Lodgepole	ACE-jet, IMA-jet, AzaSol	
Pine Sawyer Beetle (Roundheaded Borer)		Pines: Austrian, Scots	TREE-äge, IMA-jet, ACE-jet, AzaSol	
Pine Tip Moth (Caterpillar)	26	Scotch, Muhgo, Ponderosa	ACE-jet, AzaSol	
Plant Bugs (Lygus)		Fruit Trees	ACE-jet, AzaSol	
Poplar Tentmaker (Caterpillar)	26	Poplar, Willow	ACE-jet, AzaSol	
Psyllids		Many Host Species	IMA-jet, AzaSol	
Red Oak Borer		Red Oaks	ACE-jet, AzaSol	
Root and Collar Rot	33	Stone Fruits; Cherries, Peaches, Plums	PHOSPHO-jet	
Root Rots	33	Cedars, Chamaecyparis, Firs, Hemlock	PHOSPHO-jet	

INSECTS AND DISEASES	PAGE	COMMON TREES	TREATMENT
Root Weevil (adults)		Hemlock, Spruce, Arborvitae, Oaks, Magnolia, Sassafras, Yellow Poplar	ACE-jet, AzaSol™
Royal Palm Bugs		Cuban Royal Palms	IMA-jet, ACE-jet, AzaSol
Sawfly Larvae		Many Host Species	TREE-äge®, ACE-jet, AzaSol
Scale Insects (armored)	34	Many Host Species	ACE-jet, AzaSol
Soft Scale Insects	34	Many Host Species	IMA-jet, AzaSol
Spider Mites	32	Conifers	ACE-jet
Spring Cankerworm	25	Oak, Elm	ACE-jet, AzaSol
Stem Cankers	25	Ash, Maple, Beech, Birch, Elm, Linden, Oak, Sycamore, Willow	PHOSPHO-jet
Stem Cankers	25	Cedars, Chamaecyparis, Firs, Hemlock, Junipers and Pine spp.	PHOSPHO-jet
Sudden Oak Death	33	Oak spp.	PHOSPHO-jet
Thrips	35	Dogwood, Magnolia, Maple, Palm, Viburnum,	IMA-jet, ACE-jet, AzaSol
Tussock Moth (Caterpillar)	26	Many Host Species	TREE-äge, ACE-jet, AzaSol
Two Lined Chestnut Borer (Flatheaded Borer)	35	Oaks, American Chestnut	TREE-äge, IMA-jet, ACE-jet
Variable Oakleaf Caterpillar	26	White Oak, Oak	ACE-jet, AzaSol
White Pine Weevil		Pines: White, Lodgepole, Red, Jack, Scots. Spruce: Black, Norway, Red, Colorado Blue. Douglas-fir	ACE-jet, AzaSol
Whiteflies		Ash, Red Bud, Bradford Pear, Oak, Chestnut, Citrus	IMA-jet, AzaSol
Whitemarked Tussock Moth (Caterpillar)	26	Pecan, Hickory, Walnut, Oak, Willow, Honey Locust	TREE-äge, ACE-jet, AzaSol
Willow Leaf Beetle (larvae)		White & Black Willow preferred	ACE-jet, IMA-jet, AzaSol
Winter Moth	36	Oaks, Maples, Basswood, Ash, Crabapples, Certain Spruces	TREE-äge, ACE-jet, AzaSol
Yellownecked Caterpillar	26	Birch, Elm, Oak, Maple, Crabapple	ACE-jet, AzaSol
Zimmerman Pine Moths (Caterpillar)	26	Austrian, Scotch, Ponderosa Pine	ACE-jet, AzaSol

HOW TO USE YOUR INSECT AND DISEASE DETAIL PAGES

INSECT AND DISEASE

Name and picture of treatable insect and diseases, listed in alphabetical order.



DESCRIPTION AND TREATMENT

A detailed description about the insect or disease. This includes:

- Common symptoms
- How to treat and when to treat
- Which Arborjet products to treat with



INSECT AND DISEASE



ADELGIDS

DESCRIPTION AND TREATMENT

Adelgids are very small, piercing, sucking insects which feed on conifers. Some species, like the spruce gall adelgid, produce galls while others, like hemlock woolly adelgid, produce woolly masses or wax on the twigs at the base of the needles. Adelgids pierce the plant tissues and extract vital nutrients away from the plant.

Hemlock woolly adelgid damage begins with gradual fading and browning of limbs, often starting at the tips and progressing down the limb, until the limb eventually dies. Hemlock woolly adelgid infestation is characterized by the tell-tale whitish woolly masses on the twigs at the bases of the needles. With gall producing species, the twigs and branch tips where the galls have formed will brown and die.

Trees with Adelgids can be treated with: IMA-jet.

INSECT AND DISEASE

DESCRIPTION AND TREATMENT

ANTHRACNOSE



Anthracnose (Leaf Blight) is a fungal disease that includes many species of fungi and affects many species of trees including ash, dogwood, maple, beech, birch, elm, linden, oak, sycamore and willow.

Visible symptoms of the disease vary with species and host but most commonly, infected leaves develop tan to reddish brown lesions that extend along the veins of the leaf.

Trees with Anthracnose can be treated with: Alamo® Fungicide (Sycamore only) or PHOSPHO-jet.

APHIDS



Aphids are piercing, sucking insects which include a vast number of species. They have various shapes, colors and sizes, but are usually small, soft bodied, and pear shaped, with long thin legs. Aphids often are found feeding in large groups and are slow moving. They excrete a sticky substance called “honeydew” which will often cover objects below an aphid infested tree.

Aphids do damage when populations become very high at which point leaves will become curled, distorted and/or yellow. Growth will be stunted and again, honeydew will be excreted on objects below the tree.

Trees with Aphids can be treated with: ACE-jet, IMA-jet or AzaSol™.

APPLE SCAB



Apple scab is a fungal disease which can affect the leaves, fruit, and twigs of apple, crabapple, hawthorn and pear. It is a common occurrence after a particularly wet and cool spring.

The evidence of apple scab is brownish-green spots on the leaves or fruit. As the infection progresses, the spots become darker and more prominent and take on a somewhat fuzzy texture. When infection is severe, leaves will drop off and fruit will be deformed and/or drop off prior to ripening.

Trees with Apple Scab can be treated with: Alamo® Fungicide (Crabapples only) or PHOSPHO-jet.

**Alamo is for ornamental use only. Fruit are not to be used for human or animal consumption.*

BAGWORM



The bagworm is a caterpillar distinguishable by the “bags” they create around themselves out of silk and bits of leaves and bark. The caterpillar can be brown, tan or speckled and the “bag” can be 1-2 inches long. It can attack many trees, but prefers conifers.

Bagworms most often attack the new buds on conifers causing branch dieback. On hardwood trees, the larvae tend to feed on the top of the leaf, skeletonizing it. In either case, the clearest evidence of bagworm infestation will be the presence of the bagworm and their distinctive bags.

Trees with Bagworm can be treated with: TREE-äge®, ACE-jet or AzaSol™.

INSECT AND DISEASE

DESCRIPTION AND TREATMENT

BRONZE BIRCH BORER
(FLATHEADED BORER)



The bronze birch borer is a wood boring beetle, common across the northern half of the United States, which attacks all birch species. The adult is a copper/bronze colored slender beetle. The larva, which does the damage, is unseen, feeding on the vascular tissue under the bark.

The bronze birch borer typically attacks trees which are already stressed or in decline. A birch infested with bronze birch borer will start showing dieback in the crown which will increase in severity as the infestation continues, often leading to death of the tree. In later stages of infestation, the trunk will show D-shaped, rust stained exit holes and may also have swollen extrusions under the bark where the tree tried to grow over larval galleries.

Trees with Bronze Birch Borer can be treated with: TREE-äge®, IMA-jet, or ACE-jet.

BUDWORM



The budworm is found in the northern and northeastern states of the US. It feeds on balsam fir and spruce, but can also be found on tamarack, pine and hemlock. The budworm moth larvae, which do all the damage, are 2 mm long at hatching and a little more than 2 centimeters long prior to pupating. The early stage larva is a yellowish, pale green with a light brown head. The mature larva is brown with light colored spots along the back.

Initial damage often appears in the crown of the tree and appears as defoliation of branch tips and browning foliage. Other visible evidence could be the presence of the larvae spinning down on silken threads, or the presence of the small tents formed by late instars of the budworm larvae. Death of the tree can occur after only one or two years of heavy infestation.

Trees with Budworm can be treated with: TREE-äge® (Western Spruce Budworm only), ACE-jet or AzaSol™.

CANKERS



Cankers are lesions in the trunk or branch often caused by mechanical wounding and/or fungal and bacterial pathogens. Canker causing pathogens are often host specific, i.e. sudden oak death in oaks. Fungal cankers are often the result of a fungal spore entering a wound or crack in the bark and reproducing.

Cankers can appear as areas of cracked or missing bark, discolored bark, sunken bark or calloused bark. Cankers can sometimes exude fluids, have strong odors or host obvious fungal growths. Cankers can girdle branches and/or the trunk, cause structural weaknesses and cause death of the plant.

Trees with Cankers can be treated with: PHOSPHO-jet.

CANKERWORM



The spring and fall cankerworm are distinct but very similar species belonging to the Lepidoptera order of insects. The fall cankerworm caterpillar is green or green/brown, with a dark stripe along the back and white stripes along its sides. The spring cankerworm is the same size but is darker green or reddish green with a yellowish stripe down each side. It attacks many tree hosts but prefers elm, hackberry and locust.

Cankerworm feeding is first indicated by small holes in the leaves. As the larvae mature they will consume all but the largest ribs of the leaf. The best evidence of cankerworm infestation is the presence of the cankerworm itself.

Trees with Cankerworm can be treated with: ACE-jet or AzaSol™.

INSECT AND DISEASE

DESCRIPTION AND TREATMENT

CATERPILLAR



Caterpillars are the larvae of moths and butterflies which belong to the large order of insects, Lepidoptera. There are 180,000 known species. Lepidoptera larvae eat foliage, buds, cambium, fruit and roots. Some species, such as gypsy moth, are highly destructive and can completely defoliate a tree. Successive years of defoliation from caterpillars will weaken a tree and often lead to its death.

Feeding damage from caterpillars is most often represented by chewed and/or consumed leaves. Often the best indicator of caterpillar infestation is the presence of the caterpillar itself.

Trees with Caterpillar can be treated with: TREE-äge® (*Caterpillars on TREE-äge label: Bagworm, Fall Webworm, Gypsy Moth, Mimosa Webworm, Oak Worm, Tussock Moth, Leafminers, Sawfly, Tent Caterpillars, Western Spruce Budworm, and Winter Moth*) **ACE-jet or AzaSol™.**

CHLOROSIS



Chlorosis describes a condition in which a tree's foliage loses its healthy green color and fades to a pale green or yellow hue. Chlorosis is often caused by deficiencies of the micro-elements iron, manganese or zinc and is common to oak and maple.

Leaves turn progressively paler green to yellow, with only main veins of the leaf remaining green. Growth is slowed or stunted. As chlorosis continues, the leaf veins turn yellow, the leaf dies and falls off. Whole limbs may die back and eventually the death of the tree could occur.

Trees with Chlorosis can be treated with: MIN-jet Iron and ROOT-jet.
Palm trees with Chlorosis can be treated with: PALM-jet.

CLEARWING BORER



The clearwing borers are moths which resemble wasps or hornets. Their name comes from their see through wings. The larvae, which do all the damage, are unseen, living and feeding on the vascular tissue under the bark.

The feeding and tunneling activity of the larvae interrupts the flow of water and nutrients within the tree, causing wilting and dieback in the limbs and crown. Their tunneling also structurally weakens limbs, making them susceptible to breakage. Signs of infestation will be exit holes in the trunk and "frass" (excrement) and/or sawdust outside the hole. Another visible sign could be the presence of the brown pupal case protruding from the hole.

Trees with Clearwing Borers can be treated with: TREE-äge®, ACE-jet or AzaSol™.

DUTCH ELM DISEASE



Dutch Elm Disease is a vascular wilt disease caused by the fungus *Ophiostoma ulmi*. The disease affects many species of elm, the American Elm being the species most susceptible to death from this disease. It is spread by two species of elm beetle as well as through root grafts.

The fungus spreads through the vascular system, rapidly diminishing the ability of the tree to transport water and nutrients. Common first signs will be "flagging" which is wilting or yellowing leaves in the small branches in the crown of the tree. When the fungus is introduced by the native elm bark beetle, whole branches and limbs may begin to wilt and turn yellow. If left untreated, death will occur.

Trees with Dutch Elm Disease can be treated with: Alamo® Fungicide.

INSECT AND DISEASE

DESCRIPTION AND TREATMENT

EMERALD ASH BORER

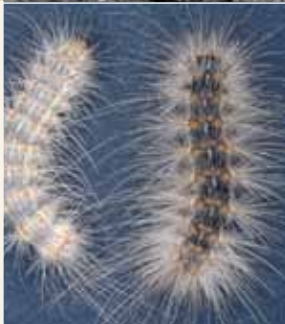


The emerald ash borer (EAB) is an invasive, wood boring beetle introduced from Asia that attacks ash trees. This metallic green beetle was first found in Michigan and Ontario in 2002, and has since been spreading across the country.

Damage is caused by the larva which is feeding internally on the vascular tissue of the tree, interrupting the tree's ability to transport water and nutrients. Early symptoms will be gradual thinning of the canopy and dieback of limbs. As the infestation progresses, the canopy continues to thin and die back. In later stages of infestation, epicormic, or shrub like growth at the base of the tree occurs, along with visible "D" shaped exit holes and sloughing off of bark. Left untreated, death will occur.

Trees with Emerald Ash Borer can be treated with: TREE-äge®, IMA-jet or ACE-jet. (TREE-äge provides up to two years of control with one application)

FALL WEBWORM



Fall webworm is a defoliating caterpillar found in eastern and central US, from Canada to the Gulf of Mexico. The caterpillar can have either a darkish body with a light stripe down the back or yellow green with a dark stripe down the middle of the back, about 1 inch long and with long, whitish hairs. It commonly attacks birch, cherry, mulberry, alder, willow, cottonwood, and crabapple.

The caterpillars live and feed on the foliage inside the tents they make at the branch tips. As they grow, they expand their webs. The webs are unsightly but the actual damage to the tree is usually minimal unless infestation is severe.

Trees with Fall Webworm can be treated with: TREE-äge, ACE-jet or AzaSol™.

FIREBLIGHT



Fireblight is a bacterial disease affecting apple, pear, crabapple, hawthorn, and quince. It is a highly contagious disease and spreads quickly between trees in close proximity. Fireblight causes damage to virtually every part of the host tree. It can appear on the trunk, limbs or twigs as a canker. It will make leaves and twigs appear burned or scorched and will cause blossoms to turn brown and appear wet. A tell tale sign is the “shepherds crook” which is created in the branch tips. Fireblight can cause the death of the tree.

Trees with Fireblight can be treated with: PHOSPHO-jet.

GALL WASP



Gall wasps are tiny wasps, as small as 1mm in length, with many species across the United States. Specific species attack specific trees, i.e. the erythrina gall wasp on Wili Wili trees in HI. Most known gall wasps, however, attack oak trees. The wasp lays its eggs in the plant tissue which creates a “gall,” or abnormal growth, where the eggs were deposited. The larvae live and feed inside the gall.

Generally, the galls are more an eyesore than a threat to the tree. Galls can form on leaves, stems, twigs, buds and roots. One of the more common is the oak gall wasp which forms spherical galls on the leaves.

Trees with Gall Wasp can be treated with: IMA-jet.

INSECT AND DISEASE

DESCRIPTION AND TREATMENT

GYPSY MOTH



The gypsy moth is a highly destructive caterpillar which was accidentally introduced to the US in the northeast but which has spread to the central US and Mid-Atlantic states and continues to spread further each year. The caterpillar is distinctive for its rows of blue and red/orange spots. It will feed on many species of trees with a preference for oak and aspen.

Its feeding damage is typical of caterpillars where the leaf is chewed, with early stage caterpillars chewing holes in the leaf and later stage caterpillars consuming the entire leaf, leaving the tree defoliated or very thin. The best evidence of gypsy moth infestation is the presence of the caterpillar itself.

Trees with Gypsy Moth can be treated with: TREE-äge®, ACE-jet or AzaSol™.

JAPANESE BEETLE



The Japanese beetle is an invasive insect introduced to the United States in 1916. It is found primarily east of the Mississippi river and isolated pockets in more western states. The adult is 8-10 mm long, with a shiny green metallic thorax and copper/bronze colored wings. It will feed on a variety of trees, including maple, linden, apple, crabapple, pin oak, birch, plum and cherry among others.

The adult beetle “skeletonizes” the leaf, consuming the tender leaf tissue and leaving the veins behind, causing the leaf to have a lace-like appearance. The best evidence for Japanese beetle infestation is the presence of the beetle itself.

Trees with Japanese Beetle can be treated with: ACE-jet or AzaSol.

LEAFMINER



Leafminers is a general term for tiny insects which feed and develop between the epidermal layers of leaves. Leafminers can be flies, wasps, moths or beetles. A common leaf miner is the birch leaf miner which attacks birch trees, but there are species which attack apple, oak, beech, elm, cherry, locust, and hawthorn.

The damage is characterized by brownish, semi-translucent blotches on the leaves, representing the “mines” inside of which the immature larva are feeding. To differentiate leafminer damage from similar looking leaf spot diseases, look closely at the affected area of the leaf for the presence of the larva or its droppings inside the mined area.

Trees with Leafminer can be treated with: TREE-äge®, IMA-jet or AzaSol™.

LINDEN BORER
(ROUNDHEADED BORER)

Linden borer is a boring beetle that attacks linden and poplar trees. It is commonly found in the northeastern quadrant of the US. The adult beetle is olive in color with long antennae. The larvae of the beetle feed under the bark, usually near ground level, on vascular tissue, structural wood and surface roots.

Indicators of a linden borer infestation will be decline in vigor, with limbs lowest to the ground declining and dying and holes in the trunk near the ground.

Trees with Linden Borer can be treated with: TREE-äge, IMA-jet or AzaSol™.

INSECT AND DISEASE

DESCRIPTION AND TREATMENT

MITES



Mites are similar to insects but belong to the spider family. There are thousands of species, but perhaps most common in the landscape would be spider mites and gall mites. Spider mites are common pests of hemlocks and other landscape conifers. Mites are tiny, most species being microscopic, however, spider mites are visible to the eye, appearing as tiny specks, frequently on the underside of the leaf and amid very fine webbing.

Evidence of spider mite infestation may be speckling and mottling of the leaf or needle, causing the plant to appear gray or washed out, and limited or no growth in the plant. The presence of gall mites will be indicated by the presence of the gall, an abnormal growth on the leaf, stem or twig, inside of which the mite lives and feeds.

Trees with Mites can be treated with: ACE-jet.

OAK WILT



Oak wilt is fungal disease which affects the vascular tissues of oak trees. It is mostly found in eastern and central states and some areas of Texas.

The fungus damages the tree by causing the vascular system to become plugged, limiting or eliminating the tree's ability to move water and nutrients. Initial signs of oak wilt infection are leaves which turn brown from the outward edges in. This symptom spreads quickly throughout the tree causing defoliation and ultimately death.

Trees with Oak Wilt can be treated with: Alamo® Fungicide.

BARK BEETLE



There are numerous species of bark beetles which attack trees throughout the United States. They are typically small, 3-4 mm long with dark cylindrical bodies. They are boring beetles which tunnel and feed under the bark within the vascular tissue of the tree.

Trees infested with bark beetles will gradually turn brown, defoliate and die. Upon inspection of the trunk, there could be exit holes and/or “pitch tubes” in the bark indicating they have either bored in or out of the bark. Their feeding interrupts the tree’s ability to move water and nutrients. Several species also introduce a fungus into the tree which further inhibits the vascular system.

Trees with Bark Beetle can be treated with: TREE-äge®, (*Bark Beetles on TREE-äge label include: Ips Engraver Beetles, Mountain Pine Beetle, Southern Pine Beetle, Spruce Beetle, Western Pine Beetle*) or **AzaSol™**.

ROOT ROT



Root rot is a generic term applying to plant infestation by phytophthora. Phytophthora are fungus-like organisms which cause cankers in the bark which can destroy the vascular system and which cause roots to rot and cease to function. There are many species of phytophthora affecting many types of plants and trees, including but not limited to dogwood, maple, hemlock, fir, cedar, and white pine. One species, phytophthora ramorum, is the pathogen causing sudden oak death in oaks.

One visible sign of phytophthora, or root rot, is the formation of canker(s) in the bark of the trunk. The bark around a canker will crack and/or appear water soaked and may or may not be oozing and emitting an odor. Leaves could appear drought stressed, wilted or stunted.

Trees with Root Rot can be treated with: PHOSPHO-jet.

INSECT AND DISEASE

DESCRIPTION AND TREATMENT

SCALES (ARMORED)



The armored scale is a stationary, sucking insect that secretes a waxy covering over its body which looks like a plate of “armor.” They can be round or oval in shape and can be flat or domed. There are numerous species of scale affecting many kinds of trees.

Scales pierce the plant and suck out the vital nutrients, causing the plant to gradually decline in health and appearance. Look for the presence of the scale on the twig, stem or leaf. Another common indicator of scale is a sticky secretion that will be on objects beneath the tree.

Trees with Armored Scales can be treated with: ACE-jet or AzaSol™

SCALES (SOFT)



“Soft” scales are similar to armored scales in that they also cover their bodies with a coating, however, the coating on a “soft” scale is an actual part of their body and not just a covering. Soft scales come in a variety of shapes and sizes (cottony maple scale pictured) and can be small (2-3mm) to large (14mm).

Like armored scales, soft scales penetrate the plant tissues and suck out the vital nutrients, causing the plant health to decline and growth to slow or stop. Look for the presence of the scale on the twig, stem or leaf.

Trees with Soft Scales can be treated with: IMA-jet, ACE-jet or AzaSol™

THRIPS



Thrips are tiny, thin insects, about 1mm in length, which are of the “piercing, sucking” variety, meaning they pierce the plant tissue with their mouth parts and suck out the nutrients. There are hundreds of species of thrips which feed on many species of plants, including but not limited to, dogwood, magnolia, maple, and palm. Generally, they are about 1mm in length.

Feeding damage from thrips can appear as discolored or deformed leaves and stunted growth. Certain species of thrips are also known to carry and spread plant pathogens which can also do damage to the host tree.

Trees with Thrips can be treated with: IMA-jet, ACE-jet or AzaSol™

TWO LINED CHESTNUT BORER
(FLAT HEADED BORER)

The Twolined Chestnut Borer is found primarily in the eastern half of the US and is a pest of oak trees. The insect was named for its preferred host tree, the American chestnut, which has become rare as a result of chestnut blight. The adult is dark and slim bodied, about 10-13 mm in length, with two bronze stripes down the back.

The larvae of the two lined chestnut borer, which do the actual damage to the tree, are unseen, feeding and developing under the bark within the vascular tissue of the tree, interrupting the flow of water and nutrients. Initial signs of infestation will be scattered areas of foliage which wilts and browns but does not fall off, leading to branch dieback the following year. Later in the infestation stage, D-shaped exit holes can be found in the trunk.

Trees with Twolined Chestnut Borer can be treated with: TREE-äge®, IMA-jet or ACE-jet.

INSECT AND DISEASE

DESCRIPTION AND TREATMENT

WINTER MOTH



The winter moth is a non-native, invasive insect which has been found in Washington, Oregon and Massachusetts. The winter moth caterpillar is bright green, about 15mm in length and resembles an inchworm. It feeds on many different tree species, including but not limited to maple, oak, linden, ash, crabapple, apple, cherry, and spruce.

The early stage caterpillar will bore into the foliar buds of the host tree prior to the tree leafing out, consuming the young leaves or leaving them heavily damaged before they unfold. Leaves will have holes or be virtually consumed. The most conspicuous evidence of winter moth infestation will be the caterpillar itself.

Trees with Winter Moth can be treated with: TREE-äge®, ACE-jet or AzaSol™

We welcome your questions and comments.

Contact us at 781.935.9070 or toll free at 1.866.ARBORJT (1.866.272.6758)

For ordering information, call or visit us at www.arborjet.com.

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