Problems

Products containing imidacloprid can cause harm to bees. As with natural insecticides, if bees and beneficial insects are present when plants are sprayed they will die. Because imidacloprid and other neonicotinoids persist in the system of treated plants, the insecticides may also make their way into pollen and nectar when flowers bloom, coming into contact with bees. This contact can cause serious problems for bees and may be a contributor to Colony Collapse Disorder, the global decline of honey bees.

Why use it then?

Root drenches are commonly used because they are easy to apply, effective for a long period of time (so multiple applications are not needed), and because there is no drift from spraying (it won't get on other plants or people accidentally).

Spray and granule applications are active for shorter periods of time, allowing treatment to be more targeted. If applied after bloom, harm to bees and beneficial insects can be minimized.

Products containing imidacloprid are also less toxic to mammals (pets & humans) than many options available previously, and they don't leach into ground water.

If you choose to use a neonicotinoid product:

- Choose products with the shortest active period necessary
- Apply after bloom is finished or remove flower buds before and during treatment
- Apply sprays in early morning or evening when bees are not present
- Read the label and follow directions carefully

Read more about azalea lace bug and Integrated Pest Management

ipm.ucdavis.edu/PMG/PESTNOTES/pn7428.html

oregonstate.edu/dept/nurspest/Azalea_lacebug.pdf

Read more about Neonicotinoids & Colony Collapse Disorder

xerces.org/neonicotinoids-and-bees/

science.howstuffworks.com/zoology/insects-arachnids/colony-collapse-disorder.htm

usnews.com/news/blogs/at-the-edge/2013/08/07/bee-colony-collapses-are-more-complex-than-we-thought

Resistant Varieties

Lace bugs are fairly new in the Pacific Northwest so local research on the subject is new and ongoing. Azalea lace bug has been present on the East Coast for longer, and research has been done to find resistant varieties. If you are considering planting azaleas in your yard, selecting plants from these lists may save you a headache later. Keep in mind, "bug-resistant" does **not** equal "bug-proof," but these varieties should fare better.

Standard varieties	Encore Azaleas
Elsie Lee	Autumn Amethyst
Flame Creeper	Autumn Twist
Delaware Valley White	Autumn Royalty
Gumpo White	Autumn Sangria
Hino Crimson	Autumn Cheer
Macrantha	Autumn Rouge
Red Wing	
Rosebud	

Azalea Lace Bug Solutions

Symptoms, Treatments, and Suggestions for Further Reading

PORTLAND NURSERY

www.portlandnursery.com

Symptoms

Azalea lace bugs were first documented in Oregon in 2009, but they were not a huge problem until 2012-13. Lace bugs are now very widespread and most everyone who owns azaleas in Portland (some rhododendrons are affected too) has a lace bug problem. Because of this, azaleas can no longer be considered carefree, inexpensive plants.

Lace bugs suck chlorophyll out of leaves, impairing the plant's ability to make nutrients from sunlight. Damage from adult azalea lace bugs makes leaves look stippled with yellow or white on top and black or brown spots (bug poo) on the underside of leaves.

Chemical-free Options

- Eggs are laid along the midrib, inside the leaves (so spraying with dormant oils will not kill eggs).
- Eggs typically begin hatching in early-mid May and hatch over a long period of time. A second generation hatches around late June, early-July.
- Nymphs are the next stage. *Treatment during the nymph stage is most effective.*
- Adults do 12 times the damage of nymphs. They insert a proboscis (straw) into pores in leaves and suck out the chlorophyll, which is what turns affected leaves white or yellow.

- Treating after you notice damage (once adult lace bugs are active) will not repair the stippled appearance of the leaves.

Treatment

Begin treatment when nymphs are visible. Start looking for them in early May on the undersides of leaves. Nymphs are up to ¼" long and translucent with bits of yellow-green. If you're having trouble seeing them, hold leaves up to a light and look for nymph shadows.

Chemical-free Options

- Strong stream of water - Nymphs can be knocked off with a strong stream of water focused on the underside of leaves. If they're knocked onto the ground they won't survive to adulthood. This should be done once a week as long as nymphs are present.
- Biological Control - Green lacewings are beneficial insects that effectively control lace bugs. They can sometimes be purchased at garden centers, but more often are ordered online.

Insecticides

Insecticides will help control lace bugs, but may also harm beneficial insects and bees. ***Apply only to non-blooming plants, in early morning or evening when bees are not present.***

- Organic and naturally occurring insecticides must have direct contact with insects to be effective.
- Nymphs live on the bottom side of leaves, so use a hose-end or pump sprayer and make sure to coat the undersides of all leaves.
- To be effective, these products will require reapplication several times during hatching season. *Always follow all directions on the package.*

Listed from least toxic to beneficial insects, bees, pets, and humans to most toxic:

- **Oil** – while dormant oil does not control eggs, spraying nymphs and adults with horticultural oil is effective.
- **Insecticidal Soap** – works for nymph and adult stages.
- **Pyrethrin** – is effective for use on lace bugs but is toxic to beneficial insects and bees and also can be harmful to pets and humans. Use should be limited. Apply to non-blooming plants in early morning or evening when air is still and bees are not present. Keep pets indoors until treated areas and the ground around them have dried. Wear long sleeves, gloves, protective goggles, and a dust mask during application. Never apply in an enclosed space.

Neonicotinoids

These are a new class of insecticide. Imidacloprid is the most common form of neonicotinoid in systemic insecticides that are available to the public. It's applied as a root drench, granule, or spray and stays in the system of the plant for varying periods of time depending on which product is used. Spray and granule applications persist for shorter periods, some as short a time as 4 weeks. Root drench applications persist in plants for a much longer period of time, potentially as long as 6 years.

Insects are killed if they come into contact with sprays and also if they feed on plants treated with these products. Because this insecticide persists in the system of the plant, it kills insects that feed on the plant, which is what makes it so effective when treating lace bug, aphids, scale, and mealy bug.