

How to Control Scale Insects on Florida Ornamentals

Florida's subtropical climate is a paradise for vibrant, lush ornamental plants, but it also creates the perfect breeding ground for a stubborn and often misunderstood pest: the scale insect. If you have noticed strange bumps on the stems of your favorite shrubs, or a sticky, black soot covering the leaves of your prized landscape plants, you are likely dealing with a scale infestation. These tiny, sap-sucking insects can quickly turn a thriving garden into a struggling landscape if left unchecked.

Understanding how to identify and control scale insects is essential for any Florida homeowner who wants to protect their investment in landscaping. Because these pests often go unnoticed until their populations explode, early detection and proper treatment timing are critical. This comprehensive guide will walk you through the differences between soft and armored scales, the common Florida ornamentals they target, effective treatment strategies including horticultural oils and systemic insecticides, and practical cultural controls you can implement today.

Understanding the Enemy: Soft Scale vs. Armored Scale

Before you can effectively treat a scale infestation, you must know which type of scale you are battling. In Florida, scale insects are generally divided into two main categories: soft scales and armored scales. While they share a similar method of feeding—using piercing-sucking mouthparts to extract sap from the plant—their biology and the damage they cause differ significantly.

The Characteristics of Soft Scale Insects

Soft scales (family *Coccidae*) are typically larger than their armored counterparts, growing up to a quarter of an inch in length. They have a smooth, sometimes waxy or cottony surface that is actually part of their body wall. If you attempt to flip the cover off a soft scale, you will remove the entire insect.

One of the most defining characteristics of soft scales is their feeding habit. They feed directly on the phloem vascular tissue of the plant, which is responsible for transporting the sugars produced during photosynthesis. Because they consume such a high volume of sap, they excrete large amounts of a sticky, sugary substance known as honeydew.

This honeydew creates a secondary problem: sooty mold. The sticky residue coats the leaves and stems below the feeding insects, providing a perfect medium for the growth of black sooty mold fungi. While the mold itself does not directly infect the plant, a heavy coating can block sunlight, severely reducing the plant's ability to photosynthesize and ultimately weakening it further. Soft scales are also highly mobile during their nymph stages and can move around the plant until the females settle down to lay eggs.

The Characteristics of Armored Scale Insects

Armored scales (family *Diaspididae*) are smaller, usually less than an eighth of an inch in diameter, and have a flattened, plate-like appearance. Unlike soft scales, the waxy cover of an armored scale is separate from its actual body. If you carefully lift the protective cover, the soft-bodied insect will remain attached to the plant underneath.

Armored scales do not feed on the phloem; instead, they feed on the contents of the individual plant cells just below the surface of the leaves and bark. Because of this feeding method, they do not produce honeydew, and you will not see the accompanying black sooty mold. However, their feeding causes localized cell death, which often appears as yellow halos, stippling, or generalized chlorosis (yellowing) on the leaves.

Once a female armored scale settles on a feeding site, she loses her legs and remains immobile for the rest of her life. Even after the insect dies, the waxy cover can remain attached to the plant for years, making it difficult to determine if an infestation is active or historical without close inspection. Armored scales are the most diverse group of scale insects in Florida, with over 130 species known to attack ornamental plants.

Common Florida Ornamentals Affected by Scale

Florida's diverse landscapes feature a wide variety of ornamental plants, many of which are highly susceptible to scale infestations. The state's high humidity and year-round warm temperatures allow these pests to reproduce continuously, often completing multiple generations in a single year.

Vulnerable Landscape Plants

Several popular Florida ornamentals are frequent targets for scale insects. Cycads, such as the popular Sago Palm and the native Coontie, are notoriously susceptible to the cycad aulacaspis scale, an armored scale that can completely coat the fronds in a white, flaky crust, eventually killing the plant if left untreated.

Camellias and hollies are often attacked by tea scale, another armored scale that causes yellow splotches on the upper leaf surfaces while the undersides become covered in a fuzzy, white mass. Citrus trees, which are common in many residential landscapes, are frequent hosts for Florida red scale and purple scale.

Crape myrtles have recently become the target of the crape myrtle bark scale, a relatively new invasive pest in the Southeast that causes severe blackening of the trunk and branches due to heavy honeydew production and subsequent sooty mold. Other common targets include oleander, hibiscus, magnolias, and various species of ficus.

The Impact of Florida's Climate

The subtropical climate of Palm Beach, Broward, Martin, and St. Lucie counties plays a significant role in scale insect population dynamics. The lack of a hard winter freeze means that scale insects do not experience a true dormant period. Instead, they continue to feed and reproduce, albeit at a slightly slower rate during the cooler months.

Florida's sandy soils drain quickly, leading to drought stress during the dry season or when water restrictions limit irrigation. Stressed plants are far more susceptible to scale infestations and suffer greater damage than healthy, vigorous plants.

The Importance of Timing: Targeting the Crawler Stage

One of the most critical concepts in scale insect control is understanding their life cycle, specifically the “crawler” stage. The protective waxy covers of adult scales make them highly resistant to most contact insecticides. Therefore, the key to successful management is timing your treatments to target the vulnerable, newly hatched nymphs.

What is the Crawler Stage?

After a female scale lays her eggs beneath her protective cover, they hatch into tiny, six-legged nymphs called crawlers. This is the only highly mobile stage in the life cycle of most scale species. The crawlers emerge from beneath the mother’s cover and actively move around the plant, searching for a suitable place to settle, insert their mouthparts, and begin feeding.

During this brief window—which may last only a few days to a couple of weeks—the crawlers have not yet developed their protective waxy coating. They are highly susceptible to environmental factors, natural predators, and properly timed insecticide applications.

Monitoring for Crawlers

Because crawlers are incredibly small (often appearing as tiny specks of moving dust), monitoring them requires a keen eye. A practical DIY method for Florida homeowners is the use of double-sided sticky tape. Wrap a piece of double-sided tape around a branch that is known to be infested with adult scales. Check the tape weekly with a magnifying glass. When you see tiny insects stuck to the edges of the tape, you know the eggs have hatched, and the crawler stage is active. This is the optimal time to apply contact treatments.

Effective Treatment Strategies: Horticultural Oils

For Florida homeowners looking for a safe and effective way to manage scale insects, horticultural oils are often the first line of defense. These highly refined petroleum or

plant-based oils work primarily by suffocating the insects.

How Horticultural Oils Work

When applied correctly, horticultural oils coat the scale insect, blocking their spiracles and causing them to suffocate. Unlike traditional broad-spectrum chemical insecticides, oils leave no toxic residue, making them much safer for the environment, pets, and beneficial insects once the spray has dried.

Horticultural oils are particularly effective because they can penetrate the protective covers of adult scales to some degree, and they are highly lethal to the vulnerable crawler stage.

Application Tips for Florida Homeowners

When using horticultural oils in Florida, proper application is crucial to avoid damaging your plants. The intense Florida sun combined with oil can cause phytotoxicity (leaf burn).

Always apply oils during cooler parts of the day, like early morning or late evening. Never apply horticultural oils when temperatures exceed 90°F, or when plants suffer from drought stress. Ensure the plant is well-watered before application.

Thorough coverage is essential. You must spray the upper and lower surfaces of the leaves, as well as the stems and branches, until the plant is dripping. Because oils only kill on contact, any scale insect that is not directly coated will survive. You will likely need to make multiple applications spaced 7 to 14 days apart to break the life cycle, as eggs hatch at different times.

Systemic Insecticides for Severe Infestations

While horticultural oils are excellent for mild to moderate infestations, severe outbreaks—especially of soft scales or on large trees where thorough spray coverage is impossible—may require the use of systemic insecticides.

The Mechanics of Systemic Treatments

Systemic insecticides are absorbed by the plant and transported throughout its vascular system. When a scale insect pierces the plant tissue and begins to feed on the sap, it ingests the insecticide and dies. This method is highly effective because it bypasses the insect's protective outer cover entirely.

The most common systemic insecticides used for scale control belong to a class of chemicals called neonicotinoids, which include active ingredients like imidacloprid and dinotefuran.

Proper Use and Environmental Considerations

Systemic insecticides are typically applied as a soil drench around the base of the plant or as a granular application that is watered into the root zone. The plant's roots absorb the chemical, and it is translocated upward into the foliage.

It is important to note that systemic treatments take time to work. Depending on the size of the plant, it may take several weeks for the chemical to reach effective concentrations in the leaves. Therefore, they are better suited as a preventative measure or for long-term control rather than a quick knockdown.

Furthermore, effectiveness varies by scale type. Imidacloprid, for example, is highly effective against soft scales that feed on the phloem, but it is generally ineffective against armored scales that feed on cell contents. Dinotefuran is more water-soluble and moves more quickly through the plant, making it effective against both soft and armored scales.

When using systemic insecticides, Florida homeowners must be mindful of environmental impacts. These chemicals can be toxic to pollinators if applied to plants that are currently blooming. Always apply systemics after the blooming period has finished to protect bees and other beneficial insects. Additionally, be cautious of Florida's sandy soils and high water table; follow all label instructions carefully to prevent leaching into groundwater.

Pruning and Cultural Controls

Chemical treatments should never be your only strategy. Integrating cultural controls and proper plant maintenance is essential for long-term scale management.

The Role of Pruning

If a scale infestation is localized to a few branches or a specific section of a shrub, the most effective and immediate control method is simply to prune out the heavily infested areas. Use sharp, clean bypass pruners to remove the affected branches, making cuts back to healthy wood.

Always bag and dispose of the infested clippings in the household trash. Do not place them in your compost pile or leave them in the yard, as the crawlers can easily migrate back to your landscape plants. Disinfect your pruning tools with rubbing alcohol between cuts to prevent the spread of disease.

Promoting Plant Health

Healthy plants are naturally more resilient to pest attacks. Following the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) recommendations for right plant, right place is the foundation of a healthy landscape.

Ensure your ornamentals are receiving the appropriate amount of sunlight, water, and fertilizer. Over-fertilizing, particularly with high-nitrogen synthetic fertilizers, can actually cause a spike in scale populations. The flush of tender, new growth stimulated by excessive nitrogen is highly attractive to sap-sucking insects. Opt for slow-release, organic fertilizers that provide a steady supply of nutrients without causing rapid, weak growth.

Proper irrigation is also critical. While Florida receives abundant rainfall during the summer wet season, the winter dry season can cause significant drought stress. Adhere to your local water restrictions, but ensure your plants receive deep, infrequent watering to encourage deep root systems. A two- to three-inch layer of organic mulch around the base of the plant will help retain soil moisture and regulate soil temperature, further reducing plant stress.

Practical DIY Steps Before Calling a Pro

Before reaching for harsh chemicals or calling in the experts, there are several practical steps you can take to manage a minor scale issue.

1. **Manual Removal:** For small infestations on sturdy plants, you can physically remove the scales. Use a soft-bristled toothbrush, a cotton swab dipped in

rubbing alcohol, or simply your fingernail to gently scrape the scales off the stems and leaves.

2. **Water Blasting:** A strong jet of water from your garden hose can dislodge many crawlers and even some adult scales. This also helps wash away the sticky honeydew and sooty mold. Do this early in the day so the foliage can dry completely before nightfall, reducing the risk of fungal diseases.
3. **Encourage Natural Predators:** Florida is home to many natural enemies of scale insects, including ladybugs, lacewings, and parasitic wasps. Avoid using broad-spectrum insecticides that kill these beneficial insects. Planting a diverse array of flowering plants can help attract and support these natural predators in your garden.

When to Call a Professional

While many scale infestations can be managed by a diligent homeowner, there are times when it is best to call in a licensed pest control professional.

You should consider professional help when:

- The infestation is severe and covers a large portion of the plant.
- The affected plants are large trees or tall shrubs that you cannot safely or effectively treat with homeowner equipment.
- You have tried horticultural oils and cultural controls without success.
- You are unsure of the type of scale you are dealing with and need accurate identification to choose the right treatment.
- You are concerned about the safe handling and application of systemic insecticides, particularly near water sources or blooming plants.

Professionals have access to specialized equipment for high-pressure spraying and soil injections, as well as commercial-grade products that are not available to the general public. They also have the expertise to properly identify the pest and implement an integrated pest management (IPM) plan tailored to your specific landscape.

O'Hara Pest Control has been helping homeowners across Palm Beach, Broward, Martin, and St. Lucie counties since 1973. If you need expert help with controlling scale

insects on your ornamentals, call us at 561-655-9011 or visit oharapestcontrol.com to schedule a free consultation.