

Chapter 6 - Attics and Crawlspace

Providing pest and termite services will often require a technician to inspect and treat in attics and crawlspaces. Technicians and inspectors face numerous safety hazards in both locations. Some of those hazards are obvious, and some are not.

Attics

Ladders leading to attics are frequently broken, weakened, and dangerous and should be inspected for safety and stability before using them to gain access into the attic. In the attic of homes, nails often protrude down through the plywood roof decking and can cause dangerous puncture wounds or lacerations if accidental contact is made with the head and neck. Furthermore, most home attics are not floored; a misstep can drop you through the ceiling of the room below, or leave you with two legs straddling a ceiling joist. Fiberglass insulation can irritate your skin, eyes, and respiratory tract, and you face shock hazards from exposed electrical lines.

Attics rarely have good ventilation, so most pesticides you apply pose an inhalation risk. Attics can also be dangerously hot, and you can get cramps, pulled muscles, or a sore back from working and moving hunched over or in uncomfortable positions.

There may be wasps, bees, scorpions, and other stinging and biting pests in an attic, as well as rodents, bats, birds and their droppings, not to mention the occasional raccoon or opossum.

Precautions in Attics

- Wear coveralls, gloves, hard hat, and any other personal protective equipment that you think may be necessary.
- Make sure the attic ladder is safe before using it.
- Always use your Massey ladder if a portable ladder is required.
- Disturb insulation as little as possible, particularly blown-in and/or loose insulation in an attic (see chapter *Fiberglass Insulation*).
- Avoid disturbing bird or bat droppings.
- Use a respirator whenever power-spraying or power-dusting, or if you think that there might be any airborne substances that you do not want to breathe.
- Carry a good, bright flashlight with strong batteries.
- Shine your flashlight on each area of the attic before entering it.
- Move slowly and watch where you step. Do not get yourself into a tight space that you may have trouble getting out of.
- Always test attic flooring boards for stability before applying your full weight.
- Look out for loose or dangling electrical lines. Do not touch any cables.
- If the attic is hot, do not enter it without someone else around to check on you. Be alert of symptoms of heat illness (see chapter *Heat and Cold*).

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Crawlspace

Crawlspace are usually dark, dirty, and confined. Working in a crawlspace can present safety hazards to some extent. Some hazards that might be present in a crawlspace are:

- You can bump your head on pipes, beams, nails, sub-flooring, etc.
- You can cut or scrape yourself on broken glass and other debris as you crawl on your belly or on your hands and knees.
- You can get cramps, pulled muscles, or a sore back from working and moving in a confined space.
- You might crawl through soil contaminated with old sewage spills from backups or broken pipes.
- You may be crawling through soil contaminated with disease organisms.
- You may face shock hazards from electrical lines, particularly in wet crawl spaces.
- There may be fleas, spiders, snakes, and other pests to bite or sting you.
- You could surprise a cornered animal such as a raccoon or skunk.
- You could inhale toxicants of various sorts such as pesticide vapors, asbestos, fungal spores, or allergens.

Precautions in Crawlspace

Before you enter a crawlspace, assess the hazards you might face and take action to protect yourself from them. Many of these hazards are discussed elsewhere in this manual. Use common sense and your safety training.

- Wear coveralls, gloves, knee pads, and any other personal protective equipment you think might be necessary.
- Use a respirator if you suspect the crawl is dusty, or if you think there might be any airborne substances that you do not want to breathe.
- Carry a good, bright flashlight with strong batteries.
- Shine your flashlight on each area of the crawlspace before entering it.
- Use halogen lights to lighten large areas of the crawlspace if you will be working for an extended period.
- Move slowly. Do not get yourself in a tight space; you may have trouble getting out. You will not be the first technician to be stuck under a floor beam.
- Make sure someone knows that you are going to enter a crawlspace, particularly a tight one.
- Look out for loose or dangling electrical lines. Do not touch any cables, particularly in a wet crawlspace.
- After you leave a crawlspace, remove any potential contaminants by taking off your coveralls and gloves, and washing up.

Chapter 6 - Attics and Crawlspace

Applying Pesticides in Attics and Crawlspaces

Attics, crawlspaces, and other areas with restricted space and poor ventilation pose special hazards to technicians applying pesticides. The concentration of pesticide in the air during application is much higher than during application in the open, well-ventilated area. Working in a restricted space also increases the risk of skin exposure to pesticides from splashback of liquids and dusts, crawling through pesticide already applied, or accidentally touching treated surfaces.

Tight, poorly ventilated spaces are often hot, further increasing airborne residues through increased volatility. Additionally, perspiration and high temperature speed up skin absorption of many pesticides.

Safety Precautions When Applying Pesticides in Tight Spaces

To minimize your risk of pesticide exposures in poorly ventilated spaces follow these guidelines:

- Wear respirator, eye protection, gloves, and any other personal protective equipment specified by the product label or that you think is necessary.
- Increase the ventilation, if possible, by opening vents, or by using fans to bring in fresh air. Make sure that the increased ventilation does not make your pesticide drift into occupied areas, or get taken up by the ventilation system and circulated through the building.
- Begin your treatment at the point furthest away and work back to your exit point. Avoid walking or crawling through the pesticide you have applied.
- Avoid working inside a restricted space when the temperature is too high.
- Make sure others know where you are and what you are doing.

Flies

Numerous Species of Flies

- House flies
- Blow flies
- Flesh flies
- Fruit flies
- Phorid flies
- Horse flies/Deer flies
- Crane flies
- Mosquitoes
- Lovebugs
- Gnats
- Midges
- Flower flies

Over 16,000 species of flies in North America and over 98,000 worldwide

Flies

This presentation will focus on large and small species of filth flies

- House Flies
- Blow Flies
- Flesh Flies
- Soldier Flies
- Fruit Flies
- Drain/Moth Flies
- Phorid Flies

Flies

- One of the most important orders from the standpoint of human health because of the species that carry diseases
- Pathogenic organisms are picked up by flies from garbage, sewage and other sources of filth, and then transferred on their mouthparts, through their regurgitation, feces and contaminated external body parts to human and animal food
- Some transmit diseases to domestic animals
- Many flies are beneficial -- particularly those that pollinate flowering plants, assist in the decomposition of organic matter or serve as biocontrol agents of insect pests



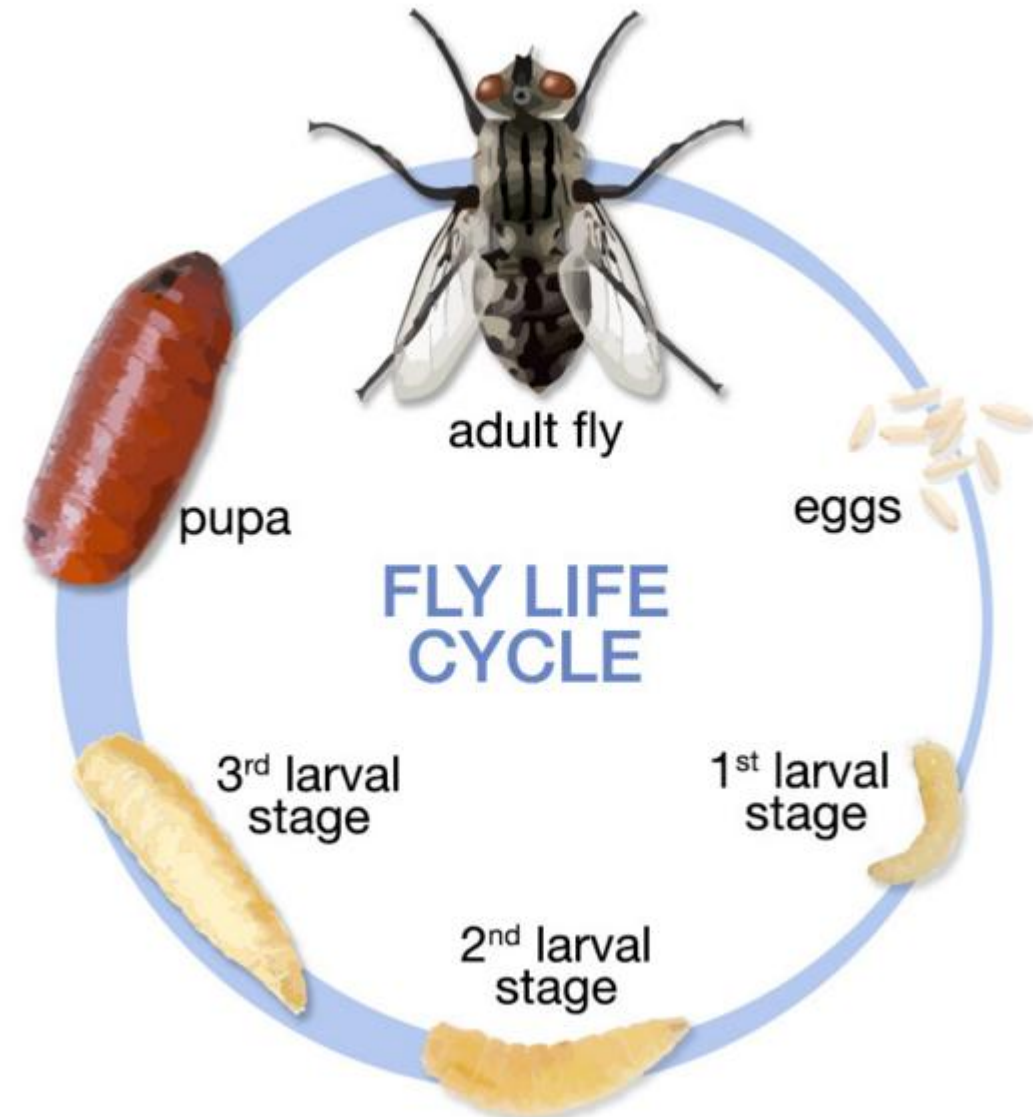
Fly Identification

- All flies have one pair of wings
- Hind wings are reduced to small club like structures called halteres that are used as stabilizers during flight
- Depending on species can have sucking/piercing, biting or sponging mouthparts
- Large compound eyes
- Antennae can be short and simple or frilled and bushy



Haltere

All flies undergo Complete Metamorphosis



Fly Biology

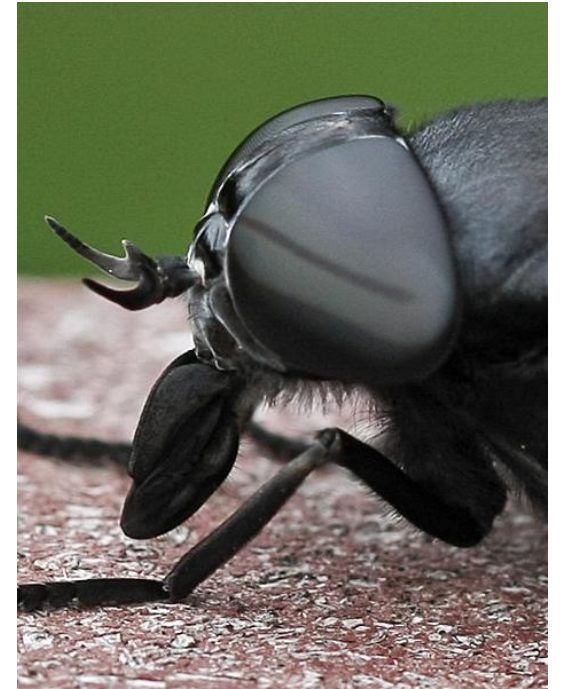
- In general, adult flies lay eggs in aquatic/semi-aquatic or moist area on or near food source so hatching larvae can feed immediately
- Food source is damp, decaying organic matter
 - Animal feces
 - Dead animals
 - Rotting vegetation
 - Rotting garbage
- When ready to pupate, larvae will crawl to dry area. The darker the pupae, the more advanced the development is within



Fly Biology

Adult Flies

- Live in a wide range of habitats and display enormous variation in appearance and life style
- Collect food in liquid form
- In some families, the mouthparts are adapted for sponging and/or lapping. These flies survive on honeydew, nectar or the exudates of various plants and animals (dead or alive)
- In other families, the mouthparts are adapted for cutting or piercing the tissues of a host. They feed on blood of vertebrate hosts (mosquitoes, deer flies and horse flies)



Adult Flies

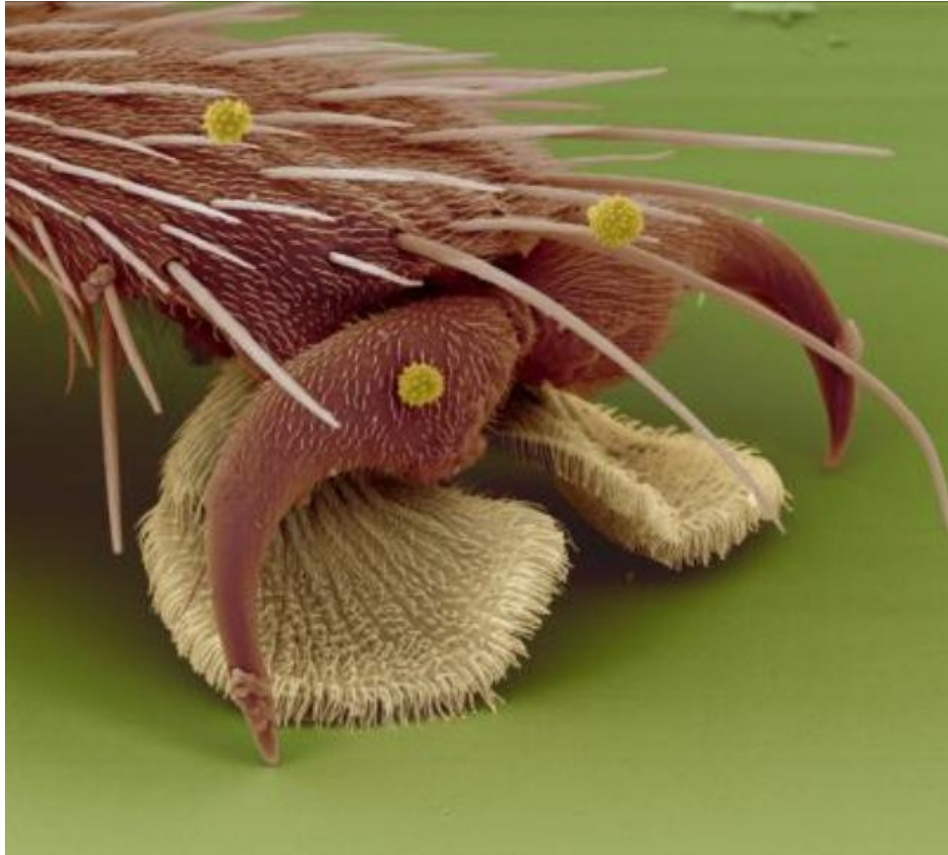
- Adult flies with sponging mouthparts
- If they land on surface of solid food, they will regurgitate a liquid containing an enzyme that will liquefy food so they can collect it with their mouthparts



House Fly

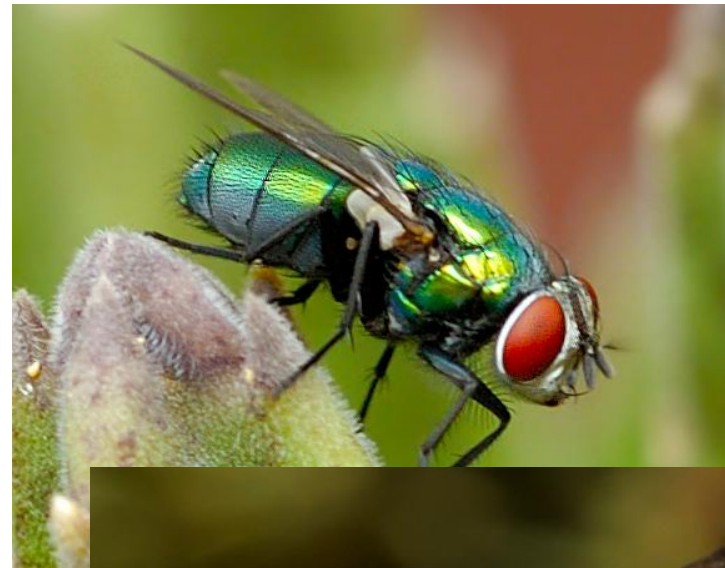
- ~ ¼ inch long
- Reddish eyes
- Four narrow black stripes on thorax
- Abdomen is gray or yellowish with dark midline
- Attracted to a variety of substances ranging from human food to animal excrement
- They regurgitate and excrete fecal matter each time they land





Blow/Bottle Fly

- Slightly larger than a house fly
- Thorax is usually metallic blue or green, but can be dull black
- Common in populated areas, especially near slaughterhouses and garbage dumps
- Most develop on decaying meat or animal carcasses
- Usually the first to arrive (within minutes) and infest an animal after it dies
- Used by police in murder cases, where time/date of death is needed
- Larvae are used for medicinal purposes



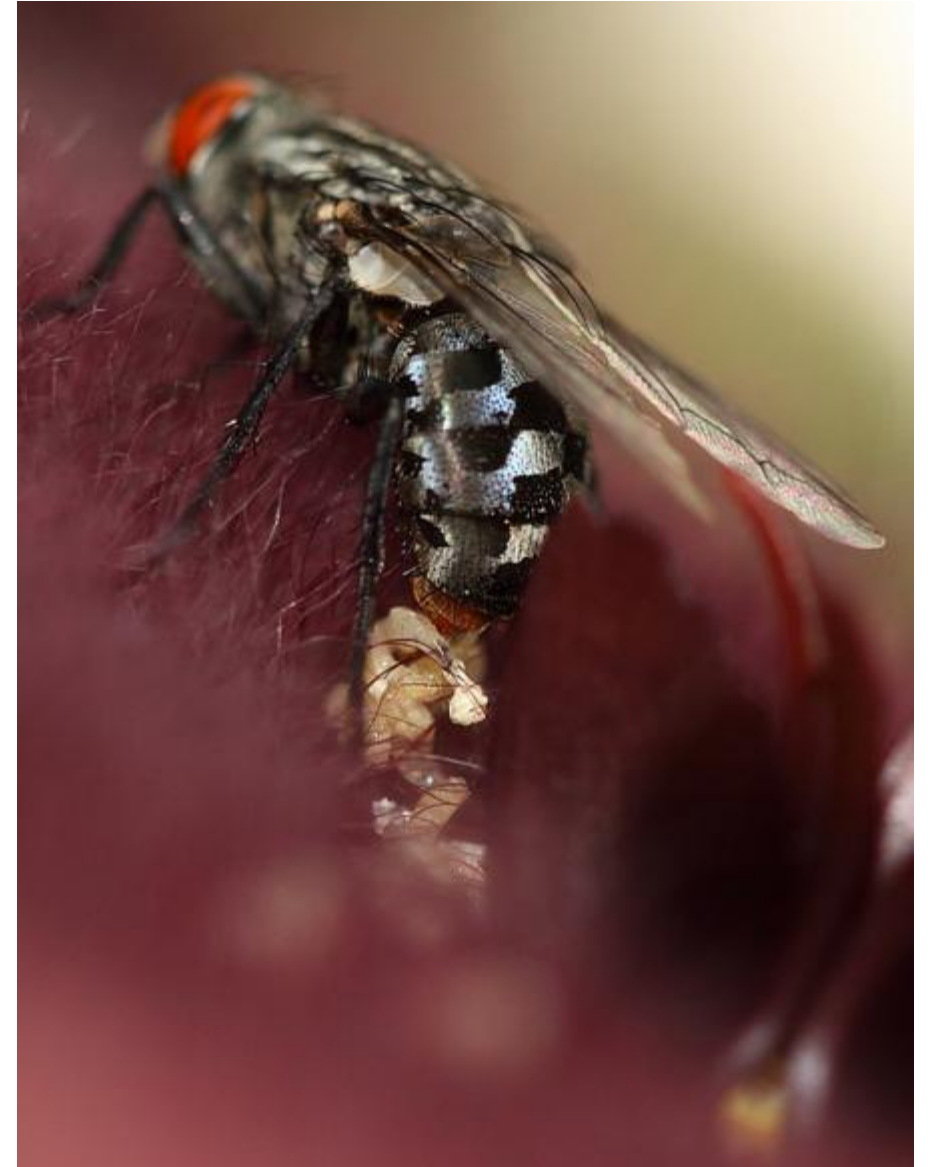
Flesh Fly

- Slightly larger than a house fly; more robust
- Dull blackish-gray color
- Eyes often red
- Thorax striped; like house fly
- Abdomen has checkerboard pattern of black and gray
- Tip of abdomen is usually red



Flesh Fly

- Females give birth to live larvae on food material
 - Decaying carrion, decaying vegetation, garbage, excrement
- Attracted to carrion or excrement exposed to sunlight
- Adults typically found outside on flowers or larval food material
- Seldom enter structures. If present, there is dead, decaying material nearby



Soldier Fly

- Distinct shape
- Generally stay outside and breed around garbage sources and around water treatment plants
- Buzz like a bee
- Do not sting
- Semitransparent area of abdomen
- Rarely enter structures
- Breed in dumpsters and water/sewage treatment facilities – these photos are for ID



Fruit Fly

- 1/8 inch long
- Dull tan to brownish yellow in color
- Hairs present on body
- Eyes usually bright red; can be black
- Highly developed sense of smell attracted to the odors of sweet or fermenting materials
- Fruit flies generally breed within organic matter build up in drains and equipment
- Lay eggs on moist, decaying organic matter and on/near the surface of fermenting fruits and vegetables because of the yeast present
- Also like to hang out in mops. Why?
- At a certain point of decay, materials lose attractiveness because of bacteria and fungi



Fruit Fly Larvae and Pupae

- Larvae
 - Hatch from eggs within a day
 - Require a high amount of moisture to survive
 - Feed on the organic debris available
 - Develop in approximately five days, then crawl off to find a drier place to pupate
- Pupae
 - Pupate for two to three days in dry area near where decaying organic matter is present
 - As they emerge from the pupal case as adults, they are clear in color. Within several hours their wings dry and they are capable of flight



- Fruit fly larvae under drink lines
- Water from nightly mopping did not dry and small amounts of food debris were left behind
- When drink lines were lifted, you can see larvae (circled)



- Food debris, spilled beer and water remain under a bar
- Larvae have climbed to a dry area near where they were feeding and pupated



Fruit fly feces
present in
areas where
adult fruit
flies come to
rest.



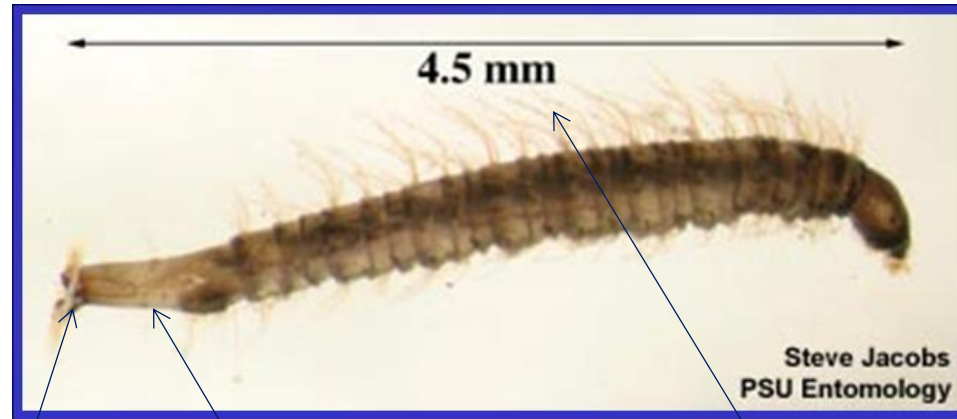
Drain/Moth Fly

- 1/16 – ¼ inch long
- Delicate and fuzzy
- Pale yellow to brownish gray in color
- Hold wings roof-like over body when at rest
- Weak fliers; will typically see them walking/crawling on surfaces
- Have a tendency to stay close to source of infestation rather than seek out new sources
- Will rest on vertical surfaces or will hover over drain openings



Drain Fly

The larvae sometimes exit drains when they are ready to harden and pupate



Tuft of spiny hair at end of tube

Tube near rear end

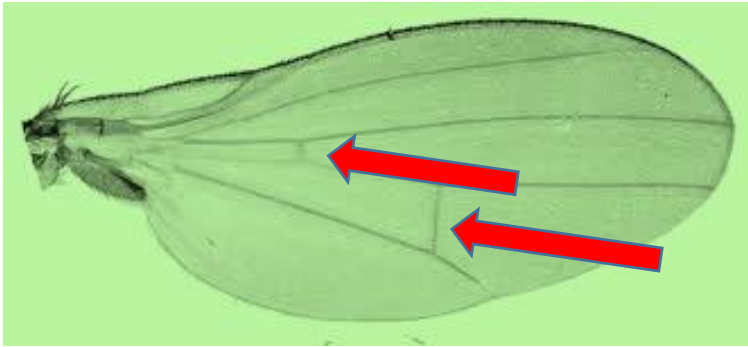
Hairy body

Phorid Fly

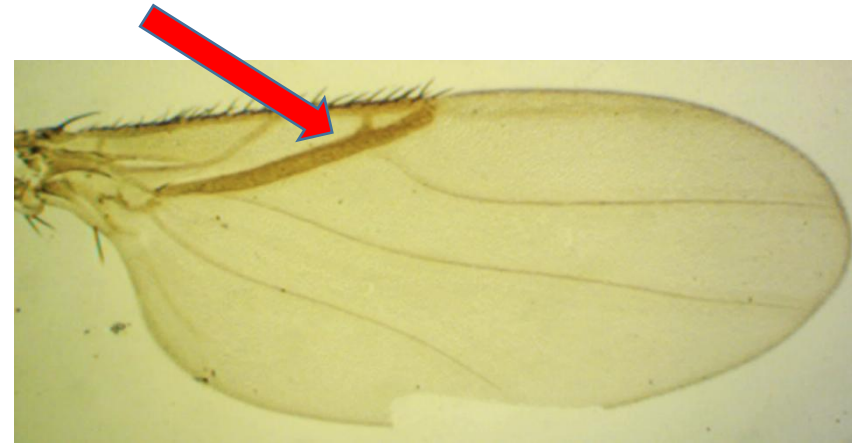
- 1/64 to 1/4 inch long
- Humpbacked appearance
- Black, brown, or yellowish in color
- Similar to fruit fly, but
 - Have very long legs
 - Do not have red eyes
- Run across surfaces before taking off to fly
- Associated with later stages of decay



Phorid Fly ID



**Fruit
Fly**



Characteristic wing venation

**Phorid
Fly**

Phorid Fly Facts

- Lay eggs directly on decaying material – depending on species, one female can lay about 50-700 eggs
- An entire generation takes about 15-30 days



Phorid Fly

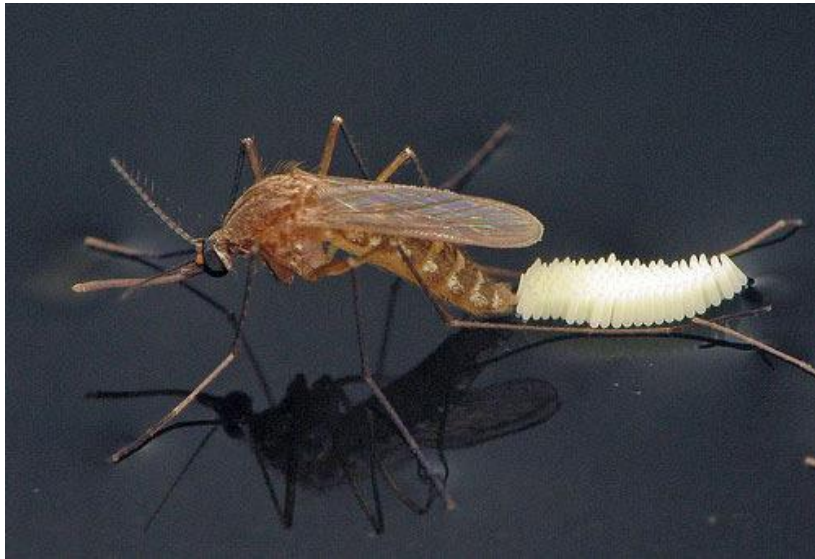
- Nuisance in hospitals: burn units, operating rooms, pathology labs, morgues
- Nuisance in food establishments: kitchens, soft drink vending machines, garbage receptacles
- Nuisance in homes: faulty septic systems, clogged drains, soil of potted plants, drip pans, garbage cans, rotting foods
- Usually associated with broken drains – often difficult to diagnose where the break is under the slab – may have to have drain line professionally scoped



Mosquito Eggs



- Female will lay eggs on water or in wet areas
- Depending on the species, eggs are laid singly or in together in the form of a “raft”
- Larvae will emerge within 24-48 hours



Mosquito Larvae



- Commonly called “wigglers
- Must remain in water to survive
- Legless
- Spend majority of the time on/around the surface of the water

Mosquito Pupae



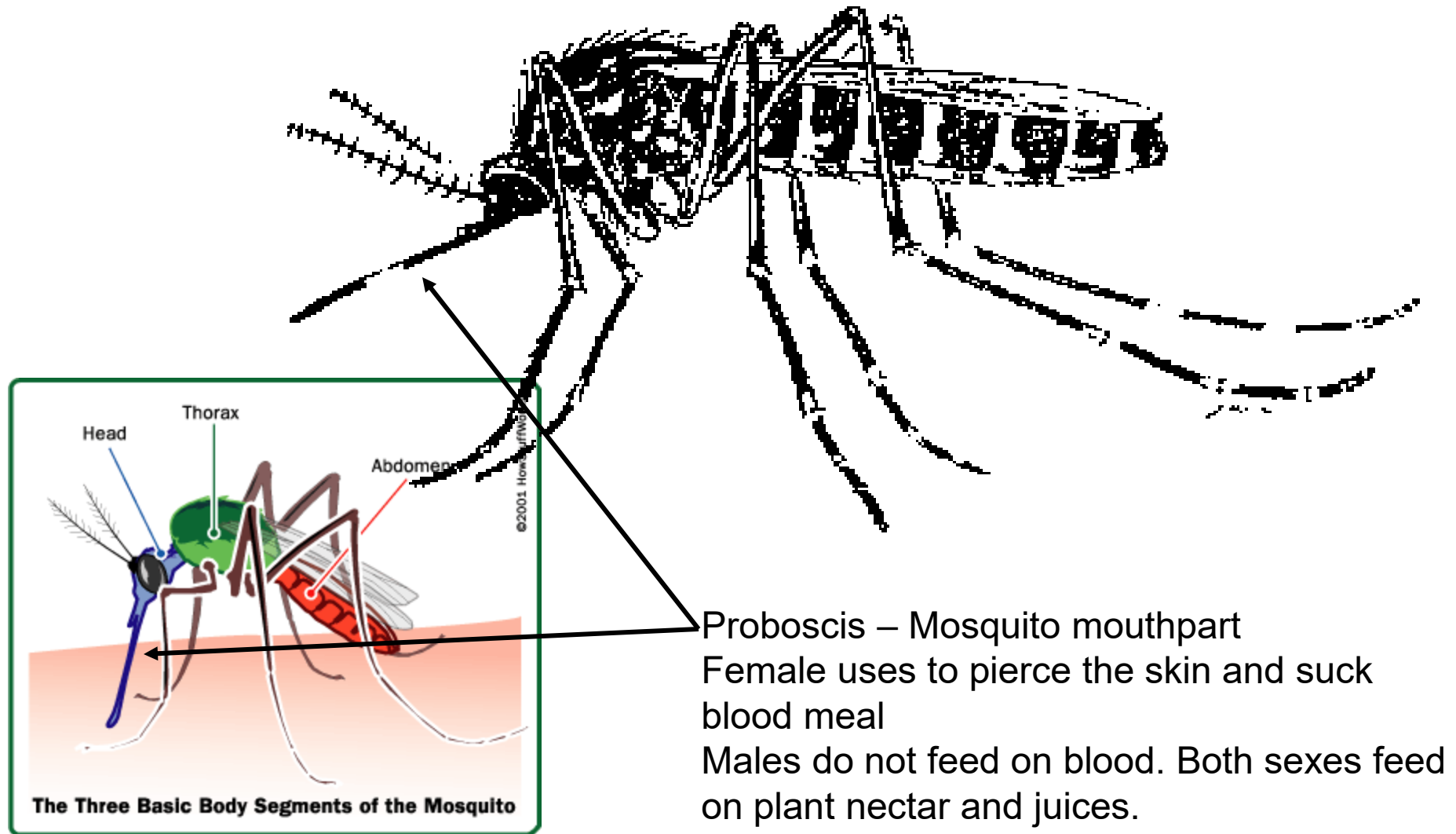
- Commonly called “tumblers”
- Must remain in water to survive
- Floats to surface
- Do not feed

Mosquito Adult



- 0.5 inches and smaller
- Slender body
- Long legs
- Only females bite
- Plumose antennae

Proboscis



Crane Fly



- Not a mosquito, but often thought to be one
- 1-1.5 inches long
- Do not bite



Diseases Transmitted by Mosquitoes

- Encephalitis
- West Nile Virus
- Dengue Fever
- Malaria
- Yellow Fever
- Zika



Mosquitoes

- Must have water to develop and survive
- Shallow water is ideal for development
- Anything that holds water can serve as an optimal place for habitat
 - Abandoned swimming pools
 - Ditch
 - Old tires
 - Containers in yard





MULTI-FAMILY HOUSING PEST PREVENTION



SOCIAL TRAINING FOR SERVICE MANAGERS AND TECHNICIANS

MASSEY'S Multi-Family Program provides for One Point of Focus for Owners, Developers and Managers of Multi-Family and Mixed-Use Properties.

THIS UNIQUE SERVICE STRATEGY ALLOWS MASSEY TO LEAD THE WAY IN MULTI-FAMILY PEST PREVENTION SERVICES!

Understand and consider this, the entire pest control industry is geared toward growth by adding branch locations and increasing individual sales. The Multi-Family Program is totally “Out of the Box” thinking with “**Business-to-Business Relationship Development**” focusing on a specific industry and increasing sales teaming up with our local service centers to ensure success.

YOU ARE VERY IMPORTANT TO THE SUCCESS OF OUR TEAM!

FOR CLIENTS: The opportunity for you to develop a one-on-one relationship in the community while we are involved at a Corporate Level. This gives our clients personalized service with a corporate feel for convenient and consistent service and scheduling.

HOW DO WE ACCOMPLISH THIS?

COMMUNICATION, TECHNOLOGY AND TEAMWORK!

Working together, with Multi-Family Protocols, well trained Massey Technicians, expanded “service footprint” and your communications skills we will be able to continue and expand our success and offer even more quality services and options for our Corporate Accounts. However, it is critical that the behaviors in the field MATCH what we say in our sales presentations.

THE GOALS AND OBJECTIVES OF THE MULTI-FAMILY PROGRAM:

1. One Point of Contact – Local Service Center
2. Consistent Service
3. Offer Multiple Property and Multiple Service Discounts giving Buying Power to our Clients
4. THUS, becoming the One Point of Service Fulfillment for these Clients for ALL their Pest Prevention Related Needs for ALL their properties throughout our footprint. We want to service the entire portfolio of properties they may own or manage, no matter the location.

BRIEF OVERVIEW OF TARGET CLIENT AND INDUSTRY

What type of communities do we service?

- Apartment Communities
- Condominium Associations
- Mixed-Use Developments
- New Construction Developments
- Single Family Rental – Build to Rent (SFR/BTR)

Who are our Clients?

- Insurance Companies
- Corporations
- Trust Funds
- Developers
- Property Management Companies
- Individual Property Owners
- Individual Condo Resident Owners
- Investors

Hierarchy in industry:

- Owner: Owner, Owner's Representative, Asset Manager, Board of Directors
- Management Company: President, Vice President, Regional Property Manager, District Property Manager, Regional Maintenance Director
- On Site: Property Manager, Assistant Property Manager, Maintenance Director, Maintenance Supervisor.
- EVERYONE IS IMPORTANT! This industry is promoted from within. Relationships are important at ALL levels.

IN ADDITION TO PREMIER CUSTOMER SERVICE STANDARDS, THE MASSEY MULTI-FAMILY PROGRAM REQUIREMENTS INCLUDE:

APPEARANCE

Wear proper uniform (clean, pressed, shirt tucked in, belt, etc.)

Wear proper identification **PHOTO ID**

COMMUNICATION

Community – NOT a Complex

Resident – NOT a Tennant

Home or Residence – NOT a Unit (this one is hard not to use in certain circumstances and the industry is more forgiving of this word)

Protocols upon arrival to community (for ALL SERVICES)

- Check in with office, be BRIEF AND COURTEOUS
- For Pest Prevention: Get copy of call back log (WE PROVIDE A Pest Prevention Requested Services Logbook TO KEEP ON PROPERTY)
- **Review Each Community Service Schedule and Protocols**
- Service property (Pest Control: Interior and Exterior)
- Check out with office. **MUST RETURN KEYS IF NOT ACCOMPANIED BY MAINTENANCE**

NOTE:

When making a scheduled day change, Property Managers must give ample notice to residents and typically like to include these notices in their monthly newsletters. If you are changing technicians, it is a promising idea for the General Manager to introduce the new technician to the manager.

While on property:

- Manager is the CUSTOMER, Resident is NOT (BUT Condo Owner May be a customer along with the Association)
- Residents may ask many questions and try to get you involved in things other than our services (mold, a/c problems, etc.)
- Any general service questions from Residents should be answered with simple “yes, no” responses. Any other more detailed questions should be directed to the Management. Questions concerning any other issue should be re-directed to the manager.
- Some proper responses might be: “That’s a great question, please share this with your property manager and she will address your concern,” “That is a great question, I will make a note and share this with your manager,” “The findings of my inspections will be presented to your Manager, I am sure she or he will be able to answer your questions at that time..”
- Some improper responses might be: “Oh my gosh, I’ve never seen an infestation so bad!” “The unit in the next building is worse than yours.” “This property has been infested for years, but the Owner would never spend the money to kill the termites.” You get the picture!
- No hanging out at clubhouse
- No fraternizing with employees of management company or residents on site
- No eating lunch in your truck on site
- BATHROOM ETIQUETTE, do not use the facilities on property and never inside a residence
- NEVER use the words mold or mildew. We use “moisture related incident” to describe some moisture related growth. Our expertise in Pest Prevention does not include identification of molds.

SUPPLIES

Forms are supplied (Pest Prevention Requested Services Log Sheets, Bed Bug Residents Duties forms, etc.)

Leave-behind Service Courtesy Cards in each interior residence serviced (ON THE STOVE – not countertop where resident might put groceries, purse, etc. over)

PROTOCOLS - Service

Review our procedures –

- Exterior Monthly, Quarterly, Twice a Year (SFR/BTR)
- Common Areas (Monthly, Quarterly, Twice a Year)
- Interior Treatments – Monthly, quarterly – noted in system for each account
- Interior Treatments – Scheduled weekly visits for Service Requests – treat problem
- Extra Services: Wasps, Bees, Rodents
- Status of Unit Codes for EACH call back unit serviced (EACH OF YOU SHOULD HAVE A COPY OF THE PEST PREVENTION REQUESTED SERVICES LOG as info)
- Incident Reports for residences with severe infestation, etc.
- After each residence is serviced, leave courtesy card on stove
- Review “what ifs” (produce list) – Resident is home and does not want them to come in? Resident has “fleas” and did not note it on “call back”? Unaccompanied minor in residence? Dog?

SCOPE OF WORK

- **The actual SCOPE OF WORK for inspections and all treatments must be consistent throughout the Massey footprint for exterior and interior services, for products used, condition of unit, for approach to building and residence, for communications and for reporting. What we say will happen, must be what happens.**

LOGISTICS FOR SERVICE AND SALES

- If a call comes in for an apartment community, condominium, or mixed-use development, please contact your local Senior Account Manager to ensure the lead is tracked and put into the system correctly.
- Please answer questions based on the information in the system as our protocols are different than residential services.
- If there are questions you cannot answer, politely take a message from the customer, and call the appropriate person for that area, and they will return the call with any information necessary.
- *If a call comes in questioning pest or termite renewal and they need a copy of the service agreement...please be reminded it means they might be shopping! It is always a promising idea to reconfirm the value of services and ask questions.*

PLEASE REMEMBER: These are Relationships we have developed for many years, and our customers are tied together in many ways with multiple properties.

If we do not take care of our customers, somebody else will!

We deeply appreciate all you do; understand you are our front line of communication and represent us as one team working together to make Massey Services the best service company in the industry!

Daniel DeNicola, Multi- Family General Manager

w.407-408-1664 c.407-636-1626



WEEKLY TRAINING SESSION



July Application Procedures

Topic Category: Lawn

Recordable Verifiable Training Hours: 1.5

Objectives: This lesson is designed to teach our Application Procedures for July.

Length of lesson: Approx 1 Hour and 30 minutes.

Materials needed:

- Training Guideline
- July Applications Training Document and What We Apply – What We Expect document located in the G: Drive Shared\GreenUp Reference Materials\GreenUp Protocols\Monthly Applications Information\2026\July
- **8 pounds** of 12-0-14 Shrub Fertilizer (16 ounces in a measuring cup is close to one pound)
- 1000 sq. ft. area of shrub bed
- Pre- and Post- tests.

Training Guidelines:

- Make copies of the tests and training materials for all Team Members attending.
- Set up the training area in an area of the office that will minimize disruptions.
- Hand out the Verifiable Training Record Form (VTRF)
- Begin the meeting by defining the training topic and handing out the Pre-test
- Distribute and review the training materials on July Application Procedures
 - Allow the Team Members to complete the Pre-test as the application information is discussed.
 - Encourage active participation from all Team Members
 - Ask probing questions to discuss key points.
 - Read and answer questions from the test and have the Specialists write in their answers.
 - Encourage group reading
- After reading and reviewing all materials, ask questions to verify the lesson has been understood.
 - Collect the pre-test and discard.
- Hand out the Post-tests. When complete, have each Specialist pass their test to another Specialist for grading.
- Grade the tests as a group and discuss the answers.
- Collect the tests
- Take all Specialists to the pre-measured shrub bed area. Apply the **6** pounds of 12-0-14 to the shrub bed area so they get an idea of how much fertilizer is being applied to all regular shrub care services.
- End the training session.
- Record the post test scores on the VTRF for each Team Member.
- Place with the verifiable materials in the Service Center Verifiable Training File.
- Make copies of the VTRF and place in each Team Member's training file.
- Complete all Weekly VTM's through Massey University.



WEEKLY TRAINING SESSION



July Application Procedures

Name _____ Date _____

PRE & POST TEST

1. The fertilizer applied all new (except Centipede) and regular customers and all grass types is the
 - a. 0-0-3 + Atrazine at 5 pounds per 1000 sq. ft.
 - b. 20-0-6 Straight at 5 pounds per 1000 sq. ft.
 - c. 20-0-6 + Pendimethalin at 4 pounds per 1000 sq. ft.
 - d. 0-0-1 at 18 ounces per 1000 sq. ft.
2. T or F Acelepryn is used as a liquid broadcast insecticide application for all new and regular customers in all grass types except some turf types in Alachua County.
3. T or F Broadleaf weeds with Doveweed present in a St. Augustine lawn are treated with
 - a. 2 ounces of SBM2 per gallon of water per 1000 sq. ft.
 - b. 2 ounces of SBM2 plus 3 ounces of Auguzine per gallon of water per 1000 sq. ft.
 - c. 0.75 ounces of Change Up per gallon of water per 1000 sq. ft.
 - d. 1.33 ounces of Drive XLR8, 0.5 ounces of Methylated Seed Oil and 1 ounce of Trimec Bentgrass per gallon of water per 1000 sq. ft.
4. T or F Grassy weeds and Doveweed in Zoysia or Bermuda lawns are treated with
 - a. 2 ounces of SBM2 per gallon of water per 1000 sq. ft.
 - b. 2 ounces of SBM2 plus 3 ounces of Auguzine per gallon of water per 1000 sq. ft.
 - c. 0.75 ounces of Change Up per gallon of water per 1000 sq. ft.
 - d. 0.11 ounces of Celsius and 0.28 ounces Dismiss South per gallon of water per 1000 sq. ft.
5. T or F SBM2 can be mixed with Sedge Hammer.
6. T or F No insecticide is applied to grass types other than St. Augustine unless insect problems are found.
7. T or F All annual aerations are fertilized with either 0-0-3 straight or granular sulfur depending on the soil pH.
8. T or F Fertilizer is applied to all new shrub care services.
9. T or F Every shrub on the property should be sprayed with the I&D Slurry.
10. T or F Following the initial lawn care treatment, a *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular lawn care protocol for the month in which the regular service is performed.



July Application Procedures

PRE & POST TEST ANSWER KEY

1. The fertilizer applied all new and regular customers and all grass types is the
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5. T or ☒ F SBM2 can be mixed with Sedge Hammer.
6. T or ☒ F No insecticide is applied to grass types other than St. Augustine unless insect problems are found.
7. ☒ T or F All annual aerations are fertilized with either 0-0-3 straight or granular sulfur depending on the soil pH.
8. ☒ T or F Fertilizer is applied to all new shrub care services.
9. T or ☒ F Every shrub on the property should be sprayed with the I&D Slurry.
10. ☒ T or F Following the initial lawn care treatment, a *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular lawn care protocol for the month in which the regular service is performed.



GREENUP LAWN, TREE & SHRUB CARE SERVICE PROTOCOLS

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Geographical Areas Defined: "South" - Sarasota to Vero and South of this line. "Central" - Clearwater, Tampa, Odessa, Leesburg, Volusia and South of this Line to Sarasota and Vero - "North" - Brooksville, Ocala, to Palm Coast and North of this Line - "Tallahassee and Baton Rouge" – Tallahassee and Baton Rouge.

Lawn Care Accounts

1. St. Augustine
 - a. New and Regular Customers (All Service Centers)
Apply **18** ounces of 0-0-1, **2** ounces of Acelepryn drop tank slurry, and **2** ounces of Arena drop tank slurry per 1000 sq. ft.
Be very careful of staining with these mixtures!

If chinch bugs are found at the time of service, spot treat them with **1** ounce of Bifenthrin, **0.32** ounces of PBO-8, and **0.33** ounces of NIS80-20 using the backpack sprayer using the 8020E spray tip.

All broadleaf weeds in St. Augustine lawns must be spot treated with the SBM2 Slurry at **2** ounces of pre-mixed material **plus 3** ounces of Auguzine per gallon of water per 1000 sq. ft., using the backpack sprayer and the 11010-spray tip. These materials should be mixed in the following manner: Add half of the measured water into the backpack sprayer. Measure the SBM2 add it to the water and agitate. Measure the Auguzine, add it to the water and agitate. Add the other half of the measured water and agitate. Do not allow concentrate SBM2 to touch the concentrate Auguzine or the two materials will coagulate. This combination will control Doveweed. Do not use on Bahia grass! This will **KILL** Bahia.

2. Zoysia & Bermuda
 - a. New and Regular Customers (All Service Centers except Alachua County and Orange County Service centers)
Apply **18** ounces of 0-0-1, **2** ounces of Acelepryn drop tank slurry, and **2** ounces of Arena drop tank slurry per 1000 sq. ft.
Be very careful of staining with these mixtures!
 - b. New and Regular Customers (Alachua County)
Apply **5** pounds of 0-0-3 Straight per 1000 sq. ft.; typically, this will be setting 16 with the Lesco Calibration tool.
 - c. New and Regular Customers (Orange County Service Centers)
Apply **18** ounces of 0-0-1, **2** ounces of Acelepryn drop tank slurry, **2** ounces of Arena drop tank slurry, and **0.092** ounces of TerraCentrle per 1000 sq. ft.
Be very careful of staining with these mixtures!

All broadleaf, sedge, and grassy weeds in Zoysia or Bermudagrass must be treated with Celsius at **0.11** ounces and Dismiss South at **0.28** ounces per gallon of water per 1000 sq. ft., using the backpack sprayer and the 11010-spray tip. This mixture does a great job on each of the 3 classifications of weeds. Do not mix this in a slurry. Celsius is not stable in a



GREENUP LAWN, TREE & SHRUB CARE SERVICE PROTOCOLS

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slurry. Do not use on St. Augustine, Bahia, or Seashore Paspalum grass; severe injury or death will occur. Use a separate backpack dedicated for this use.

3. Bahia

- a. New and Regular Customers (All Service Centers except Alachua County)

Apply **18** ounces of 0-0-1, **2** ounces of Acelepryn drop tank slurry, and **2** ounces of Arena drop tank slurry per 1000 sq. ft.

Be very careful of staining with these mixtures!

- b. New and Regular Customers (Alachua County)

Apply **5** pounds of 0-0-3 Straight per 1000 sq. ft.; typically, this will be setting 16 with the Lesco Calibration tool.

Broadleaf weeds in Bahia are spot treated with **0.9** ounce of Change Up Herbicide per gallon of water, using the backpack sprayer and the 11010-spray tip.

4. Centipede

- a. New and Regular Customers (All Service Centers)

Apply **18** ounces of 0-0-1, **2** ounces of Acelepryn drop tank slurry, and **2** ounces of Arena drop tank slurry per 1000 sq. ft.

Be very careful of staining with these mixtures!

Broadleaf weeds in Centipede are spot treated with **0.75** ounce of Change Up Herbicide per gallon of water, using the backpack sprayer and the 11010-spray tip.

Grassy weeds in Centipede are spot treated with **2** ounces of Sethoxydim/Segment Herbicide per gallon of water, using the backpack sprayer and the 11010-spray tip.

Do not use Change Up or Sethoxydim/Segment on St. Augustine or Seashore Paspalum grass; severe injury or death will occur. Use a separate backpack dedicated for this use.

Sedge must be treated in grass types other than Zoysia and Bermuda with **Sedgehammer Slurry** at **2 ounces** per gallon of water using the backpack sprayer and the 11010-spray tip or use the weed injector. Treat all sedge. A proactive treatment may be needed in 30 days to ensure control. **DO NOT ADD SEDGE HAMMER TO THE SBM2. THIS WILL KILL THE TURF.** Sedge treatments work best when the turf has not been mowed for a few days before treatment and will not be mowed for a couple of days after treatment.

In situations where a large amount of kyllinga sedge is present, the customer must be informed that this area will turn brown. If the area is so large and full of sedge that sodding or plugging will be needed after control has been achieved, do not treat the sedge without first communicating with the customer and getting their approval in writing. Sedge treatment must remain dry for at least 3 hours to be successful.



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5. Annual and New Aeration

Apply 0-0-3 Straight at **5** pounds per 1000 sq. ft. or Granular Sulfur (depending on the soil pH) at **4** pounds per 1000 sq. ft.; typically, this will be setting 15 for sulfur with the Lesco Calibration tool. See the Aeration Service Protocol for complete details.

All new lawn care customers receive the above application protocols for New Customer Services. A *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular monthly lawn care protocol for the month in which the regular service is performed. Aeration **plus** the 0- 0-3 or Sulfur application is performed the month following the initial treatment.

Make sure to use your sidewalk guard properly around roadways, driveways, sidewalks, and bodies of water. Maintain a 3–15-foot ring of responsibility near all waterbodies, depending on your county ordinance.

Remember blowing off the roadways, sidewalks, and driveways is required after all granular fertilizer applications. Blow the material back into the turf areas. Do not allow any fertilizer to go into a storm sewer. Blow off any landscape curbing as well to avoid staining.

Inspect all lawns very carefully for Chinch bug activity. Good inspections, perfect preventive treatment and proper proactive treatments must be done. Perform proactive inspections for any chinch bug problem **14 to 21 days after treatment** to ensure they are dead. If there is no further activity, do not do any additional treatment.

Shrub Service

Certain shrubs (see the list below) are treated with the I&D materials on a preventative basis for insect and disease. Most shrubs are treated on an as needed basis only. **Do not treat every shrub on the property.** This is not necessary or beneficial.

a. New and Regular Customers

Apply at **6** pounds of 0-0-3 per 1000 sq. ft. Keep this material off concrete surfaces. Perform insect and disease treatment as prescribed below.

b. New and Regular Customers (All Service Centers)

Use **2 ounces** of our Insect and Disease Slurry (with Armada) per **10** gallons of water.

Shrubs that are treated on a preventative basis with **every** initial and regular service include:

- Viburnum
- **Azalea
- Crape myrtle
- Camellia
- **Gardenia
- Sago
- Pittosporum



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- Indian Hawthorne
- Holly
- **Knock-Out Roses

The list above may be expanded depending on the geographical location and specific concerns in the Service Center.

**For the protection of pollinating insects, do not spray the foliage of shrubs that are in full bloom or if pollinators are in the area.

Do not allow pesticides of any kind to contact bodies of water or fish ponds. Many of the materials we use can be deadly to fish.

Set proactive treatments that are necessary to control insect or disease problems that threaten the life of the plant. Make sure to treat the top and bottom sides of the leaf. Inspect all shrubs thoroughly!!

Treat all Crape Myrtles to prevent aphids. Treat the lower trunk (4 feet high and down) and drench all crape myrtles. If the height does not exceed 10 feet, treat the foliage as well.

Specimen Palm Quarterly Injection Service

Treatment for Palm Leaf Skeletonizers, Mites and other palm damaging insects is performed in June, July, and August using Ace-jet. Mix Ace-jet at one 15 gram packet per 100 milliliters of water and inject at 5 milliliters per inch of trunk diameter. This treatment will also control Palm Bud Weevils. Notice that protective eyewear is a PPE requirement.

If nutrition or disease is a concern for a new customer, either Palm-jet or Phospho-jet may also be performed at the time of initial service. See GreenUP Protocol – Specimen Palm Quarterly Injection Service for complete details.

Do a quality job on every application. Thorough inspections and perfect preventive applications for CHINCH BUGS and SOD WEBWORMS, always being mindful of the 5 key principles and great communication with the customer to provide long-term sustainable solutions as well as perfect measuring, perfect calibration and perfect walking speed is what is needed to keep our customers happy to prevent service calls, cancellations and claims.

What We Do and What to Expect – July 2026 Landscape Applications

Watering instructions for all new and regular LAWN CARE services are: Please irrigate with ¼ inch of water if there is no rain within 24 hrs.”

New (except Centipede) and Regular Lawn Care Services – All grass types

What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
Liquid Broadcast application of micro-nutrients	This application will provide a potassium chelated magnesium, manganese, and iron to enhance and maintain good color and growth. It also includes beneficial microbes, Humic acid, and kelp extract to enhance soil health and root development.	An improvement in the color of the lawn will be achieved in about 2 to 5 days. Soil health will also improve over the next 30 days.	“This application will help enhance and maintain good color and growth. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.”</u>
Liquid Broadcast application for the prevention and control of lawn damaging insects including turf caterpillars.	All St. Augustinegrass properties are treated for the prevention and control of lawn damaging insects such as turf caterpillars, chinch bugs, grubs, and mole crickets.	The primary purpose of this application is to prevent lawn damaging insects from becoming a problem. If chinch bugs are present at the time of treatment, they will stop feeding immediately after treatment and control will be achieved over a 10-to-14-day period. This treatment will provide season long prevention of turf damaging caterpillars.	“Your lawn was treated to prevent lawn damaging insects such as chinch bugs, turf caterpillars, mole crickets and grubs. Preventative treatments are beneficial because they keep the populations of lawn damaging insects low and reduce the need for reactive treatments and lawn damage.”
Post-emergent weed control applied as a spot treatment using the backpack applicator for low volume application.	We achieve excellent control of practically all types of broadleaf weeds. Sedge can also be treated if it is competing with the turf or if it is a concern for the customer.	The weed control materials we use are a combination of slow and quick acting materials. Affects to the weeds can be seen in about 5 to 7 days. Control is achieved within 3 - 4 weeks.	“The weed control materials applied will greatly reduce the number of weeds in your lawn within 3 to 4 weeks. A second application may be necessary in severe cases.”

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their lawn care treatment in July via the printed Service Report in all Service Centers: “Today, I provided a liquid broadcast application of micro-nutrients, beneficial microbes, and insect control materials to enhance and maintain the color and growth of your lawn and to prevent lawn damaging insects from becoming a problem. I also inspected and treated any existing broadleaf weeds and diseases as needed. This treatment will need to be irrigated with ¼” of water if rain does not occur within 24 hours of the treatment.”

What We Do and What to Expect – July 2026 Landscape Applications

<u>Annual and New Aeration Services</u>			
What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
Core aeration	Aeration is the most beneficial service we perform. It stimulates root growth, helps break down thatch, and allows water and air to get to the root system.	Increased root growth, better soil structure, and an improvement in the overall health of the plant. Leaf tissue will look better in the long run but there will not be a visible change in the short term.	“The aeration will help create healthy plant roots and improve the vigor and heartiness of the lawn.”
Depending on the soil pH at the customer’s home, a broadcast application of an organic material with iron, manganese, and magnesium or a sulfur application to lower soil pH according to our Annual Aeration Protocol.	The organic application will aid in development of a hearty root system to enhance color and stress tolerance. Proper soil pH is essential for the availability of soil nutrients. The application of granular sulfur will lower the soil pH when it is too high for the particular turf type.	Improved color and root growth as well as enhanced cold, drought and stress tolerance. If the soil pH is higher than what is required for a particular turf type, the application of sulfur will lower the soil pH and allow bound nutrients to become available to the turf resulting in healthier turf with a darker green color.	“The application of organic material works very well in conjunction with aeration to enhance root growth and improve heat, drought and stress tolerance. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.</u>” “The application of granular sulfur will lower the soil pH to enhance the availability of soil nutrients. <u>Please irrigate with ¼ inch of water if there</u>

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their Aeration Service via the printed Service Report: “Today, I inspected your irrigation system, aerated your lawn and took a soil sample to test the soil pH. I also provided a broadcast application of granular potassium and magnesium (or sulfur to lower the pH). This treatment will need to be irrigated with ¼” of water if rain does not occur within 24 hours of the treatment.”

What We Do and What to Expect – July 2026 Landscape Applications

Shrub Care Customers			
What We Use	Benefit of the	What To Expect	What to Tell the Customer
Broadcast application of dry fertilizer (New and Regular Customers in All Service Centers)	This application will provide a substantial amount of, potassium and minor elements to help achieve spring green-up.	The growth and color of the shrubs should improve in 10 to 14 days.	“This fertilizer application will help enhance the color and stimulate new growth of your shrubs. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.</u> ”
Foliage application (as needed) of liquid insect and disease control materials. (New and Regular Customers)	The insect and disease control materials provide both contact and system control of shrub damaging insects and diseases.	Shrubs that either have or are prone to have insect and disease problems are treated. The application will provide control of soft bodied insects such as aphids and lace bugs within 2 to 4 days. Scale insects will require 2 to 3 weeks for control. Fungal leaf spots will be suppressed. Keep in mind that leaves that have been damaged by insects or disease do not turn green after control has been achieved. Damaged leaves will need to be trimmed off to achieve visual benefits.	“This application will provide control of existing insects and foliar diseases. Leaves previously damaged will need to be trimmed off to simulate new growth to cover up the damage. Follow-up treatments may be required for certain insect and disease problems.”

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their new shrub care treatment in July via the printed Service Report: “Today, I provided a granular application of fertilizer to enhance and maintain the color and growth of your landscape shrubbery. I also inspected and treated any existing shrub damaging insects and diseases. Additionally, I inspected all turf areas for weeds, insects and diseases. This treatment will need to be irrigated with ¼” of water if rain does not occur within 24 hours of the treatment.”

What We Do and What to Expect – July 2026 Landscape Applications

Primary Landscape Issues in July

The fertilizer we are applying for regular service in all grass types in All Service Centers is the 0-0-1, which contains Humic acid, seaweed extract, magnesium and chelated iron and manganese. The Humic acid and seaweed extract is proven to enhance rooting. Chelated sources of iron and manganese protect the iron and manganese from becoming insoluble to keep it available to the plant.

Preventative applications for sod web worms and other lawn damaging insects continue for all new and regular customers.

The primary insect threat we have is chinch bug damage in St. Augustine turf. Our regular service applications are very important to keep the chinch bug population from getting to levels that will cause turf damage. If the chinch bugs are not controlled at this time, we could have extensive damage and a more difficult time controlling them for the rest of the year. Treatments must be perfect. If activity is found, a proactive inspection must be set for 10 to 14 days after treatment to ensure the chinch bugs are dead.

At this time of the year, most adult mole cricket eggs have hatched, but the mole crickets are too small to see noticeable damage. If mole crickets are in great enough numbers turf, damage will be seen around the beginning to middle of August.

Sod webworms and other lawn caterpillars are active in many of our service areas. Sod webworms and other lawn caterpillars chew the leaves of the grass and can cause extensive damage in a very short period. Fortunately, the damage is superficial and recovers quickly. Lawn Specialists and Inspectors can look for irregular shaped areas of chewed turf. Part the grass on the edge of the damage area and look for bright green fecal pellets and caterpillars resting in the thatch. Our preventive treatments with Acelepryn will greatly reduce turf caterpillars for our customers.

Crabgrass and Bermudagrass are growing actively now. The Lawn Specialists and Sales Inspectors will need to inform customers of large areas of grassy weeds that need to be renovated. Good communication on this issue is very important. This is especially important for new customers. Do not use any product containing Glyphosate (Roundup) unless you are sure of which areas to treat and that the customer knows resodding will be necessary. The areas needing to be sodded must be documented on an Inspection Graph and the customer must sign to indicate they know we are going to kill the area.

It is critical that new sod or plugs be treated following the new sod protocols at this time of year. If we install sod or plugs, we need to be out to follow the protocols within 24 hours.

Summer annual weeds will be problematic in areas that have declined for any reason. Doveweed will be a problem in high moisture areas. Doveweed can be difficult to control and may need special treatment. Investigate and address the reasons for the broadleaf weed problems.

The need for supplemental irrigation will continue to be high until afternoon thunderstorms arrive. Hot dry weather increases the plant's demand for moisture. In the absence of rain, watering twice a week is typically not sufficient to prevent localized dry spots and potentially damage from drought stress. At a minimum, spot watering of localized dry areas will be needed. Provide the customer with the information necessary to address this problem and sell our Irrigation Service whenever possible. All customers need this service.

What We Do and What to Expect – July 2026 Landscape Applications

Piercing- sucking insects on shrubbery is a big problem at this time of the year. Look for sooty mold to be an indicator. The black mold which feeds on honeydew from the insects can be seen from a distance, informing the observant Inspector and Lawn Specialist to inspect closer for aphids, scales or mealy bugs.

July is a great time of year for Landscape, renovation, and irrigation Sales. Opportunity is everywhere. Our customers and potential customers need our help and expertise. Take advantage of the opportunity! Help people have the landscape they always wanted, have fun doing it and make a lot of money. This is a win-win for everyone. So..... SELL, SELL, SELL AND SERVICE, SERVICE, SERVICE! SELL AND SERVICE YOUR BRAINS OUT!

Understanding Thatch in Lawns

What Thatch Is

Thatch is the undecomposed or partially decomposed layer of organic matter that accumulates above the soil surface. Depending on turfgrass genotype and cultural practices, this layer can develop into a dense mat that can cause management problems.

How Thatch Develops

Thatch develops when organic matter is produced faster than it decomposes. Anything that increases biomass production or slows decomposition can contribute to thatch accumulation.

The primary factors, all of which contribute to thatch accumulation, are:

1. Turfgrass Species and Cultivar (Most Important)

Some grasses naturally produce more thatch than others because they generate large amounts of stolons, rhizomes, crowns, and roots.

For Florida lawns:

- Seville St. Augustinegrass – high tendency toward thatch
- Palmetto – moderate to high tendency
- ProVista– can become quite thatchy
- CitraBlue – moderate tendency
- Floratam – generally lower tendency under proper management

The biggest problems often occur when a shade-adapted cultivar is grown under full-sun conditions, resulting in excessive vegetative growth.

2. Excessive Nitrogen Fertilization

High nitrogen rates stimulate:

- Rapid stolon production
- Increased shoot growth
- Greater root turnover

The turf produces biomass faster than soil microorganisms can break it down.

3. Improper Mowing Height

This is a major contributor in Florida St. Augustinegrass. When shade tolerant cultivars such as Seville are maintained too high:

- Turf becomes puffy
- Stolons stack on top of one another
- Rooting becomes progressively shallower
- Organic matter accumulates

The lawn essentially begins growing on top of itself.

Understanding Thatch in Lawns

4. Full Sun Exposure of Shade Tolerant Cultivars

A common scenario we encounter:

- Seville is planted under mature pine trees.
- The trees are removed.
- The lawn suddenly receives 8–10 hours of direct sunlight.
- Seville responds with aggressive stolon growth.
- Thatch accumulates rapidly.

This is often a classic "wrong plant, wrong place" situation.

5. Poor Microbial Decomposition

Anything that slows microbial activity can increase thatch:

- Compacted soils
- Poor aeration
- Excessively dry soil
- Excessively wet soil
- Low biological activity

However, in Florida St. Augustinegrass, decomposition limitations are usually secondary to excessive biomass production.

6. Excessive Irrigation

Overwatering encourages:

- Continuous growth
- Shallow rooting
- Increased stolon production

7. Infrequent Mowing

Allowing turf to become excessively tall between mowings can:

- Increase stem tissue production
- Encourage layering
- Increase organic matter accumulation

This is particularly problematic with dwarf or semi-dwarf cultivars such as Seville or Palmetto.

Understanding Thatch in Lawns

8. Environmental Changes

Sudden site changes often trigger thatch issues:

- Tree removal
- Increased sunlight
- Reduced competition from surrounding plants
- Irrigation changes

Many lawns that were perfectly acceptable for years develop serious thatch problems after these changes.

What Does NOT Cause Thatch?

A common misconception is that grass clippings cause thatch. Research has consistently shown that grass clippings are mostly water, they decompose rapidly, and they contribute very little to thatch accumulation. The primary contributors are stolons, crowns, roots, and stem tissue rather than leaf clippings.

Why Excessive Thatch Matters

Turfgrass with excessive thatch is more vulnerable to environmental stress. Disease and insect damage are often more severe in these areas, and water management becomes more difficult because accumulated organic matter can create hydrophobic conditions. In St. Augustinegrass, excessive thatch can increase the risk of cold injury and chinch bug damage. These issues are typically tied to Key Principle #1: the wrong plant in the wrong place.

Addressing Excessive Thatch in Home Lawns

In many Florida landscapes with full sun exposure, Floratam St. Augustinegrass is often the most appropriate cultivar because of its vigor, heat tolerance, and adaptation to sunny conditions.

- Use sod replacement for a fast and effective solution.
- Use plugging as a cost-effective option when gradual conversion is acceptable. Installing Floratam plugs throughout affected areas can gradually shift the lawn composition over time as the more vigorous Floratam expands and outcompetes the existing turf.
- Verticutting can reduce existing thatch, however it does not address the underlying reasons for the thatch development.
- Topdressing can alleviate some thatch, however in serious thatch situations topdressing is not a viable response to the problem.

Plant Selection and Cultural Practices

St. Augustinegrass can develop excessive thatch, especially when shade-adapted cultivars such as Seville are grown in full sun. Other cultivars that may also develop problematic thatch under full-sun conditions include Palmetto, CitraBlue, and ProVista. Maintaining each cultivar at its recommended mowing height is important for minimizing thatch accumulation and promoting healthy rooting.



Understanding Thatch in Lawns

Why Floratam Is Recommended for Full Sun Areas

Areas in full sun should be planted with Floratam St. Augustinegrass. Floratam is a vigorous, coarse-textured variety developed by the University of Florida and Texas A&M. It is valued for its dark green color, rapid establishment, and strong performance in full sun and high heat.

Best Management Practices

Best management practices require the right plant for the right place. Applying additional control materials for pests will not solve the underlying issue. The best long-term recommendation for customers is renovation that addresses the root cause.



Figure 1: Seville on top and Floratam on bottom.



Figure 2: Excessive thatch depth.



Understanding Thatch in Lawns



Figure 3: Thatch buildup is a serious problem.



Figure 4: Severe thatch accumulation.



Figure 5: Picture of lawn with thatch (Seville in full sun).



Understanding Thatch in Lawns



Figure 6: Turfgrass exhibiting puffy mat-like growth.



Figure 7: Insert Floratam plugs in dead spots.

Understanding Thatch in Lawns



Figure 8: Typical cold damage to lawns with thatch.



Figure 9: Lawn exhibiting conditions that warrant renovation.

July Application Procedures

Topic Category: Lawn

Recordable Verifiable Training Hours: 1.5

Objectives: This lesson is designed to teach our Application Procedures for July.

Length of lesson: Approx 1 Hour and 30 minutes.

Materials needed:

- Training Guideline
- July Applications Training Document and What We Apply – What We Expect document located in the G: Drive Shared\GreenUp Reference Materials\GreenUp Protocols\Monthly Applications Information\2026\Georgia\July
- **8 pounds** of 12-2-14 Shrub Fertilizer (16 ounces in a measuring cup is close to one pound)
- 1000 sq. ft. area of shrub bed
- Pre- and Post- tests.

Training Guidelines:

- Make copies of the tests and training materials for all Team Members attending.
- Set up the training area in an area of the office that will minimize disruptions.
- Hand out the Verifiable Training Record Form (VTRF)
- Begin the meeting by defining the training topic and handing out the Pre-test
- Distribute and review the training materials on July Application Procedures
 - Allow the Team Members to complete the Pre-test as the application information is discussed.
 - Encourage active participation from all Team Members
 - Ask probing questions to discuss key points.
 - Read and answer questions from the test and have the Specialists write in their answers.
 - Encourage group reading
- After reading and reviewing all materials, ask questions to verify the lesson has been understood.
 - Collect the pre-test and discard.
- Hand out the Post-tests. When complete, have each Specialist pass their test to another Specialist for grading.
- Grade the tests as a group and discuss the answers.
- Collect the tests
- Take all Specialists to the pre-measured shrub bed area. Apply the **8** pounds of 12-2-14 to the shrub bed area so they get an idea of how much fertilizer is being applied to all new and regular shrub care services.
- End the training session.
- Record the post test scores on the VTRF for each Team Member.
- Place with the verifiable materials in the Service Center Verifiable Training File.
- Make copies of the VTRF and place in each Team Member's training file.
- Complete all Weekly VTM's through Massey University.



WEEKLY TRAINING SESSION



July Application Procedures

Name _____

Date _____

PRE & POST TEST

1. T or F The fertilizer applied to Bermuda or Zoysia starts is the 32-5-7 with Pendimethalin at 4 pounds per 1000 sq. ft.
2. T or F The fertilizer applied to Bermuda or Zoysia Every Other Month regulars is the 32-5-7 Straight at 4 pounds per 1000 sq. ft.
3. T or F Shrub care service is also provided to new Monthly Landscape services.
4. T or F Shrub care service is provided to regular Monthly Landscape services.
5. T or F The fertilizer applied to Tall Fescue starts is the Granular Iron at 3 pounds per 1000 sq. ft.
6. T or F The fertilizer applied to Tall Fescue Every Other Month regulars is the the 32-5-7 Straight at 4 pounds per 1000 sq. ft.
7. T or F New and Regular Every Other Month Lawn Care customers receive the same lawn care treatment New Monthly Landscape customers.
8. T or F Sedge is treated in Tall Fescue with ProSedge Slurry.
9. T or F Annual aerations are fertilized with Limelight ProCal or 0-0-3, depending on pH, at 5 pounds per 1000 sq. ft.
10. T or F Crabgrass, sedge, and broadleaf weeds in Bermuda, Zoysia and Tall Fescue with are treated Dismiss South and Celsius.
11. T or F Our Shrub fertilizer is the 12-2-14, which is applied to new and regular Monthly Landscape customers this month at 8 pounds per 1000 sq. ft.
12. T or F Every shrub on the property should be sprayed with the I&D Slurry.
13. T or F Following the initial lawn care treatment, a *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular lawn care protocol for the month in which the regular service is performed.

July Application Procedures

PRE & POST TEST ANSWER KEY

1. ☒ T or F The fertilizer applied to Bermuda or Zoysia starts is the 32-5-7 with Pendimethalin at 4 pounds per 1000 sq. ft.
2. T or ☒ F The fertilizer applied to Bermuda or Zoysia Every Other Month regulars is the 32-5-7 Straight at 4 pounds per 1000 sq. ft.
3. ☒ T or F Shrub care service is also provided to new Monthly Landscape services.
4. ☒ T or F Shrub care service is provided to regular Monthly Landscape services.
5. ☒ T or F The fertilizer applied to Tall Fescue starts is the Granular Iron at 3 pounds per 1000 sq. ft.
6. T or ☒ F The fertilizer applied to Tall Fescue Every Other Month regulars is the the 32-5-7 Straight at 4 pounds per 1000 sq. ft.
7. ☒ T or F New and Regular Every Other Month Lawn Care customers receive the same lawn care treatment New Monthly Landscape customers.
8. ☒ T or F Sedge is treated in Tall Fescue with ProSedge Slurry.
9. ☒ T or F Annual aerations are fertilized with Limelight ProCal or 0-0-3, depending on pH, at 5 pounds per 1000 sq. ft.
10. T or ☒ F Crabgrass, sedge, and broadleaf weeds in Bermuda, Zoysia and Tall Fescue with are treated Dismiss South and Celsius.
11. ☒ T or F Our Shrub fertilizer is the 12-2-14, which is applied to new and regular Monthly Landscape customers this month at 8 pounds per 1000 sq. ft.
12. T or ☒ F Every shrub on the property should be sprayed with the I&D Slurry.
13. ☒ T or F Following the initial lawn care treatment, a *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular lawn care protocol for the month in which the regular service is performed.



GREENUP SERVICE PROTOCOLS NORTH GEORGIA

JULY 2026 LANDSCAPE APPLICATIONS

Monthly Landscape Accounts

1. Turf Care

- a. Warm Season Grasses - **New** Customers

Apply **4** pounds of 32-5-7 **with Pendimethalin** per 1000 sq. ft.; typically, this will be setting 15 with the Lesco Calibration tool.

- b. Cool Season Grasses – **New** Customers

Apply **3** pounds of granular iron per 1000 sq. ft.; typically, this will be setting 13 with the Lesco Calibration tool.

2. Shrub Care – **New and Regular** Customers

Apply 12-2-14 at **8** pounds per 1000 sq. ft. Keep this material off concrete surfaces. Perform insect and disease treatment using our I&D Slurry as prescribed below.

Broadleaf, sedge and grassy weeds in Warm Season Grasses are treated with Celsius at **0.11** ounces and Dismiss South at **0.28** ounces per gallon of water to cover 1000 sq. ft. using the backpack sprayer and the 11010-spray tip. No wetting agent or seed oil is added to this mix. Do not use on Tall Fescue or damage will occur.

Certain shrubs (see the list below) are treated with the I&D Slurry (with Transom) on a preventative basis for insect and disease. Most shrubs are treated on an as needed basis only. **Do not** treat every shrub on the property. This is not necessary or beneficial.

Shrubs that are treated on a preventative basis with every initial and regular service include:

- Azalea
- **Crape myrtle
- Camellia
- Gardenia
- Pittosporum
- Indian Hawthorne
- Holly (all varieties)
- Laurels (all varieties)
- **Knock-Out Roses

The list above may be expanded as needed.

**For the protection of pollinating insects, do not spray the foliage of shrubs that are in full bloom or if pollinators are in the area. If insect problems exist or if preventive insect applications are necessary and pollinators are in the area, perform a drench of the root system with the I&D mixture rather than spraying the foliage. The shrub gun can be used for this purpose; adjust the gun to course spray and treat the ground in the root zone area until puddling occurs.

Drench all Crape Myrtles to prevent aphids. Spray the lower trunk area and drench the ground below. Spraying the foliage of Crape Myrtles will not be necessary when this is done regularly.



GREENUP SERVICE PROTOCOLS NORTH GEORGIA

JULY 2026 LANDSCAPE APPLICATIONS

Every Other Month Lawn Care Accounts

1. Warm Season Grasses
 - a. New and Regular Customers
Apply **4** pounds of 32-5-7 **with Pendimethalin** per 1000 sq. ft.; typically, this will be setting 15 with the Lesco Calibration tool.
2. Cool Season Turf
New and Regular Customers
Apply **3** pounds of granular iron per 1000 sq. ft.; typically, this will be setting 13 with the Lesco Calibration tool.

All broadleaf weeds and grassy weeds in Tall Fescue must be spot treated with Speed Zone at **1** ounce, Drive XLR8 at **1.32** ounces, and Methylated Seed Oil at **0.5** ounces per gallon of water to cover 1000 sq. ft. using the backpack sprayer and the **11010**-spray tip. Without the Methylated Seed Oil the Drive XLR8 will not apply properly and control grassy weeds.

Sedge in Tall Fescue must be treated with Sedge Hammer Slurry at 2 ounces per gallon of water using the backpack sprayer and the **11010**-spray tip. Proactive treatment may be needed in 30 days to ensure control.

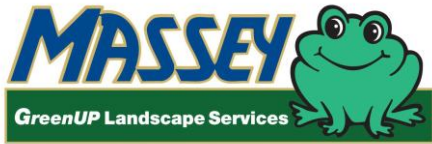
Annual and New Aeration

Inspect and flag the irrigation heads. Take soil pH samples. Aerate all turf areas. Apply Limelight ProCal or 0-0-3 at **5** pounds per 1000 sq. ft. depending on soil pH; typically, this will be setting 16 for Lime with the Lesco Calibration tool.

All new lawn care customers receive the above application protocols for New Customer Services. A *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular monthly lawn care protocol for the month in which the regular service is performed. Aeration and Limelight ProCal or 0-0-3 application is performed the month following the initial treatment for Warm Season grasses or in September or October for Cool Season grasses.

Make sure to use your sidewalk guard properly around roadways, driveways, and sidewalks. Remember blowing off the roadways, sidewalks and driveways is required after all granular fertilizer applications. Blow the material back into the turf areas. Do not allow any fertilizer to go into a storm sewer. Blow off any landscape curbing as well to avoid staining.

Do not apply pre-emergence herbicides to newly installed sod, seed or plugs; the roots will not establish properly, and damage can occur.
Inspect all landscapes very carefully for insect and disease activity. Good inspections, proper treatment and proper proactive treatments must be done.



GREENUP SERVICE PROTOCOLS NORTH GEORGIA

JULY 2026 LANDSCAPE APPLICATIONS

Do a quality job on every application. Perform perfect applications with perfect measuring, perfect calibration and perfect walking speed. Always be mindful of the 5 key principles. Provide thorough inspections and great customer communication with the goal of providing long-term sustainable solutions. This is what is needed to keep our customers happy, to prevent cancellations and claims.

What We Do and What to Expect – July 2026 Landscape Applications

Watering instructions for all new and regular LAWN CARE services are: Please irrigate with ¼ inch of water if there is no rain within 24 hrs.”

Warm Season Turf - New Monthly Landscape and New and Regular EOM Customers

What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
<u>New and EOM Regular Customers with Warm Season Turf</u> - Granular fertilizer with pre-emergence weed control.	This application will provide a substantial amount of nitrogen, potassium and minor elements. 50% of the nitrogen will be released slowly while the other 50% can be used right away. The pre-emergent will prevent weeds from sprouting.	A substantial improvement in color and growth should be seen in 10 to 14 days. Far fewer weeds will emerge in a turf that has been treated with a pre-emergence herbicide as opposed to one that has not been treated.	“This application will provide a noticeable improvement in the color and growth in about 2 weeks and will help prevent annual broadleaf weeds and spring emergence of crabgrass.” <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.”</u>
Post-emergent weed control applied as a spot treatment using the back pack applicator for low volume application.	We achieve excellent control of practically all types of broadleaf and grassy weeds. Sedge can also be treated if it is competing with the turf or if it is a concern for the customer.	Noticeable results will take 5 to 7 days. Control is achieved within 3 to 4 weeks.	“The weed control material applied will greatly reduce the amount of weeds in your lawn within 3 to 4 weeks. A second application may be necessary in severe cases.”
Inspection for lawn damaging insects and diseases	Lawn damaging insects and diseases can be devastating to turf. Frequent inspection and treatment as needed is crucial in the prevention of turf damage.	Lawn damaging insects and diseases are treated on an as needed basis.	“Your lawn was inspected for lawn damaging insects and diseases. Any problems found are treated on an as needed basis.”

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their treatment in July via the printed Service Report. This information applies to **all New Monthly Landscape and New and Regular EOM Customers with Warm Season Turf**: “Today, I applied a broadcast granular application of fertilizer with micro-nutrients and pre-emergence weed control to provide good color and to prevent annual broadleaf and grassy weeds from germinating. I also inspected for any existing broadleaf, sedge or grassy weeds as well as insects and diseases and treated those as needed. This treatment will need to be irrigated with ¼” of water if rain does not occur as soon as possible.”

What We Do and What to Expect – July 2026 Landscape Applications

Cool Season Turf– New Monthly Landscape and Every Other Month Customers

What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
Granular Micro-Nutrients	Enhances color and turf hardiness to withstand summer stress	Cool season turf is in a semi-dormant state at this time of year. Granular micro-nutrients will enhance tolerance and hardiness of the turf and will also provide a darker green color without stimulating growth.	“This micro-nutrient application will help improve the color of your turf and will enhance turf hardiness to better withstand summer stress. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.</u> ”
Post-emergent weed control applied as a spot treatment using the back pack applicator for low volume application.	We achieve excellent control of practically all types of broadleaf and grassy weeds. Sedge can also be treated if it is competing with the turf or if it is a concern for the customer.	Noticeable results will take 5 to 7 days. Control is achieved within 3 to 4 weeks.	“The weed control material applied will greatly reduce the amount of weeds in your lawn within 3 to 4 weeks. A second application may be necessary in severe cases.”
Inspection for lawn damaging insects and diseases	Lawn damaging insects and diseases can be devastating to turf. Frequent inspection and treatment as needed is crucial in the prevention of turf damage.	Lawn damaging insects and diseases are treated on an as needed basis.	“Your lawn was inspected for lawn damaging insects and diseases. Any problems found are treated on an as needed basis.”

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their treatment in July via the printed Service Report. This information applies to all New Monthly Landscape and Regular Every Other Month Customers with Cool Season Turf: “Today, I applied a broadcast granular application of micro-nutrients to enhance turf hardiness and tolerance to summer stress and to enhance dark green color without stimulating growth. I treated any existing broadleaf weeds and inspected your lawn for insects and diseases and treating those as needed. This treatment will need to be irrigated with ¼” of water if rain does not occur as soon as possible.”

Shrub Care – New and Regular Monthly Landscape Customers

What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
Shrub Care Service - Broadcast application of dry fertilizer	This application will provide a substantial amount of nitrogen, potassium and minor elements to help achieve good color and growth.	The growth and color of the shrubs should improve in 10 to 14 days.	“This fertilizer application will help improve the color and growth of your shrubs. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.</u> ”
Shrub foliage application of liquid insect and disease control materials.	The insect and disease control materials provide both contact and system control of shrub damaging insects and diseases.	Shrubs that either have or are prone to insect and disease problems are treated. The application will provide control of soft bodied insects such as aphids and lace bugs within 2 to 4 days. Scale insects will require 2 to 3 weeks for control. Fungal leaf spots will be suppressed. Keep in mind that leaves that have been damaged by insects or disease do not turn green after control has been achieved, and will need to be removed.	“This application will provide control of existing insects and foliar diseases. Leaves previously damaged will need to be trimmed off to simulate new growth. Follow-up treatments may be required for certain insect and disease problems.”

What We Do and What to Expect – July 2026 Landscape Applications

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their treatment in July via the printed Service Report. This information applies to all **New and Regular Monthly Landscape Customers when Shrub Care is provided**: “Today, I provided a granular application of fertilizer to enhance and maintain the color and growth of your landscape shrubbery. I also inspected and treated any existing shrub damaging insects and diseases. This treatment will need to be irrigated with ¼” of water if rain does not occur as soon as possible.”

Annual and New Aeration Services			
What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
Core aeration	Aeration is the most beneficial service we perform. It stimulates root growth, helps break down thatch, and allows water and air to get to the root system.	Increased root growth, better soil structure, and an improvement in the overall health of the plant. Leaf tissue will look better in the long run but there will not be a visible change in the short term.	“The aeration will help create healthy plant roots and improve the vigor and heartiness of the lawn.”
Broadcast application of high efficiency lime.	This application will increase the pH of Georgia’s very acidic soils.	Visual results of this treatment may be seen as a slight increase in growth, density and overall health of the turf, but the primary benefit is to raise the soil pH to better utilize nutrients applied with future services.	“Your lawn was treated with a high efficiency lime material to balance the pH of your soil. This application will help your lawn better utilize nutrients applied with future services.
Broadcast application of 0-0-3.	This application will improve soil health, stimulate minor growth and improve color.	Visual results of this treatment may be seen as a slight increase in growth, density and overall health of the turf along with color. Additionally, the organic material makes the soil healthier resulting in improved root health.	“Your lawn was treated with a granular fertilizer that will improve soil health and the color of the lawn. This application will help your lawn better utilize nutrients applied with future services.

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their Aeration Service via the printed Service Report: “Today, I inspected your irrigation system, aerated your lawn and took a soil sample to test the soil pH. I also provided a broadcast application of granular high efficiency lime (or 0-0-3). This treatment will need to be irrigated with ¼” of water if rain does not occur as soon as possible.”

What We Do and What to Expect – July 2026 Landscape Applications

Primary Landscape Issues in July

The regular service for Monthly Landscape customers, regardless of turf type, is an application of fertilizer to all shrubbery. Selected shrubs are treated preventatively for insects and diseases. Remaining shrubbery is inspected and treated as needed.

The fertilizer we apply to new Monthly Landscape as well as new and regular Every Other Month customers with Bermuda or Zoysia grass is a granular 32-5-7 with pre-emergence weed control. This application will enhance growth, provide a dark green color and prevent annual weeds from sprouting. 25% of the nitrogen source is slow release. At the rate we use, slightly over 1.25 pounds of actual nitrogen is applied. This application will improve overall health, growth and provide a dark green color.

The fertilizer we apply to regular Every Other Month customers with Tall Fescue is a granular micro-nutrient source. This application is provided to enhance the turf's ability to withstand summer stress and will also provide a darker green color.

Bermuda and Zoysia lawns will be looking very good in July. Summer temperatures are favorable for warm season grasses. Assuming moisture is sufficient, and fertility levels are proper, these grasses will be at their peak.

Fescue lawns will be in a semi-dormant state in July. Since Tall Fescue is a cool season turf, summer is not the time when this turf will look its best. Cool season turf goes into survival mode in the summer. Growth is slow and the turf will not look particularly attractive. At this time of year, a wilted and stressed look should be expected. Reducing any additional stress and keeping the soil moist will be the key to survival until September.

Summer annual broadleaf and grassy weeds will be a problem when turf is unhealthy and cultural conditions are suitable for the particular weed. The key to weed control is always a thick and healthy lawn with proper cultural practices.

Areas affected by Spring Dead Spot could still be seen this month. Spring dead spot (SDS) is a persistent and destructive disease of Bermudagrass in North Georgia. The disease has also been observed in Zoysiagrass, although less frequently. Various fungi responsible for this disease are active mostly in the fall and somewhat in the spring when cool, moist conditions exist. Infection of the turfgrass begins when soil temperatures are less than 70 degrees, but above 50 degrees. The fungi do not kill Bermudagrass directly, but rather make the turfgrass more susceptible to cold and freezing injury by feeding on roots, rhizomes and stolons. Damage is typically noticed when the turf greens up after dormancy. Well-defined circular patches of dead, bleached-out grass are noticeable in the affected areas. Non-infected Bermudagrass resumes growth, accentuating the noticeability of the damaged areas. Recovery from the disease is very slow. Because turfgrass in the affected patches is dead, the primary means of recovery occurs by the spread of rhizomes and stolons into the dead patch. Symptoms can remain visible well into the growing season. If preventive fungicide applications are not performed in the fall when the disease is active, it is likely that these patches will reappear in the same location the following spring. **For this reason, customers with Spring Dead Spot need to have their accounts noted, and fall fungicide applications will need to be performed.**

What We Do and What to Expect – July 2026 Landscape Applications

Dollar spot fungus is common in July. Dollar spot is a turf damaging fungus that is spread by airborne spores. Conditions favorable for the development of dollar spot include leaf moisture from fog, dew or irrigation combined with a turf that is stressed from nutritional deficiencies and/or dry soil. Dollar spot is recognized by small patches of damaged turf the size of a silver dollar or slightly larger (fist sized) with leaf spot lesions on the leaves. The leaf spots are typically about 1/8th inch, gray with dark brown margins and on the outer margin of the leaf. Dollar spot does not cause permanent damage but can be esthetically unpleasing. **Fertilization alone will often control dollar spot**; fungicide may be necessary for severe cases.

The need for supplemental irrigation can be very high in July. In the absence of rainfall, supplemental watering may be needed every once or even twice a week.

Piercing- sucking insects on shrubbery continue to increase in July as many plants begin to produce more new growth. Look for sooty mold to be an indicator. The black mold which feeds on honeydew from the insects can be seen from a distance, informing the observant Inspector and Lawn Specialist to inspect closer for aphids, scales or mealy bugs.

The larval and adult stages of various beetles and weevils become increasingly active in July. There are many different species of beetles and weevils that cause damage to plants in Georgia. The most common the Chafers, Japanese Beetles and May and June Beetles. Weevils are beetles with a snout or bill; the most known is the Bill bug. Weevil larvae differ in appearance from beetle larvae in that beetle larvae have three pairs of legs and weevil larvae are legless. The larval stage of both beetles and weevils is known as a grub. Grubs are cream colored, stout worm-like creatures. Most beetle grubs rest in a “C” shaped position. It is common for grubs to cause injury to turfgrass. Turf injury is typically recognized as wilting turf (even though the soil is moist) due to the feeding on the root system. Because the roots have been eaten, turf may pull back easily from the soil and be rolled back like a carpet. Beetle adults will commonly feed on the foliage of ornamental shrubbery. The Japanese beetle is the most voracious of those listed above.

Make July a success by constantly looking for opportunities, offering solutions and asking for the business. It is springtime and time to get the lawns and shrubs growing again and looking good. Landscape sales should be rocking in July. Every lawn is a lead. People need our help. Find those in need, solve their problems and

SELL, SELL, SELL & SERVICE, SERVICE, SERVICE!

Understanding Thatch in Lawns

What Thatch Is

Thatch is the undecomposed or partially decomposed layer of organic matter that accumulates above the soil surface. Depending on turfgrass genotype and cultural practices, this layer can develop into a dense mat that can cause management problems.

How Thatch Develops

Thatch develops when organic matter is produced faster than it decomposes. Anything that increases biomass production or slows decomposition can contribute to thatch accumulation.

The primary factors, all of which contribute to thatch accumulation, are:

1. Turfgrass Species and Cultivar (Most Important)

Some grasses naturally produce more thatch than others because they generate large amounts of stolons, rhizomes, crowns, and roots.

For Florida lawns:

- Seville St. Augustinegrass – high tendency toward thatch
- Palmetto – moderate to high tendency
- ProVista– can become quite thatchy
- CitraBlue – moderate tendency
- Floratam – generally lower tendency under proper management

The biggest problems often occur when a shade-adapted cultivar is grown under full-sun conditions, resulting in excessive vegetative growth.

2. Excessive Nitrogen Fertilization

High nitrogen rates stimulate:

- Rapid stolon production
- Increased shoot growth
- Greater root turnover

The turf produces biomass faster than soil microorganisms can break it down.

3. Improper Mowing Height

This is a major contributor in Florida St. Augustinegrass. When shade tolerant cultivars such as Seville are maintained too high:

- Turf becomes puffy
- Stolons stack on top of one another
- Rooting becomes progressively shallower
- Organic matter accumulates

The lawn essentially begins growing on top of itself.

Understanding Thatch in Lawns

4. Full Sun Exposure of Shade Tolerant Cultivars

A common scenario we encounter:

- Seville is planted under mature pine trees.
- The trees are removed.
- The lawn suddenly receives 8–10 hours of direct sunlight.
- Seville responds with aggressive stolon growth.
- Thatch accumulates rapidly.

This is often a classic "wrong plant, wrong place" situation.

5. Poor Microbial Decomposition

Anything that slows microbial activity can increase thatch:

- Compacted soils
- Poor aeration
- Excessively dry soil
- Excessively wet soil
- Low biological activity

However, in Florida St. Augustinegrass, decomposition limitations are usually secondary to excessive biomass production.

6. Excessive Irrigation

Overwatering encourages:

- Continuous growth
- Shallow rooting
- Increased stolon production

7. Infrequent Mowing

Allowing turf to become excessively tall between mowings can:

- Increase stem tissue production
- Encourage layering
- Increase organic matter accumulation

This is particularly problematic with dwarf or semi-dwarf cultivars such as Seville or Palmetto.

Understanding Thatch in Lawns

8. Environmental Changes

Sudden site changes often trigger thatch issues:

- Tree removal
- Increased sunlight
- Reduced competition from surrounding plants
- Irrigation changes

Many lawns that were perfectly acceptable for years develop serious thatch problems after these changes.

What Does NOT Cause Thatch?

A common misconception is that grass clippings cause thatch. Research has consistently shown that grass clippings are mostly water, they decompose rapidly, and they contribute very little to thatch accumulation. The primary contributors are stolons, crowns, roots, and stem tissue rather than leaf clippings.

Why Excessive Thatch Matters

Turfgrass with excessive thatch is more vulnerable to environmental stress. Disease and insect damage are often more severe in these areas, and water management becomes more difficult because accumulated organic matter can create hydrophobic conditions. In St. Augustinegrass, excessive thatch can increase the risk of cold injury and chinch bug damage. These issues are typically tied to Key Principle #1: the wrong plant in the wrong place.

Addressing Excessive Thatch in Home Lawns

In many Florida landscapes with full sun exposure, Floratam St. Augustinegrass is often the most appropriate cultivar because of its vigor, heat tolerance, and adaptation to sunny conditions.

- Use sod replacement for a fast and effective solution.
- Use plugging as a cost-effective option when gradual conversion is acceptable. Installing Floratam plugs throughout affected areas can gradually shift the lawn composition over time as the more vigorous Floratam expands and outcompetes the existing turf.
- Verticutting can reduce existing thatch, however it does not address the underlying reasons for the thatch development.
- Topdressing can alleviate some thatch, however in serious thatch situations topdressing is not a viable response to the problem.

Plant Selection and Cultural Practices

St. Augustinegrass can develop excessive thatch, especially when shade-adapted cultivars such as Seville are grown in full sun. Other cultivars that may also develop problematic thatch under full-sun conditions include Palmetto, CitraBlue, and ProVista. Maintaining each cultivar at its recommended mowing height is important for minimizing thatch accumulation and promoting healthy rooting.



Understanding Thatch in Lawns

Why Floratam Is Recommended for Full Sun Areas

Areas in full sun should be planted with Floratam St. Augustinegrass. Floratam is a vigorous, coarse-textured variety developed by the University of Florida and Texas A&M. It is valued for its dark green color, rapid establishment, and strong performance in full sun and high heat.

Best Management Practices

Best management practices require the right plant for the right place. Applying additional control materials for pests will not solve the underlying issue. The best long-term recommendation for customers is renovation that addresses the root cause.



Figure 1: Seville on top and Floratam on bottom.



Figure 2: Excessive thatch depth.



Understanding Thatch in Lawns



Figure 3: Thatch buildup is a serious problem.



Figure 4: Severe thatch accumulation.



Figure 5: Picture of lawn with thatch (Seville in full sun).



Understanding Thatch in Lawns



Figure 6: Turfgrass exhibiting puffy mat-like growth.



Figure 7: Insert Floratam plugs in dead spots.

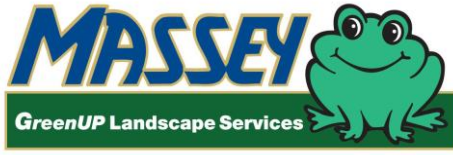
Understanding Thatch in Lawns



Figure 8: Typical cold damage to lawns with thatch.



Figure 9: Lawn exhibiting conditions that warrant renovation.



WEEKLY TRAINING SESSION



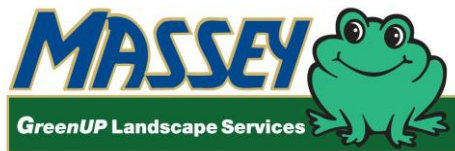
Watering during extreme heat, all grass types while stressing the impact on zoysia

A proper irrigation schedule is formulated using factors like evapotranspiration, precipitation rate, infiltration rate, water-holding capacity, slope, soil type, plant type, and sun exposure. Weather-station-driven controllers can fine-tune these variables, but we won't go into that level of detail here. Instead, focus on the essentials below to create a workable schedule.

Practical steps for setting an irrigation schedule

- **Rain sensor**
Ensure the controller has a functioning rain sensor. It should stop the system after at least ½ inch of rainfall.
- **Plant water needs**
Know what is growing within each zone you are analyzing.
 - Turf needs more water than shrubs; seasonal flowers need the most.
 - **Zoysia in high-heat periods:** bump up applied water and split into two cycles (e.g. 40 min × 2 for spray heads) to maintain deep roots and avoid midday stress.
- **Sun exposure**
Full-sun areas demand more water than shaded areas.
- **Sloped areas (≈ 45° or steeper)**
Water slopes more frequently but with shorter run times to avoid runoff.
- **Precipitation rate (PR)**
PR depends on head pressure, nozzle size, head spacing, and row spacing. Verify it for every zone.
- **Evapotranspiration (ET)**
ET measures how rapidly the atmosphere removes soil moisture. In Florida it ranges from 0.65 in. to 1.95 in. per week. Use local data when available.

For most Florida landscapes, aim to deliver ≈ 1 inch of water per week—except during extreme heat, when Zoysia should receive ~1.25–1.5 in. weekly. Combine the target depth with the nozzle's precipitation rate and the system's head layout to calculate runtimes.



WEEKLY TRAINING SESSION



Watering during extreme heat, all grass types while stressing the impact on zoysia

Typical PR (double-row, head-to-head layout)

Nozzle	PR (in./hr)
Rotors	0.45
Sprays	1.70
MP Rotators	0.40

Sample runtimes (twice-weekly)

Zone type	Runtime per cycle	Weekly depth
Sprays	20 min	1.12 in.
Rotors	60 min	0.90 in.
MPs	70–80 min	≈ 1 in.
Zoysia (high-heat)	40 min	1.25–1.50 in.

The variables involved in a “perfect” schedule are too numerous for this VTM. Remember: an irrigation schedule is only as good as the system’s head layout and design. Controller tweaks help, but design improvements may be necessary for the best results.



WEEKLY TRAINING SESSION



July Application Procedures

Topic Category: Lawn

Recordable Verifiable Training Hours: 1.5

Objectives: This lesson is designed to teach our Application Procedures for July.

Length of lesson: Approx 1 Hour and 30 minutes.

Materials needed:

- Training Guideline
- July Applications Training Document and What We Apply – What We Expect document located in the G: Drive Shared\GreenUp Reference Materials\GreenUp Protocols\Monthly Applications Information\2026\July
- **8 pounds** of 12-4-8 Shrub Fertilizer (16 ounces in a measuring cup is close to one pound)
- 1000 sq. ft. area of shrub bed
- Pre- and Post- tests.

Training Guidelines:

- Make copies of the tests and training materials for all Team Members attending.
- Set up the training area in an area of the office that will minimize disruptions.
- Hand out the Verifiable Training Record Form (VTRF)
- Begin the meeting by defining the training topic and handing out the Pre-test
- Distribute and review the training materials on July Application Procedures
 - Allow the Team Members to complete the Pre-test as the application information is discussed.
 - Encourage active participation from all Team Members
 - Ask probing questions to discuss key points.
 - Read and answer questions from the test and have the Specialists write in their answers.
 - Encourage group reading
- After reading and reviewing all materials, ask questions to verify the lesson has been understood.
 - Collect the pre-test and discard.
- Hand out the Post-tests. When complete, have each Specialist pass their test to another Specialist for grading.
- Grade the tests as a group and discuss the answers.
- Collect the tests
- Take all Specialists to the pre-measured shrub bed area. Apply the **6** pounds of 12-4-8 to the shrub bed area so they get an idea of how much fertilizer is being applied to all regular shrub care services.
- End the training session.
- Record the post test scores on the VTRF for each Team Member.
- Place with the verifiable materials in the Service Center Verifiable Training File.
- Make copies of the VTRF and place in each Team Member's training file.
- Complete all Weekly VTM's through Massey University.



WEEKLY TRAINING SESSION



July Application Procedures

Name _____ Date _____

PRE & POST TEST

1. The fertilizer applied all new St. Augustine customers is the
 - a. 0-5-5 + Atrazine at 4 pounds per 1000 sq. ft.
 - b. 0-5-5 Straight at 4 pounds per 1000 sq. ft.
 - c. 16-4-6 Straight at 4 pounds per 1000 sq. ft.
 - d. 33-0-16 at 1 lbs. with 0-0-1 at 18 ounces per 1000 sq. ft.
2. T or F Arena Droptank Slurry and Acelepryn Droptank Slurry is used as a liquid broadcast insecticide application for all new and regular customers in all grass types.
3. T or F Broadleaf in a St. Augustine lawn are treated with
 - a. 2 ounces of SBM2 per gallon of water per 1000 sq. ft.
 - b. 2 ounces of SBM2 plus 3 ounces of Auguzine per gallon of water per 1000 sq. ft.
 - c. 0.8 grams of Certainty per gallon of water per 1000 sq. ft.
 - d. 0.11 ounces of Celsius and .28 ounce of Dismiss South per gallon of water per 1000 sq. ft.
4. T or F Grassy weeds and Doveweed in Zoysia or Bermuda lawns are treated with
 - a. 2 ounces of SBM2 per gallon of water per 1000 sq. ft.
 - b. 2 ounces of SBM2 plus 3 ounces of Auguzine per gallon of water per 1000 sq. ft.
 - c. 0.75 ounces of Change Up per gallon of water per 1000 sq. ft.
 - d. 0.11 ounces of Celsius and 0.28 ounces Dismiss South per gallon of water per 1000 sq. ft.
5. T or F SBM2 can be mixed with Sedge Hammer.
6. T or F No insecticide is applied to grass types other than St. Augustine unless insect problems are found.
7. T or F Annual aerations are fertilized with either 0-0-3 straight or granular sulfur depending on the soil pH.
8. T or F Fertilizer is applied to all new and regular shrub care services.
9. T or F Every crepe myrtle on the property should be sprayed with the I&D Slurry.
10. T or F Following the initial lawn care treatment, a *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular lawn care protocol for the month in which the regular service is performed.



July Application Procedures

PRE & POST TEST ANSWER KEY

1. The fertilizer applied all new St. Augustine customers is the
 - a. 0-5-5 + Atrazine at 4 pounds per 1000 sq. ft.
 - b. 0-5-5 Straight at 4 pounds per 1000 sq. ft.
 - c. 16-4-6 Straight at 4 pounds per 1000 sq. ft.
 - ☒ d. 33-0-16 at 1 lbs. with 0-0-1 at 18 ounces per 1000 sq. ft.
2. T or ☒ F Arena Droptank Slurry and Acelepryn Droptank Slurry is used as a liquid broadcast insecticide application for all new and regular customers in all grass types.
3. T or F Broadleaf weeds in a St. Augustine lawn are treated with
 - ☒ a. 2 ounces of SBM2 per gallon of water per 1000 sq. ft.
 - b. 2 ounces of SBM2 plus 3 ounces of Auguzine per gallon of water per 1000 sq. ft.
 - c. 0.8 grams of Certainty per gallon of water per 1000 sq. ft.
 - d. 0.11 ounces of Celsius and .28 ounce of Dismiss South per gallon of water per 1000 sq. ft.
4. T or F Grassy weeds and Doveweed in Zoysia or Bermuda lawns are treated with
 - a. 2 ounces of SBM2 per gallon of water per 1000 sq. ft.
 - b. 2 ounces of SBM2 plus 3 ounces of Auguzine per gallon of water per 1000 sq. ft.
 - c. 0.75 ounces of Change Up per gallon of water per 1000 sq. ft.
 - ☒ d. 0.11 ounces of Celsius and 0.28 ounces Dismiss South per gallon of water per 1000 sq. ft.
5. T or ☒ F SBM2 can be mixed with Sedge Hammer.
6. T or ☒ F No insecticide is applied to grass types other than St. Augustine unless insect problems are found.
7. ☒ T or F Annual aerations are fertilized with either 0-0-3 straight or granular sulfur depending on the soil pH.
8. ☒ T or F Fertilizer is applied to all new and regular shrub care services.
9. ☒ T or F Every crepe myrtle on the property should be sprayed with the I&D Slurry.
10. ☒ T or F Following the initial lawn care treatment, a *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular lawn care protocol for the month in which the regular service is performed.



GREENUP LAWN, TREE & SHRUB CARE SERVICE PROTOCOLS

JULY 2026 LANDSCAPE APPLICATIONS

Lawn Care Accounts

1. St. Augustine
 - a. New Customers (All Service Centers)
Apply **18** ounces of 0-0-1, **1** pound of 33-0-16 per 1000 sq. ft., and **0.184** ounces of Acelepryn Xtra. Do your best to mix only what you need for the new account.
Be very careful of staining with this mixture!
 - b. Regular **EOM** customers (Frisco)
Apply **5** ponds of 20-4-6 + **Barricade** per 1000 sq. ft.; typically, this is setting 16 with the Lesco calibration tool.
 - c. Regular **EOM** customers (The Woodlands)
Apply **18** ounces of 0-0-1 and **1** pound of 33-0-16 per 1000 sq. ft. **Be very careful of staining with this mixture!**

If chinch bugs are found at the time of new or regular service, spot treat them with 2 ounces of the Arena Chinch Bug spot treat slurry per 1000 sq. ft., using the backpack sprayer using the 8010E spray tip.

All broadleaf weeds in St. Augustine lawns must be spot treated with the **SBM2** Slurry at **2** ounces of pre-mixed material per gallon of water per 1000 sq. ft., using the backpack sprayer and the 11010-spray tip.

Grassy weeds can be spot treated using Certainty at **0.8** grams with **0.5** ounces of wetting agent per gallon of water per 1000 sq. ft. using the backpack sprayer and the 11010-spray tip.

2. Zoysia
 - a. New Customers (All Service Centers)
Apply **18** ounces of 0-0-1, **1.36** pound of 33-0-16 per 1000 sq. ft., and **0.184** ounces of Acelepryn Xtra. Do your best to mix only what you need for the new account. **Be very careful of staining with this mixture!**
 - b. Regular **EOM** customers (All Service Centers)
Apply **5** ponds of 20-4-6 + **Barricade** per 1000 sq. ft.; typically, this is setting 16 with the Lesco calibration tool.
3. Bermuda
 - a. New Customers (All Service Centers)
Apply **18** ounces of 0-0-1, **1.36** pound of 33-0-16 per 1000 sq. ft., and **0.184** ounces of Acelepryn Xtra. Do your best to mix only what you need for the new account. **Be very careful of staining with this mixture!**
 - b. Regular **EOM** customers (All Service Centers)
Apply **5** ponds of 20-4-6 + **Barricade** per 1000 sq. ft.; typically, this is setting 16 with the Lesco calibration tool.



GREENUP LAWN, TREE & SHRUB CARE SERVICE PROTOCOLS

JULY 2026 LANDSCAPE APPLICATIONS

All broadleaf, sedge, and grassy weeds in Zoysia or Bermudagrass must be treated with Celsius at 0.11 ounces and Dismiss South at 0.28 ounces per gallon of water per 1000 sq. ft., using the backpack sprayer and the 11010-spray tip. This mixture does a great job on each of the 3 classifications of weeds. Do not mix this in a slurry. Celsius is not stable in a slurry. Do not use on St. Augustine severe injury or death will occur. Use a separate backpack dedicated for this use.

4. Annual and New Aeration

Apply 0-0-3 (Straight) at 5 pounds or Granular Sulfur (depending on the soil pH) at 4 pounds per 1000 sq. ft.; typically, this will be setting 15, for the sulfur, with the Lesco Calibration tool. See the Aeration Service Protocol for complete details.

All new lawn care customers receive the above application protocols for New Customer Services. A *complete* Regular Service lawn care application is done (at full charge) about 30 days after the initial application using the regular monthly lawn care protocol for the month in which the regular service is performed. Aeration plus the 0- 0-3 or Sulfur application is performed the month following the initial treatment.

Do not apply Barricade to newly installed sod or plugs; the roots will not establish properly, and damage can occur. Use great care with the Barricade fertilizer to avoid staining.

Make sure to use your sidewalk guard properly around roadways, driveways, sidewalks and bodies of water. Maintain a 3-foot ring of responsibility near all waterbodies.

Remember blowing off the roadways, sidewalks, and driveways is required after all granular fertilizer applications. Blow the material back into the turf areas. Do not allow any fertilizer to go into a storm sewer. Blow off any landscape curbing as well to avoid staining.

Inspect all lawns very carefully for Chinch bug activity. Good inspections, perfect preventive treatment and proper proactive treatments must be done. Perform proactive inspections for any chinch bug problem 14 to 21 days after treatment to ensure they are dead. If there is no further activity, do not do any additional treatment.

Sedge must be treated in St. Augustine with Sedgehammer SLURRY at 2 oz. per gallon of water using the backpack sprayer and the 11010-spray tip. Treat all sedge. A proactive treatment may be needed in 30 days to ensure control. **DO NOT ADD SEDGE HAMMER TO THE SBM2. THIS WILL KILL THE TURF.** Sedge treatments work best when the turf has not been mowed for a few days before treatment and will not be mowed for a couple of days after treatment. In situations where a large amount of kyllinga sedge is present, the customer must be informed that this area will turn brown. If the area is so large and full of sedge that sodding or plugging will be needed after control has been achieved, do not treat the sedge without first communicating with the customer and getting their approval in writing. Sedge treatment must remain dry for at least 3 hours to be successful.



GREENUP LAWN, TREE & SHRUB CARE SERVICE PROTOCOLS

JULY 2026 LANDSCAPE APPLICATIONS

Shrub Service

a. New and Regular Customers (All Service Centers)

Apply 12-4-8 at **6** pounds per 1000 sq. ft. Keep this material off concrete surfaces. Perform insect and disease treatment as prescribed below.

b. New and Regular Customers (All Service Centers)

Use 2 ounces of our Insect and Disease Slurry (with Transom) per 10 gallons of water.

Certain shrubs (see the list below) are treated with the I&D materials on a preventative basis for insect and disease. Most shrubs are treated on an as needed basis only. **Do not treat every shrub on the property.** This is not necessary or beneficial.

Shrubs that are treated on a preventative basis with every initial and regular service include:

- Viburnum
- **Azalea
- Crape myrtle
- Camellia
- **Gardenia
- Sago
- Pittosporum
- Indian Hawthorne
- Holly
- **Knock-Out Roses

The list above may be expanded depending on the geographical location and specific concerns in the Service Center.

**For the protection of pollinating insects, do not spray the foliage of shrubs that are in full bloom or if pollinators are in the area.

Do not allow pesticides of any kind to contact bodies of water or fish ponds. Many of the materials we use can be deadly to fish.

Set proactive treatments that are necessary to control insect or disease problems that threaten the life of the plant. Make sure to treat the top and bottom sides of the leaf. Inspect all shrubs thoroughly!!

Treat all Crape Myrtles to prevent aphids and Bark Scale. Treat the lower trunk (4 feet high and down) and drench all crape myrtles. If the height does not exceed 10 feet, treat the foliage as well.

Specimen Palm Quarterly Injection Service

Treatment for Palm Leaf Skeletonizers, Mites and other palm damaging insects is performed in June, July and August using Ace-jet. Mix Ace-jet at one 15 gram packet per 100 milliliters of water and inject at 5 milliliters per inch of trunk diameter. This treatment will also control Palm Bud Weevils. Notice that protective eyewear is a PPE requirement.

If nutrition or disease is a concern for a new customer, either Phospho-jet or Palm-jet may also be performed at the time of initial service. See GreenUP Protocol – Specimen Palm Quarterly Injection Service for complete details.



GREENUP LAWN, TREE & SHRUB CARE SERVICE PROTOCOLS

JULY 2026 LANDSCAPE APPLICATIONS

Do a quality job on every application. Thorough inspections and perfect preventive applications for CHINCH BUGS and SOD WEBWORMS, always being mindful of the 5 key principles and great communication with the customer to provide long-term sustainable solutions as well as perfect measuring, perfect calibration and perfect walking speed is what is needed to keep our customers happy to prevent service calls, cancellations and claims.

What We Do and What to Expect – July 2026 Landscape Applications

Watering instructions for all new and regular LAWN CARE services are: Please irrigate with ¼ inch of water if there is no rain within 24 hrs.”

New Customers – All grass types – All Service Centers

What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
Liquid Broadcast application of fertilizer and micro-nutrients.	This application will provide nitrogen, potassium, and chelated magnesium, manganese and iron to enhance and maintain good color and growth. It also includes Humic acid and kelp extract to enhance root development.	An improvement in the color and growth of the lawn will be achieved in about 2 to 5 days.	“This application will help enhance and maintain good color and growth. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.”</u>
Liquid Broadcast application for the prevention and control of lawn damaging insects including turf caterpillars. (Prevention of sod webworms is not done for Regular Customers because it was previously done in June)	All New St. Augustine grass properties are treated for the prevention and control of lawn damaging insects such as turf caterpillars, chinch bugs, grubs, and mole crickets.	The primary purpose of this application is to prevent lawn damaging insects from becoming a problem. If chinch bugs are present at the time of treatment, they will stop feeding immediately after treatment and control will be achieved over a 10 to 14 day period. This treatment will provide season long prevention of turf damaging caterpillars.	“Your lawn was treated to prevent lawn damaging insects such as chinch bugs, turf caterpillars, mole crickets and grubs. Preventative treatments are beneficial because they keep the populations of lawn damaging insects low and reduce the need for reactive treatments and lawn damage.”
Post-emergent weed control applied as a spot treatment using the backpack applicator for low volume application.	We achieve excellent control of practically all types of broadleaf weeds. Sedge can also be treated if it is competing with the turf or if it is a concern for the customer.	The weed control materials we use are a combination of slow and quick acting materials. Affects to the weeds can be seen in about 5 to 7 days. Control is achieved within 3 - 4 weeks.	“The weed control materials applied will greatly reduce the amount of weeds in your lawn within 3 to 4 weeks. A second application may be necessary in severe cases.”

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their lawn care treatment in July via the printed Service Report in all Service Centers: “Today, I provided a liquid broadcast application of fertilizer, micro-nutrients, and insect control materials to enhance and maintain the color and growth of your lawn and to prevent lawn damaging insects from becoming a problem. I also inspected and treated any existing broadleaf weeds and diseases as needed. This treatment will need to be irrigated with ¼” of water if rain does not occur within 24 hours of the treatment.”

What We Do and What to Expect – July 2026 Landscape Applications

Watering instructions for all regular LAWN CARE services are: Please irrigate with ¼ inch of water if there is no rain within 24 hrs.”

EOM Regular Lawn Care Services

What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
EOM Customers in All Service Centers- Dry fertilizer application with pre-emergence weed control.	This application will provide a substantial amount of nitrogen, potassium and minor elements. 65% of the nitrogen will be released slowly while the remainder can be used right away.	The improvement of growth and color may be achieved relatively quickly at this time of the year. We should also see a significant reduction in new weed growth.	“This fertilizer application will help achieve good weed prevention and green-up. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.”</u>
Spot treatment of insecticide for chinch bugs (St. Augustine Only).	Chinch bugs are a very common and damaging pest of St. Augustine grass. This treatment is performed to control existing infestations if they are present.	If chinch bugs are already at damaging levels, expect the damage in the lawn to get a little worse before it gets better. Control is achieved slowly and may take up to 14 days.	“This application is for the control of chinch bugs. Chinch bug feeding will cease immediately, but it could take up to a week or two for the chinch bugs to die. The damage may look like it is getting a little worse for a week or so, but that response is normal due to the feeding and damage that has already been done.”
Post-emergent weed control applied as a spot treatment using the backpack applicator for low volume application.	We achieve excellent control of practically all types of broadleaf weeds. Sedge can also be treated if it is competing with the turf or if it is a concern for the customer.	The weed control materials are a combination of slow and quick acting materials. Noticeable results will take 5 to 7 days. Control is achieved within 3 to 4 weeks.	“The weed control material applied will greatly reduce the amount of weeds in your lawn within 3 to 4 weeks. A second application may be necessary in severe cases.”

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their **new** lawn care treatment in July via the printed Service Report in all Service Centers and all grass types: “Today, I provided a liquid broadcast application of nutrients and insect control materials to enhance and maintain the color and growth of your lawn and to prevent turf damaging insects. I also inspected and treated any existing broadleaf weeds and diseases as needed. This treatment will need to be irrigated with ¼” of water if rain does not occur within 24 hours of the treatment.”

What We Do and What to Expect – July 2026 Landscape Applications

Annual and New Aeration Services

What We Use	Benefit of the Service	What To Expect	What to Tell the Customer
Core aeration	Aeration is the most beneficial service we perform. It stimulates root growth, helps break down thatch, and allows water and air to get to the root system.	Increased root growth, better soil structure, and an improvement in the overall health of the plant. Leaf tissue will look better in the long run but there will not be a visible change in the short term.	“The aeration will help create healthy plant roots and improve the vigor and heartiness of the lawn.”
Depending on the soil pH at the customer’s home, a broadcast application of a potassium and micronutrient source or sulfur to lower soil pH according to our Annual Aeration Protocol.	The 0-0-3 application will aid in development of a hearty root system to enhance drought and stress tolerance. Proper soil pH is essential for the availability of soil nutrients. The application of granular sulfur will lower the soil pH when it is too high for the particular turf type.	Improved root growth as well as color, enhanced cold, drought and stress tolerance. If the soil pH is higher than what required for a particular turf type, the application of sulfur will lower the soil pH and allow bound nutrients to become available to the turf resulting in healthier turf with a darker green color.	“The application of 0-0-3 works very well in conjunction with aeration to enhance root growth and improve color, heat, and drought stress tolerance. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.</u>” “The application of granular sulfur will lower the soil pH to enhance the availability of soil nutrients. <u>Please irrigate with ¼ inch of water if there</u>

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their Aeration Service via the printed Service Report: “Today, I inspected your irrigation system, aerated your lawn and took a soil sample to test the soil pH. I also provided a broadcast application of granular potassium and micronutrients (or sulfur to lower the pH). This treatment will need to be irrigated with ¼” of water if rain does not occur within 24 hours of the treatment.”

What We Do and What to Expect – July 2026 Landscape Applications

Shrub Care Customers			
What We Use	Benefit of the	What To Expect	What to Tell the Customer
Broadcast application of dry fertilizer (New Customers and Regular in All Service Centers Customers)	This application will provide a substantial amount of nitrogen, potassium and minor elements to help achieve spring green-up.	The growth and color of the shrubs should improve in 10 to 14 days.	“This fertilizer application will help enhance the color and stimulate new growth of your shrubs. <u>Please irrigate with ¼ inch of water if there is no rain within 24 hrs.</u> ”
Foliage application (as needed) of liquid insect and disease control materials. (New and Regular Customers)	The insect and disease control materials provide both contact and system control of shrub damaging insects and diseases.	Shrubs that either have or are prone to have insect and disease problems are treated. The application will provide control of soft bodied insects such as aphids and lace bugs within 2 to 4 days. Scale insects will require 2 to 3 weeks for control. Fungal leaf spots will be suppressed. Keep in mind that leaves that have been damaged by insects or disease do not turn green after control has been achieved. Damaged leaves will need to be trimmed off to achieve visual benefits.	“This application will provide control of existing insects and foliar diseases. Leaves previously damaged will need to be trimmed off to simulate new growth to cover up the damage. Follow-up treatments may be required for certain insect and disease problems.”

The following information should be typed into the handheld computer in the General Comments section to provide the customer with information of what we did for their new shrub care treatment in July via the printed Service Report: “Today, I provided a granular application of fertilizer to enhance and maintain the color and growth of your landscape shrubbery. I also inspected and treated any existing shrub damaging insects and diseases. Additionally, I inspected all turf areas for weeds, insects and diseases. This treatment will need to be irrigated with ¼” of water if rain does not occur within 24 hours of the treatment.”

What We Do and What to Expect – July 2026 Landscape Applications

Primary Landscape Issues in July

The fertilizer we are applying for new service in all grass types in All Service Centers is the 33-0-16 and 0-0-1, which contains Humic acid, seaweed extract, magnesium and chelated iron and manganese. The Humic acid and seaweed extract is proven to enhance rooting. Chelated sources of iron and manganese protect the iron and manganese from becoming insoluble to keep it available to the plant.

Preventative applications for sod webworms and other lawn damaging insects continue for all new customers in all grass types. These treatments are designed to prevent and control damage from sod webworms, chinch bugs, mole crickets, Tuttle Mealybugs, and grubs.

The primary insect threat we have is chinch bug damage in St. Augustine turf. Our regular service visit inspections are very important to identify the chinch bug populations so that we can keep them from getting to levels that will cause turf damage. If the chinch bugs are not identified and controlled during our regular visits, we could have extensive damage and a more difficult time controlling them for the rest of the year. If activity is found, a pro-active inspection must be set for 14 to 21 days after treatment to ensure the chinch bugs are dead.

At this time of the year, the vast majority of adult mole cricket eggs have hatched, but the mole crickets are too small to see noticeable damage. If mole crickets are in great enough numbers turf, damage will be seen around the beginning to middle of August.

Sod webworms and other lawn caterpillars are active in many of our service areas. Sod webworms and other lawn caterpillars chew the leaves of the grass and can cause extensive damage in a very short period of time. Fortunately, the damage is superficial and recovers quickly. Lawn Specialists and Inspectors can look for irregular shaped areas of chewed turf. Part the grass on the edge the damage area and look for bright green fecal pellets and caterpillars resting in the thatch. Our preventive treatments with Acelepryn will greatly reduce turf caterpillars for our customers.

Crabgrass and Bermudagrass are growing actively now. The Lawn Specialists and Sales Inspectors will need to inform customers of large areas of grassy weeds that need to be renovated. Good communication on this issue is very important. This is especially important for new customers.

Summer annual weeds will be problematic in areas that have declined for any reason. Doveweed will be a problem in high moisture areas. Doveweed can be difficult to control and may need special treatment. Investigate and address the reasons for the broadleaf weed problems.

The need for supplemental irrigation will continue to be high. Hot dry weather increases the plant's demand for moisture. In the absence of rain, watering twice a week is typically not sufficient to prevent localized dry spots and potentially damage from drought stress. At a minimum, spot watering of localized dry areas will be needed.

Piercing- sucking insects on shrubbery are a big problem at this time of the year. Look for sooty mold to be an indicator. The black mold which feeds on honeydew from the insects can be seen from a distance, informing the observant Inspector and Lawn Specialist to inspect closer for aphids, scales or mealy bugs.

Areas affected by Spring Dead Spot could still be seen this month. Spring dead spot (SDS) is a persistent and destructive disease of Bermudagrass in North Georgia. The disease has also been observed in Zoysia

What We Do and What to Expect – July 2026 Landscape Applications

grass, although less frequently. Various fungi responsible for this disease are active mostly in the fall and somewhat in the spring when cool, moist conditions exist. Infection of the turfgrass begins when soil temperatures are less than 70 degrees, but above 50 degrees. The fungi do not kill Bermudagrass directly, but rather make the turfgrass more susceptible to cold and freezing injury by feeding on roots, rhizomes and stolon. Damage is typically noticed when the turf greens up after dormancy. Well-defined circular patches of dead, bleached-out grass are noticeable in the affected areas. Non-infected Bermudagrass resumes growth, accentuating the noticeability of the damaged areas. Recovery from the disease is very slow. Because turfgrass in the affected patches is dead, the primary means of recovery occurs by the spread of rhizomes and stolon into the dead patch. Symptoms can remain visible well into the growing season. If preventive fungicide applications are not performed in the fall when the disease is active, it is likely that these patches will reappear in the same location the following spring. **For this reason, customers with Spring Dead Spot need to have their accounts noted and fall fungicide applications will need to be performed.**

Dollar spot fungus is common in July. Dollar spot is a turf damaging fungus that is spread by airborne spores. Conditions favorable for the development of dollar spot include leaf moisture from fog, dew or irrigation combined with a turf that is stressed from nutritional deficiencies and/or dry soil. Dollar spot is recognized by small patches of damaged turf the size of a silver dollar or slightly larger (fist sized) with leaf spot lesions on the leaves. The leaf spots are typically about 1/8th inch, gray with dark brown margins and on the outer margin of the leaf. Dollar spot does not cause permanent damage but can be esthetically unpleasing. **Fertilization alone will often control dollar spot;** fungicide may be necessary for severe cases.

The larval and adult stages of various beetles and weevils become increasingly active in July. There are many different species of beetles and weevils that cause damage to plants in Georgia. The most common the Chafers, Japanese Beetles and May and June Beetles. Weevils are beetles with a snout or bill; the most known is the Bill bug. Weevil larvae differ in appearance from beetle larvae in that beetle larvae have three pairs of legs and weevil larvae are legless. The larval stage of both beetles and weevils is known as a grub. Grubs are cream colored, stout worm-like creatures. Most beetle grubs rest in a “C” shaped position. It is common for grubs to cause injury to turfgrass. Turf injury is typically recognized as wilting turf (even though the soil is moist) due to the feeding on the root system. Because the roots have been eaten, turf may pull back easily from the soil and be rolled back like a carpet. Beetle adults will commonly feed on the foliage of ornamental shrubbery. The Japanese beetle is the most voracious of those listed above.

July is a great time of year for our Landscape service. Opportunity is everywhere. Our customers and potential customers need our help and expertise. Take advantage of the opportunity! Help people have the landscape they always wanted, have fun doing it and make a lot of money. This is a win-win for everyone.

So..... **SELL, SELL, SELL AND SERVICE, SERVICE, SERVICE! SELL AND SERVICE YOUR BRAINS OUT!**

Understanding Thatch in Lawns

What Thatch Is

Thatch is the undecomposed or partially decomposed layer of organic matter that accumulates above the soil surface. Depending on turfgrass genotype and cultural practices, this layer can develop into a dense mat that can cause management problems.

How Thatch Develops

Thatch develops when organic matter is produced faster than it decomposes. Anything that increases biomass production or slows decomposition can contribute to thatch accumulation.

The primary factors, all of which contribute to thatch accumulation, are:

1. Turfgrass Species and Cultivar (Most Important)

Some grasses naturally produce more thatch than others because they generate large amounts of stolons, rhizomes, crowns, and roots.

For Florida lawns:

- Seville St. Augustinegrass – high tendency toward thatch
- Palmetto – moderate to high tendency
- ProVista– can become quite thatchy
- CitraBlue – moderate tendency
- Floratam – generally lower tendency under proper management

The biggest problems often occur when a shade-adapted cultivar is grown under full-sun conditions, resulting in excessive vegetative growth.

2. Excessive Nitrogen Fertilization

High nitrogen rates stimulate:

- Rapid stolon production
- Increased shoot growth
- Greater root turnover

The turf produces biomass faster than soil microorganisms can break it down.

3. Improper Mowing Height

This is a major contributor in Florida St. Augustinegrass. When shade tolerant cultivars such as Seville are maintained too high:

- Turf becomes puffy
- Stolons stack on top of one another
- Rooting becomes progressively shallower
- Organic matter accumulates

The lawn essentially begins growing on top of itself.

Understanding Thatch in Lawns

4. Full Sun Exposure of Shade Tolerant Cultivars

A common scenario we encounter:

- Seville is planted under mature pine trees.
- The trees are removed.
- The lawn suddenly receives 8–10 hours of direct sunlight.
- Seville responds with aggressive stolon growth.
- Thatch accumulates rapidly.

This is often a classic "wrong plant, wrong place" situation.

5. Poor Microbial Decomposition

Anything that slows microbial activity can increase thatch:

- Compacted soils
- Poor aeration
- Excessively dry soil
- Excessively wet soil
- Low biological activity

However, in Florida St. Augustinegrass, decomposition limitations are usually secondary to excessive biomass production.

6. Excessive Irrigation

Overwatering encourages:

- Continuous growth
- Shallow rooting
- Increased stolon production

7. Infrequent Mowing

Allowing turf to become excessively tall between mowings can:

- Increase stem tissue production
- Encourage layering
- Increase organic matter accumulation

This is particularly problematic with dwarf or semi-dwarf cultivars such as Seville or Palmetto.

Understanding Thatch in Lawns

8. Environmental Changes

Sudden site changes often trigger thatch issues:

- Tree removal
- Increased sunlight
- Reduced competition from surrounding plants
- Irrigation changes

Many lawns that were perfectly acceptable for years develop serious thatch problems after these changes.

What Does NOT Cause Thatch?

A common misconception is that grass clippings cause thatch. Research has consistently shown that grass clippings are mostly water, they decompose rapidly, and they contribute very little to thatch accumulation. The primary contributors are stolons, crowns, roots, and stem tissue rather than leaf clippings.

Why Excessive Thatch Matters

Turfgrass with excessive thatch is more vulnerable to environmental stress. Disease and insect damage are often more severe in these areas, and water management becomes more difficult because accumulated organic matter can create hydrophobic conditions. In St. Augustinegrass, excessive thatch can increase the risk of cold injury and chinch bug damage. These issues are typically tied to Key Principle #1: the wrong plant in the wrong place.

Addressing Excessive Thatch in Home Lawns

In many Florida landscapes with full sun exposure, Floratam St. Augustinegrass is often the most appropriate cultivar because of its vigor, heat tolerance, and adaptation to sunny conditions.

- Use sod replacement for a fast and effective solution.
- Use plugging as a cost-effective option when gradual conversion is acceptable. Installing Floratam plugs throughout affected areas can gradually shift the lawn composition over time as the more vigorous Floratam expands and outcompetes the existing turf.
- Verticutting can reduce existing thatch, however it does not address the underlying reasons for the thatch development.
- Topdressing can alleviate some thatch, however in serious thatch situations topdressing is not a viable response to the problem.

Plant Selection and Cultural Practices

St. Augustinegrass can develop excessive thatch, especially when shade-adapted cultivars such as Seville are grown in full sun. Other cultivars that may also develop problematic thatch under full-sun conditions include Palmetto, CitraBlue, and ProVista. Maintaining each cultivar at its recommended mowing height is important for minimizing thatch accumulation and promoting healthy rooting.



Understanding Thatch in Lawns

Why Floratam Is Recommended for Full Sun Areas

Areas in full sun should be planted with Floratam St. Augustinegrass. Floratam is a vigorous, coarse-textured variety developed by the University of Florida and Texas A&M. It is valued for its dark green color, rapid establishment, and strong performance in full sun and high heat.

Best Management Practices

Best management practices require the right plant for the right place. Applying additional control materials for pests will not solve the underlying issue. The best long-term recommendation for customers is renovation that addresses the root cause.



Figure 1: Seville on top and Floratam on bottom.



Figure 2: Excessive thatch depth.

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Figure 3: Thatch buildup is a serious problem.



Figure 4: Severe thatch accumulation.



Figure 5: Picture of lawn with thatch (Seville in full sun).



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Figure 6: Turfgrass exhibiting puffy mat-like growth.



Figure 7: Insert Floratam plugs in dead spots.

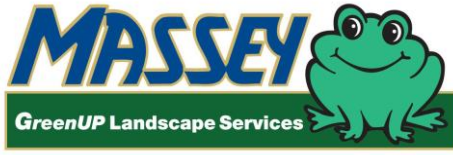
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Figure 8: Typical cold damage to lawns with thatch.



Figure 9: Lawn exhibiting conditions that warrant renovation.



WEEKLY TRAINING SESSION



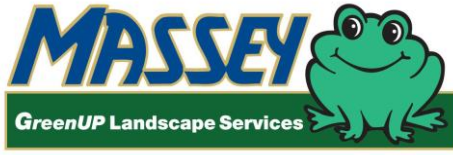
Watering during extreme heat, all grass types while stressing the impact on zoysia

A proper irrigation schedule is formulated using factors like evapotranspiration, precipitation rate, infiltration rate, water-holding capacity, slope, soil type, plant type, and sun exposure. Weather-station-driven controllers can fine-tune these variables, but we won't go into that level of detail here. Instead, focus on the essentials below to create a workable schedule.

Practical steps for setting an irrigation schedule

- **Rain sensor**
Ensure the controller has a functioning rain sensor. It should stop the system after at least ½ inch of rainfall.
- **Plant water needs**
Know what is growing within each zone you are analyzing.
 - Turf needs more water than shrubs; seasonal flowers need the most.
 - **Zoysia in high-heat periods:** bump up applied water and split into two cycles (e.g. 40 min × 2 for spray heads) to maintain deep roots and avoid midday stress.
- **Sun exposure**
Full-sun areas demand more water than shaded areas.
- **Sloped areas (≈ 45° or steeper)**
Water slopes more frequently but with shorter run times to avoid runoff.
- **Precipitation rate (PR)**
PR depends on head pressure, nozzle size, head spacing, and row spacing. Verify it for every zone.
- **Evapotranspiration (ET)**
ET measures how rapidly the atmosphere removes soil moisture. In Florida it ranges from 0.65 in. to 1.95 in. per week. Use local data when available.

For most Florida landscapes, aim to deliver ≈ 1 inch of water per week—except during extreme heat, when Zoysia should receive ~1.25–1.5 in. weekly. Combine the target depth with the nozzle's precipitation rate and the system's head layout to calculate runtimes.



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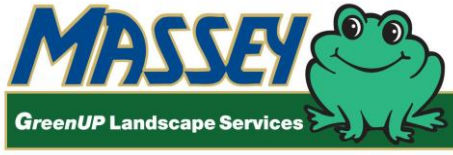
Typical PR (double-row, head-to-head layout)

Nozzle	PR (in./hr)
Rotors	0.45
Sprays	1.70
MP Rotators	0.40

Sample runtimes (twice-weekly)

Zone type	Runtime per cycle	Weekly depth
Sprays	20 min	1.12 in.
Rotors	60 min	0.90 in.
MPs	70–80 min	≈ 1 in.
Zoysia (high-heat)	40 min	1.25–1.50 in.

The variables involved in a “perfect” schedule are too numerous for this VTM. Remember: an irrigation schedule is only as good as the system’s head layout and design. Controller tweaks help, but design improvements may be necessary for the best results.



WEEKLY TRAINING SESSION



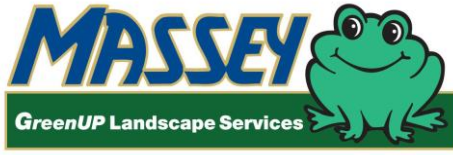
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