Colorado Master Gardener Training

Training Guide: Turfgrass Management

SETTING UP

Materials needed:

- ☐ This Training Guide
- ☐ Turfgrass Crossword Puzzle Answer Key (in this guide)
- ☐ PowerPoint: "CMG Training Class Review_Turfgrass_2020"
- ☐ Copies of GN 571 Turfgrass Diagnostics Worksheet that correlate with the review PowerPoint
- ☐ Copies of handouts: "Sprinkler Types for Lawn Irrigation" & "Lawn Watering Guide"

NOTE: Work with Tony Koski ahead of time to determine who will facilitate these activities – he may be able to coordinate his own review following or before the Weed Management course.

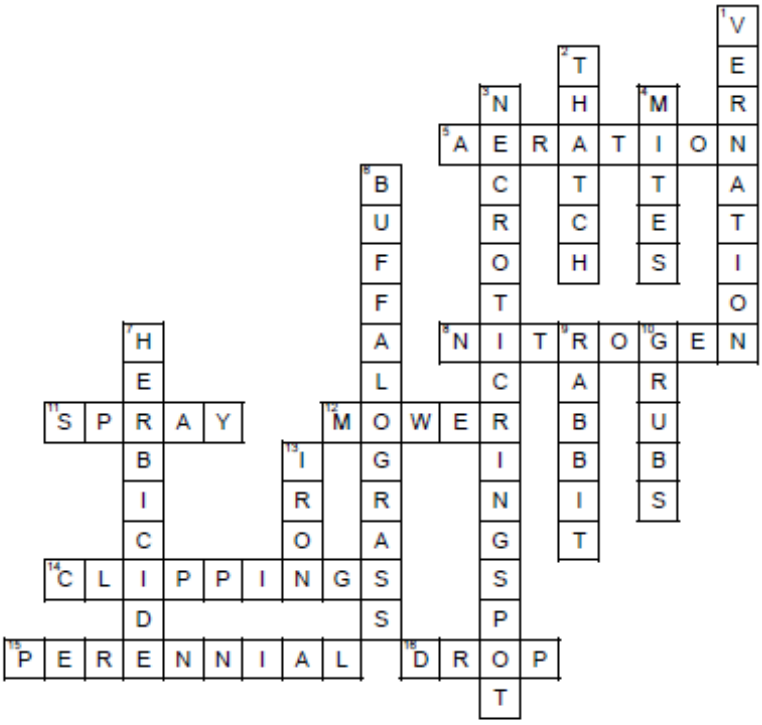
>> Review Homework

TURF CROSSWORD

Time: 10 minutes

- Go over the Turfgrass Crossword Worksheet.

CMG Turf Management Crossword Puzzle



Across

5. A management practice used to relieve soil compaction in lawns

8. This fertilizer nutrient makes grass darker green - and it grows faster

11. This type of irrigation head applies a large amount of water over a short time period

12. There are 2 types of this lawn care implement: the rotary- or the reel-type

14. You should leave these on your lawn when you mow

15. This type of weed can grow back every year WITHOUT producing any seed

16. You are more likely to "stripe" a lawn using this type of fertilizer spreader

Down

1. Used for grass ID - the arrangement of the youngest leaf in the grass shoot (rolled or folded)

2. This is a layer of organic matter that can form in Kentucky bluegrass lawns

3. This is a disease of over-watered lawns

4. This insect-like pest can kill lawns in late winter/early spring (dry conditions)

6. This native grass can be planted in Colorado home lawns

7. This is a pesticide used to control WEEDS

9. This wild animal can cause dead spots in lawns (from constant, close feeding and urine injury)

10. These white larvae of beetles feed on turfgrass roots

13. When this nutrient is deficient, turf can become chlorotic (yellow)

ACTIVITY:

TURFGRASS CHALLENGES

Time: 45 minutes

1. Load PowerPoint and have copies of GN571 for handing out.
2. Have students team up in small groups.
3. Assign each group one challenge and give them 5-8 minutes to discuss and answer questions.
4. Bring class back together and have groups share #1-7 in order. Utilize the PowerPoint to help groups describe/share their challenge.
5. Offer suggestions/clarifications based on the answers in this guide.
6. If there are not 7 groups, the facilitator/coordinator can share the remaining challenges.

SCENARIO 1: **Brown with Lawn Envy**

My neighbor has the most beautiful lawn. What can I do to make mine look as nice as theirs?

- **What questions would you ask this client?**
- **What resources will you use to research options?**
- **What recommendations might you provide?**

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Start off by asking questions regarding the client's CURRENT lawn care practices and other basic information about the lawn:

- How old is the lawn? (Lawns that are 20+ years old will have older varieties that may NEVER look good – no matter how much care is provided. Newer lawns generally will have better, improved varieties of grass in them.)
- By FAR, the most common cause of poor lawn quality is incorrect watering practices – not enough water, or not applied frequently enough. Poor irrigation coverage (bad head spacing, broken or low heads, poor water pressure, etc) will reduce turf quality too.
- What are the normal maintenance practices (mowing height and frequency, how often/when do they fertilize, do they ever have the lawn aerated)?
- What are their expectations for quality? Just green – and not brown? Or do they desire an unrealistic level of perfect?
- If the problem is weeds, this is a sign of overall poor management allowing weeds to gain a foothold in the lawn.

Resources for research:

- Getting a photo or 2 of the lawn (wide-angle, or from above) is a MUST so you know what the client is describing.
- CSU FactSheets: Lawn Care 7.202 https://extension.colostate.edu/topic-areas/yard-garden/lawn-care-7-202/

Recommendations:

1. Address irrigation coverage issues and teach about correct irrigation amount and frequency
2. Mow as tall as possible and at least once weekly (leave clippings to recycle nutrients)
3. Fertilize 1-2 times yearly (early September and mid-late May; more often if a young lawn)
4. If it's a very old lawn, renovate to replace with a different species or improved varieties
5. Consider hiring a professional lawn care company to provide fertilizer and pest management

SCENARIO 2: **Cutting it Close**

My lawn got away from me during this last rainy spell. Is it OK to mow it?

- **What questions would you ask this client?**
- **What resources will you use to research options?**
- **What recommendations might you provide?**

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Questions to ask:

- This is a not uncommon problem. When you get behind in mowing – weather, vacation, broken mower, other commitments – the only thing you can do is set the mower at its highest height and begin working the grass down to its normal mowing height.

Resources for research:

- Lawn Care fact sheet (7.202) https://extension.colostate.edu/topic-areas/yard-garden/lawn-care-7-202/

Recommendations:

1. If they have a ROTARY mower: set your mower on its highest setting (usually 3-4 inches with newer mowers) and mow the lawn. Collecting clippings with the bagging attachment (or raking) is recommended to prevent smothering of the turf.
    a. Then, a couple days later, mow it again, dropping the mower deck slightly. Continue in this pattern until the lawn is back at the desired, original height of 2.5-3.5 inches.
    b. After the lawn has been mowed down to the desired height, resume a normal mowing frequency of every 5-7 days.
2. If they have a REEL mower, it is much more difficult to mow tall grass down to a lower height (because the mower will lay the grass down instead of cutting it). It might be easier to borrow a neighbor's rotary mower to make the first cut down to normal height (collecting the clippings).
3. Mowing tall grass down this drastically will often result in yellowing or browning, but the lawn will recover over time.
4. Emphasize that the recommended height for mowing most lawns in Colorado (bluegrass, fescue, buffalograss) is 2.5- 3.5 inches – and that a lawn should be mowed at least once weekly (and maybe every 5 days in the spring when it is most actively growing).
5. More frequent mowing creates smaller clippings which should be left on the lawn to recycle nutrients and organic matter back into the soil.

Questions to ask:

- Do they have an irrigation system? Or do they use hose and sprinkler for watering?
- Is their soil sandy and well-draining, or is it more like clay with very slow drainage?
- What kind of sprinkler heads do they have? Pop-up sprays? Rotor heads? Stream rotors? The type of head MUST be known before you can recommend system run times, as pop-up sprays apply large amounts of water in a short period of time, while rotors and stream rotors apply much less water over longer periods of time.

Resources for research:

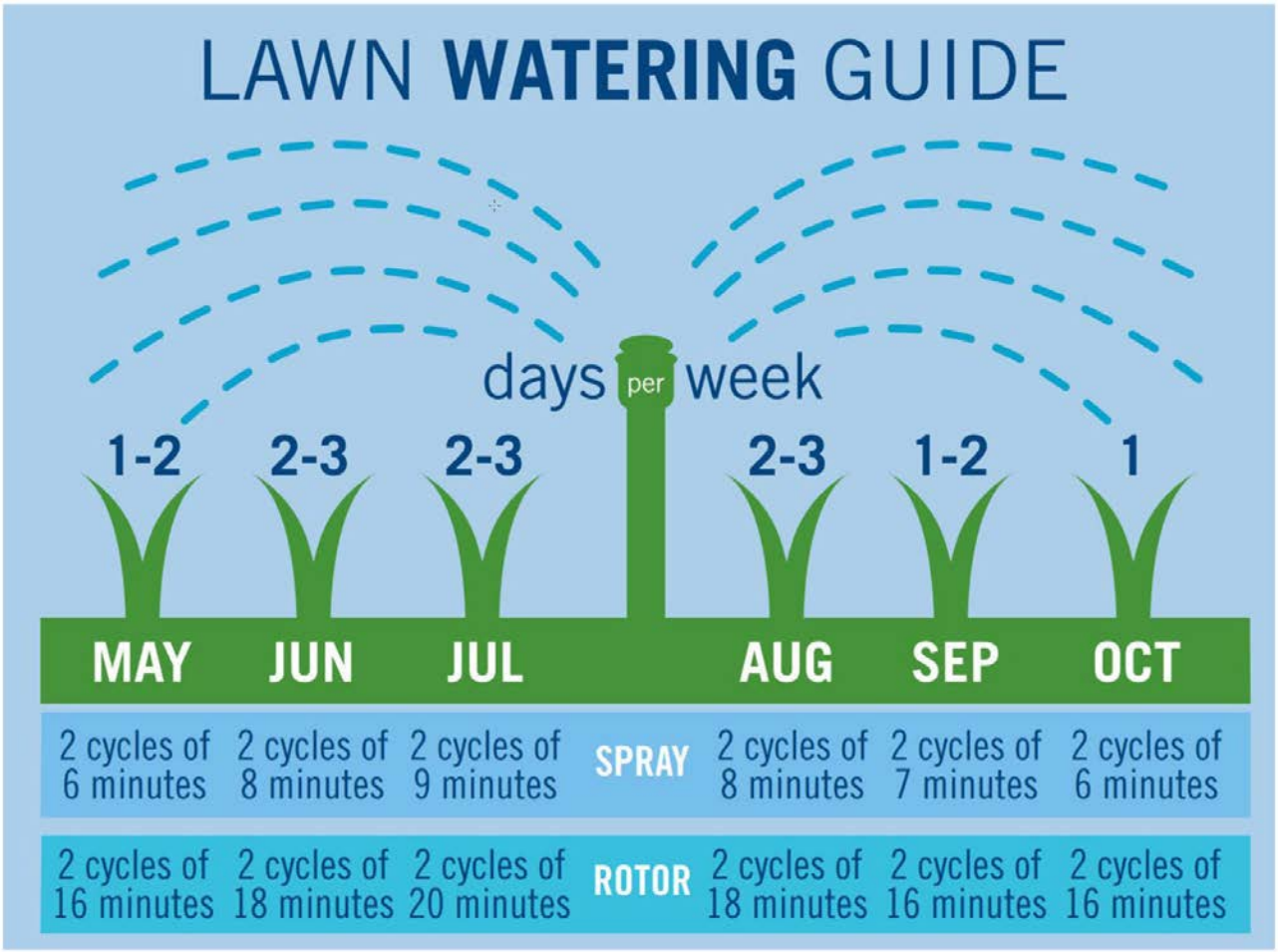
- Fact Sheets:
  Lawn Care (7.202) https://extension.colostate.edu/topic-areas/yard-garden/lawn-care-7-202/
  Watering Established Lawns (7.199)
  https://extension.colostate.edu/topic-areas/yard-garden/watering-established-lawns-7-199/
- Lawn Watering Guide
- Planttalk 1532 Efficient Lawn Watering https://planttalk.colostate.edu/topics/lawns/1532-efficient-lawn-watering/

Recommendations:

- You often read and hear that lawns should be watered "deeply and infrequently." What does this mean? Answer: it's a very ambiguous, unhelpful "recommendation" – one that doesn't tell people anything concrete. It's NOT a good answer, in other words!
- After learning about their irrigation system (above questions):
  - Recommend running the irrigation system manually, rather than on a set schedule of every 3-4 days (although that type of schedule is better than watering EVERY day)
  - Water when the turf is showing early signs of stress, like footprinting or a dull green color (photos above).

- Use the Lawn Watering Guide to suggest run times and frequency – depending on their sprinkler head type
- Encourage "fine-tuning" based on turf appearance, weather conditions, whether lawn is sunny or shady, etc. MANY variables affect lawn water requirements.

- Lawns growing on very sandy, well-draining soils may require more frequent irrigation – sometimes every other day – because the sand doesn't hold much water
- Lawns growing on high clay soils might require watering only every 3-6 days, depending on turf species, shade, and rooting depth
- Less frequent watering will encourage deeper rooting (NOT because roots "follow" the water down, but because less frequent watering allows for better oxygen exchange deeper into the soil – because roots get their oxygen from the soil). Daily/frequent irrigation encourages shallower roots to be more at the surface of the turf, because the constant moisture inhibits gas exchange in to and out of the soil.
- Lawns watered too frequently/too much (so are constantly wet) will have more disease, insect, and weed problems. They also require more frequent mowing and fertilization.
- Lawns that are watered too infrequently or are not watered at all, will be subject to drought stress. Some species, like Kentucky bluegrass and buffalograss, will go dormant. Other species, like tall fescue and perennial ryegrass, can die if no water is available. Lawns stressed by insufficient water may become weedy and don't tolerate traffic/use well (they get worn out).



SCENARIO 4: **The Green & Gold Lawn**

My lawn is looking yellow in spots. How do I make it green again?

- **What questions would you ask this client?**
- **What resources will you use to research options?**
- **What recommendations might you provide?**

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Iron Chlorosis (most common in the spring, when soil is cold and wet – or cold and dry; will also occur in summer on lawns that are kept too moist, and lawns irrigated with salty water – especially if the soil is compacted). Occurs when turf roots are "unhappy" (soil is too wet, too dry, too cold, too warm, too compacted, too salty).

Questions to ask:

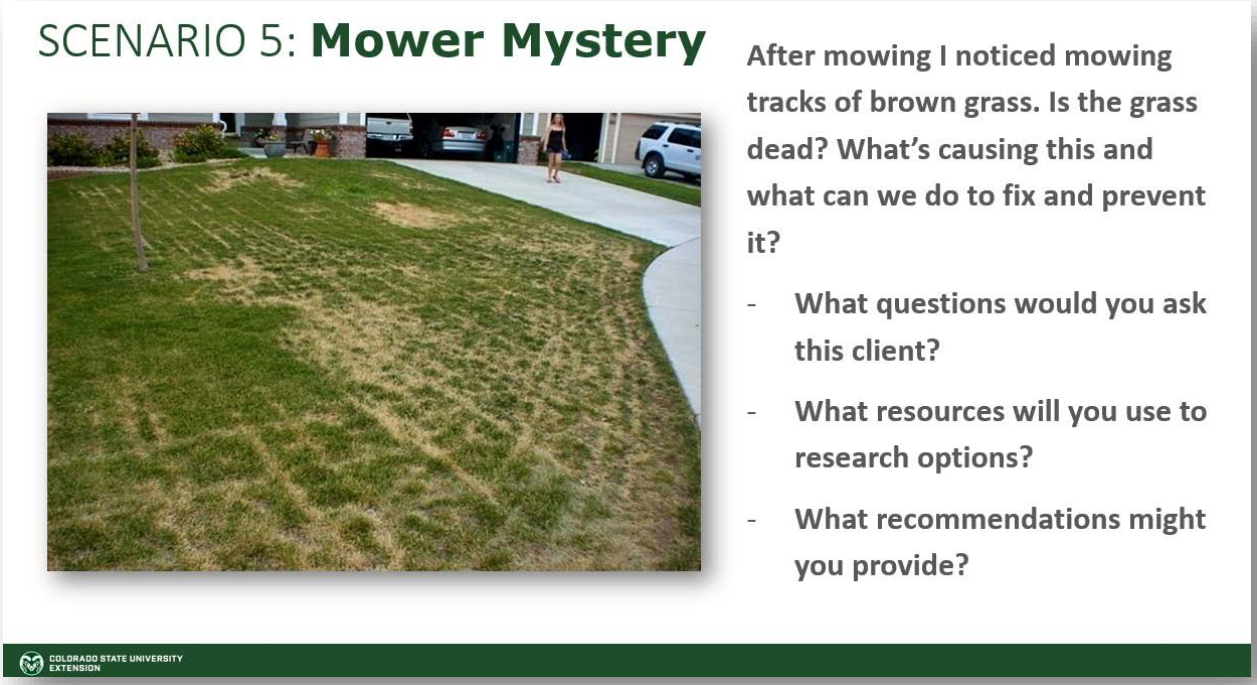
- Is the yellowing spotty and in random patches on the lawn? Iron chlorosis on lawns will be patchy, while with a nitrogen deficiency, the entire lawn will turn light green or yellowish. (so get a picture of the lawn! Wide angle shot!).
- Pulling a shoot of grass from a yellow spot (see above) will show the NEW, young leaves to be yellow, while the older, lower leaves are still green. This is classic iron deficiency. But with a nitrogen deficiency, the new, young leaves will be greener than the bottom, lower, older leaves.
- Are they watering too much/too little? Too wet/too dry makes iron chlorosis worse.
- Have they recently fertilized the lawn (applying nitrogen fertilizer can make iron chlorosis WORSE – even if the fertilizer they applied contains iron).

Resources for research:

- Lawn Care fact sheet (7.202) https://extension.colostate.edu/topic-areas/yard-garden/lawn-care-7-202/
- Planttalk 1564 Yellowing of Bluegrass Lawns https://planttalk.colostate.edu/topics/lawns/1564-bluegrass-yellows-wet-spring-weather-kentucky-bluegrass/

Recommendations:

- Adjust watering (not too wet…not too dry)
- Avoid fertilizing with nitrogen as a "fix" (will make it worse!)
- Be patient. As soils warm in the spring and perhaps dry out, iron chlorosis always goes away.
- If soil is very compacted, use aeration to improve soil conditions
- Use an iron fertilizer of the EDDHA type (read the label) to hasten greening.



Ascochyta leaf blight and mowing injury on drought/heat stressed turf.

Questions to ask:

- Have you or someone else mowed the lawn when it was perhaps a bit dry – or mowed on a very hot, dry, windy day?
- Send a photo of the problem (wide-angle shot!)

Resources for research:

- Lawn Care fact sheet (7.202) https://extension.colostate.edu/topic-areas/yard-garden/lawn-care-7-202/
- Planttalk
    - Brown Tracks & Wheel Marks in Lawns https://planttalk.colostate.edu/topics/lawns/1501-brown-tracks-wheel-marks/
    - Ascochyta Leaf Blight on Lawns https://planttalk.colostate.edu/topics/lawns/1547-ascochyta-leaf-blight-lawns/

Recommendations:

- First, the lawn is NOT dead. As bad as it looks, it WILL recover.
- Fix any irrigation coverage issues. This problem almost always occurs in a few spots in the lawn, where turf was overly drought- and/or heat-stressed when it was mowed.
- Water to maintain adequate soil moisture – but avoid saturated soil. If soil is kept too wet, recovery will be delayed. Check soil moisture daily to know whether to water or not.
- DON'T apply any fungicides to "fix" the problem. They don't work. And it's not really a disease problem – it's a watering problem.
- The problem is NOT spread by mowers from one lawn to another.
- Avoid this problem in the future by watering to prevent excessive stress on the lawn.
- Mow in the morning or later evening, when it is cooler and turf is not as stressed.

SCENARIO 6: **Can you Spot the Problem?**

Ack! What's causing these brown spots in my lawn?

- **What questions would you ask this client?**
- **What resources will you use to research options?**
- **What recommendations might you provide?**

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Lawn spots can be intimidating to diagnose. There are many potential causes of lawn spots: dog urine, disease, chemical spills (gasoline) or misapplication of herbicides (spot treating weeds with the wrong product – or without diluting the herbicide correctly), dormancy of different grass species, poor irrigation coverage, and insect feeding – to name a few.

Questions to ask:

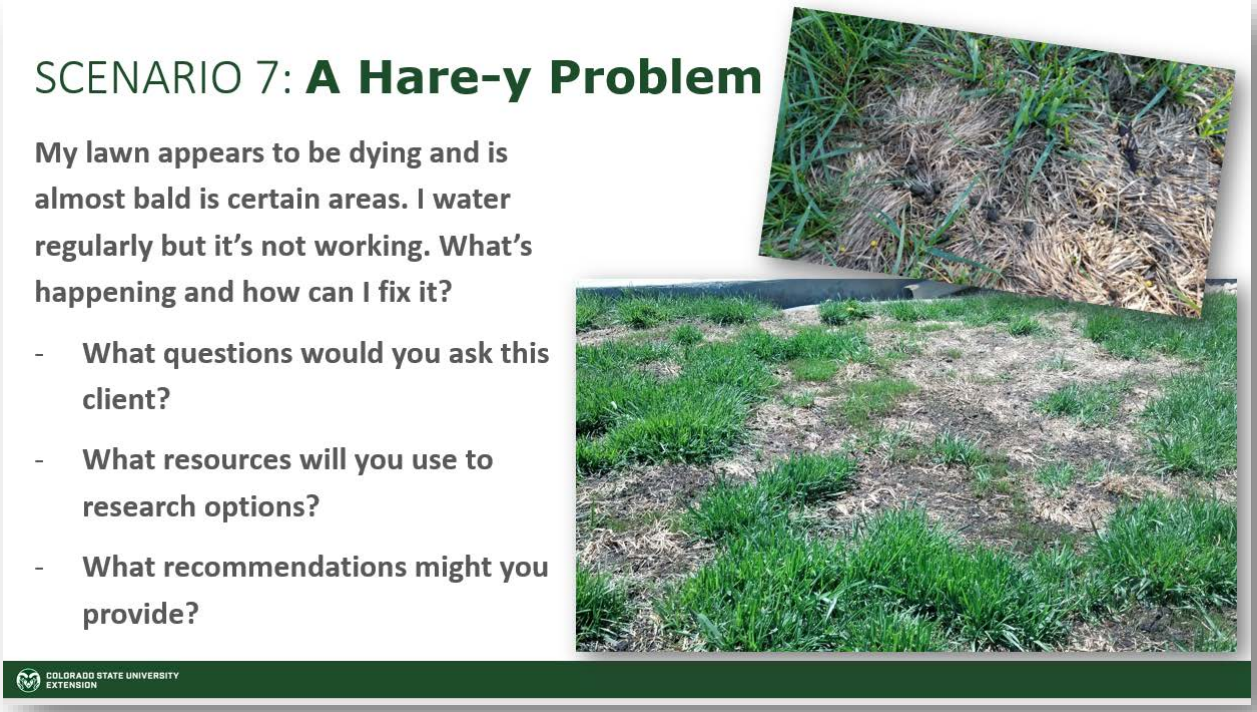
- Have the client send a photo of the problem (wide-angle shot!), and a few close-ups (standing height, and perhaps from 1-2 feet).
- What do THEY think might be causing the problem? (sometimes they know!)
- Is it just the front/back lawn? Or all areas of the lawn? Do they see this in their neighbors' lawns?
- You MUST accurately diagnose the cause before making any recommendation.

Resources for research:

- Planttalk 1553 Brown Spots in the Lawn https://planttalk.colostate.edu/topics/lawns/1553-brown-spots-lawn/
- Planttalk 1492 Necrotic Ring Spot https://planttalk.colostate.edu/topics/insects-diseases/1492-necrotic-ring-spot/
- Planttalk 1503 Dog Spots https://planttalk.colostate.edu/topics/lawns/1503-dog-spots/
- Send pics to Tony Koski if you can't figure it out (tony.koski@colostate.edu)

Recommendations:

- Avoid the temptation to buy and apply fungicides, insecticides, dog spot products, miracle products, etc. to help "fix" the problem. Indiscriminate use of fixes may make the problem worse!
- Sometimes it's never certain of what caused the spot(s).
- In the end, the fix is to seed or sod the spot(s). It's important to plant a compatible (in color, texture) grass species – or the grass fix may become a different sort of spot in the lawn. Brown spot "seed kits" sold in big box stores often contain tall fescue, which may produce clumpy growth in a bluegrass lawn. A "safe" choice of seed is perennial ryegrass or a mix of ryegrass and bluegrass.



Questions to ask:

- Bare spots in lawns, caused by rabbit feeding, is a growing problem in lawns. However, similar bare spots can be the result of repetitive dog or human traffic – so have the client look for signs of rabbit activity.
- Have client look for closely clipped turf in and around the vicinity of the bare spots; they can often find rabbit pellets in these areas as well. Pellets might not be found if the client has dogs – as some dogs will consume rabbit pellets as quickly as they appear.
- These spots may occur as a combined effort between the rabbit activity (feeding, urine deposits) and a client's dog (urinating on top of the rabbit urine). The concentrated urine deposits can kill large areas of turf.
- In some yards, rabbits will feed during the day – making them easy to see. In other yards, the feeding is almost totally nocturnal – so the client may claim that they "don't have rabbits".

Resources for research:

- Video, below.

Recommendations:

- Exclusion of the rabbits by using perimeter fencing (hardware cloth works best) is the most effective control measure.
- Motion-activated sprinklers can sometimes deter rabbit feeding.
- Strong anecdotal, citizen science results – and some limited university research – suggests that the use of Milorganite fertilizer can repel rabbits from a yard. This fertilizer can be applied (about 16 pounds of fertilizer/1000 square feet) to lawns, shrub beds, perennial and annual beds, and vegetable gardens. Reapplication every 4-8 weeks is necessary, depending on time of year, weather, and rabbit pressure. There is good evidence that the use of Milorganite can effectively reduce vole activity in home landscapes as well.