Heads UP!

From the
Master Gardener Diagnostic Lab
in King County

Spring 2021
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WELCOME BACK TO HEADS UP!

It's April, the winter gloom is beginning to fade and spring is bearing down on us, much to our joyous relief. The seed and gardening catalogues, those constant sources of temptation and inspiration, have stimulated our green thumbs, and any tendencies to procrastination are coming perilously close to the proverbial gardening wall. Plan your veggie garden space and get your seeds before supplies run out (like they did last year). Move those dormant plants that you've been planning to move all winter. Get your soil tested. Check out the numerous Tip Sheets for Puget Sound for information on just about anything gardening at www.mgfkc.org. Plan now! Don't wait!

Another season of gardening diagnosis awaits, so get those Master Gardener muscles toned and ready. Look to *Heads UP!* for seasonal information about what to expect, when to expect it, how to diagnose it, and what to do about it. Join with us in exercising our Master Gardener diagnostic skills to become stronger and smarter Master Gardeners.

In this issue we are including a plant problem diagnostic worksheet that you may find helpful in diagnosing a particular plant problem. It is a simple 4-step organized approach to basic diagnosis… it is not a homework assignment…

Use it as you look at the next sick plant you encounter; see if it works for you.

Good News! Reading Heads UP!, including the links, is good for 1 hour CE credit!

NITROGEN IN THE SPRING GARDEN

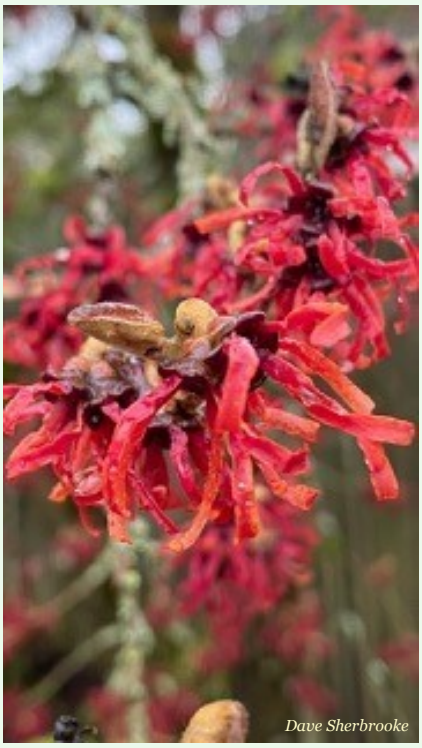
Nitrogen (N) is one of 13 essential nutrients required by plants to grow. Plants need more nitrogen than any of the other 12 nutrients, so managing nitrogen in garden soils is important, especially when plants are actively growing.

Plants can only take up nutrients that are in solution (dissolved in soil water). Because nitrogen is soluble, rain in winter leaches it out of the soil to the point that it's important to add N when prepping the garden in spring.

Don't depend on a soil test to tell you how much nitrogen to apply. According to WSU's Craig Cogger, "Soil test labs don't routinely test for nitrogen, because there is no simple way to predict nitrogen availability. The lab will give a general nitrogen recommendation, however, based on the plants you are growing and on information you provide about the soil (such as whether there is a history of manure applications, which would increase soil available nitrogen)."

The best way to replenish nitrogen in soils is to work organic matter into the garden prior to planting. Organic fertilizers are the second best way to replenish nitrogen in spring. As the soil warms up, nitrogen is slowly released to plant roots, along with the other essential nutrients.

For more information on PNW soils, garden nutrients, soil tests, and fertilizers, read *A Home Gardener's Guide to Soils and Fertilizers*.



You know Spring is here when the colors of Hamamelis × intermedia 'Diane' sing clear.

INSIDE THIS ISSUE

SPECIAL POINTS OF INTEREST

- Weather Station
- Useful Web Sources

WEATHER STATION

This winter thus far has held its own considering all the competing news stories. The winter solstice on December 21 was the warmest (50 degrees) snow day on record, the "epitome of zany" according to Scott Sistek of KOMO news. Mean January temps were warmer than normal and, just in case you are in a special micro climate and didn't notice, precipitation was at a whopper of 157% higher than normal in Seattle – much like January 2020 but at least this year it wasn't 30 straight days of rain and gloom like 2020.

This year's epic snow sledding aside, recent research from the Office of Washington State Climatologist suggests we Washingtonians shouldn't shudder in our Wellies whenever there's talk of the polar vortex in the US. Wellie isn't that comforting! Now, if only we could get the Blob in our offshore waters to increase our night time temps just enough so we can start our tomato plants early, and then magically go away. Bye bye Blob. See the June 2020 issue of *Heads UP!* for a portrait of the Blob.

Our average temperature this past December was 44.4 degrees, and January was at 43.7 degrees. December and January of 2019/2020 both averaged 44.2 degrees but February averaged an eventful 36.6 degrees. Rainfall totals for this past December was 5.17 inches, 95% of normal but January was 7.61 inches, 1.58% of normal. January 2020 was at 7.96 inches but then there was February at 3.31 inches of rain but 11.4 inches of snow. How's that for a little perspective.

Reference: Scott Sistek, KOMO News, OWSC (Office of WA State Climatologist)

Weather resources:
http://www.climate.washington.edu/
https://cliffmass.blogspot.com/

USEFUL WEB SOURCES!

- http://gardening.wsu.edu/
- https://pnwhandbooks.org/insect
- https://pnwhandbooks.org/plantdisease
- http://hortsense.cahnrs.wsu.edu/Home/HortsenseHome.aspx
- http://pestsense.cahnrs.wsu.edu/Home/PestsenseHome.aspx
- http://mastergardener.wsu.edu/diagnostic-resources/
- http://www.mgfkc.org/
- Puget Sound Gardening Tip Sheets
- Ask a Master Gardener Online

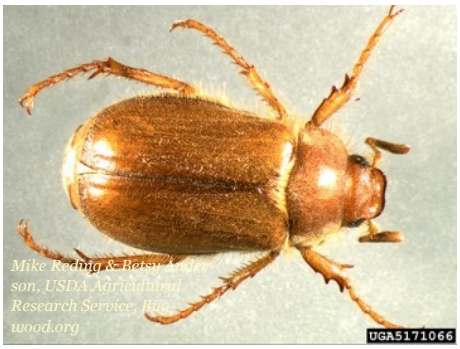
WHY DOES MY LAWN LOOK LIKE A BUFFET AFTER THE GUESTS HAVE FINISHED?

In late winter we are seeing aggressive crow and raccoon activity in lawns as European Chafers (*Amphimallon majale*) damage turfgrass areas. Turfgrass specialists state in Protecting *Lawns Against European chafer* that lawns receiving minimal irrigation during our seasonal drought periods are susceptible.

Since there is not yet an approved chemical recommendation for this pest, a cultural attack on the problem throughout the year can help avoid repeat infestations. Using pesticides on grassy areas at this time of year will not harm the larvae which have already finished their cycle of damage to the grass roots. Pesticides applied at a time when so many beneficial insects are becoming active would not seem to be environmentally responsible. Here is a link to the 2012 WSU Pest Alert on this insect: European-Chafer.pdf (wsu.edu). During the early winter months, the grubs are often several inches deep in the soil below the turf. Late in winter, the instar, or larval stage that is attracting crows and raccoons becomes active just below the surface of the soil. They are reaching the end stage of life before they pupate in May making them more resistant to any insecticides this time of year.

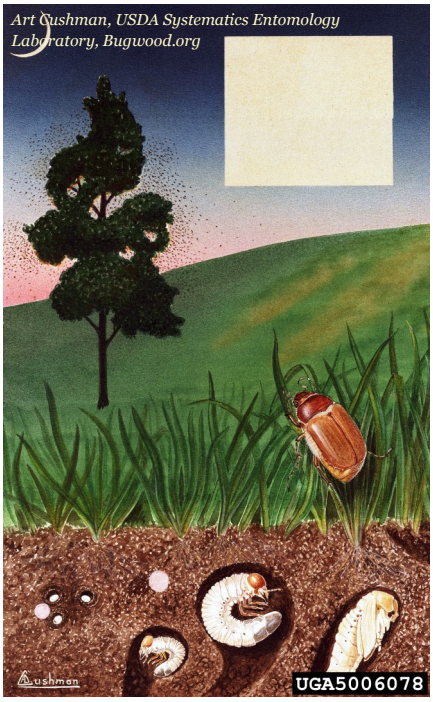
Before you begin any kind of insecticide application, be sure that your beetle infestation meets the threshold of 5-10 grubs per square foot or the application will not provide the benefit you seek. Any curative insecticides should be applied in fall (September and October) when the larvae are young and susceptible. Beneficial nematodes, sometimes available at larger nurseries and on-line, may be used on the grubs in August and September, but little data is available about their effectiveness, and they must be used annually to be an effective biological control.

Preventative management is a preferred option when possible. Frequent irrigation during the European chafer's egg-laying periods (mid-June until August) can mitigate this pest population since adult chafers prefer to lay their eggs in dry soil. The recommended irrigation amounts are 1/4-inch deep, four times a week for high maintenance lawns. Lawns should be mown at least once a week to a height of 2-3 inches, returning grass clippings to the lawn as a mulch. Fertilize twice in spring and twice in fall to ensure a continued healthy lawn. As noted in this article from UBC Vancouver, a healthy lawn is the best defense against the beetles: Why Are Crows Ruining My Lawn!



Mike Reding & Betsy Anderson, USDA Agricultural Research Service, Bugwood.org

David Cappaert, Bugwood.org



Art Cushman, USDA Systematics Entomology Laboratory, Bugwood.org

PLANT PROBLEM DIAGNOSIS – A SYSTEMATIC APPROACH

STEP 1. Evaluation

Plant identification:

Cultural Requirements for this plant:

Does a problem exist? Yes? No? If yes, proceed to Step 2.

STEP 2. Problem Hypothesis

What plant parts appear to be affected?:

Describe the **symptoms*** (plant's response, eg. chewed leaves, wilt/collapse):

Circle the symptom characteristics you observe:

	BIOTIC *caused by a living organism*	**ABIOTIC** *caused by non-living chemical/ physical factors*	
Distribution	Random	Regular or one-sided	Unknown
Rate of Appearance	Gradual	Rapid onset	Unknown
# of Species Affected	One or a few (related?)	One or many (unrelated)	Unknown
Spreading? Infectious?	Yes, over time	No	Unknown

Are there any **signs***? (physical presence of the probable cause, e.g. the pest itself, frass, exoskeleton, galls). Are they present now? Describe the signs:

Does the cause of the problem appear to be living (biotic) non-living (abiotic)?

What is the type of damage observed? Ex., mechanical, insect, etc.

What specific factor or organism is present? Ex., bacteria, mite, etc.

What is your hypothesis about the origin of this plant problem?

STEP 3. Evidence & Verification

What evidence did you observe or find?

What ***references*** did you consult to reach this hypothesis?

STEP 4. Hypothesis Evaluation

Does the ***evidence*** you found fit the hypothesis? Yes? No?

What is your diagnosis and/or recommendation or suggestions for further action?

1. Symptom and sign (Is this possible?); 2. Sign; 3. Symptom; 4. Sign; 5. Symptom; 6. Symptom; 7. Sign; 8. Symptom; 9. Sign.

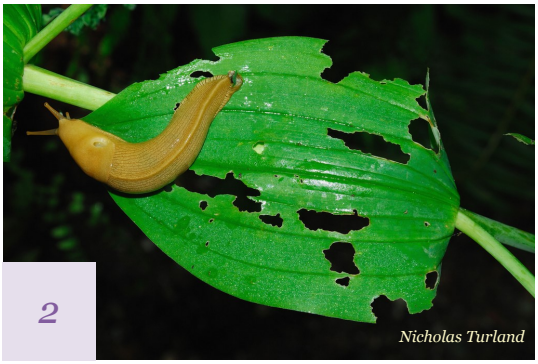
POP QUIZ: Is it a SIGN or a SYMPTOM?

Sign—physical presence of the probable cause ***Symptom—plant's response***

1

Pear Trellis Rust

2



Slime (slug and/or snail) damage

3

Weevils, cutworms, and slugs

4

Aphid cast skins

5

Sapsucker damage

6

Cherry leaves/brown rot

7

Tent caterpillar

8

Winter damage on rhododendron

9

Spring pruning/bad pruning

Answers are on the bottom of page 3.