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JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

A question I often hear this time of year is, "I have brown patch and how can I treat it?"

Brown Patch in St. Augustine and other grasses is a fungal disease that occurs most frequently at daytime temperatures of 75-85° F and with cooler nighttime temperatures (sometimes in the spring but most commonly in the fall). It grows best in the moist soils that we have in the fall. Symptoms include yellowish grass with grayish ring of wilted grass at edges of the patch, several inches to many feet across. Grass blades will easily pull off of stolons in grayish area. The disease damages roots, stolons, and nodes. The disease can start in the spring but does not becomes bad till the fal l as it survives (semi-dormant) best in turf grass with excessive thatch (healthy soils do not have thatch). Beneficial fungi in the soil break down thatch, however if o ne applies a broad spectrum fungicide to ones lawn, you will kill th ese good fungi and actually increase your chance of developing brown patch in the fall. This is one of the reasons brown patch returns to ones yard year after year.

The picture above is a typical example of brown patch.

101 Sherbrook Circle • Conroe, Texas 77385-7750
(936) 321-6990 Metro • (936) 273-1200 Conroe • Fax (936) 273-1655

Causes of Brown Patch:

Have you ever wondered why some yards get brown patch and others do not? Have you noticed that your neighbor whom never fertilizes or waters their yard does not seem to get brown patch? There is a reason why!

Healthy soils have a species of bacteria in them called actinomycetes. This good bacteria eats the bad fungus that causes brown patch and other bad fungus like "Take All", "St. Augustine decline", etc.). This good bacteria is very salt sensitive like many species of bacteria. The reason we use salt in canned goods, ham, bacon, jerky and other foods to preserve them, is that the salt kills bacteria. Hence when we apply an artificial fertilizer (chemically a salt) we kill this good bacteria that prevents this disease.

Brown Patch is a soil borne fungus (*Rhizoctonia solani*) that thrives in unhealthy soils. It is commonly found in soils that have been treated with synthetic artificial fertilizers, fungicides, pesticides, herbicides, and other toxic and dangerous chemicals.

Watering with municipal water also kills this good bacteria. The reason we add chlorine and chloramines to our public water supplies is to kill bacteria. Hence the more one waters their yard, the greater their chance of getting this disease. Watering coupled with the use of artificial fertilizers it is a sure fire recipe to get brown patch. Additionally, when we use these artificial synthetic nitrogen fertilizers it cause fast but weak growth which is more susceptible to brown patch and many other diseases and insect problems. Then the problems are always made worse by poor drainage and poor aeration.

Note: Lawn maintenance companies when they mow someone's yard with this disease (unless they clean and sterilize the mower between yards) they will then transfer the pathogen spores to your yard and infect it. The large majority of lawn services DO NOT clean their equipment.

Treatment: We have several options to control this disease.

1) First, we have to quit doing the things that led to this disease in the first place.

2) For severe cases there is a product called "Actinovate" that contains this good bacteria "actinomycetes". When applied according to directions it will quickly control this disease. This bacteria also kills (eats) some of the good fungus also. For mild to severe cases Leaf Mold Compost by itself works very well.

3) Hence after 7-10 days and the good bacteria has done its work we have to inoculate the soil with these other good microbes. The easiest, cheapest and best method is to apply a good compost. Note: Cheap low quality compost made without manures does not work very well. A good compost, like a fine screened "Leaf Mold Compost" is very effective at controlling brown patch and many other diseases. Compost should be applied at the rate of at least 1/4 inch but not more than a 1/2 inch layer at one time as we do not want to smother the grass.

Prevention:

1) Use only a low salt, good quality organic fertilizers like Microlife 6-2-4.
2) Apply Leaf Mold Compost 1/4 inch to 1/2 inch deep every year on your grass
3) Apply some type of trace minerals (e.g. green sand) every 3-5 years to your grass. Typically 40 pounds per 1,000 square feet.
4) Quit watering, you do not need it.

NOTE: Many people whom have been on an organic program with healthy soils have not had to water their lawns since the drought of 2011. Think how much money and time you could have saved by using the modern biological methods (organic).