

Soil Test Report
Lab #: 2024- 21332

Date Received: 2024-11-20
Date Reported: 2024-11-27

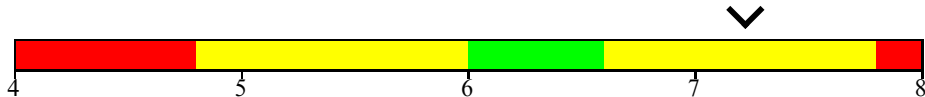
Crop or Plant
Established Turfgrass, cool season

Sample ID: Lawton Adams Fine Screened Topsoil

Results and Interpretations

Sandy Loam

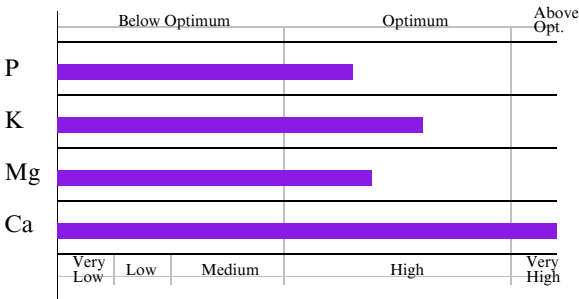
pH: 7.22 Slightly alkaline; above optimum pH for most plants.



Macronutrients (pounds per acre)

by Mehlich 3 extraction

Phosphorus: 91 (Optimum)
Potassium: 226 (Optimum)
Magnesium: 202 (Optimum)
Calcium: 2431 (Above Optimum)



Micronutrients (parts per million)

Zinc(Zn) 5.35 (Adequate) Copper(Cu) 2.44 (Adequate) Manganese(Mn) 19.47 (Adequate) Boron(B) 0.91 (Adequate) Iron(Fe) 417.43 (High) Sulfur(S) 28.10 (Sufficient)

Special Tests Results

Visual Description:

Moist Color: Dark Brown. As received: Moist, Loose, Coarse-loamy Material. Coarse rock fragments: Few (maximum size 1/2 to 1 inch). Organic detritus: Few Fine Roots, Stem fragments, Splintered wood fragments.

Soluble Salts- Electrical conductivity= 0.27 mmho/cm

(Satisfactory)

Organic Matter by Carbon Analysis: Organic Matter=3.1%

Very High for Sandy Loam

Gravel Content- Larger than 2mm: 5.5%

Mechanical Analysis- Sand= 70% Silt=22% Clay= 7% Texture: Sandy Loam

USDA sieve analysis of sand fraction:

Very Coarse	Coarse	Medium	Fine	Very Fine
1-2mm	0.5-1mm	0.25-0.5mm	0.1-0.25mm	0.05-0.1mm
8.7%	30.2%	41.6%	12.9%	6.6%

Total Nitrogen= 0.08%

pH, Calcium, and Magnesium Recommendations

The soil pH is higher than the optimum range of 6.00 to 6.60 for the growth of most Turfgrass, cool season. Do not apply any limestone, compost or wood ashes to the area.

For minimal disturbance of established plantings, a surface application of powdered elemental sulfur can be made to lower soil pH. Prior to application, expose and gently stir soil surface if possible. Apply sulfur at a maximum rate of 1 pound per 1000 square feet. Follow sulfur applications with frequent watering (if rainfall is not adequate) during subsequent weeks to keep the soil moist and distribute acidity to depth in the soil. Up to three applications may be made to established plantings in a growing season, with treatments at least 8 weeks apart. Re-test the soil pH before attempting additional adjustments.

Fertilizer Recommendations

Reported management conditions: Light-Partial Shade Irrigation-Weekly Clippings-Recycled

LATE AUGUST or EARLY SEPTEMBER (avoid very hot, very dry weather) is the best time to fertilize cool-season grasses. Otherwise, early Spring fertilization will suffice. Do not apply when grass is not growing (dormant). For sandy soils, split the application into two doses spaced 3 to 5 weeks apart to minimize potential for leaching loss. N.J. law prohibits application of fertilizer containing nitrogen or phosphorus after November 15 (December 1 for professional certified applicators) and before March 1.

Target ratio for fertilizer product is: 1:1:1 ,which represents the fertilizer's relative amounts of nitrogen (N), phosphorus as P_2O_5 , and potassium as K_2O .

The estimated yearly nitrogen (N) need of this crop/planting is 1 pound per 1000 square feet.

DO THIS: Uniformly apply fertilizer(s) with N:P:K ratio indicated above on the Turfgrass to achieve 0.75 pound Nitrogen per 1000 square feet (consult website for help with this). A gentle rain or light watering after application will help rinse fertilizer into the root zone, but do not apply fertilizer prior to expected heavy rainfall to avoid loss of fertilizer and pollution of stormwater.

WHAT ABOUT NEXT YEAR? If fertilizing only once per year, early fall (September) is preferred timing for turfgrass fertilization. Do not apply when grass is not growing (dormant). For sandy soils, it is also suggested the fertilizer application be split into two doses spaced 3 to 5 weeks apart to minimize potential for leaching loss.

The fertilizer prescription above is intended to bring soil nutrients to optimal or near-optimal conditions, and subsequent management recommendations are intended to maintain soil nutrients levels near optimum. The best nutrient ratio for maintenance fertilization of the turf beyond 2 years is best determined by another soil test.

DO THIS: return grass clippings to the Turfgrass when mowing to recycle nutrients. Use fertilizer with N:P:K ratio of: 1:0:0 (nitrogen only) or 4:0:1 or 2:0:1 or 1:0:1 (representing increasing amounts of potassium; supplemental potassium may be necessary for sandy, low organic matter soils) to achieve 0.75 pound Nitrogen per 1000 square feet.

How do I find the proper fertilizer product?

For help finding appropriate fertilizers and rates, consult the Rutgers Soil Testing Laboratory website: <https://itsappserver.sebs.rutgers.edu/FertProducts/>. The website lists commercially available products according to their nutrient analyses to assist you with product selection and calculation of amount required.

Select a fertilizer that has a nutrient grade (also known as guaranteed minimum analysis) the same as or a multiple of the values recommended, or select a close match to that ratio. When no single fertilizer product matches or approximates the recommended $N:P_2O_5:K_2O$ nutrient ratio, it will be necessary to use two or more fertilizers to reach the correct balance of nutrients. The proper amount of fertilizer to apply in a single application depends on the actual fertilizer grade of the fertilizer product selected, the total area (square feet) to be treated, and the total number of fertilizer applications to be made throughout the year.

Micronutrient Statements

Zinc does not appear to be a limiting factor. For information about zinc in soil for plant nutrition, see FS721.

Copper does not appear to be a limiting factor. As with most other micronutrients, copper availability is related to soil pH. Do not over-lime. For more information about soil copper, see FS720.

Manganese does not appear to be a limiting factor. Maintain soil pH in the optimum range, as directed in "Recommendations". See FS973 for more information about manganese in soil and plant nutrition.

Boron would not be a limiting factor for most plants. Plant types differ in their requirement for boron, however; certain fruit, vegetables, and field crops have greater need for boron (up to 0.75 ppm). For more information, see FS873.

Plant availability to iron is highly dependent on soil pH. Although soil iron appears plentiful, high soil pH could limit its availability. On the other hand, plant damage due to iron toxicity, though not common, could occur at low soil pH (acidic soil). Maintain soil pH in the optimum range as described in Recommendations. See FS971 for more information.

Although soil tests for sulfur fertility must be interpreted with many considerations in mind, the soil appears to be within an optimum range of sulfur availability within the soil depth sampled at the time the sample was taken. Response to sulfur fertilization is unlikely at this time. Organic matter decomposition is the natural source of plant-available soil sulfur (sulfate ion). Sulfate availability to plants may be time-dependent, depending on soil temperatures, microbial activity, and potential leaching losses – especially in sandy soils. Certain crops that have a high requirement for sulfur [agronomic crops, legumes, and vegetables in the Brassicaceae (cabbage) family or Allium (onion) genus] may benefit from sulfur amendment later in the season to maintain production/crop quality, though established deep-rooted plants may have access to sulfur in subsoil/depths greater than the sample taken; a separate sample from the subsoil would

help assess need for added S. For long-term fertility, use best management practices to maintain adequate organic matter content in soil. For additional information on sulfur fertility, see Rutgers Cooperative Extension bulletin E365.

Comments:

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