RUTGERS
New Jersey Agricultural Experiment Station

Soil Testing Laboratory
Rutgers, The State University
ASB II
57 US Highway 1 South
New Brunswick, NJ 08901-8554

Soil Test Report
Lab #: 2020- 81466

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Date Received: 2020-01-29
Date Reported: 2020-02-05

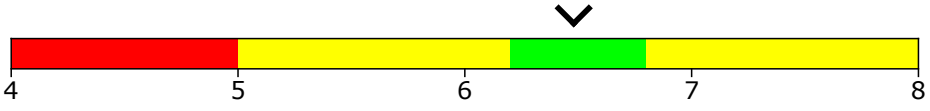
Referred To: Rutgers Cooperative Ext. of Mercer County
(609)989-6830

Crop or Plant
NewHome: vegetable garden, annual

Sample ID: Lakeside Gardens

Results and Interpretations

pH: 6.48 Slightly acidic; optimum pH range of many plants except acid-loving species.



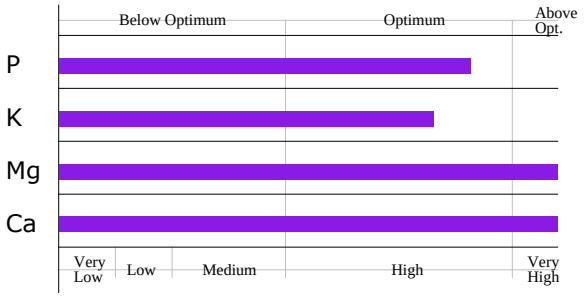
Lime Requirement Index: 7.97

The Lime Requirement Index (LRI) is a measure of the buffering capacity of the soil, its resistance to pH change, and is used to determine the appropriate amount of limestone, when necessary. LRI value near 8.0 indicates low buffering capacity of soil and a lower rate of limestone amendment compared to soil with high buffering capacity (LRI near 7.0).

Macronutrients (pounds per acre)

by Mehlich 3 extraction

Phosphorus:	125	(Optimum)
Potassium:	232	(Optimum)
Magnesium:	524	(Above Optimum)
Calcium:	4592	(Above Optimum)



Micronutrients (parts per million)

Zinc(Zn)	Copper(Cu)	Manganese(Mn)	Boron(B)	Iron(Fe)
9.88 (Adequate)	5.53 (Adequate)	68.18 (High)	1.88 (Adequate)	347.60 (High)

Special Tests Results

No special test data available

pH, Calcium, and Magnesium Recommendations

The soil pH is in the optimum range of 6.20 to 6.80 for the growth of most vegetable garden, annual. Do not apply any limestone.

Fertilizer Recommendations

BEFORE PLANTING (typically May; the average date for the last killing spring frost is May 4 in North Jersey, up to 4 weeks earlier in South Jersey.)
Target ratio for fertilizer product is: 2:1:1 ,which represents the fertilizer's relative amounts of nitrogen (N), phosphorus as P_2O_5, and potassium as K_2O.

The estimated nitrogen (N) need of this crop/planting at spring planting is 2 pounds per 1000 square feet.

DO THIS: Uniformly apply fertilizer(s) with N:P:K ratio indicated above to achieve 2 pound Nitrogen per 1000 square feet. Spread fertilizer uniformly on the soil surface and then mix in to 4 inches depth by tilling or turning with shovel.

MIDSEASON: Approximately 1 month after transplanting seedlings, additional nitrogen may be needed. See Rutgers Cooperative Extension Fact Sheet FS626 for more specific instructions for individual crops.

Annual vegetables often require a supplement of nutrients at this very demanding stage of crop growth, except in high-organic matter soils.

DO THIS: Uniformly apply fertilizer(s) with N:P:K ratio of 4:1:1 to achieve 1 pound Nitrogen per 1000 square feet. Sidedress this fertilizer (spread uniformly on the soil surface alongside crop rows). Do not apply more N than prescribed, since that will favor vegetative growth over reproduction (production of fruit).

WHAT ABOUT NEXT YEAR?

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 of soil fertility beyond 2 years is best determined by another soil test.

DO THIS: apply composted plant residue (and kitchen scraps) to recycle nutrients back to the garden soil. At next planting, use fertilizer with N:P:K ratio of 2:1:2 at a rate to achieve 2 pounds Nitrogen per 1000 square feet, and supplement at midseason with 1:0:0 fertilizer (nitrogen only, as above) to achieve 1 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: benedick.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 may be toxic to sensitive crops when grown on low pH soil. Adding lime to the soil raises the pH and decreases manganese toxicity. Liming is generally not recommended for acid-loving plants, which are more tolerant of high levels of manganese. In excessive amounts, soil manganese can cause plant damage. This occurs primarily in low pH soil. Lime soil as recommended to decrease availability of manganese to plants. Avoid fertilizers that contain manganese. See FS973 for more information.

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.

Comments:

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