

Soil Test Report Lab #: 2013-24088

Washington Township Community Garden
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Sample ID: WTCG 2013

Date Received: 2013-03-18

Date Reported: 2013-03-27

Serial #: MS-4184

Referred To: Rutgers Cooperative Ext. of Morris County
(973)285-8307

Crop or Plant

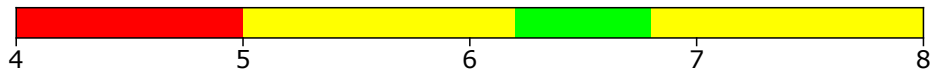
Home: vegetable garden, annual (primary)
Ornamental flowers, annual (secondary)

Results and Interpretations

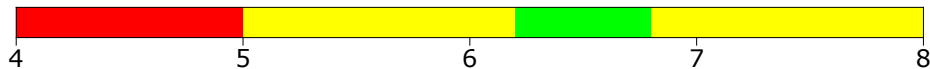
Silty Clay Loam

pH: 7.26 Slightly alkaline; above optimum pH for most plants.

Primary Crop

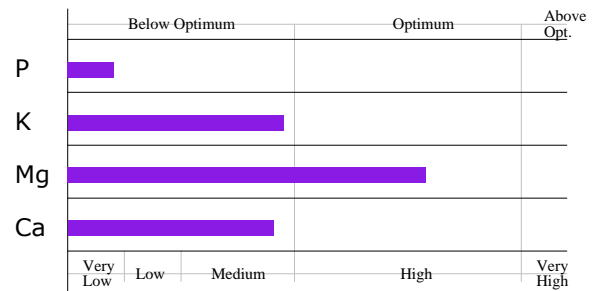


Secondary Crop



Macronutrients (pounds per acre)

Phosphorus: 19 (Below Optimum)
Potassium: 139 (Below Optimum)
Magnesium: 232 (Optimum)
Calcium: 1338 (Below Optimum)



by Mehlich 3 extraction

Micronutrients (parts per million)

Zinc(Zn) 4.78 (Adequate)	Copper(Cu) 2.37 (Adequate)	Manganese(Mn) 210.10 (High)	Boron(B) 0.25 (Low)	Iron(Fe) 156.60 (High)
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Special Tests Results

No special test data available

pH, Calcium, and Magnesium Recommendations

Primary Crop

The soil pH is higher than the optimum range of 6.20 to 6.80 for the growth of most vegetable garden, annual. Do not apply any limestone, compost or wood ashes to the area.

Prior to new seeding/planting, soil pH should be adjusted by application and thorough mixing of powdered elemental sulfur into the root zone (8-10 inches deep). Apply the elemental sulfur at a rate of 20 pounds per 1000 square feet.

Till or otherwise mix to distribute the sulfur as uniformly as possible. Follow amendment by watering and keep soil moist over the subsequent several weeks to promote the acidification process. Measure pH again 4 months after amendment to determine additional acidification need.

Secondary Crop

The soil pH is higher than the optimum range of 6.20 to 6.80 for the growth of most Ornamental flowers, annual . Do not apply any limestone, compost or wood ashes to the area.

Prior to new seeding/planting, soil pH should be adjusted by application and thorough mixing of powdered elemental sulfur into the root zone (8-10 inches deep). Apply the elemental sulfur at a rate of 20 pounds per 1000 square feet.

Till or otherwise mix to distribute the sulfur as uniformly as possible. Follow amendment by watering and keep soil moist over the subsequent several weeks to promote the acidification process. Measure pH again 4 months after amendment to determine additional acidification need.

Fertilizer Recommendations

Primary Crop

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: 1-2-1 ,which represents the fertilizer's relative amounts of nitrogen (N), phosphorus as P₂O₅, and potassium as K₂O.

The estimated nitrogen (N) need of this crop/planting at spring planting is 2 pounds per 1000 square feet. The very low P in your soil sample emphasizes the need for building up root zone fertility before planting.

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.

Secondary Crop

BEFORE PLANTING

Target ratio for fertilizer product is: 1-2-1, which represents the fertilizer's relative amounts of nitrogen (N), phosphorus as P_2O_5 , and potassium as K_2O .

DO THIS: using the N:P:K ratio indicated, broadcast the fertilizer over the area at a rate to achieve 1 pound Nitrogen per 1000 square feet. Mix into the surface 4 to 6 inches before planting.

MIDSEASON

A second application may be necessary to boost vigor of annual flowers at midseason; especially if soil is very sandy and/or the season has high total rainfall.

DO THIS if plants indicate need: using a fertilizer with N:P:K ratio of 4:1:1, top-dress the annual bed at a rate to achieve 1 pound Nitrogen per 1000 square feet.

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 fertilization of the flower bed beyond 2 years is best determined by another soil test.

DO THIS: using a fertilizer with N:P:K ratio of 2:1:1, broadcast the fertilizer over the area at a rate to achieve 1 pound Nitrogen per 1000 square feet. Mix into the surface 4 to 6 inches before planting.

How do I find the proper fertilizer product?

For help finding appropriate fertilizers and rates, consult the Rutgers Soil Testing Laboratory website: rci.rutgers.edu/~soilslab/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.

Plant types differ in their susceptibility to boron deficiency; certain fruit, vegetable, and field crops are most susceptible. Symptoms include improper development or dieback of growing tips, poor flowering or fruit set, twisting and yellowing of young leaves from base to tip, and black heart of roots. Lime only as necessary, since pH above 7.0 limits boron availability. Building up organic matter content of soil will increase boron availability. Use of boron fertilizer must be done only with extreme care because of the toxicity that might occur if over-applied and the difficulty of applying the low rates necessary. See FS873 for more information and follow recommendations above.

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: *Town Community Garden - will grow vegetables and flowers*

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