

BEES Info #100

Lime and Fertilizer Recommendations
for the Various Crops of Tennessee

Chapter VII
Home Vegetable Garden and Lawn

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Home Vegetable Garden

SOIL TEST LEVELS*

Practice	Phosphate (P ₂ O ₅)	Potash (K ₂ O)	Notes
1. Establishment and Maintenance	L	L	1,2
	L	M	1,2
	L	H	1,2
	L	V	1,2
	M	L	1,2
	M	M	1,3
	M	H	1,3
	M	V	1,3
	H	L	1,2
	H	M	1,3
	H	H	1,4
	H	V	1,4
	V	L	1,2
	V	M	1,3
	V	H	1,4
V	V	1,5	

*L = Low M = Medium H = High V = Very High

Notes: Lime recommendations from Lime Chart 4. The garden recommendation does not apply to Irish or sweet potatoes. The appropriate recommendation (as listed in the commercial section) should be given for these or any other garden crops not having a lime requirement to pH 6.5. Use the appropriate lime chart (i.e. for sweet potatoes the lime requirement is to pH 6.0 therefore lime chart 6 would be appropriate for recommendations in pounds per 100 square feet).

1. Apply as a sidedressing 1-1.5 lbs. of 34-0-0 or similar per 100 ft. row as follows: cucumbers, cantaloupe, pumpkins, squash and watermelon when vines are 1 foot long; tomatoes, pepper and eggplant when first fruits are 1 inch or more in diameter; sweet corn when 12-18 inches tall; okra after first picking; lettuce 3-4 weeks after seeding; broccoli, cabbage, cauliflower and brussels sprouts 3-4 weeks after transplanting. For turnip greens, spinach, collards, kale and mustard use 2-3 lbs. per 100 ft. row.
2. Broadcast 25 lbs. 6-12-12 per 1000 sq. ft. before planting.
3. Broadcast 15 lbs. 15-15-15 per 1000 sq. ft. before planting.
4. Broadcast 10 lbs. 15-15-15 per 1000 sq. ft. before planting.
5. Broadcast 5 lbs. 34-0-0 or similar per 1000 sq. ft. before planting.

Home Asparagus Production

SOIL TEST LEVELS*

Practice	Phosphate (P ₂ O ₅)	Potash (K ₂ O)	Notes
1. Establishment and Maintenance	L	L	1,5
	L	M	1,5
	L	H	1,5
	L	V	1,5
	M	L	1,5
	M	M	2,5
	M	H	2,5
	M	V	2,5
	H	L	1,5
	H	M	2,5
	H	H	3,5
	H	V	3,5
	V	L	1,5
	V	M	2,5
	V	H	3,5
V	V	4,5	

*L = Low M = Medium H = High V = Very High

Notes: Lime recommendations from Lime Chart 5

1. Broadcast before planting and annually after harvest, 4.0 pounds of 6-12-12 or equivalent per 100 square feet.
2. Broadcast before planting and annually after harvest, 3.0 pounds of 6-12-12 or equivalent per 100 square feet.
3. Broadcast before planting and annually after harvest, 2.0 pounds of 6-12-12 or equivalent per 100 square feet.
4. Broadcast before planting and annually after harvest, 0.4 pounds of 34-0-0 or similar per 100 square feet.
5. Annually, before spears emerge in the spring and after harvest supplement the above fertilizer recommendations with 1.0 pound of 34-0-0 or similar per 100 square feet. This will encourage development of large spears.

Home Garlic Production

SOIL TEST LEVELS*

Practice	Phosphate (P ₂ O ₅)	Potash (K ₂ O)	Notes
1. Establishment and Maintenance	L	L	1,5
	L	M	1,5
	L	H	1,5
	L	V	1,5
	M	L	1,5
	M	M	2,5
	M	H	2,5
	M	V	2,5
	H	L	1,5
	H	M	2,5
	H	H	3,5
	H	V	3,5
	V	L	1,5
	V	M	2,5
	V	H	3,5
V	V	4,5	

*L = Low M = Medium H = High V = Very High

Notes: Lime recommendations from Lime Chart 5.

1. Broadcast 4.0 pounds of 15-15-15 or equivalent per 100 square feet and work into the soil before planting.
2. Broadcast 3.0 pounds of 15-15-15 or equivalent per 100 square feet and work into the soil before planting.
3. Broadcast 2.0 pounds of 15-15-15 or equivalent per 100 square feet and work into the soil before planting.
4. Broadcast 1.0 pound of 34-0-0 or similar per 100 square feet and work into the soil before planting.
5. In March following fall planting, one-half (1/2) pound of 34-0-0 or similar per 100 square feet should be applied as a sidedressing.

Home Turnips

SOIL TEST LEVELS*

Practice	Phosphate (P ₂ O ₅)	Potash (K ₂ O)	Notes
1. Establishment and Maintenance	L	L	1,5
	L	M	1,5
	L	H	1,5
	L	V	1,5
	M	L	1,5
	M	M	2,5
	M	H	2,5
	M	V	2,5
	H	L	1,5
	H	M	2,5
	H	H	3,5
	H	V	3,5
	V	L	1,5
	V	M	2,5
V	H	3,5	
V	V	4,5	

*L = Low M = Medium H = High V = Very High

Notes: Lime recommendations from Lime Chart 6.

1. Broadcast 4.0 pounds of 15-15-15 or equivalent per 100 square feet and work into the soil before planting.
2. Broadcast 3.0 pounds of 15-15-15 or equivalent per 100 square feet and work into the soil before planting.
3. Broadcast 2.0 pounds of 15-15-15 or equivalent per 100 square feet and work into the soil before planting.
4. Broadcast 1.0 pound of 34-0-0 or similar per 100 square feet and work into the soil before planting.
5. In March following fall planting, one-half (1/2) pound of 34-0-0 or similar per 100 square feet should be applied as a sidedressing.

LAWN, COOL-SEASON GRASSES

SOIL TEST LEVELS*

Practice	Phosphate (P ₂ O ₅)	Potash (K ₂ O)	Notes
1. Establishment and Maintenance	L	L	1,4
	L	M	1,4
	L	H	1,4
	L	V	1,4
	M	L	1,4
	M	M	2,4
	M	H	2,4
	M	V	2,4
	H	L	1,4
	H	M	2,4
	H	H	2,4
	H	V	2,4
	V	L	1,4
	V	M	2,4
V	H	2,4	
V	V	3,4	

*L = Low M = Medium H = High V = Very High

Notes: Lime recommendations from Lime Chart 4.

1. Section A. Establishment: Apply 25 lbs. of 6-12-12 at seeding only, or 13 lbs of 8-8-8 or 10 lbs. of 10-10-10 or 7.0 lbs. of 15-15-15 per 1000 sq. ft. at seeding and again six weeks later if seeded before Sept. 15 in the fall or Mar.1 in the spring. Fall establishment is preferable. A slow release (60 day) form of nitrogen may give best results. Select an appropriate maintenance schedule (see section B below) and begin following that schedule the very next spring or fall season after lawn establishment, until you soil test again.

Section B. Maintenance of Established Lawns: Choose one level of maintenance to follow. The lowest maintenance level will require less frequent mowing but may be more weedy and not always maintain the quality of lawn desired.

Your soil P and/or K levels are low to medium. These fertilizer maintenance levels should, over time, build your soil out of the low testing range for P and K. However, if grass clippings are continually removed, K levels may stay in the low or medium testing range. This is normal, but increases the importance of not missing any of the fall maintenance applications.

I. Highest Level Maintenance of an established lawn (Availability and Proper Use of Irrigation is preferred when using this maintenance level): (1) Topdress annually Sept. 1 and Oct. 15 and Nov. 15 with 13 lbs of 8-8-8 or 10 lbs. of 10-10-10 or 7.0 lbs. of 15-15-15 per 1000 sq. ft. (2) Topdress

annually Mar. 15 and Apr. 15 with 3.1 lbs of 16-4-8 or 1.75 lbs. of 34-0-0 or 28-3-3 or 29-3-4 or 28-4-6 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft.

If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen, then the Sept. and Oct. applications may be combined and spread as one application in Sept. and the Mar. and Apr. applications may be combined and spread as one application in Mar. Follow this schedule for 2 growing seasons, then soil test again..

II. Medium Level Maintenance of an established lawn: Topdress annually Sept. 1 and Oct. 15 and Mar 15 with 13 lbs of 8-8-8 or 10 lbs. of 10-10-10 or 7.0 lbs. of 15-15-15 per 1000 sq. ft.

If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen then the Sept. and Oct. applications may be combined and spread as one application in Sept. Follow this schedule for 3 growing seasons, then soil test again

III. Lowest Level Maintenance of an established lawn: Topdress annually Sept. 1 and Mar 1 with 13 lbs of 8-8-8 or 10 lbs. of 10-10-10 or 7.0 lbs. of 15-15-15 per 1000 sq. ft.

A fertilizer containing at least 30 percent of a slow release (60 day) form of nitrogen may give the best results. Follow this schedule for 4 growing seasons, then soil test again

2. **Section A. Establishment:** Apply 25 lbs. 6-12-12 at seeding only, or 13 lbs. of 8-8-8 or 10 lbs. 10-10-10 or 7.0 lbs. of 15-15-15 per 1000 sq. ft. at seeding and again six weeks later if seeded before Sept. 15 in the fall or Mar.1 in the spring. Fall establishment is preferable. A slow release form of nitrogen may give the best results. Select an appropriate maintenance schedule (see section B below) and begin following that schedule the very next spring or fall season after lawn establishment

Section B. Maintenance of Established Lawns: Choose one level of maintenance to follow. Lowest maintenance level will require less frequent mowing but may be more weedy and not always maintain the quality of lawn desired.

Your soil P and/or K levels are medium to high. These fertilizer maintenance levels should build your soil out of the medium testing range for P and K. However, if grass clippings are continually removed, K may stay at the current level or decline. This is normal, but increases the importance of not missing any of the fall maintenance applications.

I. Highest Level Maintenance of an established lawn (Availability and Proper Use of Irrigation is preferred when using this maintenance level): (1) Topdress annually Sept. 1 and Oct. 15 with 12 lbs. of 8-8-8 or 10 lbs. of 10-10-10 or 7.0 lbs. of 15-15-15 or 5 pounds of 21-8-12 or 20-10-10 per 1000 sq. ft. (2) Topdress annually Nov. 15 with 3.5 lbs. and (Mar. 1 and Apr. 15) with 1.75 lbs. of 34-0-0 or 30-3-4 or 28-3-3 or 29-3-4 or 28-4-6 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft.

If the fertilizer material contains a slow release (60 day) form of nitrogen then the Sept. and Oct. applications may be combined and spread as one application in Sept. and the Mar. and Apr. applications may be combined and spread as one application in Mar. Follow this schedule for 2 growing seasons, then soil test again.

II. Medium Level Maintenance of an established lawn: Topdress annually Sept. 1 and Oct. 15 and Mar 1 with 13 lbs 8-8-8 or 10 lbs. of 10-10-10 or 7.0 lbs. of 15-15-15 or 5 pounds of 21-8-12 or 20-10-10 per 1000 sq. ft. If a fertilizer material containing a slow release (60 day) form of nitrogen is used then the Sept. and Oct. applications can be combined and spread as one application in Sept. Follow this schedule for 3 growing seasons, then soil test again.

III. Lowest Level Maintenance of an established lawn: Topdress annually Sept. 1 and Mar. 1 with 13 lbs of 8-8-8 or 10 lbs. of 10-10-10 or 7.0 lbs. of 15-15-15 or 5.0 pounds of 21-8-12 or 20-10-10 per 1000 sq. ft. A fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen

may give the best results. Follow this schedule for 4 growing seasons, then soil test again.

3. **Section A. Establishment:** Apply 6.2 lbs. of 16-4-8 or 5.5 lbs. of 18-2-9 or 4.7 lbs of 21-8-12 or 22-4-14 or 4.2 lbs. of 24-5-11 or less preferably use 12.5 lbs. of 8-8-8 or 10 lbs. 10-10-10 or 6.6 lbs. of 15-15-15 per 1000 sq. ft. at seeding. Fall establishment is preferable. A slow release form of nitrogen may give the best results. Select an appropriate maintenance schedule (see section B below) and begin following that schedule the very next spring or fall season after lawn establishment

Section B. Maintenance of Established Lawns: Choose one level of maintenance to follow. Lowest maintenance level will require less frequent mowing but may be more weedy and not always maintain the quality of lawn desired.

Your soil P and/or K levels are high to very high. These fertilizer maintenance levels should maintain your soil in the high testing range for P and K. However, if grass clippings are continually removed, K levels may decline to the low or medium testing range. This is normal, but increases the importance of not missing any of the fall maintenance applications.

I. Highest Level Maintenance of an established lawn (Availability and Proper Use of Irrigation is preferred when using this maintenance level): (1) Topdress annually Sept. 1 with 6.2 lbs. of 16-4-8 or 5.5 lb 18-2-18 or 18-2-9 or 5 lbs 21-8-12 or 22-4-14 or 4 lb 24-5-11 or 3.6 lb 28-3-6 per 1000 sq. ft. Less preferably, use 12.5 lbs. of 8-8-8 or 10 lbs. of 10-10-10 or 7 lbs. of 15-15-15 per 1000 sq. ft. (2) Topdress annually (Oct. 15 and Nov. 15) with 3.5 lbs and (Mar. 1 and Apr. 15) with 1.75 lbs. of 34-0-0 or 30-3-4 or 28-3-3 or 29-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft.

If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen then the Oct. and Nov. applications may be combined and spread as one application in Oct. and the Mar. and Apr. applications may be combined and spread as one application in Mar. Follow this schedule for 2 growing seasons, then soil test again..

II. Medium Level Maintenance of an established lawn:

(1)Topdress annually Sept. 1 with 6.2 lbs. of 16-4-8 or 5.5 lb 18-2-18 or 18-2-9 or 5 lbs 21-8-12 or 22-4-14 or 4 lb 24-5-11 or 3.6 lb 28-3-6 per 1000 sq. ft. Less preferably, use 12.5 lbs. of 8-8-8 or 10 lbs of 10-10-10 or 7 lbs of 15-15-15 per 1000 sq. ft. (2) Topdress annually Oct. 15) with 3.5 lbs and (Mar. 1 and Apr. 15)with 1.75 lbs. of 34-0-0 or 30-3-4 or 28-3-3 or 29-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft.

If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen the Mar. and Apr. applications may be combined and spread as one application in Mar. Follow this schedule for 3 growing seasons, then soil test again..

III. Lowest Level Maintenance of an established lawn:

(1) Topdress annually Sept.. 1 and Mar. 1 with 6.2 lbs. of 16-4-8 or 5.5 lb 18-2-18 or 18-2-9 or 5.0 lbs 21-8-12 or 22-4-14 or 4.0 lbs. 24-5-11 or 7.2 lbs. 28-3-6 per 1000 sq. ft. Less preferably, use 12.5 lbs of 8-8-8 or 10 lbs of 10-10-10 or 7.0 lbs of 15-15-15 per 1000 sq. ft.

A fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen may give the best results. Follow this schedule for 4 growing seasons, then soil test again

4. **Section A. Establishment:** Apply 4.4 lbs. of 34-0-0 or 5.0 lbs. of 30-3-4 or 5.4 lbs. of 28-3-3 or 29-3-4 per 1000 sq. ft. Fall establishment is preferable. A slow release form of nitrogen may give the best results. Select an appropriate maintenance schedule (see section B below) and begin following that schedule the very next spring or fall season after lawn establishment

Section B. Maintenance of Established Lawns: Choose one level of maintenance to follow. Lowest

maintenance level will require less frequent mowing but may be more weedy and not always maintain the quality of lawn desired.

Your soil P and K levels are very high. These fertilizer maintenance levels should maintain your soil in a high to very high testing range for P and K. However, if grass clippings are continually removed K levels may decline to the low or medium testing range. This is normal but makes it more important to soil test regularly.

I. Highest Level Maintenance of an established lawn (Availability and Proper Use of Irrigation is preferred when using this maintenance level): Topdress annually Sept. 1 and Oct. 15 and Nov. 15 with 3.5 lbs and (Mar. 1 and Apr. 15)with 1.75 lbs. of 34-0-0 or 28-3-3 or 29-3-4 or 30-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft.

If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen then the Sept. and Oct. applications may be combined and spread as one application in Sept. and the Mar. and Apr. applications may be combined and spread as one application in Mar. Follow this schedule for 2 growing seasons, then soil test again..

II. Medium Level Maintenance of an established lawn:

Topdress annually Sept. 1 and Oct. 15 with 3.5 lbs and (Mar. 1 and Apr. 15)with 1.75 lbs. of 34-0-0 or 28-3-3 or 29-3-4 or 30-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft. If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen the Sept. and Oct. applications may be combined and spread as one application in Sept. and the Mar. and Apr. applications may be combined and spread as one application in Mar. Follow this schedule for 3 growing seasons, then soil test again

III. Lowest Level Maintenance of an established lawn:

Topdress annually Mar. 1 and Sept. 1 with 7.0 lbs of 34-0-0 or 28-3-3 or 29-3-4 or 30-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft.

A fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen may give the best results. Follow this schedule for 4 growing seasons, then soil test again

Lawn, Warm Season (Bermudagrass, Zoysia)

SOIL TEST LEVELS*

Practice	Phosphate (P ₂ O ₅)	Potash (K ₂ O)	Notes
1. Establishment and Maintenance	L	L	1
	L	M	1
	L	H	1
	L	V	2
	M	L	2
	M	M	2
	M	H	3
	M	V	3
	H	L	3
	H	M	3
	H	H	4
	H	V	4
	V	L	3
	V	M	3
	V	H	4
V	V	4	

*L = Low M = Medium H = High V = Very High

Notes: Lime recommendations from Lime Chart 4.

1. **Section A. Establishment (bermuda, Zoysia, centipede):** For bermuda, apply 25 lbs. of 6-12-12 at seeding, sprigging only, or 19 lbs of 8-8-8 or 15 lbs. of 10-10-10 or 10 lbs. of 15-15-15 per 1000 sq. ft. at seeding or sprigging and again six weeks later. At each application, use 25 percent less fertilizer for *Zoysia* or 50 percent less fertilizer for **centipede** fertilization. A slow release (60 day) form of nitrogen may give best results. Select an appropriate maintenance schedule (see section B below) and begin following that schedule the very next spring season after lawn establishment, until you soil test again.

Section B. Maintenance of Established Lawns (bermuda, Zoysia, centipede): Choose one level of maintenance to follow. The lowest maintenance level will require less frequent mowing but may be more weedy and not always maintain the quality of lawn desired. Your soil P and/or K levels are low to medium. These fertilizer maintenance levels should, over time, build your soil out of the low testing range for P and K. However, if grass clippings are continually removed, K levels may stay in the low or medium testing range. This is normal, but increases the importance of not missing any of the maintenance applications.

I. Highest Level Maintenance of an established lawn (Availability and Proper Use of Irrigation is preferred when using this maintenance level): For bermuda (1) Topdress annually Apr. 15 and Sept. 1 with 13 lbs of 8-8-8 or 10 lbs. of 10-10-10 or 7 lbs. of 15-15-15 per 1000 sq. ft. (2) Topdress annually June 1 and July 15 with 6.2 lbs of 16-4-8 or 3.5 lbs. of 34-0-0 or 30-3-4 or 28-3-3 or 29-3-4 or 28-4-6 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft. If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen then the June and July applications may be combined and spread as one application in June

For *Zoysia*, use 25 percent less fertilizer at each application, as indicated above for bermuda. For **centipede**, fertilize only in Apr. and July using the same materials and rates indicated above for bermuda in those months. Follow this schedule for 2 growing seasons, then soil test again.

II. Medium Level Maintenance of an established lawn: For bermuda (1) Topdress annually Sept. 1 and Apr. 15 and June 1 with 13 lbs of 8-8-8 or 10 lbs. of 10-10-10 or 7 lbs. of 15-15-15 per 1000 sq. ft. At each application, use 25 percent less fertilizer for *Zoysia* fertilization. For **centipede** fertilize only in Apr. and July using 25 percent less fertilizer than suggested above for bermuda in Apr. If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen then the Apr. and June applications may be combined and spread as one application in Apr. Follow this schedule for 3 growing seasons, then soil test again

III. Lowest Level Maintenance of an established lawn: For bermuda

(1) Topdress annually Apr. 15 and June 1 with 13 lbs of 8-8-8 or 10 lbs. of 10-10-10 or 7 lbs. of 15-15-15 per 1000 sq. ft. A fertilizer containing at least 30 percent of a slow release (60 day) form of nitrogen may give the best results. Use 15 percent less fertilizer for *Zoysia* and 30 percent less fertilizer for **centipede** fertilization. Follow this schedule for 4 growing seasons, then soil test again.

2. Section A. Establishment (bermuda, Zoysia, centipede): For bermuda, apply 25 lbs. 6-12-12 at seeding or sprigging only, or 19 lbs. of 8-8-8 or 15 lbs. 10-10-10 or 10 lbs. of 15-15-15 per 1000 sq. ft. at seeding or sprigging and again six weeks later. At each application, use 25 percent less fertilizer for *Zoysia* or 50 percent less fertilizer for **centipede** fertilization. A slow release form of nitrogen may give the best results. Select an appropriate maintenance schedule (see section B below) and begin following that schedule the very next spring after lawn establishment

Section B. Maintenance of Established Lawns (bermuda, Zoysia, centipede): Choose one level of maintenance to follow. Lowest maintenance level will require less frequent mowing but may be more weedy and not always maintain the quality of lawn desired.

Your soil P and/or K levels are medium to high. These fertilizer maintenance levels should build your soil out of the medium testing range for P and K. However, if grass clippings are continually removed, K levels may stay at the current level or actually decline. This is normal, but increases the importance of not missing any of the maintenance applications.

I. Highest Level Maintenance of an established lawn (Availability and Proper Use of Irrigation is preferred when using this maintenance level): For bermuda (1) Topdress annually Apr. 15 and Sept. 1 with 12 lbs. of 8-8-8 or 10 lbs. of 10-10-10 or 7 lbs. of 15-15-15 or 5 pounds of 21-8-12 or 22-4-14 or 20-10-10 per 1000 sq. ft. (2) Topdress annually June 1 and July 15 with 3.5 lbs. of 34-0-0 or 30-3-4 or 28-3-3 or 29-3-4 or 28-4-6 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft. If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen then the June and July applications may be combined and spread as one application in June.

For *Zoysia*, use 25 percent less fertilizer at each application, as indicated above for bermuda.

For **centipede**, fertilize only in Apr. and July using the same materials and rates indicated above for bermuda in those months. Follow this schedule for 2 growing seasons, then soil test again.

II. Medium Level Maintenance of an established lawn: For bermuda (1) Topdress annually Apr. 15 and June 1 and July 15 with 10 lbs. of 10-10-10 or 7 lbs. of 15-15-15 or 5 pounds of 21-8-12 or 22-4-14 or 20-10-10 per 1000 sq. ft. At each application, use 25 percent less fertilizer for *Zoysia* fertilization. For **centipede** fertilize only in Apr. and July using 25 percent less fertilizer than suggested above for bermuda in Apr. If a fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen is used then the June and July applications can be combined and spread as one application in June Follow this schedule for 3 growing seasons, then soil test again.

III. Lowest Level Maintenance of an established lawn: Topdress annually Apr.15 and June 1 with 10 lbs. of 10-10-10 or 7 lbs. of 15-15-15 or 5 pounds of 21-8-12 or 22-4-14 or 20-10-10 per 1000 sq. ft. A fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen may give the best results. Use 15 percent less fertilizer for *Zoysia* and 30 percent less fertilizer **for centipede** fertilization. Follow this schedule for 4 growing seasons, then soil test again

3. **Section A. Establishment (bermuda, *Zoysia*, centipede):**For bermuda, apply 10 lbs. of 16-4-8 or 8 lbs. of 18-2-9 or 7 lbs. of 21-8-12 or 22-4-14 or 6 lbs. of 24-5-11 or Less preferably use 19 lbs. of 8-8-8 or 15 lbs. 10-10-10 or 10 lbs. of 15-15-15 per 1000 sq. ft. at seeding or sprigging. At each application, use 25 percent less fertilizer for *Zoysia* or 50 percent less fertilizer for **centipede** fertilization. A slow release form of nitrogen may give the best results. Select an appropriate maintenance schedule (see section B below) and begin following that schedule the very next fall or spring season after lawn establishment.

Section B. Maintenance of Established Lawns (bermuda, *Zoysia*, centipede): Choose one level of maintenance to follow. Lowest maintenance level will require less frequent mowing but may be more weedy and not always maintain the quality of lawn desired.

Your soil P and/or K levels are high to very high. These fertilizer maintenance levels should maintain your soil in the high testing range for P and K. However, if grass clippings are continually removed, K levels may decline to the low or medium testing range. This is normal, but increases the importance of not missing any of the fall maintenance applications.

I. Highest Level Maintenance of an established lawn (Availability and Proper Use of Irrigation is preferred when using this maintenance level): For bermuda (1) Topdress annually Sept. 1 with 6.2 lbs. of 16-4-8 or 5.5 lb 18-2-18 or 18-2-9 or 5 lbs 21-8-12 or 4.5 lbs. of 22-4-14 or 4.2 lb of 24-5-11 or 3.6 lb of 28-3-6 1000 sq. ft. Less preferably, use 10 lbs. of 10-10-10 or 7 lbs. of 15-15-15 per 1000 sq. ft. (2) Topdress annually Apr. 15 and June 1 and July 15 with 3.5 lbs of 34-0-0 or 30-3-4 or 28-3-3 or 29-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft. If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen then the June and July applications may be combined and spread as one application in June.

For *Zoysia*, use 25 percent less fertilizer at each application indicated above for bermuda.

For **centipede**, fertilize only in Apr. and July using the same materials and rates indicated above for bermuda in those months. Follow this schedule for 2 growing seasons, then soil test again.

II. Medium Level Maintenance of an established lawn:

(1) Topdress bermuda annually Sept. 1 with 6.2 lbs. of 16-4-8 or 5.5 lb 18-2-18 or 18-2-9 or 5 lbs 21-8-12 or 22-4-14 or 4.2 lb 24-5-11 or 3.6 lb of 28-3-6 per 1000 sq. ft. Less preferably, use 10 lbs of 10-10-10 or 7 lbs of 15-15-15 per 1000 sq. ft. (2) Topdress annually Apr. 15 and June 1 with 3.5 lbs of 34-0-0 or 28-3-3 or 29-3-4 or 30-3-4 or 6.2 lbs. of 16-4-8 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft. At each application, use 25 percent less fertilizer for *Zoysia* fertilization. For **centipede** fertilize only in Apr. and July using 25 percent less fertilizer than suggested above for bermuda in Apr. If a fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen is used then the June and July applications can be combined and spread as one application in June Follow this schedule for 3 growing seasons, then soil test again.

III. Lowest Level Maintenance of an established lawn:

(1) Topdress annually Apr. 15 with 6.25 lbs. of 16-4-8 or 5.5 lb 18-2-18 or 18-2-9 or 5.0 lbs of 21-8-12 or 22-4-14 or 4.0 lbs. of 24-5-11 or 3.1 lbs. of 28-3-6 per 1000 sq. ft. Less preferably, use 10 lbs of 10-10-10 or 7.0 lbs of 15-15-15 per 1000 sq. ft. A fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen may give the best results. Use 15 percent less fertilizer for *Zoysia* and 30 percent less fertilizer **for centipede** fertilization. Follow this schedule for 4 growing seasons, then soil test again

4. Section A. Establishment (bermuda, Zoysia, centipede): Apply 4.4 lbs. 34-0-0 or 5.0 lbs. of 30-3-4 or 5.4 lbs. 28-3-3 or 29-3-4 or similar materials low in P and K per 1000 sq. ft. at the time of seeding or sprigging. At each application, use 25 percent less fertilizer for *Zoysia* or 50 percent less fertilizer for **centipede** fertilization. A slow release form of nitrogen may give the best results. Select an appropriate maintenance schedule (see section B below) and begin following that schedule the very next fall or spring after lawn establishment

Section B. Maintenance of Established Lawns (bermuda, Zoysia, centipede): Choose one level of maintenance to follow. Lowest maintenance level will require less frequent mowing but may be more weedy and not always maintain the quality of lawn desired.

Your soil P and K levels are very high. These fertilizer maintenance levels should maintain your soil in a high to very high testing range for P and K. However, if grass clippings are continually removed K levels may decline to the low or medium testing range. This is normal but makes it more important to soil test regularly.

I. Highest Level Maintenance of an established lawn (Availability and Proper Use of Irrigation is preferred when using this maintenance level): For bermuda (1) Topdress annually Apr. 15 and June 1 and Jul. 15 and Sept. 1 with 3.5 lbs. of 34-0-0 or 30-3-4 or 28-3-3 or 29-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft. If the fertilizer material contains at least 30 percent of a slow release (60 day) form of nitrogen then the Apr. and June applications may be combined and spread as one application Apr. 15. and the July and Sept.. applications may be combined and spread as one application in July.

For *Zoysia*, use 25 percent less fertilizer at each application indicated above for bermuda.

For **centipede**, fertilize only in Apr. and July using the same materials and rates indicated above for bermuda in those months. Follow this schedule for 2 growing seasons, then soil test again..

II. Medium Level Maintenance of an established lawn:

Topdress annually Apr. 15 and Jun. 1 and Sept. 1 with 3.5 lbs of 34-0-0 or 28-3-3 or 29-3-4 or 30-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft. At each application, use 25 percent less fertilizer for *Zoysia* fertilization. For **centipede** fertilize only in Apr. and July using 25 percent less fertilizer than suggested above for bermuda in Apr. If a fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen is used then the June and July applications can be combined and spread as one application in June. Follow this schedule for 3 growing seasons, then soil test again.

III. Lowest Level Maintenance of an established lawn:

Topdress annually Apr. 15 with 7.0 lbs of 34-0-0 or 28-3-3 or 29-3-4 or 30-3-4 or other fertilizer material of a similar ratio (very low P and K content) per 1000 sq. ft. A fertilizer material containing at least 30 percent of a slow release (60 day) form of nitrogen may give the best results. Use 15 percent less fertilizer for *Zoysia* and 30 percent less fertilizer for **centipede** fertilization. Follow this schedule for 4 growing seasons, then soil test again