

Soil Nutrient Analysis Laboratory

Soil Nutrient Analysis • Laboratory, 6 Sherman Place, Unit 5102, Storrs, CT 06269-5102 • Phone: 860-486-4274, Fax: 860-486-4562
Location: Union Cottage, Depot Campus, Mansfield



SOIL TEST RESULTS FOR AGRONOMIC CROPS

Soil test values are reported as pounds per acre under Ca (calcium), Mg (magnesium), P (phosphorus), and K (potassium). These values correspond to **below optimum**, **optimum** and **above optimum** levels of these nutrients as indicated in the following table. Soil test levels in the optimum categories are best for plant growth and for the environment.

Rating	Ca	Mg	P	K
Below Optimum	0-1799	0-174	0-13	0-249
Optimum	1800-2399	175-249	14-20	250-349
Above Optimum	2400-3400+	250-400+	21-35+	350-500+

FIELD CORN

Note 1: Starter is recommended. Apply, through the planter, a fertilizer with a relatively high P_2O_5 content such as 10-20-10 or monoammonium phosphate (11-52-0). Do not exceed 80 to 100 lbs/A of N + K_2O in the starter band; e.g., 400- 500 lbs/A of 10-20-10.

The recommendation for phosphorus (P) on the soil test printout is for broadcast P. Because phosphorus in starter is more efficiently used than broadcast P, any starter P used should be applied at two-thirds the rate of broadcast P.

Example 1: Recommendation on soil test printout calls for 60 lbs P_2O_5 /A. If starter is used to supply all of the recommended P_2O_5 , apply two-thirds of 60 or 40 lbs P_2O_5 /A as starter.

Example 2: Soil test printout calls for 120 lbs P_2O_5 /A. The grower plans to apply 60 lbs P_2O_5 /A through the planter. The 60 lbs P_2O_5 /A via starter is equivalent to 90 lbs P_2O_5 /A broadcast (two-thirds of 90 is 60). The amount to broadcast is 120 - 90 = 30 lbs P_2O_5 /A.

Note 2: A. Planting on or before May 15: Follow suggestions for starter given in Note 1 above. Do not exceed 30-40 lbs P_2O_5 /A.

B. Planting after May 15: Crop response to starter fertilizer is not likely.

Note 3: Soil test P is very high. Starter fertilizer is not recommended.

Note 4: Total nutrients recommended can be applied in combinations of broadcast, starter, and/or sidedressing.

Example:

	N	P_2O_5	K_2O
Total nutrients recommended(soil test results)	140	90	120
Starter (20 lbs N, 40 lbs P_2O_5 , 20 lbs K_2O /A)	20	60	20
Balance	120	30	100

Contact your local Cooperative Extension Educator with questions concerning your soil test report and fertilizer recommendations, or for management suggestions.

Residents of Litchfield, Hartford, Fairfield or New Haven counties

can contact:

Richard Meinert, Cooperative Extension Educator
Torrington Extension Center
1304 Winsted Rd. Torrington, CT 06790 860-626-6240

Residents of Tolland, Windham, New London or Middlesex counties can contact:

Joyce Meader, Dairy/Livestock Cooperative Extension Educator
Brooklyn Cooperative Extension Center
139 Wolfden Rd. Brooklyn, CT 06234 860-774-9600



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DEPARTMENT OF PLANT SCIENCE
COOPERATIVE EXTENSION SYSTEM

Recommended N Fertilization Practices for Corn

A. Manured fields: Apply no nitrogen before planting (preplant N). When the corn is 6 to 12 inches tall, apply as a sidedressing or topdressing the amount of N recommended on the soil test printout (minus any starter N) OR the amount recommended by the presidedress (June) soil nitrate test (PSNT)

B. Unmanured fields: Apply no more than half of the N recommended on the soil test result before planting. Apply the balance of the N OR the amount of N recommended by the PSNT as a sidedressing or topdressing when corn is 6 to 12 inches tall.

Note 5: Nutrient credits for manure and mycelium.

Material	Credits* per ton or 1000 gal of material applied			
	lbs N	lbs P ₂ O ₅	lbs K ₂ O	Basis
Cow manure	5	3	6	per ton
Liquid cow manure / Poultry manure	16	14	19	per 1000 gal
(1) fresh, wet, sticky; 20-40% D.M.	16	20	12	per ton
(2) moist, crumbly to sticky; 41-60% D.M.	22	40	24	per ton
(3) crumbly-dry; 61-80% D.M.	32	55	36	per ton
Liquid poultry	26	30	15	per 1000 gal

**Credits for N should be reduced by 50% if the material is not incorporated within two weeks. Credits for N should be increased by 20% if the material is applied fresh within two months of planting and is incorporated within one day of spreading.*

LEGUME SEEDINGS

Note 6: Management suggestions for soils presently too low in pH for no-till legume seedings:

- A. For soils with little or no erosion hazard and a soil pH of less than 5.5. If the limestone recommendation is less than 3 tons per acre, surface apply all the limestone and incorporate by conventional tillage methods. If 3 tons/A or more limestone is recommended apply half the limestone at plowdown and half to the seedbed.
- B. For soils with moderate to high erosion potential with established vegetation. If the limestone recommendation is less than 3 tons per acre, surface apply all of the limestone as soon as possible. If the recommended limestone is 3 tons per acre or more, surface apply 2 tons or half the recommended amount, whichever is greater, as soon as possible. After six months or more, apply the balance of the recommended lime. Make the desired seeding when soil pH has been increased sufficiently (6.0 or above for alfalfa, 5.6 or above for legumes other than alfalfa).
- C. For soils with moderate to high erosion potential and no existing vegetation. If the limestone recommendation is less than 3 tons per acre, surface apply all the limestone as soon as possible. If the limestone recommendation is 3 tons per acre or more, surface apply 2 tons or half the recommended amount, whichever is greater, as soon as possible. Make a no-till seeding of corn, millet or some other annual crop. (Call your local Cooperative Extension educator for fertilizer recommendations). Surface apply the balance of the recommended limestone after harvesting the annual crop. Make the desired no-till seeding when soil pH has been increased sufficiently (6.0 or above for alfalfa, 5.6 or above for legumes other than alfalfa).

	Amount not to exceed per acre
Cow	30 T or 900 bu or 1100cu. ft.
Liquid Cow	10,000 gal
Poultry (fresh; wet-sticky, 20-40% D. M.)	8 T or 230 bu or 290 cu. ft.
Poultry (sticky-crumbly, 41-60% D. M.)	6 T or 220 bu or 270 cu. ft.
Poultry (crumbly-dry; 61-80% D. M.)	4 T or 190 bu or 240 cu.ft.

Written by Gary Griffin, Professor Emeritus. Updated in 2004 by Dawn Pettinelli, Manager, Soil Nutrient Analysis Laboratory and Thomas Morris, Assistant Professor, Department of Plant Science.

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