



INSTRUCTIONS FOR MAKING FERTILIZER RECOMMENDATIONS BASED ON KEY-AG SOIL TEST RESULTS

Phosphorus and Potassium Recommendations

- (1) Buildup: Use your P or K soil test values and the respective "Buildup" table to determine lbs/A of Buildup to apply.
- (2) Maintenance: Use your crop and yield goal and the "Maintenance" table to determine lbs/A of maintenance to apply.
- (3) Total Recommendations: Add (1) and (2) to obtain your fertilizer nutrient recommendation.

$$\text{Lb/A P}_2\text{O}_5 \text{ per year} = \text{Buildup P}_2\text{O}_5 + \text{Maintenance P}_2\text{O}_5$$

$$\text{Lb/A K}_2\text{O per year} = \text{Buildup K}_2\text{O} + \text{Maintenance K}_2\text{O}$$

POTASSIUM BUILDUP TABLE

Soil Test K LBS/A	K ₂ O Buildup Required (LBS/A)			
	Soil 1	Soil 2	Soil 3	Soil 4
0	345	320	295	270
10	335	310	285	260
20	325	300	275	250
30	315	290	265	240
40	305	280	255	230
50	295	270	245	220
60	285	260	235	210
70	275	250	225	200
80	265	240	215	190
90	255	230	205	180
100	245	220	195	170
110	235	210	185	160
120	225	200	175	150
130	215	190	165	140
140	205	180	155	130
150	195	170	145	120
160	185	160	135	110
170	175	150	125	100
180	165	140	115	90
190	155	130	105	80
200	145	120	95	70
210	135	110	85	60
220	125	100	75	50
230	115	90	65	40
240	105	80	55	30
250	95	70	45	20
260	85	60	35	10
270	75	50	25	0
280	65	40	15	
290	55	30	5	
300	45	20	0	
310	35	10		
320	25	0		
330	15			
340	5			
350	0			

PHOSPHORUS BUILDUP TABLE

Soil Test P LBS/A	P ₂ O ₅ Buildup Required (LBS/A)
4	92
6	88
8	83
10	79
12	74
14	70
16	65
18	61
20	56
22	52
24	47
26	43
28	38
30	34
32	29
34	25
36	20
38	16
40	11
42	7
44	2
45	0

NOTE: Maintenance application of P₂O₅ is required for P test of 45-65. Maintenance is recommended for P tests of 65-100 if the farmer wants to hold his soil test level. No P₂O₅ should be applied if P test is greater than 100.

MAINTENANCE FERTILIZER TABLE

Yield Bu or T/A	P ₂ O ₅ LBS/A	K ₂ O LBS/A
Corn Grain		
90 bu	39	25
100	43	28
110	47	31
120	52	34
130	56	36
140	60	39
150	64	42
160	69	45
170	73	48
180	77	50
190	82	53
200	86	56
Oats		
50 bu	19	10
60	23	12
70	27	14
80	30	16
90	34	18
100	38	20
110	42	22
120	46	24
130	49	26
140	53	28
150	57	30
Soybeans		
30 bu	26	39
40	34	52
50	42	65
60	51	78
70	60	91
80	68	104
90	76	117
100	85	130
Corn Silage		
90 bu; 18 T	48	126
100 bu; 20 T	53	140
110 bu; 22 T	58	154
120 bu; 24 T	64	168
130 bu; 26 T	69	182
140 bu; 28 T	74	196
150 bu; 30 T	80	210
Wheat		
30 bu	27	9
40	36	12
50	45	15
60	54	18
70	63	21
80	72	24
90	81	27
100	90	30
110	99	33
Alfalfa, Grass or Alfalfa-grass mixtures		
2 T	24	100
3	36	150
4	48	200
5	60	250
6	72	300
7	84	350
8	96	400
9	108	450
10	120	500

SOIL GROUP - - CEC TABLE

SOIL	CEC	DESCRIPTION
1	24.1+	Dark colored (4.5+ %OM*) silty clays and silty clay loams.
2	15.1 - 24	Light and medium (0-4.5 % OM) colored silty clays and silty clay loams; dark (4.5+%OM) silt and clay loams.
3	8.1 - 15	Light and medium (0-4.5 %OM) colored silt and clay loams; dark and medium (2.5+ %OM) colored loams; dark (4.5+ %OM) sandy loams.
4	0 - 8	Light colored (0-2.5 %OM) loams; light and medium (0-4.5%OM) sandy loams, all sands)
5		Muck or Peat Soil

NOTE: *OM = organic matter

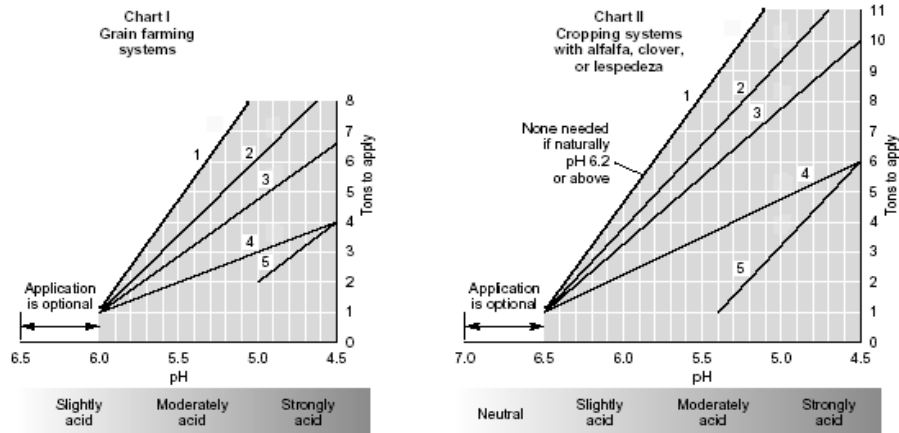
NOTE: Maintenance application of K₂O is recommended for K tests above 350 on soil 1, 320 on soil 2, 300 on soil 3, and 270 on soil 4 up to 600 lbs/A. Above 600 lbs. K test, K₂O is not needed except on soil 4. Always put maintenance on soil 4.

Suggested % Base Saturation Levels

- K = 2.5 - 5.0% (8% for Soil 4)
- Ca = 65% +
- Mg = 10% +

Limestone Recommendations

Use the Limestone Charts to determine limestone recommendations for your Soil Group and Soil pH. Chart I is to maintain pH above 6.0 and Chart II above pH 6.5.



Micronutrient (including Sulfur) Recommendations

Use your soil test result in ppm and the "Micronutrient" table to determine the lbs/A of elemental micronutrient to apply.

MICRONUTRIENT RECOMMENDATION TABLE

Micronutrient	Extraction Method	Soil Test Value ppm	Recommendations ¹ lbs/A	
			pH ≤ 6.8	pH > 6.8
Sulfur ²	Ca(H ₂ PO ₄) ₂	0 - 4	20	
		5 - 9	10	
		10+	0	
Boron ²	Hot water soluble	0 - 0.4	1	
		0.5 - 0.9	0.5	
		1+	0	
Copper	0.1 N HCL	0 - 0.3	2	
		0.4 - 0.8	1	
		0.9+	0	
Zinc	0.1 N HCL	0 - 2	4	5
		3 - 4	2	3
		5+	0	0
Manganese	0.1 N HCL	0 - 10	4	5
		11 - 19	2	3
		20+	0	0
Iron	0.1 N HCL	0 - 5	3	4
		6 - 14	2	3
		15+	0	0

¹ Above recommendations are given in lbs/A of inorganic material. If chelates are used, follow the manufacturers directions or 1/3 the above rate.

² For alfalfa, broadcast 2 times the amount of sulfur and/or boron recommended above.

NOTE: These recommendations are to be considered only as guidelines. Research relating micronutrients soil test values to micronutrient recommendations is very limited for midwest conditions



Key Agricultural Services, Inc.

114 Shady Lane • Macomb, Illinois 61455 • Tel: (309) 833-1313