

STANDARD  $P_{25}O_5$  AND  $K_2O$  FERTILIZER RECOMMENDATIONS  
AND SOIL TEST BREAK POINTS  
FOR CORN, SOYBEANS, AND SMALL GRAINS

MID-ATLANTIC SOIL TEST WORK GROUP

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Prepared by S. J. Donohue, VPI&SU

At the March, 1978 meeting of the Mid-Atlantic Soil Test Work Group, critical soil test levels and fertilizer recommendations were compared and extensively discussed in an effort to increase uniformity in fertilizer recommendations in this region. From these discussions, critical soil test levels were defined for the region and standard  $P_{25}O_5$  and  $K_2O$  fertilizer recommendations were developed. Tables 1 and 2 contain the present soil test levels and recommendations currently in use. Tables 3 and 4 contains the standard soil test levels and recommendations that were developed.

These recommendations are for gradual implementation by the states in this group, and both recommendations and critical soil test levels will serve as a basis for future work in this area.

Table 1. Comparison of P Recommendations and Soil Test Breakoff Points for Corn (100 bu) \*

	SC									
	Sandy, C. Loamy, F. Loamy					VA	WVA	MD	NJ	DEL
Max. lbs P <sub>2</sub> O <sub>5</sub> /A Recommended at 0 Soil Test P	NC	Clayey	100	80	100	120	110	110	120	160
Soil Test P Level (mg/dm <sup>3</sup> ) of No Further Crop Response	23	13	19	22	32	16-30	30	30?	40-45	
Lbs P <sub>2</sub> O <sub>5</sub> /A Recommended at Point of No Further Crop Response	60	50	50	40	50	80-50	45	45	45	
Soil Test P Level (mg/dm <sup>3</sup> ) Above Which No Further P <sub>2</sub> O <sub>5</sub> Recommended	45	50	75	68	**	**	**	45	60	

\*All states except PENN use double acid procedure to extract P. PENN uses Bray P<sub>1</sub>.  
 \*\*Starter fertilizer (0-20 lb/A) recommended at very high soil test levels.

Table 2. Comparison of K Recommendations and Soil Test Breakoff Points for Corn (100 bu) \*

	NC	SC		VA	WVA	MD	NJ	DEL	PENN (CEC=10)
		Clayey, F. Loamy	Sandy C. Loamy						
Max. lbs K <sub>2</sub> O/A Recommended at 0 Soil Test	155	100	80	100	120	110	110	105	200
Soil Test K Level (mg/dm <sup>3</sup> ) of No Further Crop Response	45	45	45	110	76	>60	60-70	60	50-60
Lbs K <sub>2</sub> O/A Recommended at Point of No Further Crop Response	75	50	50	40	40	80	80	50	100
Soil Test K Level (mg/dm <sup>3</sup> ) Above Which No Further K <sub>2</sub> O Recommended	140	120	120	194	150	**	**	110	110

\*All states except PENN use double acid procedure to extract K. PENN uses 1N NH<sub>4</sub> OAc.  
 \*\*Starter fertilizer (0-20 lb/A) recommended at very high soil test levels.

Table 3. Fertilizer Recommendations at "Strategic" Soil Test Levels for Corn (100 bu), Soybeans (40 bu), and Small Grains.

	Phosphorus	Potassium	
		CEC = 0-5	CEC >5
Fertilizer Recommended at 0 Soil Test Level (In lbs oxide/A)	150	100	150
Soil Test Level (mg/dm <sup>3</sup> ) of No Further Crop Response	20-25	50	75
Fertilizer Recommended at Point of No Further Response (lbs oxide/A)	50	60	60
Soil Test Level (mg/dm <sup>3</sup> ) Above Which No Further Fertilizer Recommended	50	100	150

Table 4. <sup>Extractable</sup> Standard P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O Fertilizer Recommendations According to Soil Test Level for Corn (100<sup>2</sup> bu), Soybeans (40 bu), and Small Grains.

Ext. K, mg/dm <sup>3</sup>	P <sub>2</sub> O <sub>5</sub> Recommended, lb/A	Ext. K, mg/dm <sup>3</sup>	K <sub>2</sub> O Recommended, lb/A	
			CEC = 0-5	CEC >5
0	150	0	100	150
20-25	50	50	60	
50	0	75		60
		100	0	
		150		0