

## PEANUT FERTILITY CHECK LIST

pH or Nutrient	Soil Test Sufficiency Level (Mehlich I)	Recommendations / Comments																			
pH	5.8 to 6.5	Liming to a pH value of 6.4 is useful in maximizing soil Ca levels and reducing Zn toxicity risk where necessary, but Mn deficiency is more likely at high pH levels (see below).																			
Nitrogen (N)	---	Use a liquid in-furrow inoculant on all fields that have been out of peanut production for 3 years.																			
Sulfur (S)	---	Sulfur has not been a limiting factor on peanut on coastal plain soils. Subsoil S and gypsum (CaSO <sub>4</sub> ) applications can provide more than adequate S nutrition.																			
Phosphorus (P)	20 lb/ac	The soil test sufficiency level for both P and K on peanut is much lower than other crops because the peanut plant is very efficient at scavenging these nutrients from the soil. Add 40 lb P <sub>2</sub> O <sub>5</sub> /ac when soil test levels are medium (11-19 lb P/ac) and 80 lb P <sub>2</sub> O <sub>5</sub> /ac when soil test levels are low (<11 lb/ac). <b>Peanut phosphorus requirements can always be met by maintaining adequate P levels on rotational crops.</b>																			
Potassium (K)	60 lb/ac	At medium soil test levels (30-59 lb K/ac) add 40 lb K <sub>2</sub> O/ac and at low soil test levels (<30 lb K/ac) add 80 lb K <sub>2</sub> O/ac. When soil test K levels are in the 40-60 lb/ac range, a yield response to K application is likely only for high yield production (>4,000 lb /ac) on sandy soils (depth to clay >15") where subsoil reserves of K are less accessible. <b>Maintaining adequate fertility on rotational crops should eliminate the need for K application to peanut.</b> Excessive K levels can interfere with Ca uptake by pods (see Ca comments).																			
Calcium (Ca)	600 lb/ac and 3 : 1 Ca to K ratio  (Always use gypsum on Virginia types)	Runner type peanut yields seldom respond to gypsum application when soil test Ca is 600 lb/ac. However, Virginia type peanuts have responded to gypsum even when Ca =1,000 lb/ac. Apply 1,500 lb gypsum (300 lb Ca) at bloom to all Virginia type peanuts, all seed production peanuts, and to runners with < 400 lb/ac soil test or a Ca to K ratio < 3:1. Apply 1,000 lb/ac gypsum to runners with 400-600 lb/ac soil test. Maintain soil pH with dolomitic lime so both Ca and Mg will remain adequate.																			
Magnesium (Mg)	60 lb/ac and Mg at least 10 % of total CEC for rotational crops	<b>Soil test Mg levels above 20 lb/ac are considered adequate for peanut.</b> However, rotational crops will require Mg soil test levels > 60 lb/ac and Mg at least 10% of CEC. Use dolomitic limestone (contains about 200 lb Mg per ton) to maintain soil Mg levels.																			
Boron (B)	0.4 lb/ac	If soil test B is below 0.4 lb, apply foliar 0.3-0.5 lb B/ac (1.5-2.5 lb Solubor) as a foliar spray in the first fungicide application. Avoid toxicity from excessive B application.																			
Manganese (Mn)	<table border="1" style="display: inline-table; vertical-align: top;"> <thead> <tr> <th>pH</th> <th>Mn lb/ac</th> </tr> </thead> <tbody> <tr><td>5.8</td><td>6</td></tr> <tr><td>5.9</td><td>7</td></tr> <tr><td>6.0</td><td>8</td></tr> <tr><td>6.1</td><td>9</td></tr> <tr><td>6.2</td><td>10</td></tr> <tr><td>6.3</td><td>10.5</td></tr> <tr><td>6.4</td><td>11</td></tr> <tr><td>6.5</td><td>12</td></tr> </tbody> </table>	pH	Mn lb/ac	5.8	6	5.9	7	6.0	8	6.1	9	6.2	10	6.3	10.5	6.4	11	6.5	12	If soil test Mn is below the sufficiency value at the current pH or the target pH when lime is to be applied, apply 1 lb Mn (4-5 lb manganese sulfate or Tecmangam, or 3 lb ManGro DF) with the second fungicide application (55-60 days after planting). For pH values above those shown, the Mn sufficiency soil test value is 1 lb higher for each additional 0.1 of a pH unit.	
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Zinc (Zn)	Toxicity: See comments  Deficiency: 1.6 lb/ac	Soil test Zn levels of 10 lb/ac can cause <u>toxicity</u> when the soil pH is below 6.0. To prevent Zn toxicity, lime to the pH targets listed. Given the risk of loss, the difficulty of achieving uniform pH, and the non-uniform distribution of Zn in soils; fields with Zn levels over 30 lb/ac should probably not be planted in peanuts. <u>Zn deficiency</u> is more likely at high pH, high soil Ca, and high soil P levels. A Zn soil test level of 1.6 lb should be adequate even under these conditions.	<table border="1" style="display: inline-table; vertical-align: top;"> <thead> <tr> <th>Zn lb/ac</th> <th>Lime to pH:</th> </tr> </thead> <tbody> <tr><td>6 - 10</td><td>6.2</td></tr> <tr><td>11 - 20</td><td>6.4</td></tr> <tr><td>21 - 30</td><td>6.5</td></tr> <tr><td>&gt; 30</td><td>no peanuts</td></tr> </tbody> </table>	Zn lb/ac	Lime to pH:	6 - 10	6.2	11 - 20	6.4	21 - 30	6.5	> 30	no peanuts								
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Copper (Cu), Chlorine (Cl), Iron (Fe), Molybdenum (Mo)		There is no evidence for deficiency of these micronutrients in coastal plain peanut production.																			