



## A New Procedure for Using Corn Leaf Chlorophyll Meter Readings to Predict the Need for Sidedress Nitrogen Fertilizer

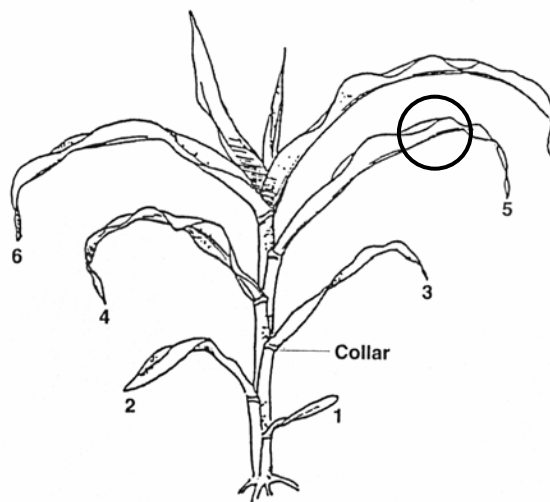
1. The new chlorophyll meter test procedure is applicable only for what we classify as “High Organic N Input” fields (Table 1).

**Table 1**

High Organic	Moderate Organic	Low Organic
Manure since previous crop and/or First year after forage legume (alfalfa, alfalfa/grass, clover)	Last manure in spring or fall before previous crop and/or Second year after alfalfa and/or First year after soybeans	All other fields: No manure for at least two last crops At least one crop since soybeans At least two crops since alfalfa

2. Choose “High Organic N Input” fields that did not receive any blanket preplant or at-plant fertilizer N or N with the herbicide. No more than 15 lbs N/ac in the starter fertilizer is OK.

3. Take chlorophyll meter readings at each field to be tested as close to the six-leaf stage as possible. See diagram at the right for determining the leaf stage. It is better to do readings a few days later than the six-leaf stage rather than doing readings before the field is at the six-leaf stage. Always take readings of the fifth leaf of each plant.



For this test, chlorophyll meter readings should always be done on leaf five of the plants being tested. The reading is done a point on the leaf approximately 1/4 inch from the edge of the leaf and at a point 3/4 of the leaf length from the leaf base. Do not take readings on the leaf midrib or too close to the edge. Pick representative plants in the field for meter readings. When taking a reading, use your body to shield the meter from direct sunlight. Wet leaves may be read if beaded water is shaken or rubbed off before inserting the leaf in the meter.

Since the meter will hold and calculate an average for up to 30 readings, you should probably try to take close to 30 readings in a field. You may want to do more than one average per field if the field is very large or seems to have distinctly different areas of N fertility.

4. Use the Table 2 to determine whether a field needs sidedress N or requires a second meter reading ~4 to 7 days later.

**Table 2**

**High Organic @ leaf stage 6**

<b>Average meter reading</b>	< 42.0	42.0 to 45.9	= or > 46.0
<b>N Recommendation</b>	Sidedress 80 lb N/ac	Test again or Sidedress 50 lb N/ac	No sidedress N needed

5. Do meter readings ~4 to 7 days later on those fields that require a second meter reading. Plants should now be at the seven to eight-leaf stage. Depending on weather conditions, fields usually advance one leaf stage in about three to six days. Use the same procedures as for the first reading. Make sure you are reading leaf five. Use Table 3 to predict whether a field needs to be sidedressed.

6. If the first reading is taken at LS 7-8 skip Table 2 and go directly to Table 3 for interpretations and recommendations.

**Table 3**

**High Organic @ leaf stage 7-8**

<b>Average meter reading</b>	< 43.0	= or > 43.0
<b>N Recommendation</b>	Sidedress 50 lb N/ac	No sidedress N needed

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