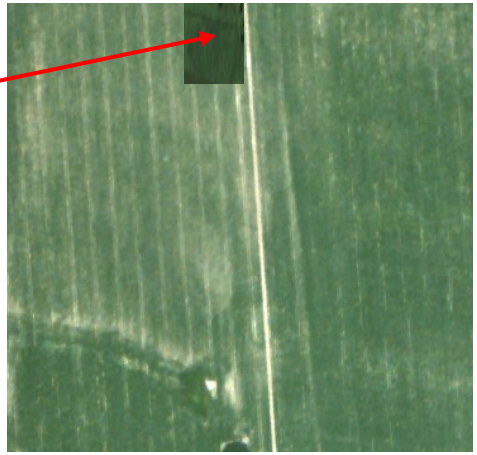
Reference method

- Maximum chlorophyll level can be achieved by N overapplication



- Establish a reference plot with N overfertilization.
- On the rest of the field, reduce 1st N dressing to 70 % of standard N rate.
- Before 2nd N dressing make N-Tester measurements in the field AND the reference plot.
- Calculate:

$$\text{N-Tester index} = \frac{\text{N-Tester reading in the field}}{\text{N-Tester reading in the reference plot}} \times 100$$

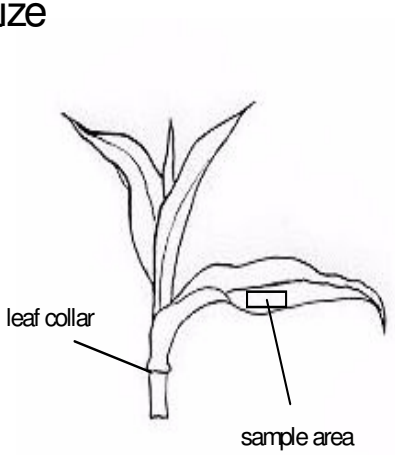
- Apply 2nd N dressing, only if the N-Tester Index is below a defined threshold, which is generally about 95% of the reference value.

N-Tester use for N fertilizer management: The Reference Method

Developed for split N application and suitable for any annual crop with split application

- To "calibrate" the N-Tester to the local field conditions (variety, climate etc.) reference plots receiving sufficient Nitrogen should be established.
- After measuring N-Tester values from the field and the reference plots, an N sufficiency index (SI) can be calculated.
- N-Tester values below an SI- index of 95% indicate a need for additional nitrogen fertilizer.

Example : Maize



$$\text{Sufficiency Index (SI)} = \frac{\text{Avg. N-Tester reading in field}}{\text{Avg. N-Tester reading in reference strip}} \times 100$$

Source : Peterson, T.A. et. al. (1993) Using a chlorophyll meter to improve N management