

# Nutrient Deficiencies

## Nitrogen Deficiency

- Yellowing from leaf tip along midrib
- N is mobile in plants, so symptoms appear on lower leaves first
- Indicates N losses, tie up or under-fertilization

See page 23.



Corn, Bruce County

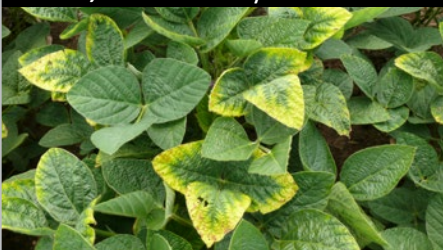
## Potassium Deficiency

- Symptoms appear on lower, older leaves: yellowing or white spots (alfalfa) along leaf margins
- Caused by low soil test or poor root growth (disease, compaction, poor drainage, etc.)

See page 33.



Alfalfa, Bruce County



Soybeans, Wellington County

## Sulphur Deficiency

- Sulphur deficiency present in the right side of the photo
- Chlorosis or yellowing occurs in youngest leaves first due to poor mobility of sulphur within plants

See page 41.



Winter Wheat, Niagara Region

## Response to Phosphorus



Winter Wheat, Kent County

Source: Dr. Dave Hooker,  
University of Guelph, Ridgetown

- Soil test phosphorus: 7 ppm (Olsen)
- Photo: April 13, 2016 (wheat seeded on October 5th, 2015)
- 42 kg/ha  $P_2O_5$  applied in furrow (R), no P applied (L)
- Yield: 112 bushels/acre (with P) vs. 86 bushels/acre (without P)

See page 30.

## Internal Calcium Deficiency

### (Blossom End Rot)

- Low mobility in plant tissues
- Deficiency caused by moisture deficit or high transpiration demand during fruit set — not usually a lack of calcium in the soil or roots



See page 35.

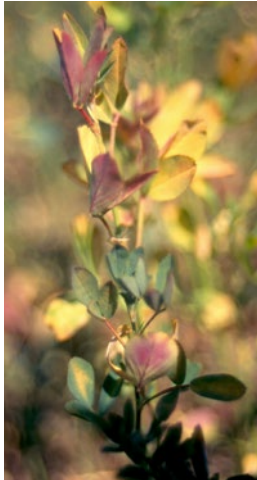


Peppers and Tomatoes, Kent County

## Boron Deficiency

- Deficiency symptoms include shortened internodes, leaf discoloration and poor flowering and seed set
- Most common on light-textured soils in dry conditions

See page 45.



Alfalfa, Kent County

## Manganese Deficiency

- Manganese has low mobility in both soil and plant tissue
- Deficiency symptoms can include stunting, interveinal chlorosis
- Most commonly seen on high pH soils, muck soils and eroded soils

See page 44.



Processing Peas, Kent County



Soybeans, Kent County

Source: Dale Cowan, CCA-ON