

Nutrient Deficiencies, Herbicide Injury and Weather Related Injuries

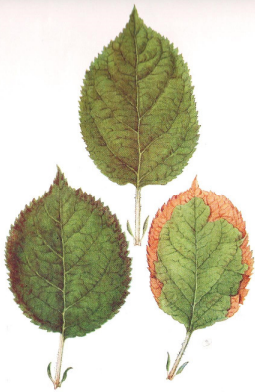
Apple IPM Scout Training
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Ministry of Agriculture, Food and Rural Affairs

Symptoms of a Nutrient Deficiency

- Regular pattern
- Chlorosis
 - Whole leaf
 - Inter-veinal
- Purpling
- Necrotic leaf margins
- Symptoms will appear either in the older or younger leaves first depending on if it is a mobile and immobile nutrient


Potassium Deficiency



- Mobile nutrient
- Will see symptoms on oldest leaves first
- Interveinal purpling starting at leaf margin working into the centre
- Leaf edges will become necrotic



Magnesium Deficiency



- Mobile Nutrient
- Interveinal chlorosis on oldest leaves first
- May see necrotic spots



<https://ipm.illinois.edu/lfvni/contents.php?id=6>

Manganese Deficiency

- Immobile nutrient
- Symptoms will appear on youngest leaves first
- Leaves will be a pale yellow / green between veins

<https://www.agric.wa.gov.au/pome-fruits/trace-elements/treatments-apple-and-pear-trees>



Iron Deficiency

- Immobile nutrient
- Symptoms appear on youngest leaves first
- Interveinal chlorosis, showing fine green veins

International Plant Nutrition Institute

Nitrogen Deficiency


- Mobile nutrient
- Will see the oldest leaves turn yellow first

Last Comments on Nutrient Deficiencies

- Could be cases of more than one nutrient deficiency
- Leaf sample for lab testing is the best diagnosis

Herbicide Injury

- Leaf and stem distortion
 - Epinasty
 - Internode shortening
 - Leaf cupping
- Bleaching
- Chlorosis
 - Could be confused with a nutrient deficiency




2,4-D

Mode of Action:
Synthetic auxins, Group 4

Symptoms:
excessive bud break, leaf curling, leaf distortion, leaf feathering, leaf malformation, leaf-margin fingering, stem coloring

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Dicamba

Mode of Action:
Synthetic auxins, Group 4

Symptoms:
epinasty, leaf cupping, leaf curling, leaf distortion, leaf malformation

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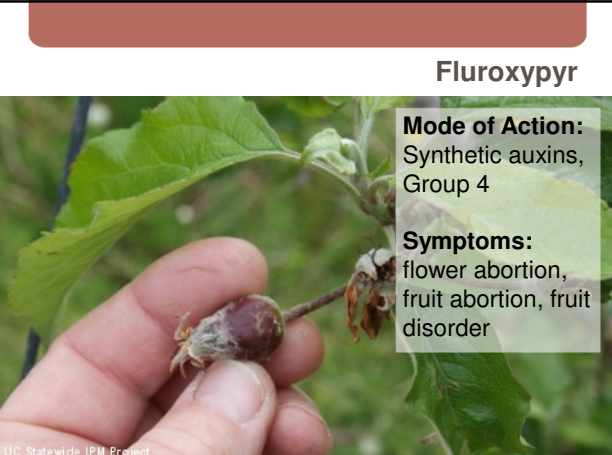


Fluroxypyr

Mode of Action:
Synthetic auxins, Group 4

Symptoms:
chlorosis, epinasty, leaf crinkling, leaf cupping, leaf distortion, leaf stunting, twisting, necrosis

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Fluroxypyr

Mode of Action:
Synthetic auxins, Group 4

Symptoms:
flower abortion, fruit abortion, fruit disorder

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Glyphosate

Mode of Action:
Inhibition of EPSP synthase, Group 9

Symptoms:
interveinal chlorosis, leaf crinkling, leaf cupping, leaf curling, leaf distortion, leaf narrowing, leaf stacking, stunting

