

# The Backyard Orchard – Citrus Disorders– Module 6.3 Lichens, Sooty Mold & Nutrient Deficiencies

LSU AgCenter Backyard Orchard Certificate Course



Dr. Raj Singh, Dr. Joe Willis, Anna Timmerman & Chris Dunaway

# Lichens

- Lichens are not plant pathogens, do not invade the tissue of the bark and cause no damage to the tree.
- Growth of different kinds of lichens often occurs on trunks, branches and sometimes on leaves of citrus trees.
- Lichen growth is less abundant on healthy, vigorous trees than on neglected, weakened trees that are growing poorly.
- Improving the tree health and vigor with cultural practices including, proper fertilization, proper pruning and avoiding any drought stress help minimize lichens.





# Sooty mold

- The sooty mold fungus is not a parasitic organism.
- It does not penetrate the plant tissue, but grows superficially on the honeydew excretions of whiteflies, aphids, mealy bugs and scale insect.
- Prevents the sunlight from reaching the leaf and by making the fruit black and unattractive.
- Fruit covered with sooty mold is smaller and does not color well.
- Manage sooty mold indirectly by controlling insects that excrete the honeydew.



# Nutrient Deficiencies in Citrus

- Symptoms of nutrient deficiency or toxicity may appear different on foliage, stems, roots, and fruit.
- Symptoms may not in all cases resemble those illustrated here or in other publications.
- Symptoms can vary considerably from mild to chronic. Because availability of some micronutrients like Zn, Mn, and Fe are soil-pH related, deficiency symptoms of these three elements may occur simultaneously and sometimes mask each other.
- Nutritional disorders may be confused with herbicide, fungicide, and physiological disorders or with plant diseases.
- Seek advice before committing to costly and perhaps inappropriate corrective measures.



# Zinc Deficiency

- Early stages appear as small blotches of yellow between green veins on the leaf.
- With severe deficiency, leaves may become increasingly yellow except for the green veinal areas.
- Under severe deficiency conditions, leaves will also be small with narrow pointed tips on terminal growth.



# Manganese Deficiency

- Deficiency appears as dark green bands along the midrib and main veins surrounded by light green interveinal areas giving a mottled appearance.
- As severity increases, the light green interveinal areas give way to a yellow-bronze coloration.





# Iron Deficiency

- In mild cases, leaf veins are slightly darker green than interveinal areas with symptoms appearing first on new foliage.
- In severe cases, interveinal areas become increasingly yellow with entire area eventually becoming ivory in color.



# Magnesium Deficiency



- The first symptom is a yellowish green blotch near the base of the leaf between the midrib and the outer edge.
- The yellow area enlarges until the only green remaining is at the tip and base of the leaf as an inverted V-shaped area on the midrib.
- With acute deficiency, leaves may become entirely yellow-bronze and eventually drop.



# Nitrogen Deficiency

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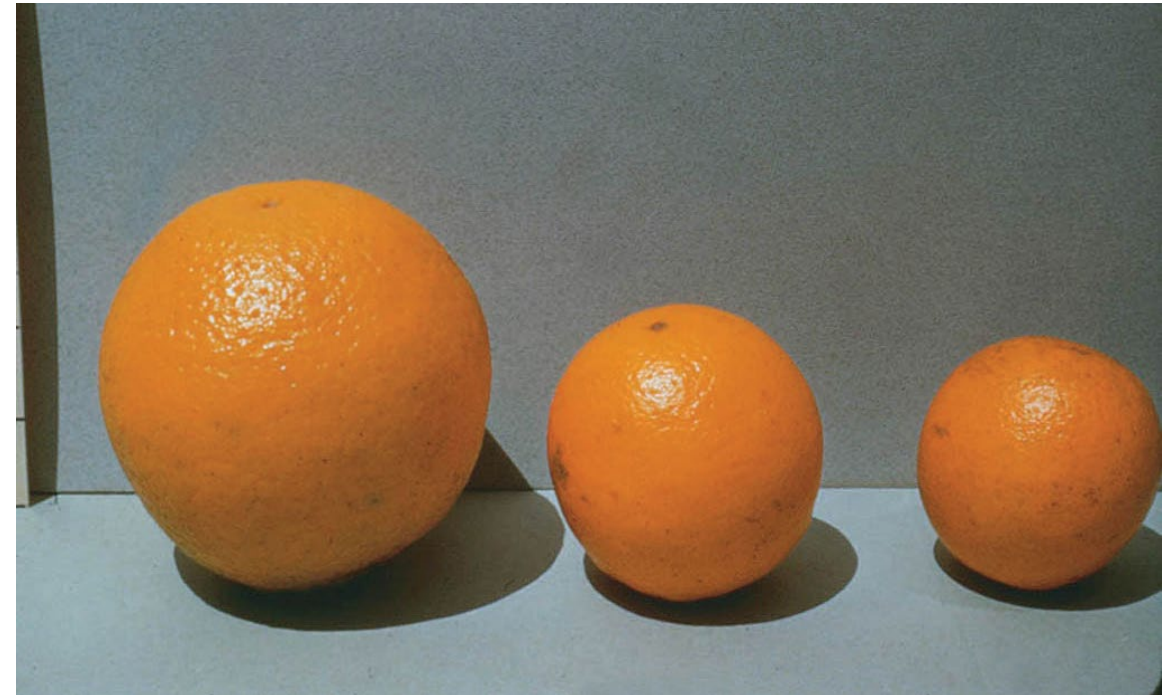
- Deficiency is expressed by light green to yellow foliage over the entire tree in the absence of any distinctive leaf patterns.
- With mild deficiency, foliage will be light green progressing to yellow as conditions intensify.



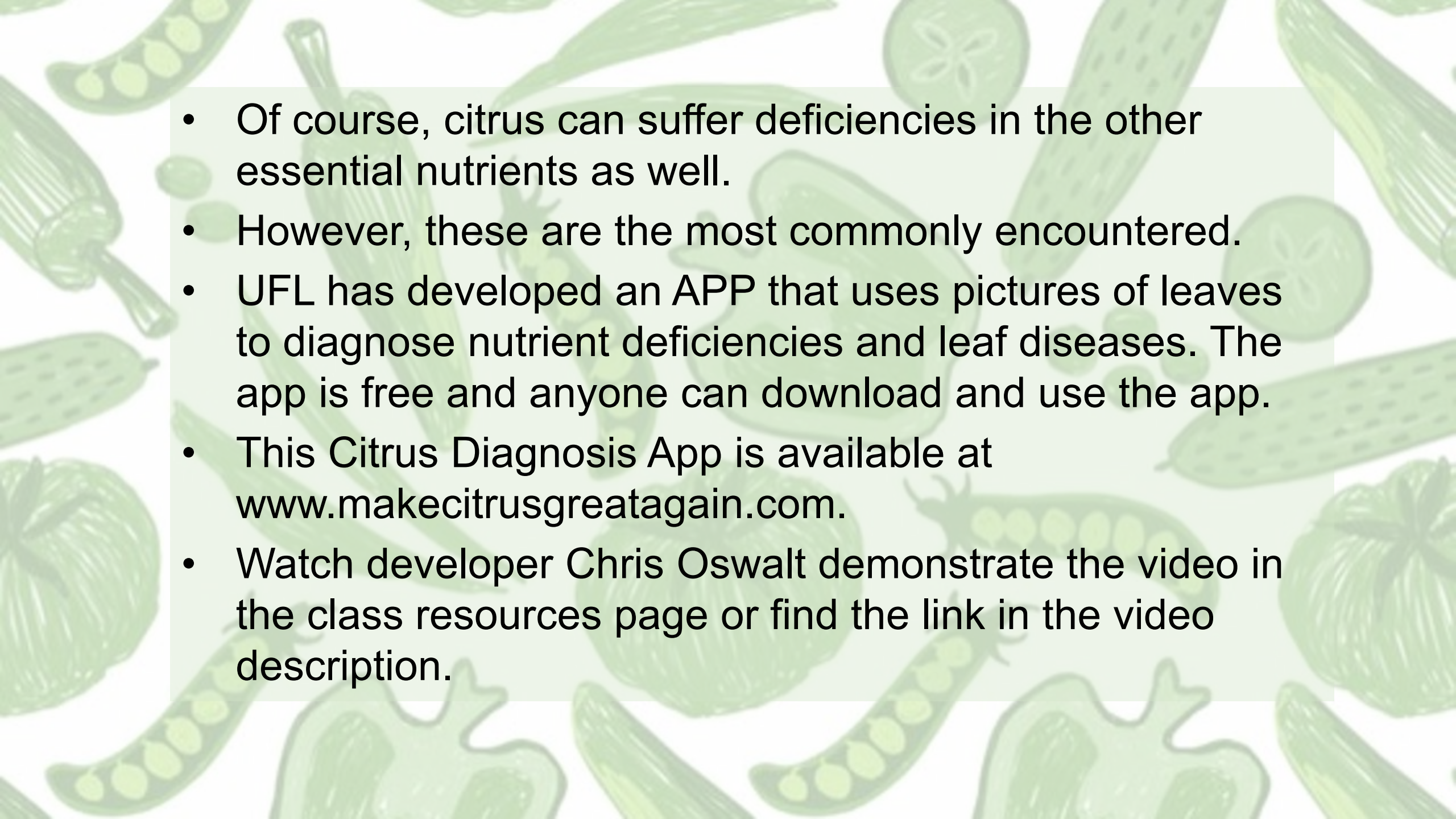
# Potassium Deficiency

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- Fruit are smaller, have smoother, thinner rinds and may be subject to splitting and/or drop.





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- Of course, citrus can suffer deficiencies in the other essential nutrients as well.
  - However, these are the most commonly encountered.
  - UFL has developed an APP that uses pictures of leaves to diagnose nutrient deficiencies and leaf diseases. The app is free and anyone can download and use the app.
  - This Citrus Diagnosis App is available at [www.makecitrusgreatagain.com](http://www.makecitrusgreatagain.com).
  - Watch developer Chris Oswalt demonstrate the video in the class resources page or find the link in the video description.



Please post all your questions and results to the message board that was emailed to you.

