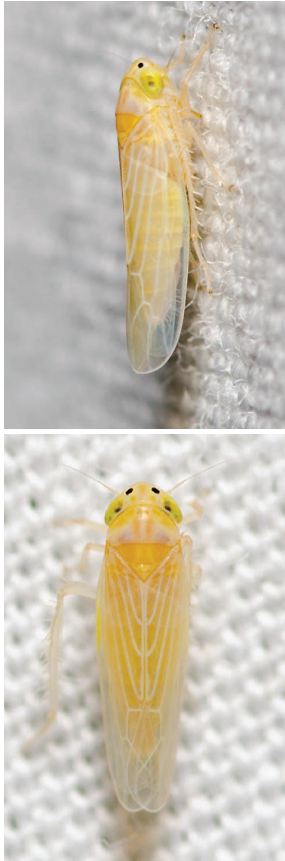
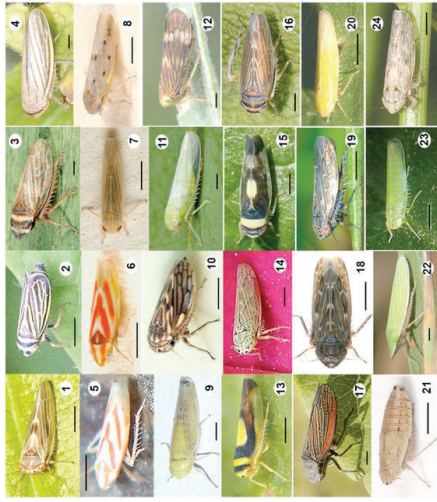


Corn Leafhopper (*Dalbulus maidis*) in Kansas



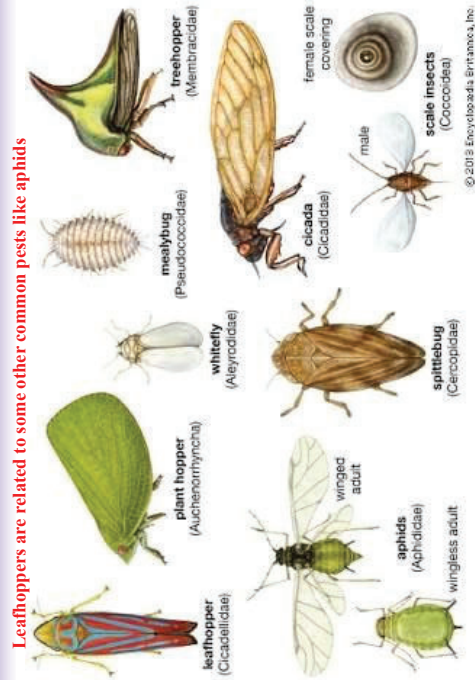
Leafhoppers: What are they??



Family of true bugs (Hemiptera) found worldwide

- 10,000 species of true bugs on the planet
- 1/3 of those are leafhoppers
- All plant feeders, some with very specific host requirements

Leafhoppers: What are they??



Leafhoppers are related to some other common pests like aphids

© 2013 Encyclopædia Britannica, Inc.

Leafhoppers: What are they??



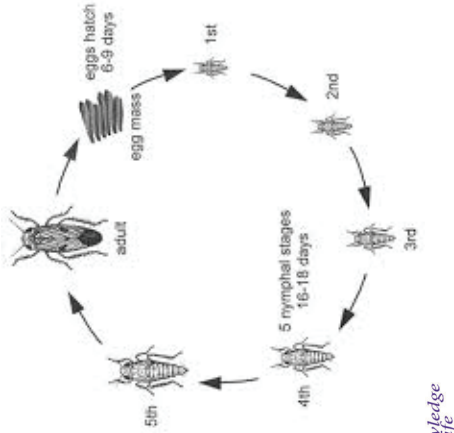
Leafhoppers as agricultural pests is nothing new

Potato leafhopper – significant damage to alfalfa production in KS some years

Beet leafhopper– widespread pest of many produce commodities



Leafhopper Life Cycle



Incomplete Metamorphosis

- Eggs are laid in the leaves of the host
- Immature leafhoppers resemble adults, but lack wings
- Shed skins as they grow through 5 instars
- All stages cause damage

Leafhopper Damage

Piercing-sucking Mouthparts

- Liquid diets, plant juices or insect juices
- Beak delivers saliva to aid in digestion/uptake of materials



“Hopper burn”

- Cells destroyed/necrotize
- Photosynthesis reduced
- Young plants die

Leafhopper Damage



“Honeydew” and Sooty Mold

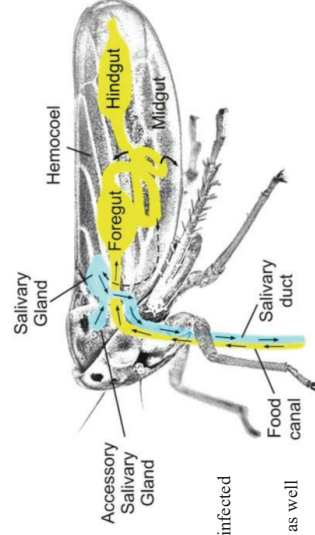
- Feeding results in excretion of shiny, sticky, sugary waste
- Sooty mold growth prevents photosynthesis
- Many other insects attracted to honeydew – **SCOUTING TIP**

Leafhopper Damage

The most significant risk from some leafhoppers.....

Disease transmission

- Pathogens delivered into plant tissue through saliva of infected leafhoppers
- ~55 plant viruses known to be vectored by leafhoppers as well as various bacteria



Corn Leafhopper Identification



- Recognizing CLH**
- “splinter-like” body
 - ~1/8” long at maturity
 - Tan/yellow, nymphs can be darker
 - **2 dark spots between eyes**

Magnification required

Corn Leafhopper Identification

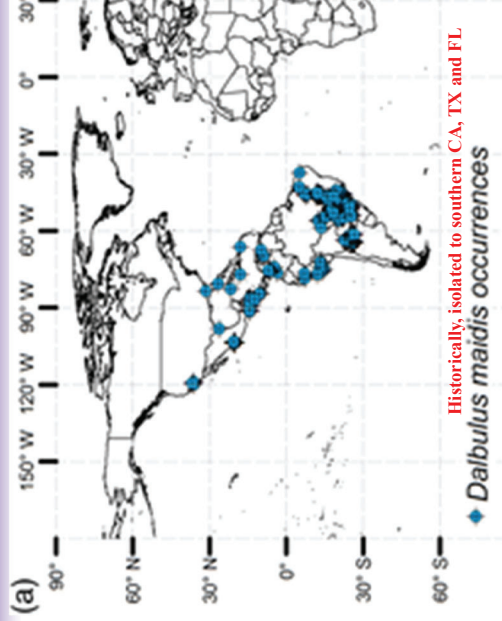
Corn leaf midrib for scale



Behavior

- Prefer undersides of leaves/shaded areas
- Easily blends in
- Very skittish at slight disturbance
- Often first noticed as white flecks in air as plants are disturbed

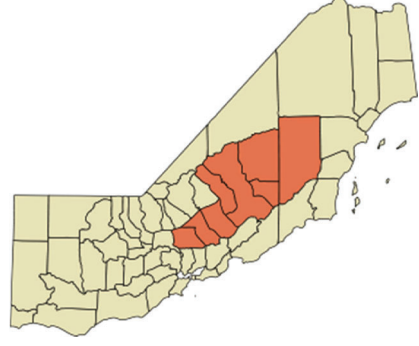
Corn Leafhopper Range



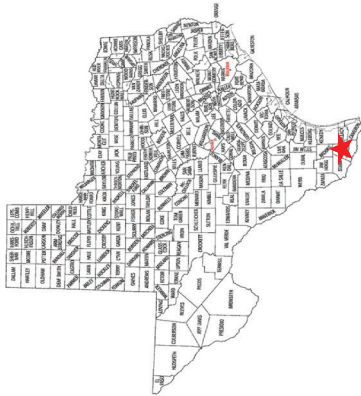
Historic Impact in North America

California

- 1942: CLH feeding damage reported in Fresno and Tulare counties
 - 1960: feeding damage only
 - 1981: reappeared along with corn stunt
 - 1996: large infestations in Fresno, Tulare and Kings counties, high corn stunt losses
- Currently: annual pest in the San Joaquin Valley



Historic Impact in North America



Texas

1945-1980: CLH and pathogens a problem in southern Texas

35-year absence.....

2016: Re-emerged in southern Texas

2024: Large northward expansion in state

Historic Impact in North America



Florida

1960s: severe corn stunt outbreak southern FL

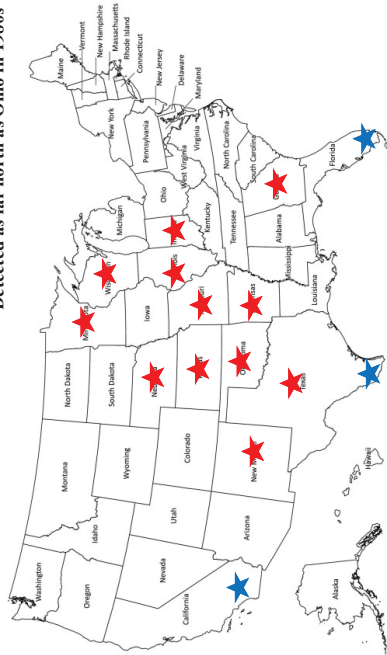
1979-1980: severe corn stunt in southern FL

Currently: annual pest in southern Florida

**** Multiple vectors of corn stunt in FL, but CLH is the most efficient and found statewide**

2024 Reports of CLH

***: Detected as far north as Ohio in 1980s



Scouting

Going forward we NEED to actively look for Corn Leafhopper

Early Season



Mid-Late Season

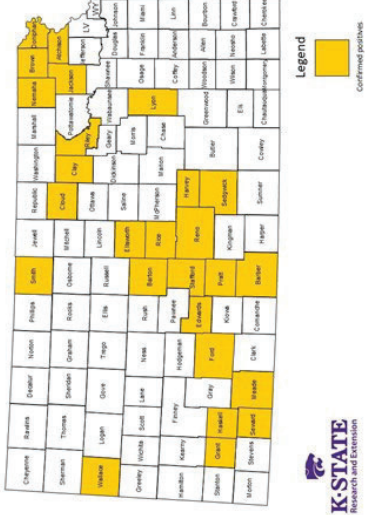


How to deal with this potential new pest?

Kansas has no formally tested management recommendations, but based on other regions' experiences:

1. Resistant Varieties? Research needed, anecdotal evidence
2. Plant as early as possible. Infection after V8 less concerning
3. Insecticides? Southern latitudes suggest use during emergence through V8. Multiple waves, multiple applications.
4. Control alternate hosts: volunteer corn (reproduction host), johnson grass (weedy overwintering host)

1. Corn leafhopper was found statewide in 2024
2. Corn stunt spiroplasma was found in 26 counties
3. Neighboring states experienced a sudden range expansion of CLH and corn stunt



1. What does this mean for Kansas corn production moving forward?
2. Will CLH become an annual problem or an extremely rare problem (aka migratory pest)?
3. **Can CLH overwinter in Kansas? Or, closer in southern states?**

Our KSU team will be working on making sure corn production is informed and prepared to handle this potential pest.