2017 PECAN WEEVIL UPDATE

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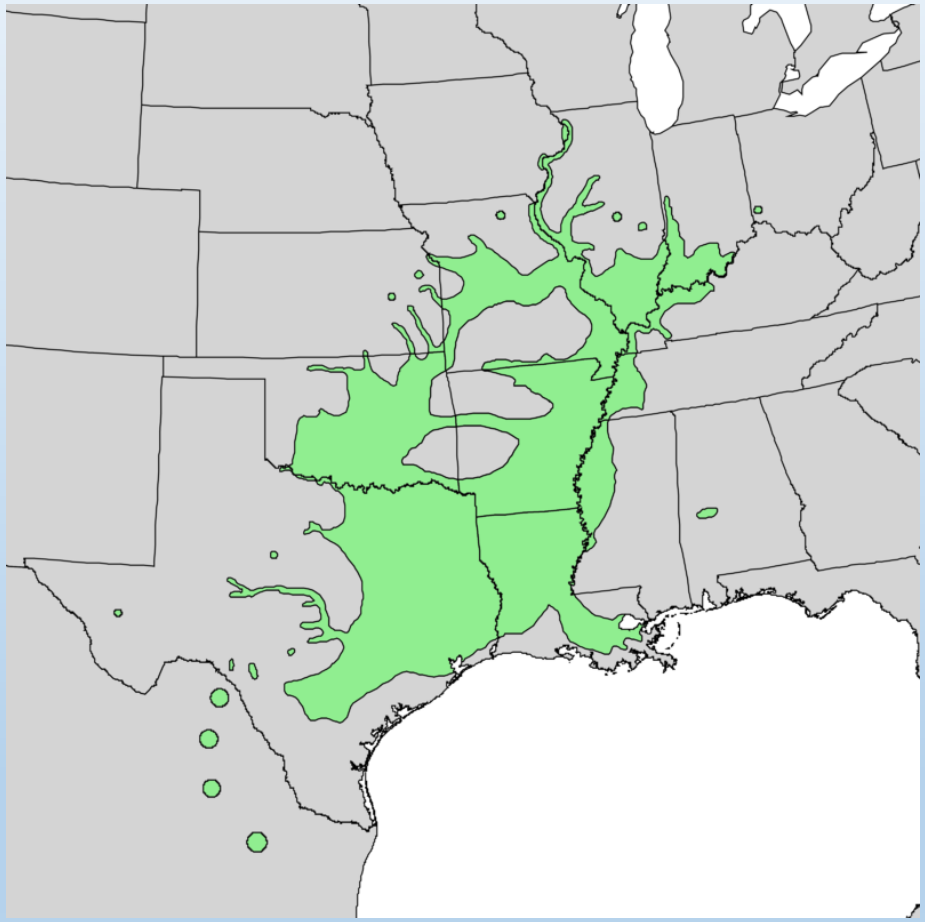
Outline

I. Pecan Pests (Western History)
II. Current Pecan Weevil Situation in New Mexico
III. Options

Historical Range of Pecan and Related Insect Pests

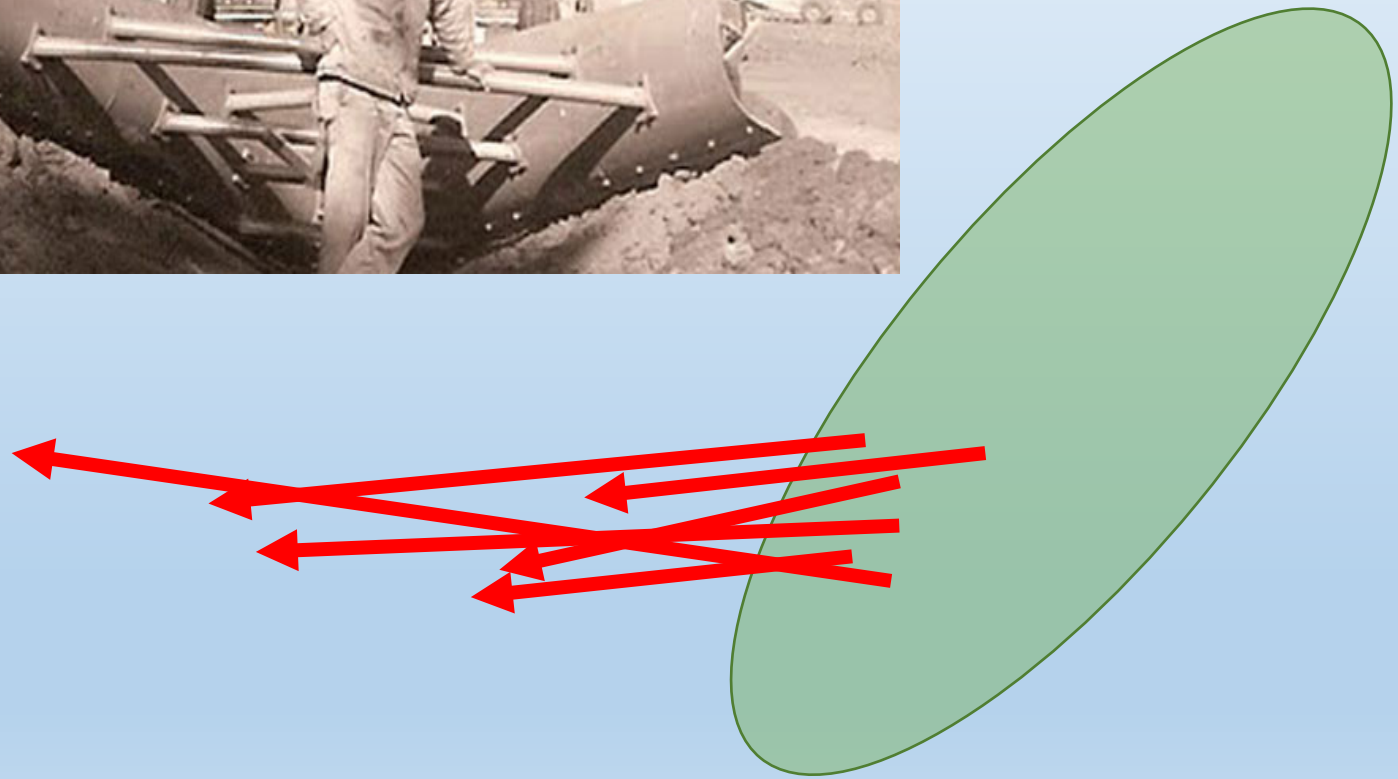
SIGNIFICANT NATIVE INSECT PESTS

Blackmargined Aphid
Yellow Pecan Aphid
Black Pecan Aphid
Hickory Shuckworm
Pecan Weevil



Elbert L. Little, Jr., of the U.S. Department of Agriculture, Forest Service, and others

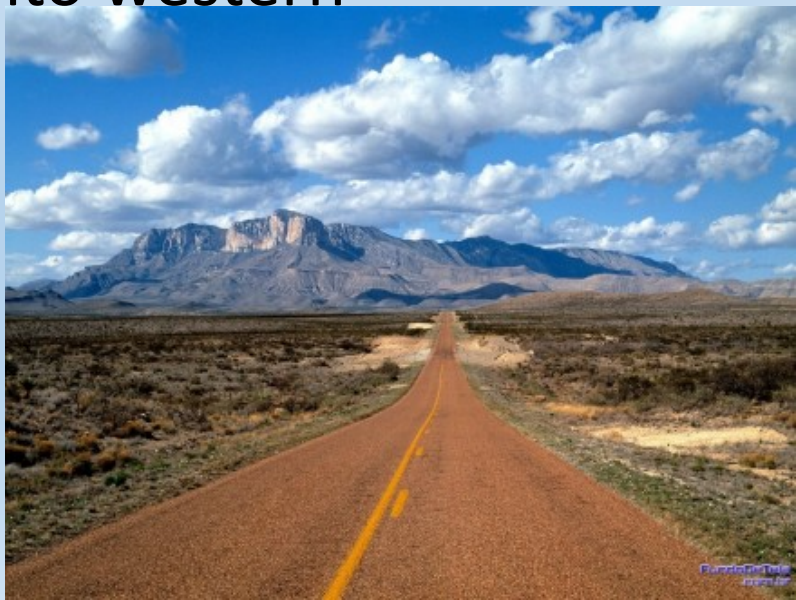
1930s Initial Movement of Pecan Nursery Stock to Western States



Promulgation of Quarantines by Western States

(1st Line of Defense)

- Established quarantines for importation of nursery and in-shell nuts
  - Southwest counties of Texas
  - New Mexico
  - Arizona (west vs historic pecan growing areas)
  - California
  - Mexico
- Intent to slow the spread of native pecan insect pests into western states and Mexico Pecan weevil
  - Pecan nut casebearer
  - Hickory shuckworm
  - Pecan weevil



Primary Quarantine Restrictions

(Prior to entry into western states)

1) Fumigation of in-shell nuts (some states)
2) Cold Storage of in-shell nuts
3) Soil free nursery stock
4) Clean equipment/supplies

Pest Introductions into Western States

- Blackmargined aphid (introduced with first nursery stock)
  - Throughout western pecan growing region
- Black pecan aphid (introduced several decades after introduction of pecan nursery stock)
  - Throughout western pecan growing region
- Pecan nut casebearer (introduced El Paso nursery stock)
  - Not established in Arizona, California, western and northern New Mexico counties
- Pecan Weevil (introduced and reintroduced and eradicated since 1960s—New Mexico

1960’s Initiation of Quarantines Directed at Western Growing Regions

Texas directed quarantines at two eastern New Mexico counties due to introductions of pecan weevil (eradicated)

Mexico directed quarantines at one central New Mexico county due to introduction of pecan weevil (eradicated)

Post 1990’s (establishment of pecan nut casebearer) with Arizona and California requiring nursery stock and in-shell nuts from southwest Texas and New Mexico to be treated.

Initiation of Regional Invasive Pecan Pest Survey and Eradication Programs
(2nd Line of Defense)

- Growing season surveys
  - New Mexico –hickory shuckworm, pecan nut casebearer (some counties)
  - Arizona – hickory shuckworm, pecan nut casebearer
- Harvest surveys of cleaning plants and accumulator
  - New Mexico, Arizona periodically Southwest Texas --pecan weevil

Pecan Weevil Periodically Introduced in New Mexico and Eradicated (prior to 2016)

- Deming-residential trees (eradicated)
- Las Cruces area-one commercial orchard (eradicated)
- Tularosa area-commercial orchard (twice introduced/twice eradicated)
- Hobbs-two residential trees (under eradication)
- Lovington-two commercial orchards (under eradication)
- Artesia-several residential trees & commercial orchard (under eradication)

Specific Quarantines:

Consequences of Pecan Weevil Establishment in Western States

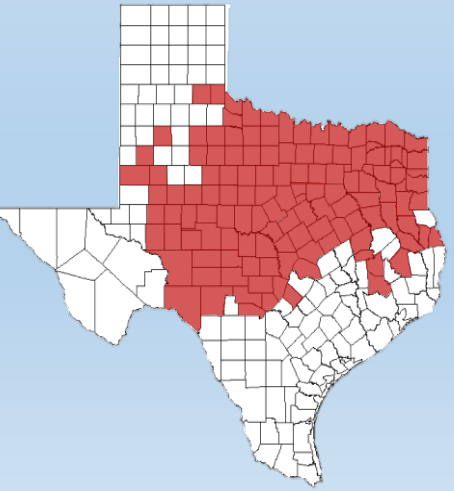
- Increase in production cost (insecticides, lost nuts)
- Possible reduction in price (quality reduction due to infested nuts)
- Loss of organic production
- Complication in international exports (import permit vs no import permit requirement; possible difference in treatments)
- Potential loss of residential and small orchard crop

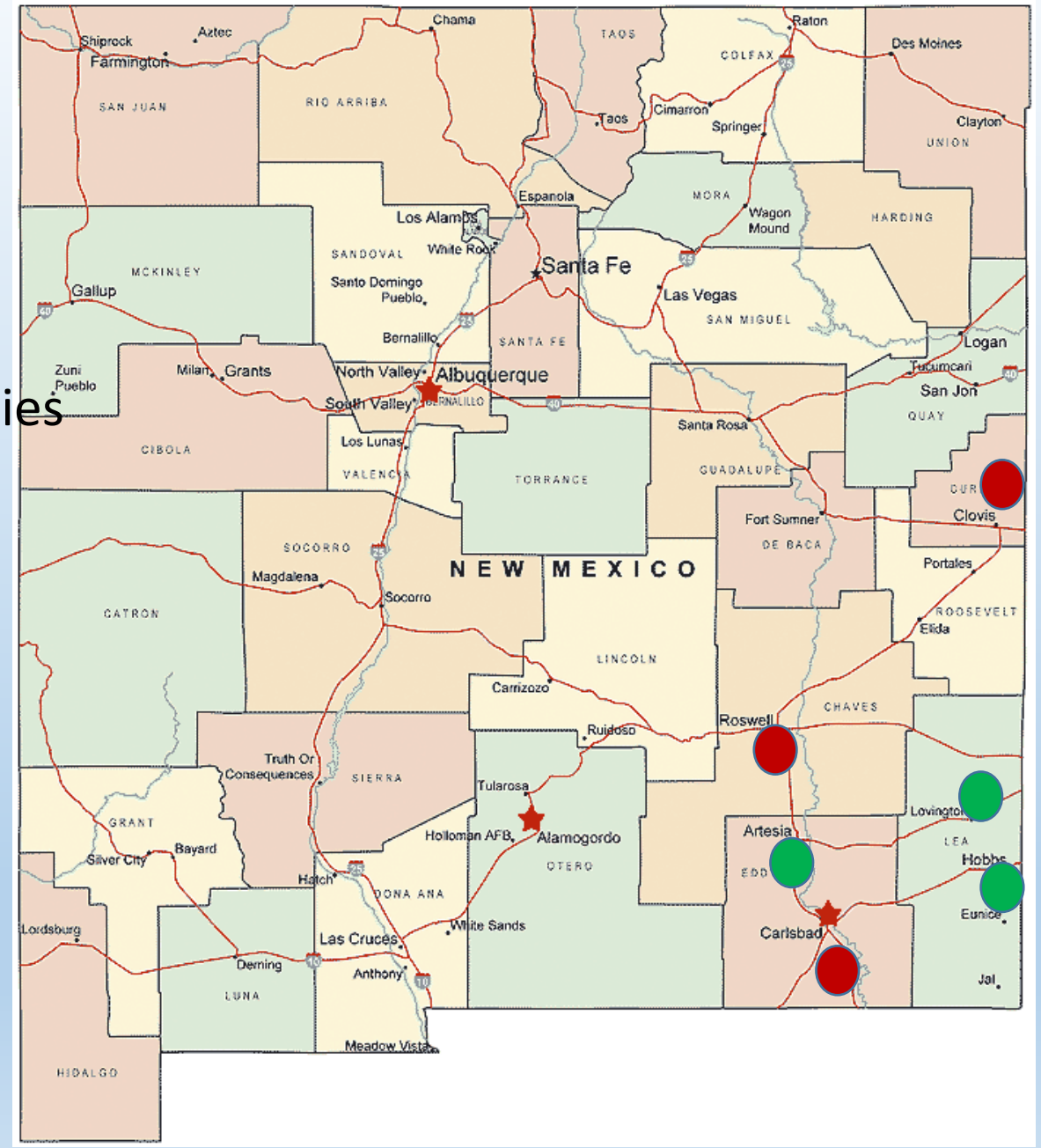
II. Current Situation

- December 2016-January 2017
  - Reports of insect damaged nuts in residential trees in eastern New Mexico towns/cities.

New Pecan Weevil Findings
(December 2016-March 2017)

1. One residential location south of Carlsbad
2. Roswell- One known residential tree
3. Artesia- Approximately 50+ residential properties
4. Lovington-Several residential trees
5. Hobbs-Several residential tree locations
6. Clovis-One known residential tree





Older pecan weevil findings

New pecan weevil findings

Result of Recent Pecan Weevil Findings

- Texas Department of Agriculture quarantine enforcement (eastern NM counties)
- New Mexico Department of Agriculture promulgated an internal emergency quarantine (60 days).
- Number of New Mexico shellers and accumulators began requiring certification of pecan weevil-free loads from eastern NM counties.
- Texas shellers/accumulators (weevil infested areas) began requesting information on the extent of weevil infestation in New Mexico.

New Mexico Temporary Quarantine Objectives

- Stop the unrestricted flow of residential pecans into commercial orchards and into commercial nut-loads
- Increase awareness of the seriousness of the issue with residential pecan growers
  - Help in identifying pecan weevil infested and uninfested trees
  - Help in identifying methods of pecan weevil movement
- Establish procedures for next year?

New Mexico Emergency Quarantine Specifics

- Directed at residential pecans in Hobbs, Lovington, Roswell, Clovis, Artesia
  - Requires inspection and certificate before in-shell nuts leave city limits;
  - Pecan weevil infested nuts may be transported to pecan weevil infested counties in other states without treatment (require certificate);
  - Un-infested nuts may move to other New Mexico Counties (with certificate);
  - Certificate not valid for pecan movement out of New Mexico.
- Expires in several weeks but may be extended

Pecan Weevil Inspection Services

1. Established several days a week in Artesia, Hobbs, Roswell, Lovington, Clovis
2. NMDA, NMSU Extension, and Contract Entomologist

To-Date Quarantine Inspection Numbers

- Approximately 60,000 pounds of in-shell residential pecans
- Approximately 100 people in five towns participated
- 38 phytosanitary certificates issued (infested going east)

What Changed (Increased Weevil Findings)

1. Establishment in adjacent Texas counties;
2. Increased moisture in the last several years;
3. Recent increase in pecan prices:
   - Increased movement of #2 and stick-tights;
   - Increased movement of residential pecans (Texas to New Mexico and within New Mexico);
   - Increased movement of equipment to harvest small amounts of trees;

III. Options (Primary Parties Involved in Future Action-quarantines)

New Mexico Pecan Growers Association

New Mexico Pecan Growers Association

Western Pecan Growers Association

West Texas Pecan Growers Association

Arizona Pecan Growers Association

Texas Department of Agriculture

Individual Growers

Starting Discussion Points--Options

- I. Allow pecan weevil to continue to move throughout New Mexico's pecan growing areas unrestricted;
- II. Continue with specific quarantines directed at individual farms and residential pecan trees;
- III. Continue with specific quarantines directed at individual farms and residential pecan trees and expand current eradication efforts;
- IV. Initiate county-wide quarantines directed at preventing the movement of untreated in-shell pecans from eastern New Mexico counties to uninfested counties in New Mexico;
- V. Initiate county-wide quarantines directed at preventing the movement of untreated in-shell pecans from eastern New Mexico counties to unifested counties in New Mexico and expand current eradication efforts.

Best Question Asked To Date

- Chances of eradication success in eastern New Mexico?
  - Minimal infrastructure;
  - Some cities/towns planted heavily with pecan;
  - Have been successful in eradicating it in the past;
  - Availability of Funding-- sources (current-Western Pecan Growers; New Mexico Department of Agriculture; USDA-APHIS-Plant Protection and Quarantine; New Mexico State University research funds.

What States Do Not Control

- Changes in Mexico Import Requirements;
- Enforcement and Changes in other state requirements;
- Information flow.

Summary

- Significant numbers of pecan weevil infested residential trees in Artesia followed by Hobbs, Lovington, Roswell, south of Carlsbad, and Clovis;
- Three commercial orchards infested with pecan weevil (two in Lovington, one Artesia);
- Established weevil populations in adjacent Texas counties;
- Pecan weevil still confined to limited areas;
- Not considered in commercial production in New Mexico

Partners In Slowing the Spread

- New Mexico State University
  - Cooperative Extension Service
  - New Mexico Department of Agriculture
  - Dept. of Entomology, Plant Pathology and Weed Science
- Texas A&M
  - Texas AgriLife Extension
- Texas Department of Agriculture
- Arizona Department of Agriculture
- California Department of Agriculture
- USDA-APHIS-Plant Protection and Quarantine
- Western Pecan Growers Association
- New Mexico Pecan Growers Association
- Arizona Pecan Growers Association
- West Texas Pecan Growers Association
- California Pecan Growers Association
- Independent Contractors in Eastern New Mexico
- Customs and Border Protection
- Equipment Dealers

Questions

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Entomologist/Inspector for Eastern New Mexico