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Vegetable Crops and Small Farm Program

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Historically

In the 70's, Alfonso Durazo was hired to work with small-scale farmers, he was part of the UC Small Farm Program

Squash Flowers

What were the growers needs?

Prioritizing the needs

- Identify the Small Famers
- What were their needs
  - Lack of farming information
  - Lack of modern farming practices
  - Lack of resources
- Develop a program that addresses these needs

From Farmworker to Farmer

- Many had worked on farms
- Lacked the understanding of agronomic principles
- Many were advanced cash by buyers at the LA Wholesale Market, they needed access to capital: they were struggling to survive
- Build relationships with the farmers

Historically

The Statewide success of the Small Farm Program created Opportunities for:

IR-4 Program

Organic Farmers, Farming

Spanish Language Programming

An excellent program for other states to emulate

The advisors provided local growers with the information and support they needed!

Problem/Issues Of Clientele

Farm Advisors

Extension Specialists

UC Faculty,□

Research yields new knowledge

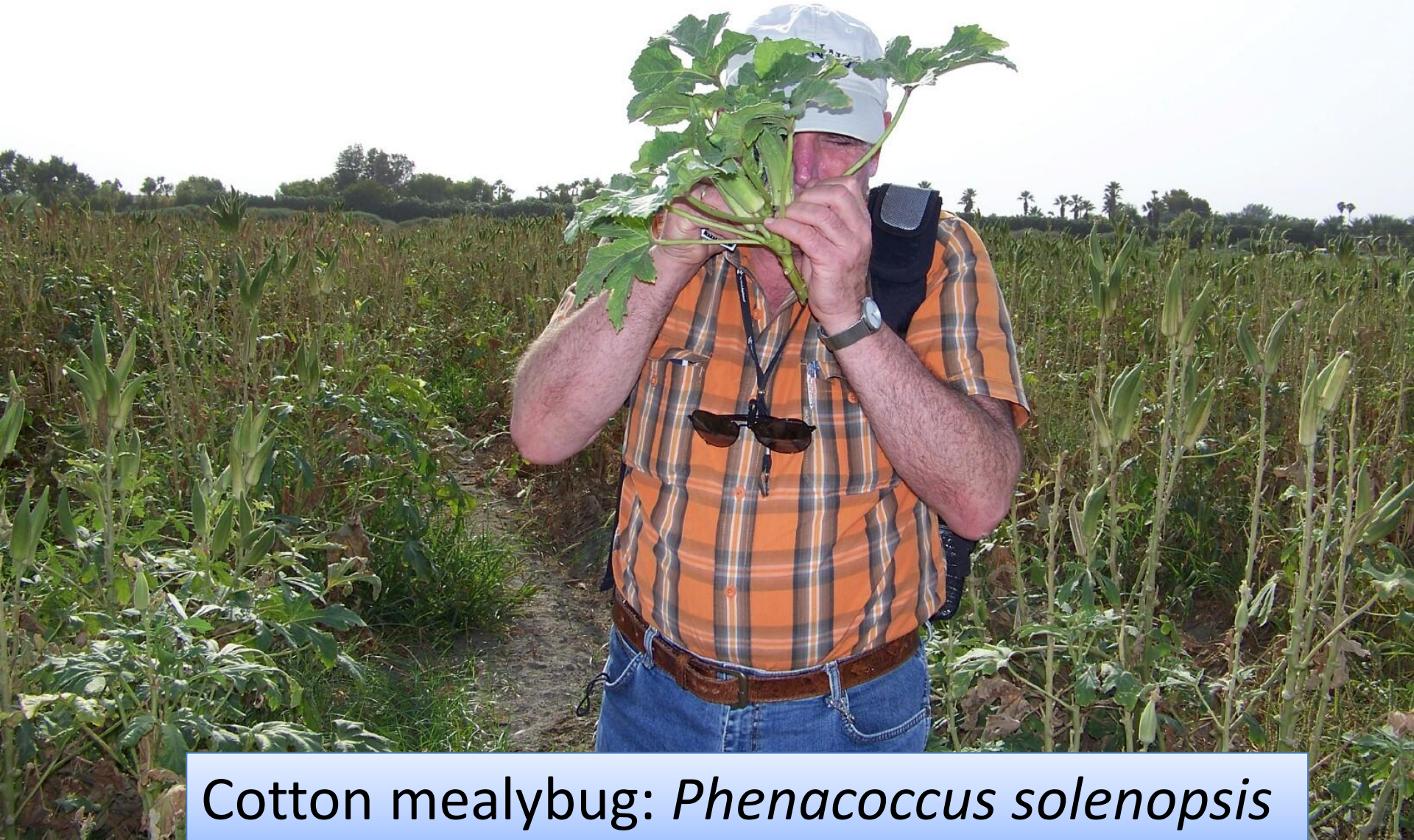
The Research – Extension Bridge

A recent example: okra

Okra acreage

- For 2012:
- The Agricultural Commissioner reported 923 acres in okra production, gross value of $3,507,400
- It is a grown on small fields spread across the Coachella Valley by limited scale producers

Consult with UC Extension Specialists to get proper identification, This is Prof. Zvi Mendel, mealybug specialist from Israel



Cotton mealybug: *Phenacoccus solenopsis*

Mealybug Action Plan

*Infested fields should be disked and plowed under after the last harvest. The okra crop residue provides the mealybug food and shelter

*Mealybug infested fields should be harvested last and work clothes should be washed every day. Otherwise the workers are transporting the mealybug crawler stage to new fields.

*Weeds should also be controlled around the fields.

*Equipment should be sanitized before moving onto non-infected fields. This would apply to tractors, discs, spray equipment, etc.

*Ant colonies must also be controlled. They provide the mealybugs protection!

*Chemical control should be considered, the cotton mealybug has a huge host range. There are materials listed for this pest.

Another Example

Field Problem: Pepper leaf discoloration

PCA notices a problem

Calls me to look at problem

This problem was widespread

Discoloration of the newer tissue

Grower wants answers!

Newer growth was bleached, white,


This is what healthy tissue should look like

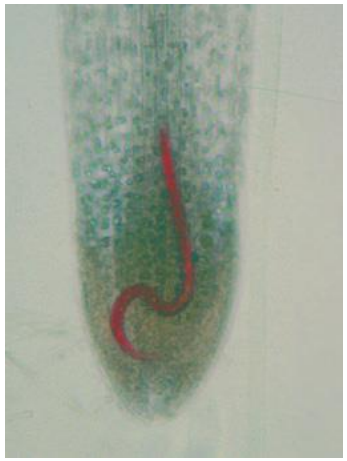
Putting together a Team

Test for Nematodes:

Involved Nematologist from UCR

Test for Virus: Involved Plant Pathologist from UCD

Check leaf tissue samples: Involved state certified lab



J2 hatch and invade host.

The samples were Negative for nematodes and plant disease

Plant Tissue Analysis Results

- Found the plants deficient in Phosphorus, Potassium and Manganese
- Grower made a fertilizer adjustment,
- The problem almost completely disappeared and yields were normal
- In this situation, a nutritional imbalance caused the plants to appear as if they had a disease or were infected with root-knot nematode

Working together the problem was solved!

New Crop Research

- Every crop grown in the Coachella Valley at one time was a new crop or a specialty crop
- Dates: Middle East
- Oranges, Mandarin, Lemons: China
- Grapes: Near East

New crops or specialty crops usually have

Better prices due to the limited acreage

What about Pitahaya, Dragon Fruit?

Can pitahaya plants survive and produce fruit in the Coachella Valley?

✔ Exposure to prolonged high heat

✔ Exposure to frost

What are the Diseases?

What are the Insect problems

Varieties

14: Haley's Comet
15: Physical Graffiti
9: Valdivia Roja
18: Seoul Kitchen
3: Orejona

Observation Varieties

6: San Ignacio
1: Cebrea
5: Sin Espinas
10: Bien Hoa Red

Plant material supplied by Ramiro Lobo

Planted 4-11-2012

May 16, 2012

Sunburn symptoms

Problems in establishing the plants

All the varieties had sunburn problems

Squirrels and gophers also loved the roots

Consequently the varieties remained thin
And never developed into the thick trunks

The Ideal growing temperature for dragon fruit is 65 to 77 degrees

The plants are also subject to freezing or frost

The plants can tolerate warm climates where temperatures do not exceed 100F


First year, flowers aborted, no fruit

Can Pitahaya be grown in the Coachella Valley?

- They will need to be grown under shade cloth for
- part of the growing season
- Begin plantings with larger cuttings so that they establish faster
- Irrigation has been problematic, to little the plants dry out,
- To much the plants rot

Pitahaya cuttings for replanting in the spring of 2014

At our local Cardenas Market fruit is selling for $4.99 pound

Olive Variety Trial

Olive Varieties

1. Arbosana
2. Arbequina
3. Koroneiki


Olive plots 4-11-14

Olives

Olives are very well adapted to our desert climate and soils

Olives plots were to be machine harvested using a modified grape harvester

Need to consult more with UC Olive experts

STEVIA

Is indigenous to Paraguay
Semi-tropical
Elevation: 650 feet
Annual Rainfall: 60 inches

Coachella Valley gets about 3 inches of rain a year!

Stevia Rebaudiana (Bertoni)

100-300 times sweeter than sugar

Does not raise blood sugar

Not metabolized in our digestive system

Prevents tooth decay

Lowers blood pressure

A sweet alternative for diabetics

Stevia


Stevia plots ready for harvest in July
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We are constantly Assessing needs

- Identifying the growers
- Knowing their problems and their needs
- Prioritize the problems and needs
- Establish an educational program involving the local agencies involved in agriculture to address the needs
- Initiate research projects to solve problems
- UCCE has a long term commitment to our communities

Sustainability

We must use all of our resources wisely,

Water, Land and People,

To provide the citizens of California and the world with safe, affordable produce now and for future generations!