



## Study in the USA: Arkansas, California and Arizona

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VIRGINIA TECH

WEDNESDAY MARCH 16, 2022

### Why study in the USA

#### Educational Objectives

- Upon successful completion of this course, the student will be able to:
  - Engage students in developing skills and competencies relating to producing food.
  - Travel to the Arkansas (was supposed to travel to Washington State) to observe the relationship between the natural resources, history, land use, and agricultural practices.
  - Connect the dots between classroom education and real-world experiences.
  - Develop a deeper understanding of challenges faced by people who are engaged in all aspects of agricultural enterprises.

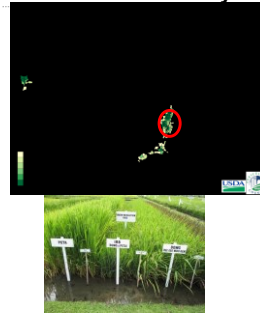


### The tour..



- We started in Fayetteville
- Clarksville
- Russellville
- Little Rock
- Hot Springs
- Lonoke
- Stuttgart
- Palestine
- Marianna
- Helena-West and Helena
- Flew out of Memphis, Tennessee

### History of Rice in Arkansas



- Arkansas ranks 1<sup>st</sup> in total rice acres & production in the USA
- Rice production began in 1902 with 1 acre of rice in Lonoke Co.
- Expansion occurred until 1954 when acreage reached an all-time high of 672,000 acres.
- Reached all time highs of ~1.54 millions acres in 1981, ~1.65 million acres in 1999 and ~1.79 million acres in 2010.
- In 2019, Arkansas acreage was about ~1.1 million acres.
- Rice is grown in 40 of the state's 75 counties.

### The tour.... Rice



- Rice is the largest commodity in Arkansas.
- Stuttgart, known as Rice and Duck capital of the world.
- Arkansas produces about 50% of the rice grown in the United States, most of which is grown on the eastern side of the state.

### The tour....



Huge blackberries grown in pots in greenhouse



- Arkansas University research station in Clarksville:
  - Primarily focused on berry
  - Grape, and peach production.
  - Arkansas University has a well-established breeding program in blackberries.
  - All the blackberries grown in the United States could be traced back to a line of blackberries bred by the Arkansas University Breeding Program.
  - 12 years to complete the breeding process and verify that the new variety can be patented and released.

### The tour....



- Visit an aquaponics farm that raises small bait fish and ornamental fish.
- **This business primarily focuses on raising small goldfish for pet stores.**
- **In Lonoke County, the largest aquaponics production system in quantity of fish.**
- **They are also the only supplier of goldfish for PetSmart.**

### The tour.... Rice production systems



Contoured field and unplanted zero-gradient field (not much can grow here other than rice)

- There are two methods used to grow Rice:
  - Zero grade and terracing.
  - The terracing system is more common for growing rice because it allows for a crop rotation system to be utilized.
  - **Zero grade fields can only be used for rice production because the field is completely flat to evenly distribute and hold water.**
  - An irrigation system is needed for rice production - rice yields are **highly dependent on water.**
  - Most of the rice processing facilities are also located in Arkansas including Riceland.

### Building Levees



### Crop Duster



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#### Itinerary for California and Arizona

- San Joaquin Valley
  - California water Institute
  - Irrigation Technology
- Orchards - pistachio, almonds, citrus
- Vineyards - raisin and wine grapes
- Garlic and onions
- Melons
- Processing Tomatoes-
- Salinas Valley
  - Rodoni Farms
  - Leafy greens
  - Food safety
  - Brussel sprouts
  - Artichokes
  - Berries (strawberries, raspberries)
  - Mushrooms
- Arizona
  - Indigenous communities and way of life
  - Water/Colorado river
  - Vegetable production



### Study in the USA: California and Arizona March 4-13, 2022



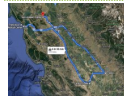
- **California Water Institute (CWI) and Center for Irrigation Technology (CIT)**
- Talk covered:
  - CA aqueduct system
  - Irrigation districts and water allocations
  - General water sustainability and quality - nutrients, pesticides, SGMA effort
  - Groundwater recharge efforts, water tables, subsidence
  - Irrigation efficiency improvements and changes (changes and highlights for specific crops - the overall transition to almost all drip in most production systems except sprinkle ups)

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- San Joaquin Valley (Burrel)**
- > **Schultz Ranch (Lorna Roush)**
  - > Family farm since 1886
  - > Grow almonds, pistachios, wine grapes.
  - > Basics of crop production
  - Irrigation, nutrients, pest management, etc.
  - > “Current” challenges in CA ag – water (quality and quantity)
  - > **Regulations**, production costs, labor, transportation, etc.

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- > **Vineyards - wine grapes**
- > Martin Britz/Farm Manager Kenny
- Raisins – Dry on the vine**

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- Dan Errotabere - Westlands Water District Board Member**
- > Diversified Family Farm: Pistachios, almonds, garlic, processing tomatoes and cotton.
  - > Of specific interest from Mr. Errotabere is general information regarding the Westlands Water District (from a Board Member and farmer’s perspective)
  - > **Labor challenges** (and how they have increased automation in some crops)



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- > **Dr. Robert B. Hutmacher**, University of California Agriculture and Natural Resources -Cooperative Extension Specialist and Center director
- > Cotton
- > Developing and introducing crops that have high water use efficiencies
- > Conservation tillage

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- De Jager Dairy- John Cardoza, Senior Project Manager**
- > Overview of operation and dairy manure subsurface drip irrigation system project
  - > For biosecurity reasons, this was the only on-site dairy stop
  - > Sustainable Conservation
  - > Dairy manure subsurface drip irrigation system project

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- Salinas Valley**  
**Adriana Rodoni, Rodoni Farms –**
- > Brussels sprouts
  - > Strawberries
  - > Artichokes
  - > Brussels sprout processing plant



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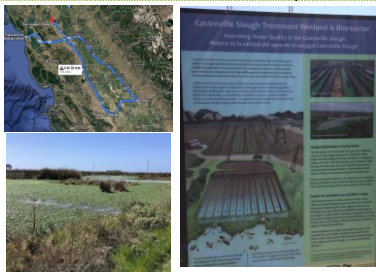
**Salinas Valley**  
**Adriana Rodoni, Rodoni Farms –**  
➢ **Strawberries**  
➢ **Artichokes**

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**Salinas Valley**  
➢ **Clint Cowden, Hartnell College.**  
➢ **Leader in training students related to ag technology**  
➢ **Especially for the produce industry found in the Salinas area.**  
➢ **Job training and workforce development, specific to ag production and food safety as well as manufacturing sector technology.**

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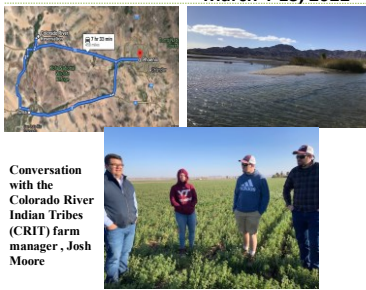
**Salinas**  
➢ **Dr. Karen Lowell, NRCS Area Agronomist at an Ocean Mist site in Moss Landing.**  
➢ **Karen is also the national POC for Food Safety for NRCS and has extensive experience with the Leafy Greens Marketing Agreement (LGMA) and the intersection of conservation and food safety.**  
➢ **Site has an NRCS/ Central Coast Wetlands Group (CCWG) on Ocean Mist (major producer) ground with a bioreactor to receive ditch water, run it through the bioreactor set up, and then pass it back to a constructed wetland.**

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**Arizona**  
**Pablo Grande museum**  
➢ **Pueblo Grande Archaeological Site**  
➢ **Private tour of park of Four Waters site**  
➢ **Hohokam history**  
➢ **Saw CAP Canal run through site**  
➢ **Saw ancient Hohokam canals**

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**Arizona -Yuma**  
**Joshua Moore**  
• **Colorado River Reservation**  
➢ **Farm manager recently left Univ. AZ and now works here, discuss how they are converting away from cotton**  
➢ **Water rights discussions – In AZ \$25 acre/ft of water CA was \$1200 acre ft of water**

Conversation with the Colorado River Indian Tribes (CRIT) farm manager, Josh Moore

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**Arizona**  
➢ **Yuma**  
➢ **Dates**  
➢ **Leafy green production in Yuma Valley**  
➢ **Dates**  
➢ **Broccoli for seed production**

**Study Abroad: Austerlia**  
**September 7-18, 2022**

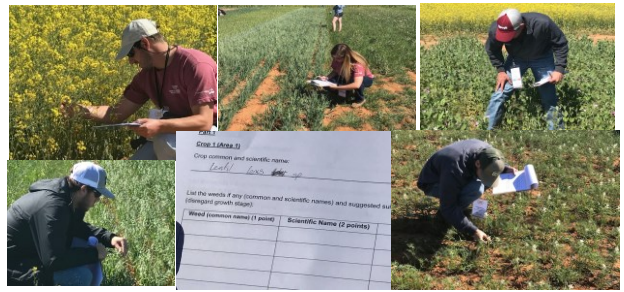
**Excursions**

- Moxey farms, one of the largest dairy farms in Australia
- Mix farming systems – common in Australia and not so in the US
- Large scale crop farm (canola/wheat) –
- **3 days Crops Judging Contests, 8 components:**
- Component 1 - Seed identification -
- Business management
- Pulse (chickpea, lentils,) evaluate production and marketing
- Oilseeds (canola, sunflower), evaluate production and marketing
- Grain Grading – using Australian grain grading standards
- Live crop yield potential and production practices

Plus, many cultural experiences – Example – Taronga Zoo, Sydney Opera House, Bondi beech , botanical garden, and more.



**The Contests: Day 1 and 2**



**The BIG 5**  
 Study Abroad – South Africa



**The Food: Meat and more meat**



**Study in the USA**  
**Spring, 2023?**

Washington State?



**We Thank the Virginia Soybean Board for supporting the study in the USA/Abroad programs**

