KAHOOT PIN – PLEASE GO AHEAD AND SIGN IN

3663876

TEXAS A&M AGRILIFE RESEARCH

OUR MISSION: Conduct agricultural research to assure the highest quality food and fiber products and a sustainable environment, as well as to foster economic viability throughout the Texas and national agricultural industry.

AGRILIFERESEARCH.TAMU.EDU

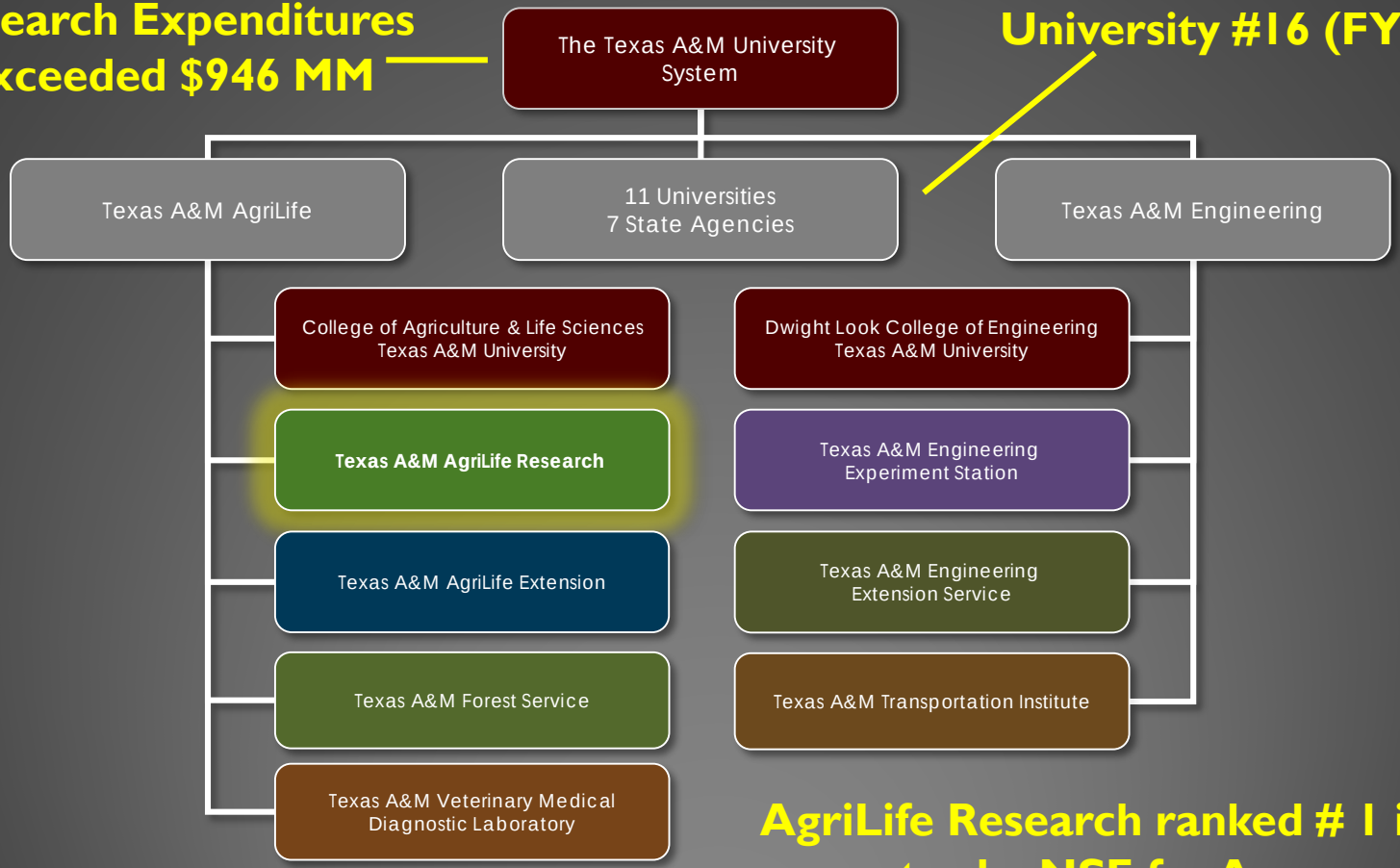
THE LAND GRANT UNIVERSITY

- Morrill Act of 1862 established land grant universities to "educate citizens in agriculture, home economics, mechanical arts, and other practical professions."
- Each eligible state received a total of 30,000 acres of federal land that could be sold to support funding of land grant institutions.
- There are over 100 recognized land grant institutions in the United States and territories.
- Three fold mission of teaching, research and extension

HOW WE FIT

2017 Externally Funded Research Expenditures exceeded $946 MM

NSF Texas A&M University #16 (FY16)



AgriLife Research ranked # 1 in the country by NSF for Ag. research funding in 2012 - 2017

WHO WE ARE

- Agricultural Economics
- Agricultural Leadership, Education & Communication
- Animal Science
- Biochemistry/Biophysics
- Biological & Agricultural Engineering
- Ecosystem Science & Management
- Entomology
- Horticultural Sciences
- Nutrition & Food Sciences
- Plant Pathology & Microbiology
- Poultry Science
- Recreation, Parks &Tourism
- Soil & Crop Sciences
- Wildlife & Fisheries Sciences
- Veterinary Integrative Biosciences
- Veterinary Pathobiology
- Veterinary Physiology & Pharmacology

QUESTION #1

- How many Texas A&M AgriLife Research and Extension Centers are there across the state?

20

13

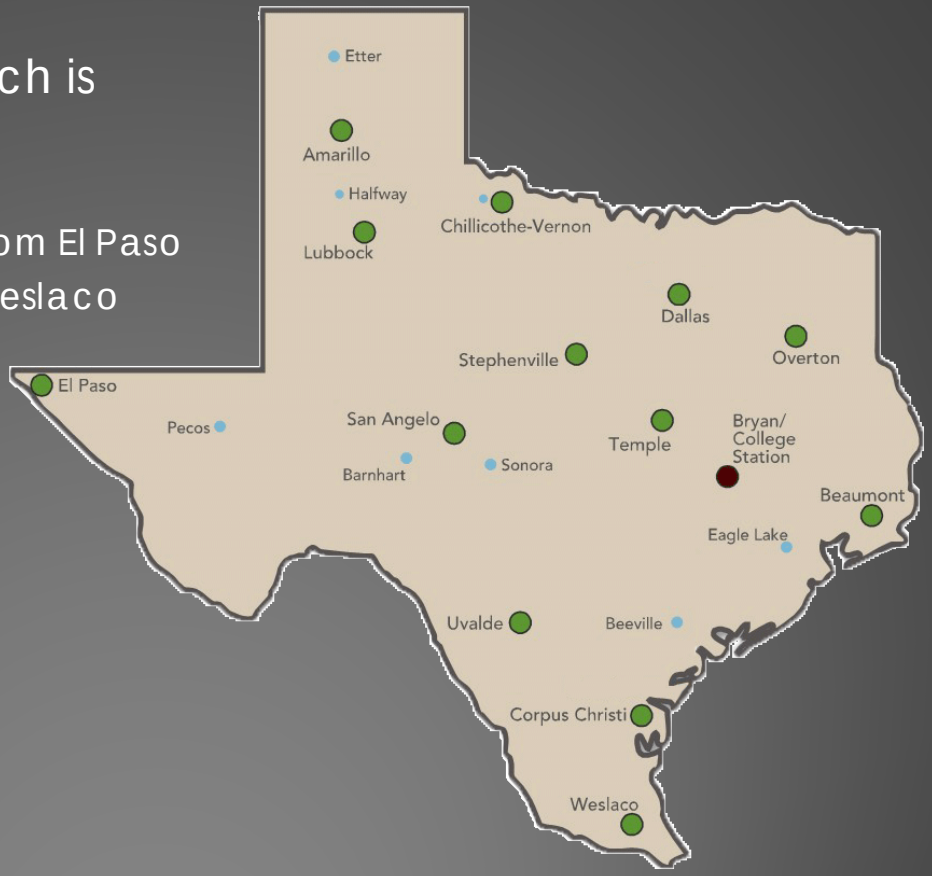
9

$1 Bob

WHERE YOU CAN FIND US

Texas A&M AgriLife Research is comprised of:

- College Station headquarters
- 13 research centers reaching from El Paso to Beaumont and Amarillo to Weslaco
- 7 associated research stations



WHERE RESEARCH IS CONDUCTED

Diverse growing conditions can support a wide range of ag commodities

ANIMAL IMPROVEMENT FACILITIES

- Beef Cattle
- Meat Science
- Dairy Cattle
- Equine
- Poultry
- Sheep & Goats
- Swine
- Shrimp
- Finfish

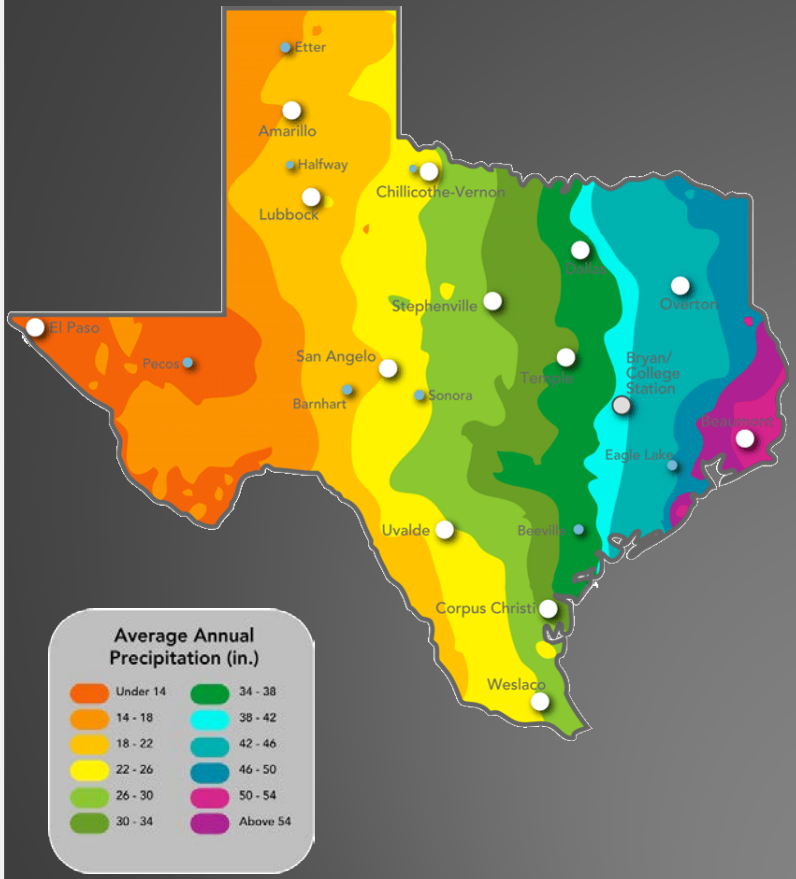
CROP IMPROVEMENT FACILITIES

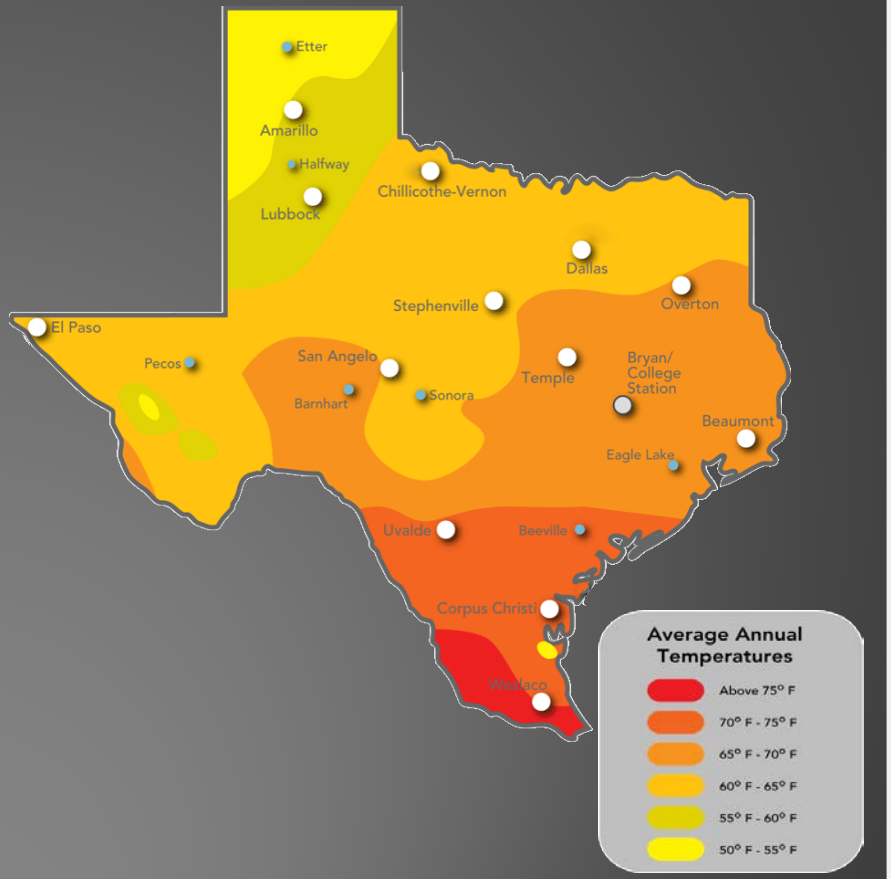
- Wheat
- Corn
- Rice
- Vegetables
- Sugarcane
- Sorghum
- Cotton
- Peanut
- Ornamentals
- Bioenergy grasses
- Turfgrass
- Citrus
- Potato

AGRILIFERESEARCH.TAMU.EDU

4 SEASONS IN ONE DAY?

We're capable of replicating almost any growing condition in the world
Diverse growing conditions: climate, soils etc.





AGRILIFERESEARCH.TAMU.EDU

CURRENT RESEARCH PRIORITIES

GRAND CHALLENGES CONCEPT

INTERDISCIPLINARY, FACULTY-DRIVEN INITIATIVE TO IDENTIFY TOP PRIORITIES FOR THE FUTURE

(CONDUCTED IN 2012-2013)

CURRENT RESEARCH PRIORITIES

Grand Challenges Concept

A way of addressing complex societal problems such as:

- Developing clean, affordable, and reliable energy sources
- Developing more nutritious foods and improving food safety
- New ways to improve health and reduce the health care costs
- Improving/protecting/managing water resources
- Development of vaccines for deadly diseases
- Creating high-quality jobs
- Developing effective teaching and learning ways

QUESTION #2

- How many Grand Challenges does AgriLife have?

3	4
5	Challenges? You mean opportunities!

CURRENT RESEARCH PRIORITIES
GRAND CHALLENGES – THE WHY

1 2 3 4 5

CURRENT RESEARCH PRIORITIES

Water

Develop cropping systems and efficiency processes to protect water resources

Disease Prevention

Sustainable food/fiber production, nutrition and drug development

Land Use

Sustainable land use solutions

Bioenergy

Renewable energy and new uses of crops

QUESTION #3

- Which disease below is transmitted by an insect vector?

Lyme Disease

Small Pox

Pnemonia

Ignorance

CURRENT RESEARCH PRIORITIES

Sustainability

Combats land, food, and water supply demands

Food & Nutrition

Alleviate hunger & lack of nutrition

Insect-Vectored Disease

Provide evidence-based information and solutions

New Crops

New and improved crops to meet rising global demand

CURRENT RESEARCH PRIORITIES

Pests & Invasive Plants

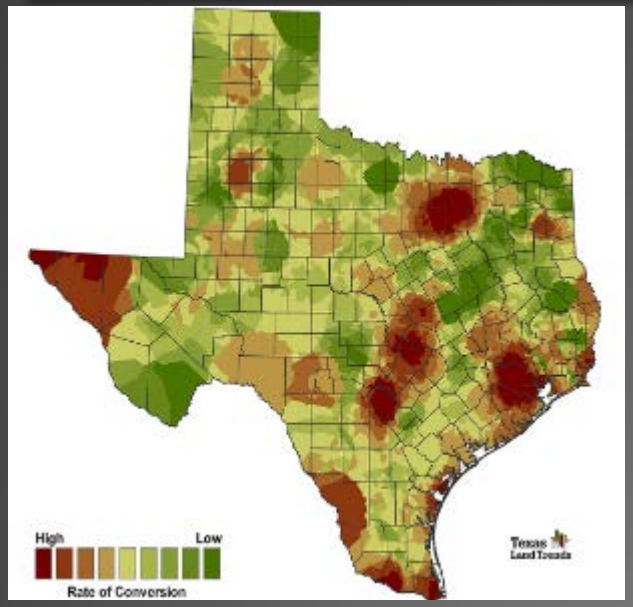
Detect & mitigate insect borne diseases and invasive plants to protect ag and human health

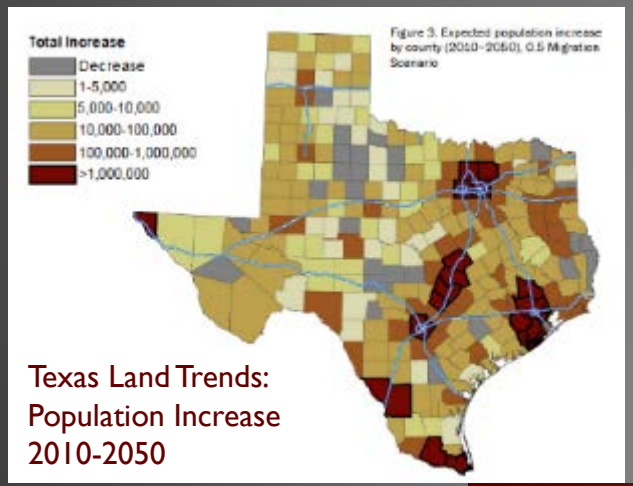
Livestock & Plant Genetics

Genetics studies to enhance production efficiency & sustainability

WHERE ARE WE HEADED

(Our new AgriLife Research Director, Dr. Patrick Stover)





Texas Land Trends:
Population Increase
2010-2050

- **Maintain our commitment to "classical" agriculture**
- **Meet needs of <u>both</u> the urban and rural populations**
  - **Healthy food systems**
  - **Public health**
  - **Job creation**
  - **Safety**
- **Connect Urban and Rural through "<u>Balancing the Equation</u>":**

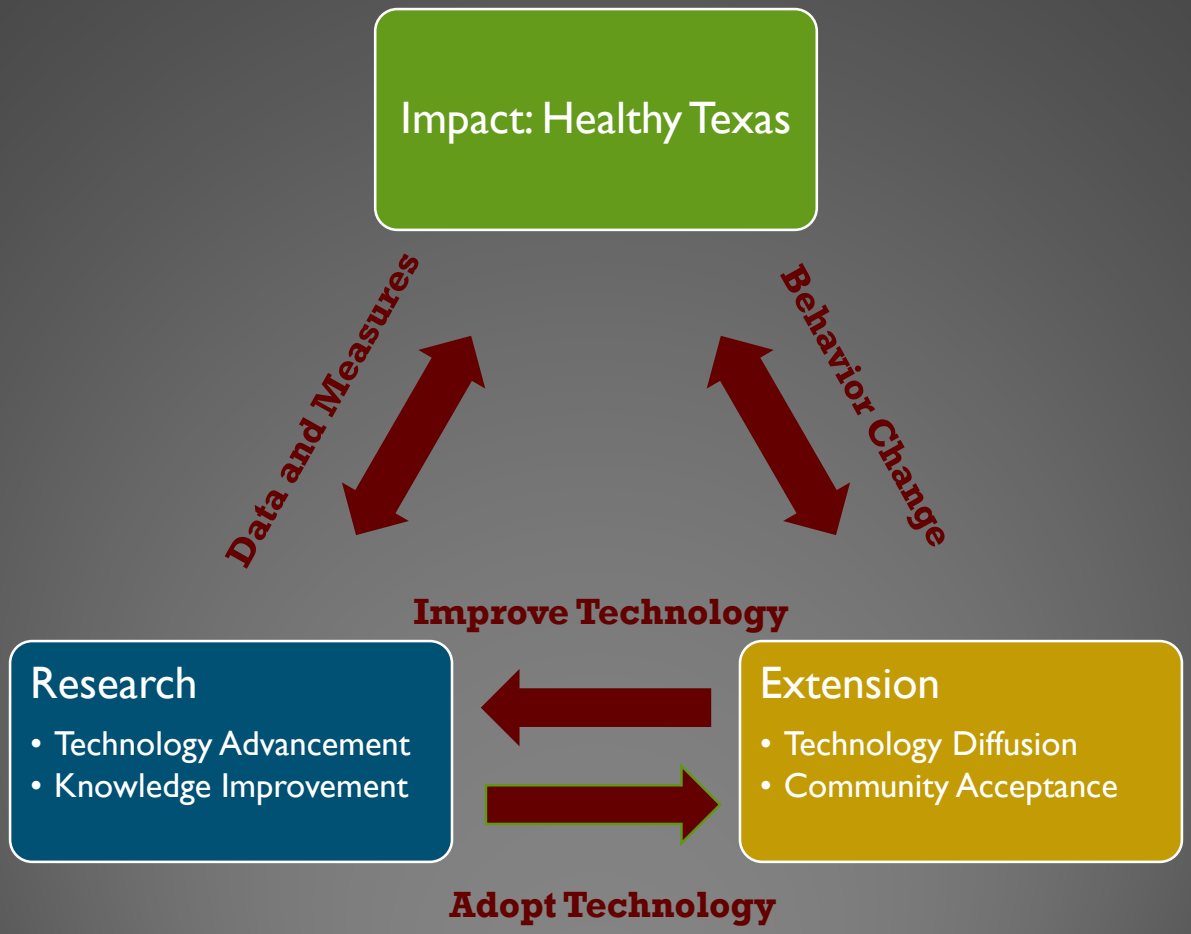
Healthy Agriculture +

Healthy Environments =

Healthy People + Healthy Economies

WHERE ARE WE HEADED: NEXUS OF FOOD, WATER AND ENERGY SYSTEMS

WHERE WE ARE HEADED: LEVERAGE RESEARCH AND EXTENSION



WHERE ARE WE HEADED: BUILD ON PAST SUCCESSES

Texas 1015 onion

Melons

Tomatoes

Maroon carrot

Mild Jalapenos

Rio Red Grapefruit

Bee Health

Aggie Brand Beef Jerky

QUESTION #4

- Texas ranked as the #1 state (2017) in cash receipts for which of the following commodities?

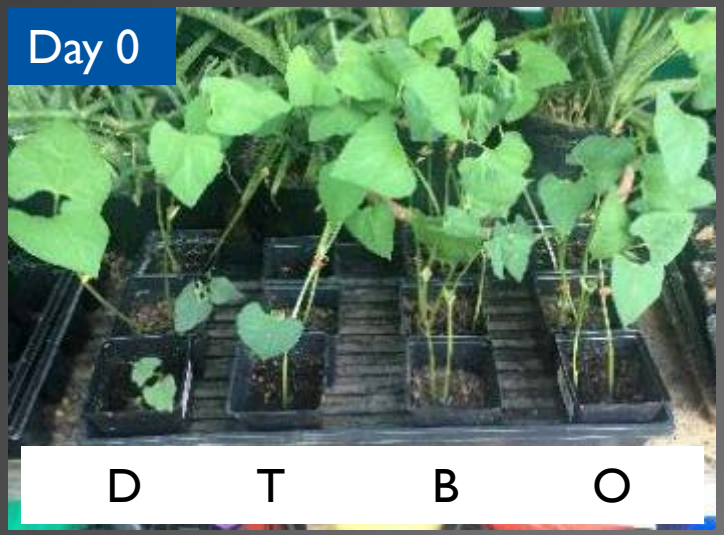
Cotton

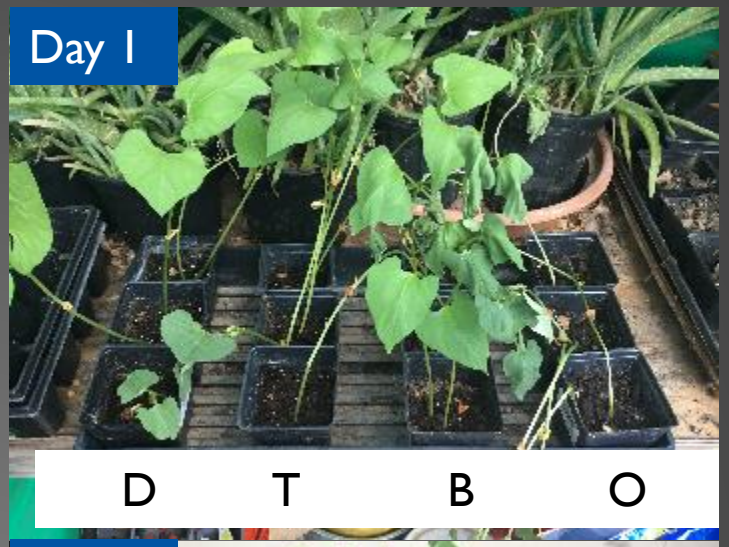
Animals and Products

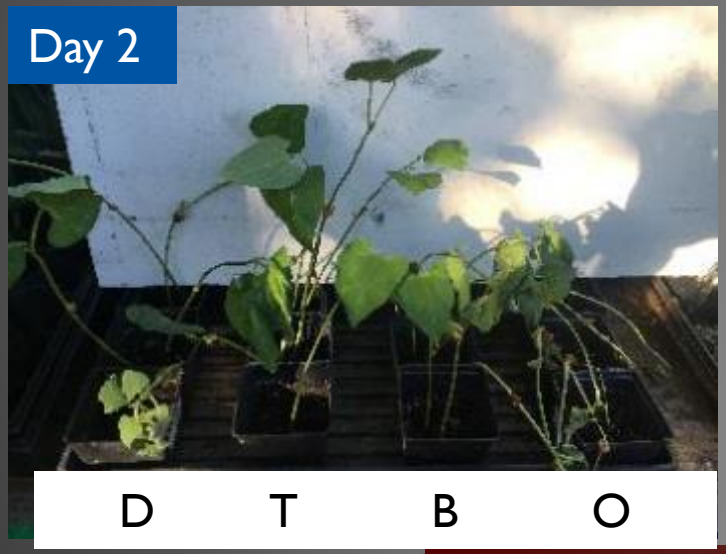
Mohair

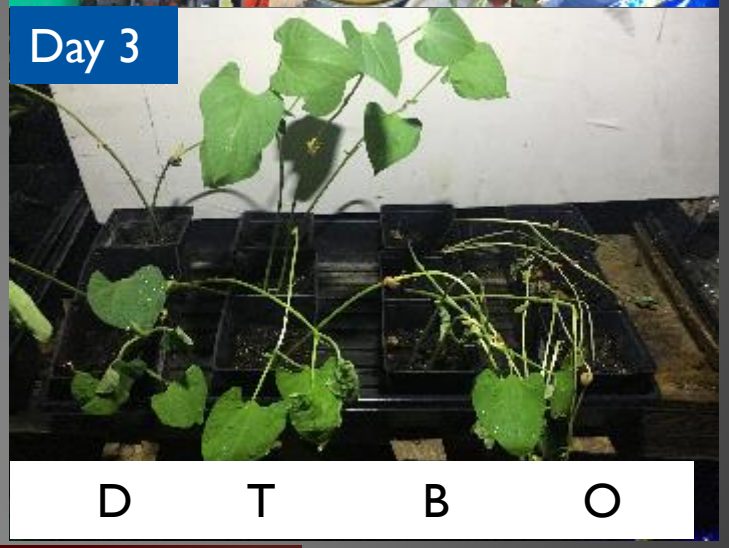
All of the Above

BEAN SEEDLING RESPONSE TO SALINITY









SALINITY DEMONSTRATION

- Which salinity level is in cup A?

Distilled Water	Ocean Water
Drinking Water	Brackish Water

SALINITY DEMONSTRATION

- Which salinity level is in cup B?

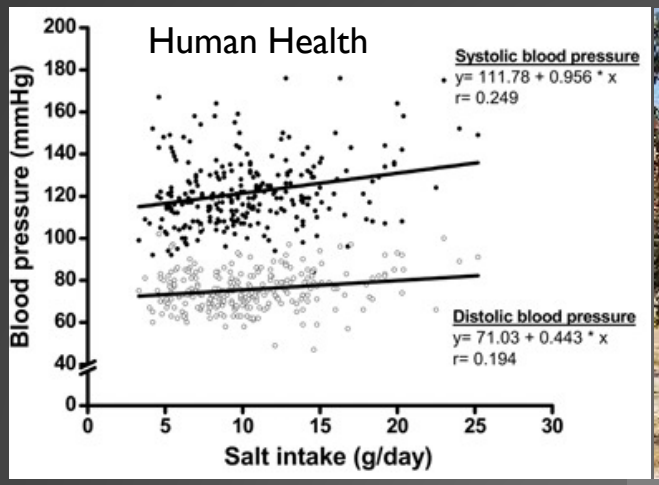
Distilled Water	Ocean Water
Drinking Water	Brackish Water

SALINITY DEMONSTRATION

- Which salinity level is in cup C?

Distilled Water	Ocean Water
Drinking Water	Brackish Water

EFFECTS OF EXCESS SALT



Rodrigues et al. 2015.

Plant stress photos courtesy of Dr. Girisha Ganjegunte
El Paso Research & Extension Center

DECREASING SALINITY EFFECTS ON TEXAS CROPS

- AGRONOMIC/WATER MANAGEMENT
- GENETIC IMPROVEMENT
- KNOWLEDGE ACQUISITION TO SUPPORT AGRONOMY & BREEDING

THANK YOU!

TEXAS A&M AGRILIFE RESEARCH

Melissa Berquist
Allen Berthold
Juan Enciso

Lucas Gregory
John Jifon
Lee Tarpley