

I. Upcoming new courses:

- BIOL 4429** Agroecology (Approved, offered Fall 2014)
- BIOL 6429** Adv. Agroecology (Approved, offered Fall 2014)
- BIOL 44XX** Methods and Experimental Design in Ecology (forthcoming)

II Existing Courses (modified to incorporate agricultural applications and examples):

- BIOL 4201** --Biol. Research Problems (applications in urban forestry)
- EDSC 6326**--Integrating Agriculture into the Science Curriculum
- BIOL 4315**-- Inquiry Based Learning

III. Development of middle/high school science lesson plans

UTEACH student participants will be encouraged by clinical instructors (Tim Sears, coPD) during the academic year (SP 2014 through SP 2016) to develop lesson plans that use agriculture and food science to address high school curricula needs. These lesson plans will be made available to CENA network

IV. Professional development workshops, local STEAM teachers

Teacher-participants will participate in a **4 week series of workshops** on issues related to local agriculture with planned visits to USDA-ARS and APHIS facilities, Texas A&M Agrilife Experiment Station, local sustainable farms, and the forthcoming UTPA Agroecology Garden (Summers 2014-16)

Experiential Learning

We've develop an internship program which provides UTPA students experiential learning opportunities at partnering institutions that either (a) conduct agricultural research (b) promote sustainable food systems or (c) actively practice sustainable food production and/or community supported agriculture. Enrolled interns are eligible to receive 2-units of credit in Biology or Environmental Sciences (BS) **and** a USDA-CENA scholarship each semester

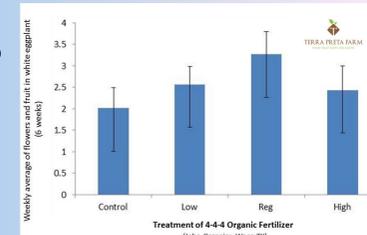
Fall 2014 USDA-CENA Scholars



Featured internship : Terra Preta Farm ,Edinburg TX



In consultation with Juan Raygoza (Terra Preta Farm, owner) USDA-CENA scholar Rico Marez conducted a preliminary study of the effects of organic fertilizer on eggplant. Using a randomized block design, 3 treatments of 4-4-4 fertilizer was administered in Oct 2013, and number of fruits and flowers were measured weekly.



Curricula development

Agroecology is the interdisciplinary science of applying ecological, social, and economic concepts and principles to the design and management of sustainable agroecosystems.

An agroecological lens contextualizes agriculture in the environment in which it is found . The challenges of **climate change, childhood obesity, and food security** (USDA priority need areas) in S. Texas present immense opportunities for positive changes to the local food system--through agroecological research on agriculture, diet, and nutrition, and the promotion of a sustainable agroecological approach to food systems.

AGROECOLOGY

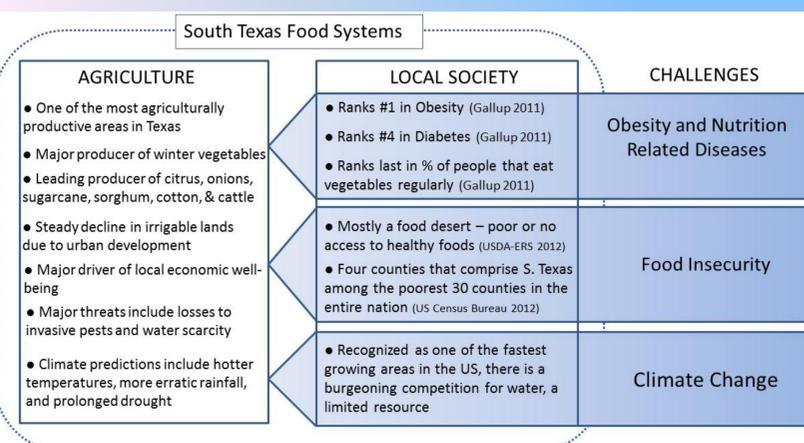
Networking

We are developing a multi-member alliance including university professors, scientists, local farmers, education specialists, that will help recruit and retain outstanding students and teachers in a largely Hispanic south Texas population into the CENA program. Networking can be done through our electronic program listserv, website, and social media venue.

CENA Participants and alumni can receive:

- Conference scholarships to scientific and professional meetings
- Access to trainings/workshops at UTPA (statistics training, CV/resume workshops, etc)
- Access via listserv or website for local employment or graduate studies opportunities , and invitations for training, events, and discussions

Key Partners



CENA

CURRICULA, EXPERIENCE, AND NETWORKING IN AGROECOLOGY



Curricula Development, Experiential Learning, Networking, and Agroecology for a diverse student clientele (CENA): overcoming barriers to agricultural education and careers in south Texas

Project Directors: **Alex Racelis**, Rod Summy, Danika Brown, Daniel Plas, Tim Sears

USDA-NIFA-HSI #2013-01523; award amount: \$294,999