Plant Growth Facilities

UGH

and

UGHS

Past, Present and Future

Colorado State University
College of Agricultural Sciences

History of centralized management

- Who we serve:
  - Bioagricultural Sciences and Pest Management
  - Biology
  - Civil and Environmental Engineering
  - Forest and Rangeland Stewardship
  - Ecosystem Science and Sustainability
  - Horticulture and Landscape Architechture
  - Natural Resource Ecology Lab
  - Soil and Crop Sciences
- We have 42 active PI's within these departments.
  - Over 100 graduate students associated with the PI's
  - 50 undergraduate students associated with PI's
  - 2 student organizations
  - 2 outside CSA users

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University Greenhouse (UGH) Before

Greenhouses circa 1950's

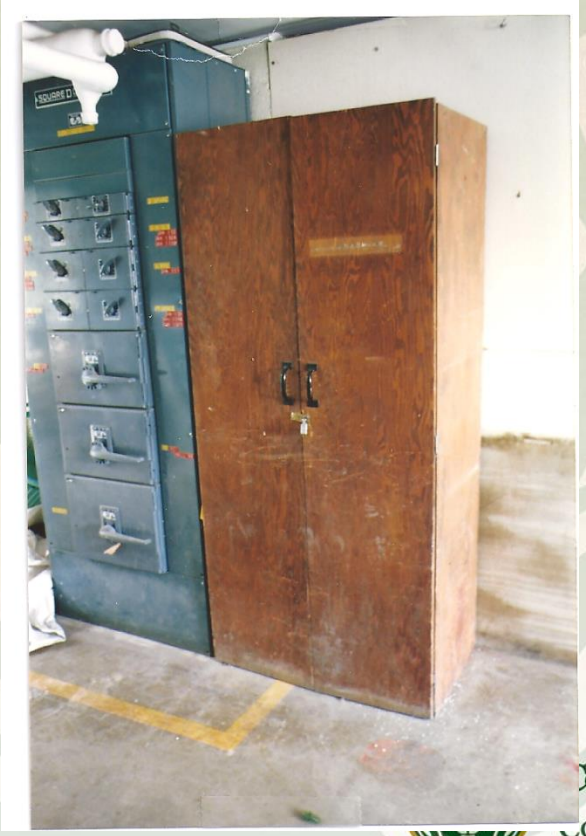
UGH After

- ~ 1 acre facility
- 5600 ft^2 warehouse
- Steel truss gutter connect
- Triple redundant heat
- Back-up generator
- Funded by controlled maintenance $

ate University
RICULTURAL SCIENCES

UGH Power!

Power before



Power after

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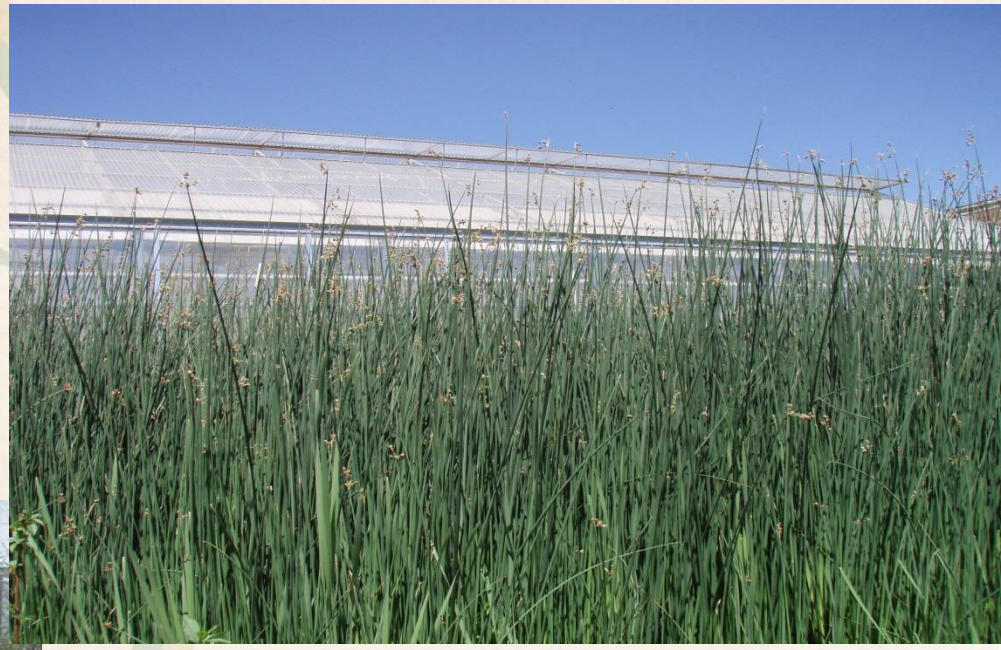
UGH Constructed Wetlands



State University
AGRICULTURAL SCIENCES

UGH Research

Dr. Scott Haley
SCS

Dr. Mark Brick
SCS

Breeding

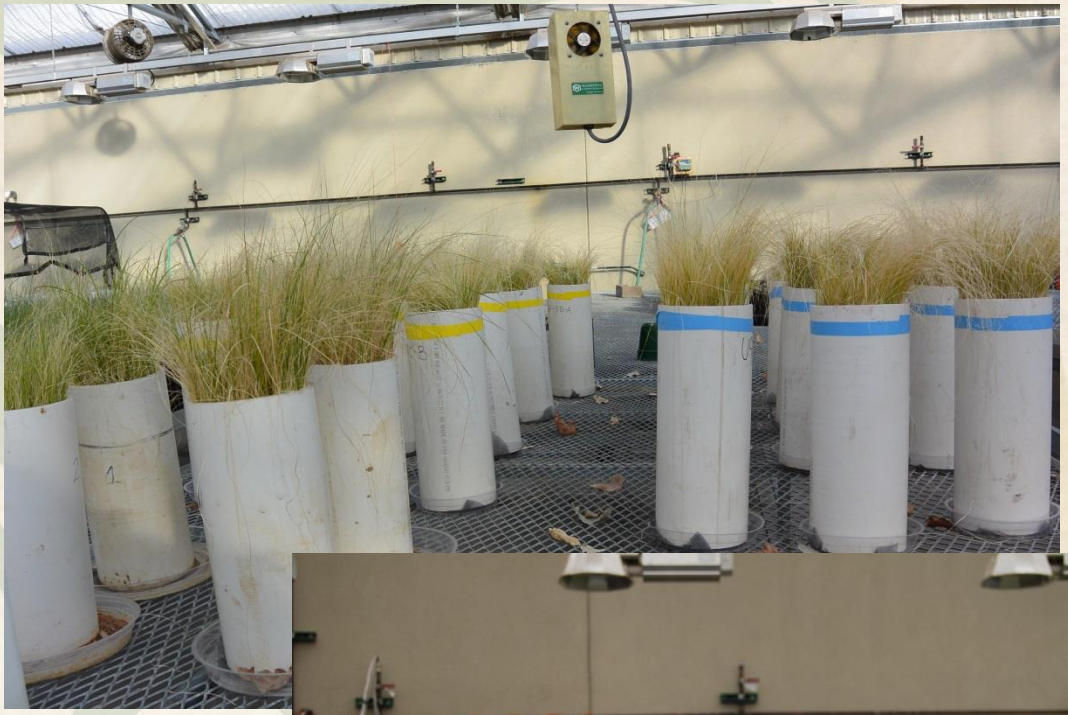
lo State University
F AGRICULTURAL SCIENCES

Dr. Patricia Bedinger
Dr. Lorinda Anderson
Dr. Stephen Stack
BIO

Climate Change

UGH Research

Dr. Diana Wall (SCS)
Dr. Pilar Andres



Dr. Troy Ocheltree
FRS

Dr. Melinda Smith
BIO

UGH Research

Biofuels & Biomass

Dr. Joe Brummer
SCS

Dr Jan Leach
Dr. John McKay
BSPM
Dr. Dan Bush
BIO

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Dr. Courtney Jahn (BSPM)
Dr. June Medford (BIO)
Dr. Todd Gaines (BSPM)

UGH Research

Isotope labelling chamber

Dr. Francesca Cotrufo
SCS

Biofertilizers

Dr. Jessica Davis
SCS

Dr. Jorge Vivanco
HLA

Plant phenolic and volatile cmpds

UGH undergraduate class use

SOCR320

- ART135 Introduction to Drawing
- BIO310 Cell Biology
- BSPM308 Ecology & Management of Weeds
- BSPM302 General Entomology
- BSPM361 Plant Pathology
- BZ120 Plant Biology *CC
- BZ310 Plant Systematics
- BZ450 Plant Ecology
- H100 Horticulture Science *CC
- H260 Plant Propagation
- HORT322 Herbaceous Plants
- HORT341 Turfgrass Management
- LIFE212 Intro to Cell Biology
- RS478 Restoration Ecology
- SOCR320 Forage and Pasture Management
- SOCR351 Soil Fertility Management

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University Greenhouse South (UGHS) Before

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UGH After

- 6000 ft^2
- Specialized small bays
- BSL2P+ containment standards
- Dry high pressure fog additive humidity

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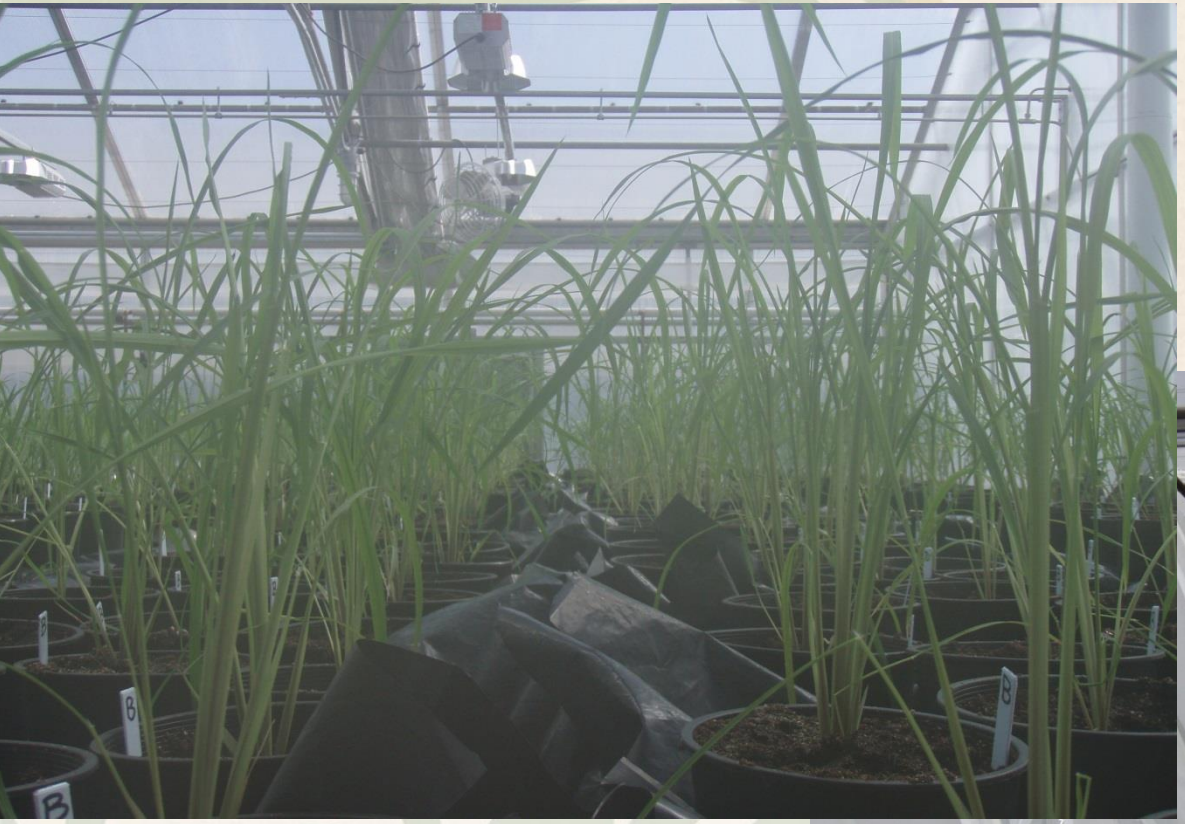
College of Agricultural Sciences

UGHS Research



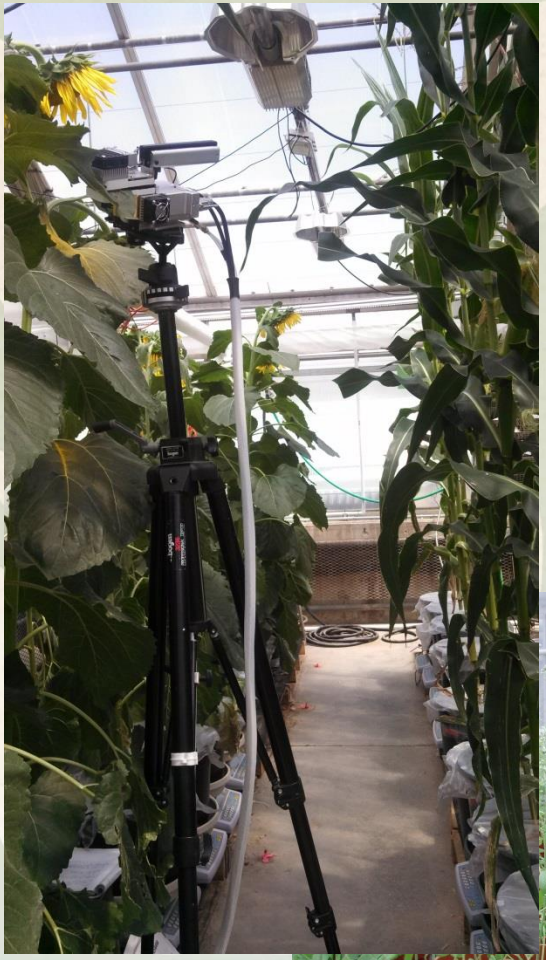
Pathology: insects & diseases

Dr. Howard Schwartz
BSPM

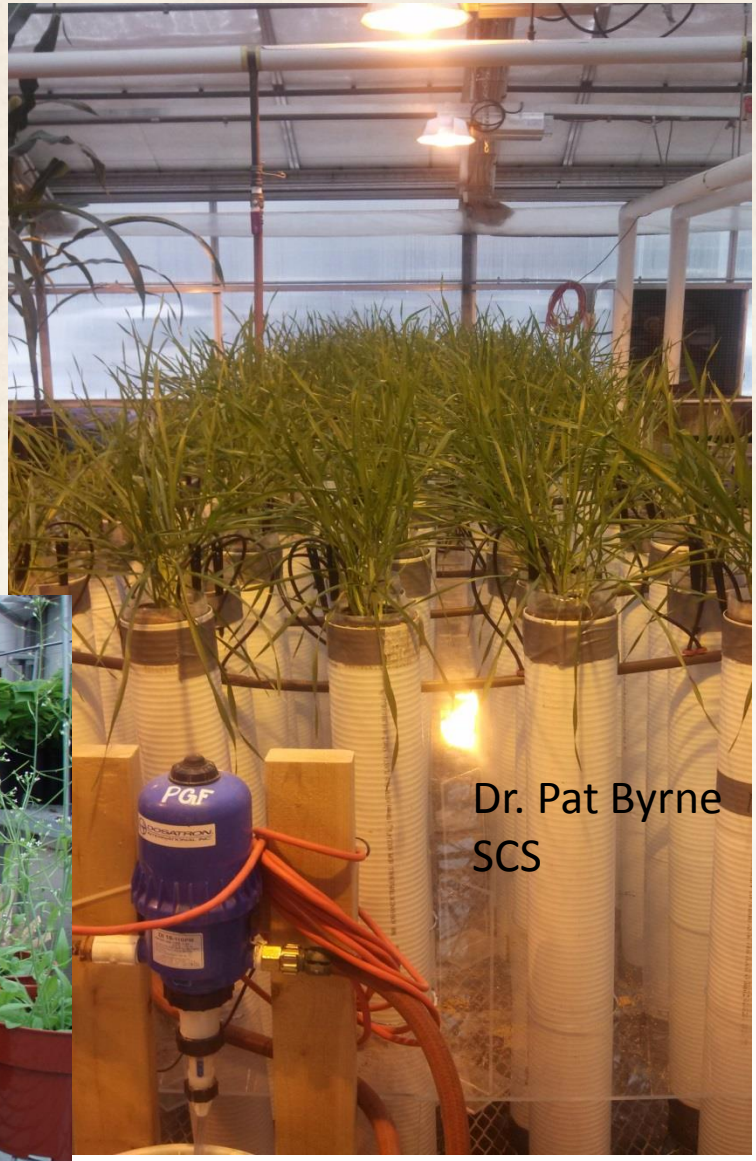
Dr. Jan Leach
BSPM

UGHS Research

Dr. Jay Ham, SCS
Grace Lloyd Miner, Eng



Drought/ Precision Ag



Dr. Pat Byrne
SCS

Transgenics

Dr. Marinus Pilon
BIO

Future: Growth Chamber Hotel

- 1932 ft^2 addition
- 28 growth chamber "slots"
- 500 ft^2 lab
- BSL2P+
- Backup generator
- Funded by AES, College of AG, College of Natural Sciences, Warner CNR & VPR

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Future: UGH Headhouse

Before

After

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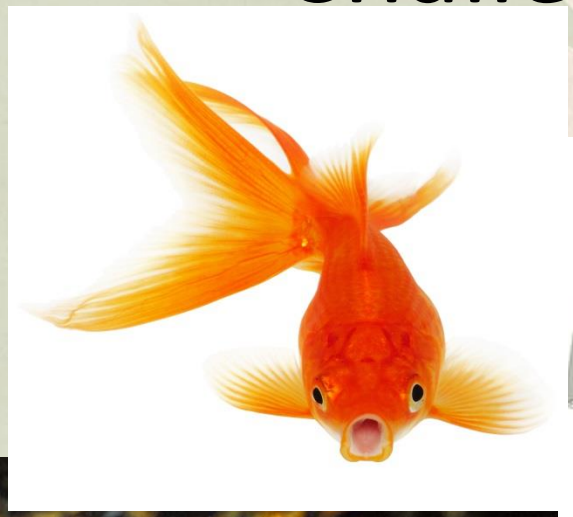
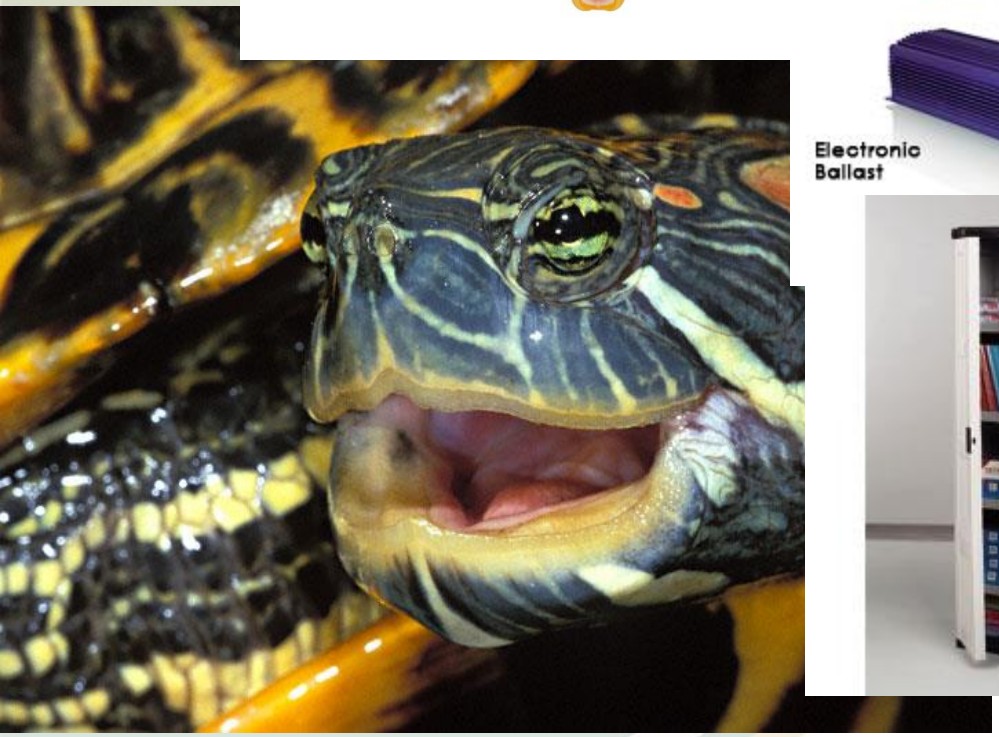
Headhouse challenges

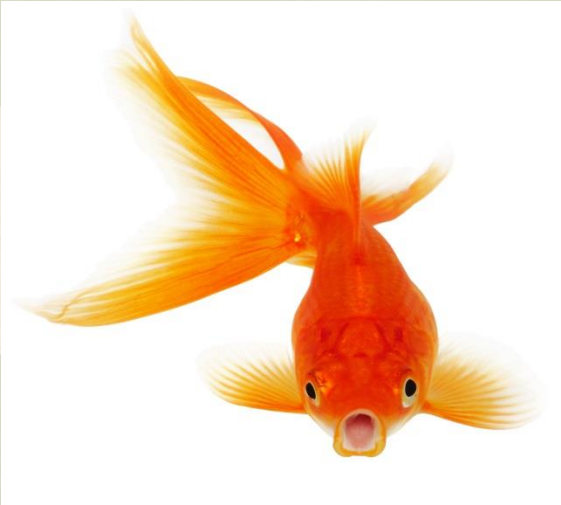
Other challenges: maintenance

Challenges: Minus





Challenges: Plus



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Thank you!