# Programs and Progress at Kearney REC and West Side REC

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# Location, location & water issues

## Kearney REC

- East side of SJV (10-12” rain)
- Closer to Sierra watersheds & recharge
- Groundwater used, some future competition & limits likely
- Water supplies relatively shallow, quality good, pumping costs increase and so will competition in future

## West Side REC

- West side of San Joaquin Valley (5-6” rainfall)
- Closer to coast mtn. range
- Irrigation district water supply uncertain & impacted by state & Endangered Spp. Act rules
- Shallow groundwater saline or not available
- Better groundwater supplies deep & expensive to access

# University of CA Units at KREC

- **C.E. Central Valley Region (will be changed in 2010 with C.E. Business Unit located at KREC)**
- **Kearney Agriculture Center (Academic Research Unit and supporting programs & staff)**
- **Kearney Research & Extension Center (Center facilities and staff) – includes some research & outreach work**

# Kearney Agriculture Center

## Academics

- **UCB = 1**
- **UCD = 11**
- **UCR = 5**
- **IPM = 4**

**21 academic positions**

**Plus GIS, Adminstrative, Computer support, drafting**

KREC Infrastructure design = about 30 academic positions so with budget issues there are concerns about full use of facilities

# KREC ORGANIZATION

- Administration = 1.75
- EH&S = 1
- Field Research = 12 (+8 PL)
- Multi-Users = 2 (+2 IR4)
- Physical Plant = 8

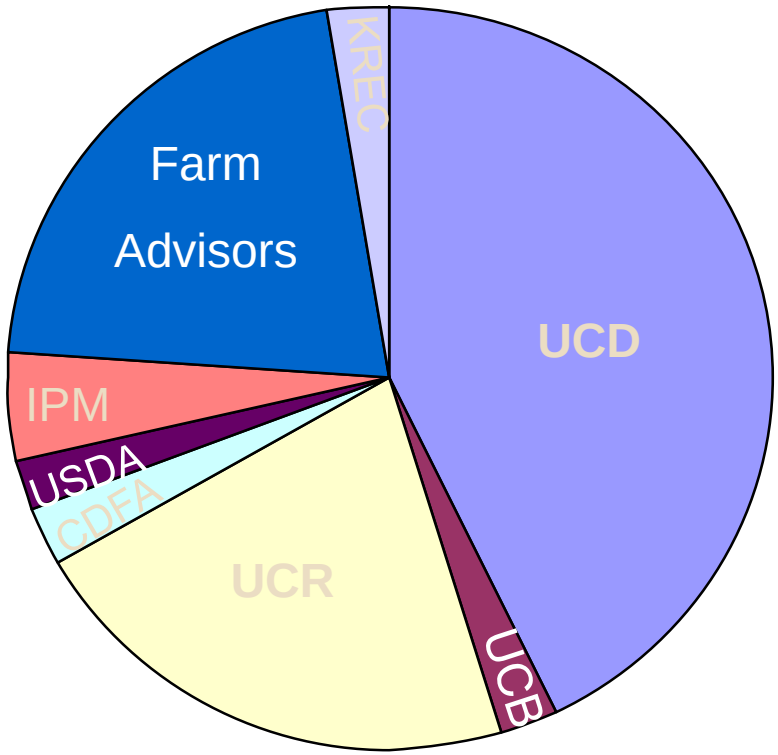
**Total FTE = 26.75**

# Totals – size, people, projects

- 330 Acres
- 92 Research Projects
- 43 Principal Investigators
- 17 Resident Principal Investigators
- 45 IR-4 Studies
- 42 Different crops
- 19,000 to 21,000+ Assignable hours
- 12 Career Farm Ops staff, 20 seasonal labor
- Labor intensive activities result in high posted research support hours and gross recharges, moderate to high crop sales, and increases in hourly recharge rate as dictated by budget situations / projections each year

# KREC: Research Project Leaders

**43 Project Leaders -19 Different Departments**




18 UCD

9 UCR

1 UCB

2 IPM

2 USDA

1 CDFA

1 KREC

9 Farm Advisors
(from 5 Counties)

**KAC-16 = 38%  Non KAC- 26 = 62%**


Blueberry Post
Harvest Quality
Cultivar Evaluations
Carlos H. Crisosto, Gayle Crisosto,
Richard Mollnar, Vanessa Bremer,
and Manuel Jimenez
EXIT

# Tree & Vine crop retention for multiple users once crops established

- Significant costs associated with orchard and vineyard establishment
- Some trials focus on young plants, many other want to or can use mature plantings
- ISSUE: When trials of a few years duration end, what do you do with the orchard/vineyard?
  - Costs are incurred with retaining plantings, and unless picked up for project, are not covered by researcher
  - In the past, budgets allowed more flexibility to retain plantings on the chance for research use request


ORGANIC
RESEARCH
Follow
Organic Protocols

# *Kearney REC IR-4 Program*

- One of largest programs in national IR-4 Project
  - Facilitating registration of sustainable pest management technology for specialty crops and minor uses
- Specialty crops include most fruit, vegetable, herb, nut, spice, nursery, greenhouse ornamental, Christmas tree, landscape and sod crops
  - Low acreage, high value crops
  - These crops can be > 50% of the agriculture crop sales in 26 states

# *Kearney REC IR-4 Program*

- Conducts an average of 40-45 food use field trials annually
  - Mostly row, tree, vine crops
  - Field, greenhouse, postharvest evaluations included
- Project has several staff just working on conducting these prescribed trials, with annual budget over $225,000 recent years

# KREC-Specialized Facility Coordination

- Coordinate approximately 70,000 square feet of specialized research and support facilities.
- Facilitate the RAC process
- Daily scheduling
- 24/7 monitoring and response to postharvest and greenhouse equipment problems.
- Provide technical advise to specific research programs

# Postharvest Research

- Over 20 research projects annually
- 21 walk-in and 4 reach-in controlled temperature and relative humidity rooms
  - Computer controlled, monitored, and alarmed
  - Automatic power back-up
  - 7 with controlled atmosphere capability
- Specialized equipment
- 3 specialized labs
- New sensory lab funded

# Postharvest

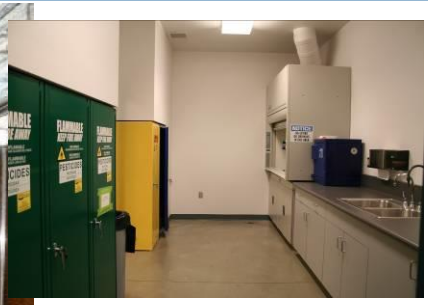
# Short Term Sample Cold Storage

3 shared controlled temperature and relative humidity rooms

# Greenhouse Research

- Over 25 projects annually
- 30 greenhouses
  - 24 with computer control, monitoring, & alarms
  - 29 on automatic power backup
- Headhouse
  - Labs, chemical storage, general work & storage areas
  - Soil pasteurizers, autoclave
- Lathhouse
- Container growing area

# Greenhouse Research



# KREC-Physical Plant

- Maintain and repair approximately 155,000 square feet of building space, as well as all utilities, grounds and irrigation systems.
- Provide 24/7 monitoring and response to critical equipment problems in the Postharvest & Greenhouse/Headhouse facilities.
- Project Management for minor and major capitol projects.
- Physical Plant provides support to individual research programs by installing, repairing and modifying researcher owned equipment

(on a recharge basis).

# Managing Energy Costs

- Controlling energy bills is the best way to preserve the OMP budget.
- With the exception of staffing, energy bills are the highest OMP expense at KREC.

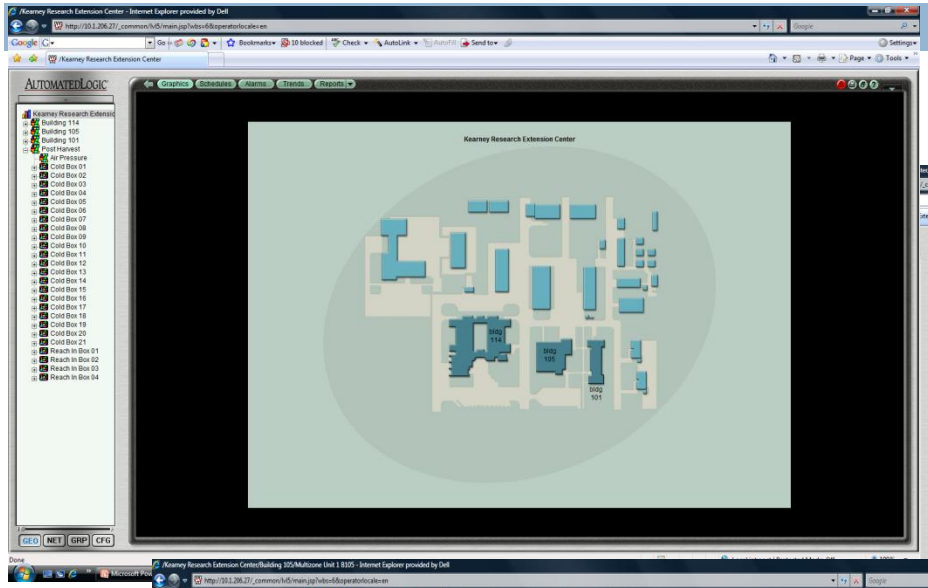
# Ways to Save

- One way to control costs is by reducing operating hours or changing set-points.
- A second way is to replace or modify equipment to make it more energy efficient.

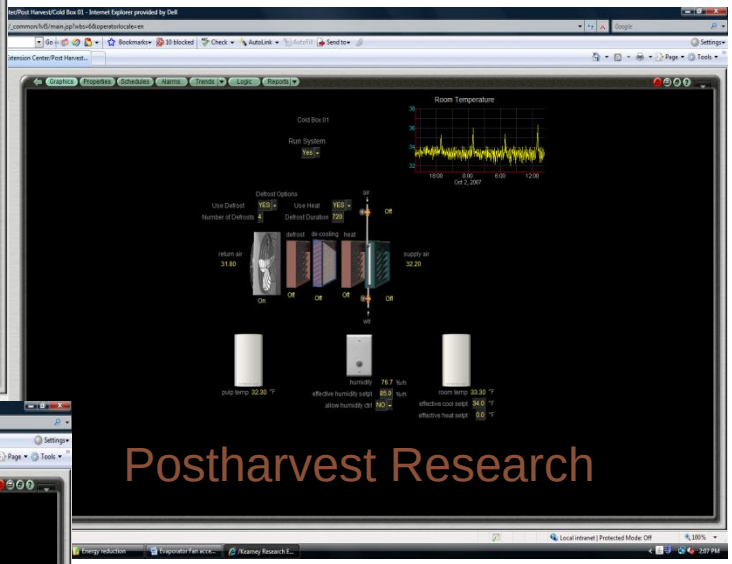
# Energy Savings

Using funding from the UC/CSU Energy Efficiency Partnership Program, we have reduced energy usage despite adding a 20,000 square foot greenhouse/headhouse facility. This program provides for up to 80% of the total project cost.

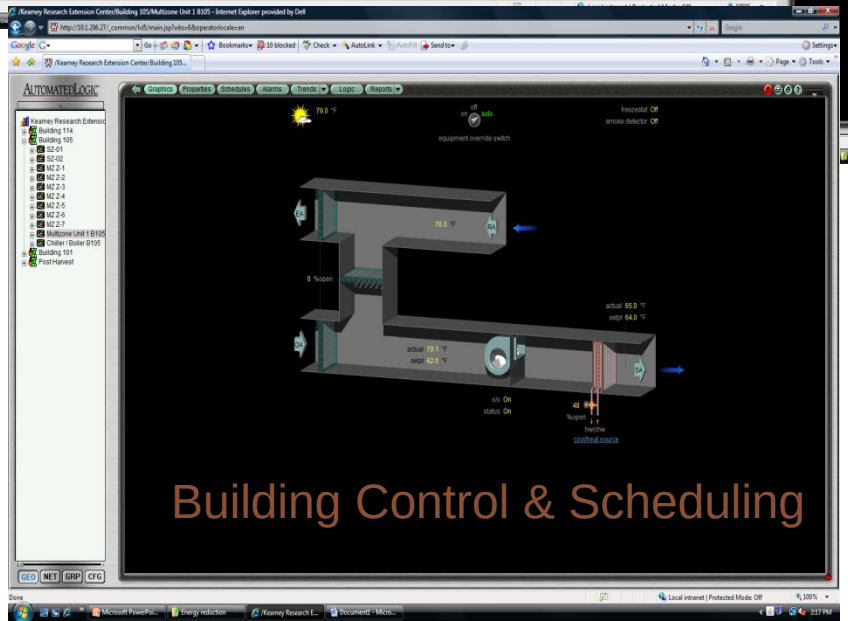
# Energy Management System




Provides Remote Access




Postharvest Research



Building Control & Scheduling

Allows Equipment Scheduling

Sends Automated Alarms

Fully Variable Set-points

# Recently Completed & Pending Projects

- High Pressure Irrigation System (essentially complete other than some pump and reservoir work)
- Sensory Lab (industry partnership – building complete, some additional items to complete)
- Insectary (planning stage, construction timing dependent on funds schedule)

# UC/CSU Energy Efficiency Partnership Program