

# Agricultural Research, Development & Education Center (ARDEC)

## ***AES Research Center Conference***

Presented by Jennifer Bornhoft  
ARDEC Operations Manager  
January 2017



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# ARDEC north

4616 NE Frontage Road, Fort Collins



- 675 acres cultivatable, mostly irrigated
- 212 acres irrigated pasture for grazing
- 108 acres buildings, roads, ditches, ponds
- 18 irrigation wells, 3 linear sprinklers, 3 center pivot sprinklers
- 175 head of registered Hereford and Angus, Resident Instruction (RI) beef cows
- 800 head capacity feedlot
- 200 head capacity Feed Intake Unit for cattle (feed efficiency)
- Sheep research facility with individual pens
- Swine farrowing and finishing unit



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*Established in 1993*

# ARDEC south

4300 E. County Road 50, Fort Collins

- 65 acre facility supporting horticulture programs

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- Irrigation via 3 irrigation wells, 1 linear sprinkler (25 acres)(e)-, solid set, gated pipe



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# ARDEC Staff

## 11 Full-Time Employees

- ARDEC Crop Operations

- ❖ Karl Whitman, Manager of ARDEC Plant Science Operations

- ❖ Chris Fryrear retired summer 2016 after 24 years at ARDEC

- ❖ William Folsom, Manager of ARDEC south facility

- ❖ Mark Collins, Gabe Whitman and J.R. Herman

- ARDEC Livestock Operations

- ❖ Dave Schafer, Manager of ARDEC Animal Science Operations

- ❖ Jesse French transitioned to a non-profit in fall 2016

- ❖ David Escobar and Christina Nash



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# ARDEC Staff...Continued

- Bob Bee, Shop mechanic for all operations
  - ❖ Retiring summer 2017
- Brenda Williams, Office and Event/Tour Coordinator
- Jennifer Bornhoft, Operations Manager and Fiscal Officer

*ARDEC employs 12-15 hourly positions year-round in plant and livestock operations, in addition to volunteers and interns.*



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# 2016 Accomplishments

- Colorado Department of Ag industrial hemp trial
- GPS technology installations in collaboration with Trimble Navigation
- Finalized CSU Policy of Unmanned Aerial Vehicle (UAV); routine flights
- Colorado Seed Lab relocation from Shepardson Building to ARDEC
- CoBank Center for Ag Education, open for business, first full year
- Team research growth; Dept of Engineering CHILL weather radar system
- Implementation of campus wide Virtual Event Management System (EMS) for facility reservations for entire ARDEC complex. See ARDEC web site for calendars and link to EMS. Streamlined University approval process.



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# More... 2016 Accomplishments

- Dept. of Animal Science teaching and judging courses previously held at the Livestock Pavilion successfully relocated to ARDEC. To start, ~150 students engaged in hands-on learning at ARDEC, 2 days per week
- Multi-disciplinary research project; ARDEC produced 25 acres of silage corn, customed bagged the commodity at harvest and the nutrition study will begin spring 2017 with 400 hd. of steers in the ARDEC feedlot
- Multiple large scale (400 head each) nutrition feedlot studies
- 13 feed efficiency tests in the Feed Intake Unit for a total of 1,057 head cattle



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# Challenges & Opportunities

- Strategic Vision participation
  - ❖ ARDEC staff care deeply to contribute to be relevant, sustainable, cutting edge, impactful
  - ❖ Align resources and communication
  - ❖ Meet the growing and changing needs of plant and animal research, teaching and extension programs, outreach and community, including sufficient rotational acreage and grazing lands
- Labor resources during peak seasons
  - ❖ Permanent and hourly, access, funding, compliance
- Manage Risk
  - ❖ Reduced services due to risk/liability; aerial spray applicators, UAV
  - ❖ Access and safe movement of people, heavy equipment, vehicles, livestock
  - ❖ Protection of rights; irrigation wells, access roads, storm water
  - ❖ Physical security in urban corridor provides for increased exposure of property theft/destruction/compromised research
  - ❖ Biosecurity concerns and protection from spread of pests and disease





# Infrastructure

- Commodity revenue target of \$100K per year to invest in machinery/equipment, vehicles/trailers and capital improvements
  - ❖ Bee farm center irrigation pivot replacement
  - ❖ Livestock unit front end loader and skid steer
  - ❖ Livestock trailers to safely transport livestock throughout the region
  - ❖ LED lighting upgrades
- Deferred maintenance; aging facilities, undersized utilities
- Increased demands with unchanged resources
- Striving to accommodate new faculty, programs, students, stakeholders , proposed buildings
- **Program Plan (water, sewer, transportation, access, safety, etc)**
  - ❖ Engineering firm contracted with anticipated completion fall 2017



# Connection/Communication to Campus

- Privileged location to main campus
  - ❖ Technology
  - ❖ Access
  - ❖ Opportunity
- 365 day operation
  - ❖ Increased demand and expectations
- Advisory Board restructure in 2017 to mirror other AES centers
  - ❖ External board to be developed
  - ❖ Internal board to include other AES centers and CSU faculty



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