

WCC Faculty Staff Grant
Capturing Farm Data for Classroom Interpretation

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Post Project Report

Assessment of Grant Objectives:

The Work Colleges grant enabled the College's farming operation to acquire iPads for each agriculture workstation. These iPads have enabled us to use modern technology within our specific fields. As farm managers, we have been able to utilize specific applications that are essential for efficient productivity in today's high- tech world of agriculture. Through wireless network data, and with the use of the iPad, we are able to access the internet anywhere on the farm. Having this ability has allowed our operations the ability to make timely decisions and also streamline our record keeping capabilities. The College's farms are an important part of our education system here within the Agriculture Department. Using the iPad, we can easily relay information and data that has been recorded to our agricultural students.

Objective	Achievement of Objective:
1. To supply all agriculture workstations with smart-pad technology and production software.	-6 iPads were purchased by late in the fall semester 2013 and distributed to Feed Mill, Processing, Farmer's Market, Dairy, Hog farm, Beef farm / Agronomy work stations in January of 2014.
2. To utilize data collected in the classroom or laboratory setting to provide real life problem solving scenarios for students.	- Specific workstations that were able to collect data for later use in the classroom were: Beef Farm, Agronomy workstation, Dairy and Meat Processing Plant. - All workstations made use of video recordings and took pictures for later use with their iPads.
3. To increase production and management efficiency at agriculture workstations.	-Farm managers and student managers were able to make more informed management decisions at workstations.

Assessment of Grant Outcomes:

While we did attain our desired outcome of increased connectivity of the Ag workstations to the classroom, overall assessment of outcomes for each work station varied. Some workstations made better use of the iPads for the intended purpose than others. This is due in part to the fact that some of the workstation supervisors are not faculty, therefore sharing of information did not occur. Also some of the workstation supervisors do not teach in the area that they supervise. And of course, some of the workstation supervisors are more tech savvy than others. Those challenged by technology did not utilize the iPads for the intended purpose or to their full potential.

Project Results and Measurable Outcomes:

Expected Products	Results	Measurable Outcomes
1. Increase the amount of production data collected on workstation farms	Increased awareness of results of various production practices and yield.	Overall use of data collected on the college farms in the classroom will increase by 25% by Fall of 2014
2. Increased use of farms in classroom activities and laboratories	Increased student involvement and hands on learning using college farm workstations in agricultural courses.	The percentage of agriculture students able to acquire hands on learning at college agriculture workstations is not limited to those working at that workstation.
3. Use of data to make informed production decisions	More efficient use of College resources	Student created: Land Management Plans, Nutrient Management Plans and Soil Management Plans

Outcome 1. Increase the amount of production data can be collected on workstation farms

Outcome 2. Increased use of farms in classroom activities and laboratories

Workstation:	Data Collected:	Courses Information was Accessed In:
Beef Farm –	<p>CattleMax Cow/calf production data</p> <hr/> <p>Rotational grazing</p> <hr/> <p>Pictures/ video of cattle Live and at processing</p> <hr/> <p>Pictures/video of various vet practices</p>	<p>Ruminant Livestock Management Techniques of Purebred business Meats Livestock Merchandising</p> <hr/> <p>Forage Crop Management</p> <hr/> <p>Ruminant Livestock Management Techniques of Purebred business Meats Livestock Merchandising Livestock selection</p> <hr/> <p>Animal Science Animal Breeding Animal Health Artificial Insemination Ruminant Livestock Management</p>
Agronomy	<p>Websoil survey - Soil Series data and information accessed in the field.</p> <hr/> <p>FarmLogic Program Soil Fertility – soil tests on hand in field Application of Pesticides records Field Yield data</p> <hr/> <p>MU Grazing wedge Rotational grazing</p> <hr/> <p>Pictures/ video of various crop production practices, crop disease, insects etc.</p>	<p>Soil Science Forage Crop Management Soil Management Land and Water Management</p> <hr/> <p>Crop Production Forage Crop Management Soil Management</p> <hr/> <p>Forage Crop Management Dairy Farm Management Dairy Nutrition Ruminant Nutrition</p> <hr/> <p>Crop Science, Soil Science Forage and Crop Production classes, Soil Management, Land and Water Management.</p>
Hog Farm	<p>Production data Sow Reproduction data Litter health records Pig rate of gain</p> <hr/> <p>Pictures and video</p>	<p>Animal Science, Monogastric Livestock Management, Animal Nutrition, Meats</p> <hr/> <p>----- Courses mentioned above</p>

Processing Plant	Pictures and video of hanging meat, and meat cuts	Animal Science Meat Science Workshop training for FFA
Dairy	MU Grazing wedge Rotational grazing ----- OCV, BSE - vet paperwork Pictures/video of various vet practices	Forage Crop Management Dairy Farm Management Dairy Nutrition ----- Animal Science Animal Breeding Animal Health Artificial Insemination Dairy Farm Management Dairy Products Dairy Selection
Farmer's Market	Internet marketing – Facebook Pictures and videos of various vegetables, Marketing ideas etc.	Ag Marketing Ag Prices
Feed Mill	Could be used for feed inventory and feed rations	none

Outcome 3. Use of data to make informed production decisions.

Data collection and analysis has made it much easier to make management decisions a few examples of these decisions are:

1. **Forage variety selection:** Decisions as to which forage varieties produce well on different soils and forage varieties that increase dairy cow milk production.
2. **Culling** - less productive sows and cows.
3. **Feeding rations and techniques:** that best increase meat production as well as tenderness.
4. **Rotational grazing:** when to move cattle and which pasture to put them on next.
5. **Nutrient Management:** where and when to apply manure or lagoon water.
6. **Basic record keeping:** everything from individual animal production records, field production records, fertilizer and pesticide applications, soil test monitoring and soil quality analysis.

The amount of data that we as farm managers must keep track of as well as share with each other is overwhelming. However the use of the iPads have increased the amount of records we keep and has enabled us to make more informed decisions.

While originally purchasing the iPads was for data collection, another outcome that has occurred is better lecture material as a result of being able to take pictures and videos of activities that take place on the farms during the summer. I have been able to update presentations and can show how a piece of equipment works or visually relay something that happened on the farm in the summer while students were away. I know that other farm managers have used the iPads in this capacity as well.

Participating Faculty and Staff:

Bryan Cizek, Adam Kimrey, Eric Bright, Lori Simmons, Ryan Bilyeu, Josh Franks and David Prigel.

Plans for Future Use:

Plans are to continue use of the iPads to bring the workstation experience to the classroom and to enhance the lecture experience as new opportunities arise on the various farms. I will continue to encourage other farm managers to make better use of the iPads at their workstations.