2015 Cochran Program for U.S. Dairy Cattle Nutrition & Management – Algeria and Tunisia

CO-CR-15-028

THE TEXAS INSTITUTE FOR APPLIED ENVIRONMENTAL RESEARCH

November 3, 2015
Authored by: Leah R. Taylor
Overview
Under the USDA/FAS Cochran Fellowship Program for U.S. Dairy Cattle Nutrition and Management involving participants from Algeria and Tunisia, an executive team was put together from the Texas Institute for Applied Environmental Research (TIAER), a unique, multidisciplinary research center focusing on emerging environmental issues located at Tarleton State University in Stephenville, Texas. In partnership with the United States Department of Agriculture, Foreign Agriculture Service (USDA/FAS), TIAER was pleased to host the delegation. Under agreement CO-CR-15-028, TIAER (a.k.a. “the institute”) developed a custom designed training program, focused on dairy nutrition and management in the United States, and based upon the topics of interest indicated by the participants (a.k.a. “the Fellows”).

The institute was established in 1991 by the Texas Legislature and was designated to be a part of Tarleton State University (within the Texas A&M University System). As part of the Office of Sponsored Projects at Tarleton, the institute fosters environmental and agricultural research that focuses on the interface between government and the private sector, in order to develop effective public policies and cooperative science-based solutions. Through positive collaborations and growth, TIAER’s research efforts have expanded to areas throughout Texas and have included projects within at least 35 states across the U.S. TIAER, often in alliance with other departments within Tarleton, is engaged in partnerships around the globe including Canada, Chile, China, Costa Rica, Ecuador, Ethiopia, and Italy.

Project Description
The executive team at TIAER customized an ambitious, two-week (15 day) program, entitled the “U.S. Dairy Cattle Nutrition & Management – Algeria and Tunisia Program”, which largely focused on dairy farm management, dairy cattle health to increase milk production, and genetics and reproduction. Objectives expressed by the Fellows were met by 1) attending the 2015 World Dairy Expo, 2) touring local, Texas dairies, 3) touring the Texas A&M Veterinary Clinic, and 4) attending lectures from Tarleton State University professors and other private sector professionals, all of whom have numerous years working in the field of dairy management within the U.S. The program provided various demonstrations and tours while also incorporating interactive, hands-on lectures from Tarleton State University professors and professionals within the veterinarian and dairy industry. Lectures were designed to be interactive while encouraging discussions among the various trainers and the Fellows.

Schedule of Activities
The delegation included six individuals from Algeria, six individuals from Tunisia, and one locally employed staff from the USDA/FAS office in Algeria. The original schedule submitted to the USDA/FAS by TIAER was primarily followed; the only activity that was omitted from the original schedule was the meeting with the Texas Department of Agriculture, which was canceled due to a family emergency of the guest speaker. Unfortunately, the speaker was scheduled for international travel later in the week and was unable to reschedule their presentation. To compensate for this change, the group stayed in Waco, Texas where they visited the Texas Ranger Museum and toured the local area.

One change to the agenda was the addition of a meeting with Tarleton State University staff and faculty to discuss internal programs and opportunities that are available to students and researchers. Upon visiting Tarleton, the Fellows expressed interest in the various international programs and opportunities that the university can offer. These presenters, Dr. Marilyn Robitaille, Director of International Programs, and Dr. T. Wayne Schwertner, Interim Department Head and Assistant Professor of Wildlife, Sustainability, and Ecosystem Sciences, were asked for a brief discussion on international opportunities through foreign exchange students, study abroad programs, and collaborating with Tarleton State University on future research projects. Overall, the anticipated program results and overall expected outcomes were achieved throughout the program.

A program was designed for the Fellows to receive hands on experience and learn new methods of: 1) dairy farm management, 2) dairy cattle health, 3) milk production, and 4) genetics and reproduction. The itinerary was designed to address several issues including:

- Overall dairy farm management in the U.S.
- Approaches and techniques for maintaining herd health
- Techniques to minimize heat stress
- The impact of animal feed, pasture, silage, and nutrition on animal health and milk production
- Alternatives to deal with inadequate pasture and/or poor feed in arid environments
- Feed formulation and nutritional supplements
- Artificial insemination (dairy) and animal handling during insemination
- Insemination equipment, tools, and techniques
- Heat detection, sire selection, embryo transfer, and sexed semen
- Appropriate semen storage and transport methods
- Dairy management software and the importance of maintaining accurate reproduction records
- Techniques to increase milk production, quality, and storage
- Birthing, calf care, and vaccinations
- Methods for early disease detection and treatment
- Pest prevention and monitoring (ticks)
- Approaches to minimize the environmental impacts of dairy farms
The appropriate faculty and staff were provided from TIAER, Tarleton State University, and other agencies and associations for the delegation to receive training in areas of interest. Faculty and staff from TIAER and Tarleton State University presented programs on overall dairy farm management, approaches, and techniques for maintaining herd health, techniques to minimize heat stress, the impact of animal feed, pasture, silage, alternatives to deal with inadequate pasture and/or poor feed in arid environments, feed formulation and nutritional supplements, CEEOT land production, and pest prevention and monitoring in Texas dairies (primarily filth flies).

Other agencies and associations, including the Texas Association of Dairymen, Veterinarian’s Outlet, Alta Genetics, and Sexing Technologies, provided detailed presentations and discussion regarding policy and production issues related to dairy management, nutrition on animal health and milk production, artificial insemination and animal handling during insemination of dairy cattle (including insemination equipment, tools, and techniques, appropriate semen storage and transport methods, and heat detection, sire selection, embryo transfer, and sexed semen).

For a complete schedule see Appendix A.

Participant Roster and Schedule
The delegation from Algeria was as follows:

- Salah Eddine Abdesselam, State Agricultural Engineer, Agricultural Department of Annaba
- Meriem Aoussi, Direction of Agricultural Services, Ministry of Agriculture
- Ali Messioud, Agronomy Trainer, ITMAS of Guelma
- Dr. Benallal Mourad, Veterinarian Doctor, President Director General of SARL SOFAVIC
- Ben Hadji Smail, State of Engineer of Agronomic Sciences, Direction of Agricultural Services
- Ahmed Zizi, Agricultural Engineer, Direction of Agricultural Services, Ministry of Agriculture

The delegation from Tunisia was as follows:

- Aymen Bousoufi, Engineer, Office of Livestock and Pastures
- Henda Hanafi, Chief Service, Office of Livestock and Pastures
- Tiijani M’Hamed, Director of Ruminant Development, ALFA Nutrition Animale Group
- Dr. Ben Salem Mondher, Senior Researcher of Animal Sciences, National Institute for Agricultural Research of Tunisia (INRAT)
- Rania Taba Sayari, Engineer of Livestock Production and Coordinator of 8 business incubators, The Agricultural Investment Promotion Agency (APIA)
  Raja Yanoubli, Senior Engineer and Assistant Director, Office of Livestock and Pastures

In the first week of the program, schedule highlights included opportunities to interact with USDA/FAS staff that traveled with the delegation, three full days touring the World Dairy Expo in Madison, Wisconsin (where representatives of both the American Holstein and American Jersey Association were present), tours of Sexing Technologies, and a tour of an organic dairy in Wisconsin. In the second week of the
program, the schedule included meetings with the president and associate vice president for research at Tarleton State University, a tour and discussion at Tarleton State University’s Southwest Dairy Center, and tours of both organic and traditional dairy and dairy facilities. A discussion and Q&A with the Texas Association of Dairymen, Doctors Al Harper, DVM and Jeff Gaiser, DVM, and Texas AgriLife Extension, during the second week of the program, greatly added to the success of the training.

Additionally, a tour and discussion of both the Tarleton State University Meat Laboratory and the Veldhuizen Cheese Farmstead were arranged. The Tarleton State University Meat Lab is a state inspected meat processing facility situated within the confines of the TSU Agriculture Production Complex. The facility is operated largely by undergraduate student workers and provides clientele of Erath County (and surrounding areas) an avenue for custom slaughter and specialty meat items. The Veldhuizen Cheese Farmstead is a small, family owned and operated, dairy and cheese shop in Dublin, Texas (Stephenville area). The group toured the facility, tasted the various homemade cheeses, and learned about the family’s cheese making process.

For entertainment, the Fellows were treated as VIPs at Lone Star Arena in Stephenville, Texas for the area’s weekly “Buck-n-Duck” – bullriding/rodeo. A catered dinner was provided while the group watched local cowboys and cowgirls team rope, run barrels, and ride bulls. The Fellows showed great interest and excitement to watch “real, Texas cowboys”.

The workshop wrapped up with a trip to the State Fair of Texas. Since its establishment in 1886, the State Fair of Texas has celebrated all things Texan by promoting agriculture, education, and community involvement. Despite the fact that the scheduled visitation of the State Fair of Texas happened to be the same day as the University of Oklahoma vs. University of Texas “Red River Shoot Out”, and the fair was packed with college football attendees, the Fellows enjoyed being immersed in the culture of Texans.

For photos of the program see Appendix B.

**Program Feedback**

Overall, the participants, through surveys provided by TIAER, recorded that they were “very satisfied” with the overall effectiveness of the workshop. For all comments from the delegation see attachment “Surveys”.

The one item of the training program that received the lowest ratings of “unsatisfied” was the discussion over the topic of “U.S. Dairy Genetics and Reproduction”. The participants felt that the presenter concentrated more on their specific company as opposed to providing interactive demonstrations. To note, a tour of Sexing Technologies, which included demonstration and discussion, was also provided. Should similar trainings be provided in the future, it is recommended that an alternative professional in the field of dairy cattle genetics be utilized.

Complete participant feedback and comments have been provided to the USDA/FAS, Tarleton State University, and TIAER.

**Acknowledgements**
TIAER and Tarleton State University is very appreciative of the opportunity to work with the USDA/FAS on CO-CR-15-028 Cochran Fellowship Program for U.S. Dairy Nutrition and Management – Algeria and Tunisia. It is especially important to recognize USDA staff Desiree Thomas. Alongside Ms. Thomas, TIAER and Tarleton State University staff was critical to the overall success of the program. Additionally, a special “thank you” goes to Sexing Technologies, Sassy Cow Creamery, the College of Veterinary Medicine at Texas A&M University, the Texas A&M AgriLife Extension Office in Stephenville, Texas, and the Aurora, Sierra, and Frontier Dairies of Dublin, Texas.
Contacts Information

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Sunday September 27, 2015

10:35 am: Depart DFW for MSN on American Airlines flight 5708
12:51 pm: Arrive in MSN – pick up rental vehicle from Enterprise Rent-a-car
4:02 pm: Todd Adams arrives at MSN on flight number 3657 (American Airlines)
8:49 pm: Nabila Hales arrives at MSN on flight number 940 (Delta Airlines)

Monday September 28, 2015

TIAER hosts: Leah Taylor and Todd Adams

3:12 pm: Soninka Dupeyron arrives at MSN on flight 3067 (American Airlines)
4:02 pm: Dr. Hugo Ramirez arrives at MSN on flight 3657 (American Airlines)
5:40 pm – 8:50 pm: Greet guests as they arrive at Dane County Regional Airport in Madison, WI – transport to Holiday Inn Express – Fort Atkinson

Tunisian Fellows arriving at MSN on flight LH8602 W at 1846 (6:46 pm)
Holiday Inn Express & Suites – Fort Atkinson
1680 Madison Avenue
Fort Atkinson, WI 53538
(920) 563-3600

Confirmation number: 64066506, 61112864, 60168762, 60167717
(18 rooms)

7:30 pm: Brief orientation and catered dinner at the hotel (17 people)

Tuesday September 29, 2015

TIAER hosts: Leah Taylor and Todd Adams

7:00 am: Depart hotel for World Dairy Expo via Kobussen Trailways Charter
The Alliant Energy Center
1919 Alliant Energy Way
Madison, WI 53713

Dairy Expo Season passes 4861 – 4877 (17 people)

7:30 am: International Junior Holstein Show
Located in the Coliseum

10:00 am: Vault Dairy Technology Round Table Discussion: Maximizing Dairy Profitability
Located in the Kegonsa Room

12:00 pm (Noon): depart the World Expo for Sexing Technologies facility tour
12:30 pm: lunch
Culver’s
4910 County Road V
De Forest, WI 53532
(608) 846-7575
2:00 pm: Tour of Sexing Technologies facility and presentation by Brian Garrison &
Alfredo Castro – tGenomics and Sex Ultra in Dairy Cattle
Sexing Technologies
Vienna, WI 53592
Alfredo Castro (979) 204-8998

Wednesday September 30, 2015
TIAER hosts: Leah Taylor and Todd Adams

7:00 am: Depart hotel for the World Dairy Expo via Kobussen Trailways Charter

7:30 am: International Jersey Show – Cows and groups
Located in the Coliseum

10:00 am: Seminar: “How Much Forage Can We Feed to Dairy Cows?”
Located in the Arena Building on the Forage Seminar Stage
Presenter: Kenneth Kalscheur, Dairy Scientist, U.S. Dairy Forage Research Center

12:00 pm (Noon): Virtual Farm Tour
Located in the Exhibition Hall

1:30 pm: Seminar: “Managing Fermentation with Baled Silage”
Located in the Arena Building on the Forage Seminar Stage
Presenter: Wayne Coble, Agronomist/Dairy Scientist, U.S. Dairy Forage Research Center

3:30 pm: Seminar: “Dairy Calf and Heifer Association Industry Reception”
Located in the Wingra Room

Thursday October 1, 2015
TIAER hosts: Leah Taylor and Todd Adams

9:30 am: Depart hotel for the World Dairy Expo via Kobussen Trailways Charter

7:30 am: International Brown Swiss Show – cows and groups
Located in the Coliseum

10:00 am: Seminar: “Cows Agree with Total Tract NDFD”
Located in the Coliseum
Presenter: David Combs, Professor of Dairy Science at the University of Wisconsin

12:00 pm (Noon): Depart for Sassy Cow Creamery
W4192 Bristol Road
Columbus, WI 53925
(608) 837-7766

3:30 pm: Free time/dinner – West Towne Mall

6:30 pm: depart West Towne Mall for hotel
Friday October 2, 2015

TIAER hosts: Leah Taylor and Todd Adams
TIAER hosts: Leah Taylor

4:30 am: Depart hotel for Dane County Regional Airport
7:18 am: Depart MSN on Flight 5882 for DFW Airport
   Confirmation: NBEVCC
9:50 am: Arrive at DFW Airport
11:00 am: Depart DFW Airport for Texas A&M Veterinary Clinic in College Station, Texas
   via Cowtown Bus Charters
12:00 pm (Noon): Lunch
   Tiba Grill
   3330 Matlock Rd
   Arlington, TX 76015
4:20 pm: Tour Veterinary Medical Teaching Hospital
   408 Raymond Stotzer Parkway
   College Station, TX 77845
   (979) 676-0820 (Dr. Linda Logan)
   See map below for arrival and parking instructions

JoAnne Hardy & Linda Logan will meet group at the front door of the large animal hospital -
Turn off Hwy 69 (i.e. Raymond Stotzer Parkway) and follow detour signs to VLAH (as seen with X on map).

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Saturday October 3, 2015

TIME: Depart College Station for Waco, TX
Courtyard Waco
101 Washington Avenue
Waco, TX 76701
(254) 752-8686

9:30 am: Depart hotel for the Texas Ranger Museum
10:00 am - 12:00 pm (Noon): Tour of the Museum
12:00 pm (Noon) - 5:00 pm: Lunch/shopping/free time
First bus departure from shopping mall to hotel
9:00 pm: Second bus departure from shopping mall to hotel

TIAER hosts: Leah Taylor

Sunday October 4, 2015

TIME: Depart hotel for the Texas Ranger Museum
10:00 am: Check out of hotel and depart to Stephenville, TX
12:00 pm (Noon): Lunch
Fuzzy’s Taco
265 E Washington
Stephenville, TX 76401
(254) 965-3474
2:00 pm: Tour the Southwest Dairy Center
6:00 pm: Check into the La Quinta Inn
La Quinta Inn & Suites
105 Christy Plaza
Stephenville, TX 76401
(254) 918-2444

Confirmation number: 127960 (14 rooms)
6:30 pm: Dinner (choice of restaurants that are walking distance from hotel)
Cotton Patch Café, Whataburger, Chicken Express, Taco Casa, CiCi’s Pizza

TIAER hosts: Leah Taylor

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Monday October 5, 2015

TIAER hosts: Leah Taylor and Nelly DiCiccio (morning)
TIAER hosts: Leah Taylor and Sydney Brunson (afternoon)

7:00 am: Depart hotel for TIAER headquarters
Breakfast will be served in the TIAER conference room
9:30 am: Workshop orientation and overview in TIAER conference room
11:00 am: Depart to Tarleton State University Dining Hall
11:30 am: Welcome from Tarleton President, Dr. Dominic Dottavio
12:00 pm (Noon): Lunch
TSU Dining Hall – Room 217
2:00 pm: Arrive at the Tarleton Welcome Center for TSU campus tour
Tour given by: Rebecca Downes
4:00 pm: Return to hotel for free time
6:00 pm: Depart hotel for dinner
6:30 pm: Dinner (choice of restaurants that are walking distance from hotel)
Cotton Patch Café, Whataburger, Chicken Express, Taco Casa, CICI’s Pizza

Tuesday October 6, 2015

TIAER hosts: Leah Taylor and Nelly DiCiccio

Breakfast at the hotel
8:30 am: Depart hotel to AgriLife Extension Office
1229 N. US Hwy 281
Stephenville, TX 76401
(254) 968-4144
9:00 am: Guest presenter (and former Tarleton State University student): Dr. Emmanuel Caldera (Renaissance Nutrition)
9:45 am: Depart AgriLife Extension Office for Dairy Tours with Dr. Caldera
11:45 am: Tour of the Aurora Organic Dairy
4519 County Road 340
Dublin, TX 76446
Pictures and recorded videos are not allowed at this location.
12:45 pm: Tour of the Sierra Dairy
9157 FM 2156
Dublin, TX 76446
Pictures and recorded videos are not allowed at this location.
1:30 pm: Catered lunch
Steve and Mary’s
2900 Washington St Suite 44
Stephenville, TX 76401
(254) 968-5955
2:30 – 6:00 pm: Guest presenter: Mr. Bruce Arnold – Sire Selection: Creating a Genetic Plan
6:00 pm: depart hotel for dinner
6:30 pm: Dinner (choice of restaurants that are walking distance from hotel)
    Cotton Patch Café, Whataburger, Chicken Express, Taco Casa, CIGi’s Pizza

Wednesday October 7, 2015

**TIAER hosts: Leah Taylor and Nelly DiCioccio (morning)**
**TIAER hosts: Leah Taylor and Sydney Brunson (afternoon)**

**Breakfast at the hotel**
8:30 am: Depart hotel to AgriLife Extension Office
    1229 N. US Hwy 281
    Stephenville, TX 76401
    (254) 968-4144
9:00 am: Guest presenter, Mr. Darren Turley (Texas Association of Dairymen)
10:45 am: Break
11:00 am: Guest presenter, Dr. Whit Weems (Department of Agricultural and Consumer
    Sciences at Tarleton State University)
12:00 pm (Noon): Catered lunch
    Lida’s Food Basket
    1111 W Frey
    Stephenville, TX 76401
    (254) 968-2464
1:30 pm – 2:30 pm: Guest presenter, Dr. Al Harper (Veterinarian's Outlet, Inc.)
2:30 – 3:00 pm: Guest presenter, Dr. T. Wayne Schwertner (Interim Department Head and
    Assistant Professor of Wildlife, Sustainability, and Ecosystem Sciences at Tarleton State
    University)
3:30 pm – 4:30 pm: Guest presenter, Dr. Marilyn Robitaille (International Programs with
    Tarleton State University)
4:30 pm: Break
4:45 – 5:30 pm: Guest presenter, Dr. Ali Saleh (Associate Director at TIAER at Tarleton
    State University)
5:30 pm: depart for dinner
6:00 pm: Catered dinner & evening entertainment: “Buck n Duck” – Bull Riding
    Lone Star Arena
    4696 US-377
    Stephenville, TX 76401
    (254) 965-7981 – Tommy Graham
    Catered Dinner from:
    Fuzzy’s Taco
    265 E. Washington St
    Stephenville, TX 76401
    (254) 965-3474

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Thursday October 8, 2015

TIAER hosts: Leah Taylor and Nelly DiCicco (morning)
TIAER hosts: Leah Taylor and Sydney Brunson (afternoon)

Breakfast at the hotel
7:45 am: Depart hotel for New Frontier Dairy
New Frontier Dairy
3075 County Road 340
Dublin, TX 76446
(254)965-2941 (Dr. Jeff Gaiser)
9:00 am – 12:00 pm: Meet with Dr. Jeff Gaiser, DVM and tour Frontier Dairy
12:00 pm (Noon): Catered lunch
HEB
2150 W Washington St
Stephenville, TX 76401
(254) 965-7063
1:00 pm: Q&A with Dr. Jeff Gaiser
6:00 pm: Depart for dinner
6:30 pm: Dinner (choice of restaurants that are walking distance from hotel)
Cotton Patch Café, Whataburger, Chicken Express, Taco Casa, Cici’s Pizza

Friday October 9, 2015

TIAER hosts: Leah Taylor and Sydney Brunson (morning)
TIAER hosts: Leah Taylor and Nelly DiCicco (afternoon)

Breakfast at the hotel
9:30 am: Depart hotel to Veldhuizen Cheese Shoppe
425 S Private Road 1169
Dublin, TX 76446
(254) 968-3098
10:00 am: Tour Veldhuizen Cheese Shoppe
11:30 am: Depart Veldhuizen Cheese Shoppe to AgriLife Extension Office
1229 N. US Hwy 281
Stephenville, TX 76401
(254) 968-4144
12:00 pm (Noon): Catered lunch
Chick-fil-A
1451 W Jones St
Stephenville, TX 76401
(254) 968-9444
1:00 pm: Guest presenter, Dr. David Kattes (Tarleton State University)
Ectoparasite Biology and Management on U.S. Dairies
2:45 pm: Depart for the Tarleton State University Meat Laboratory
3:00pm: Guest presenter, Dr. Jason Sawyer and tour the TSU Meat Lab
5:00pm: depart for hotel/free time
6:00 pm: depart hotel for dinner
6:30pm: Dinner (choice of restaurants that are walking distance from hotel)
        Cotton Patch Café, Whataburger, Chicken Express, Taco Casa, CICI’s Pizza

Saturday October 10, 2015
  TIAER hosts: Leah Taylor and Stephanie Painter

Breakfast at the hotel
8:00 am – 10:00 am: Free morning
10:30 am: Check out of rooms and depart for Fort Worth, Texas
12:30 pm: Arrive and attend the State Fair of Texas
            3921 Martin Luther King Jr Blvd
            Dallas, TX 75210
5:00 pm: Depart State Fair of Texas to the Courtyard Blackstone Downtown Fort Worth
            Courtyard Blackstone Downtown Fort Worth
            601 Main Street
            Fort Worth, TX 76102
            (817) 885-8700
            Confirmation/Reference number: M-4F40RFW (16 rooms)
7:00 pm: depart hotel for dinner

Sunday October 11, 2015
  TIAER hosts: Leah Taylor and Stephanie Painter

8:00 am: Breakfast
9:00 am – 6:00 pm: Tour local area/Free time
6:00 pm: Dinner

Monday October 12, 2015
  TIAER hosts: Leah Taylor and Stephanie Painter

8:00 am: Check out of rooms and depart to DFW International Airport

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GROUP AT THE WORLD DAIRY EXPO, SEPTEMBER 29, 2015
GROUP TOURING SEXING TECHNOLOGIES IN VIENNA, WI, SEPTEMBER 29, 2015.
Group meeting with Tarleton State University President, Dr. Dominic Dottavio.
Start at Bir

- Monitor gestation length
  - 285 +/- 4 days
- Monitor DUA
  - Dead within 24 hours of delivery
    - 0.6% metritis, 0.16% pneumonia
- Time from birth to colostrumcolostrum delivery, video surveillance
  - Less than 2 hour
GROUP DINING TOGETHER ON LAST NIGHT OF THE PROGRAM, OCTOBER 11, 2015
For questions and comments contact:

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