



U.S.—Mexico
Training, Internships, Exchanges and Scholarships

Brief Quarterly Report



| | |
|-----------------------------|---|
| Partnership Title: | Decision Support of Ruminant Livestock Systems in the Gulf Region of Mexico |
| U.S. Institution: | Cornell University |
| U.S. Partnership Director: | Robert W. Blake |
| Host Country Institutions: | Universidad Autónoma de Yucatán (lead), Universidad Veracruzana and Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (INIFAP), Campo Experimental “La Posta”, Veracruz |
| Host Partnership Directors: | Juan Ku Vera and Guillermo Ríos Arjona |
| Report Period: | April 1, 2005 to June 30, 2005 |

Brief description of activities and accomplishments

Project activities in this quarter were focused on further developing research and joint teaching platforms in support of the ruminant livestock industry in the Gulf region. Main activities and accomplishments included (chronologically):

- *April 8-13.* Short course #5, *Aplicación de la Dinámica de Sistemas al Entorno Agropecuario en la Región del Golfo de México* (Application of System Dynamics to Agricultural Systems of the Gulf Region of Mexico) was graciously hosted by the Universidad Veracruzana and taught by Dr. Charles Nicholson. This course arose from demand from participants in previous courses, especially short course #3, *Bioeconomic Analysis of Technological Alternatives and the Dynamics of Agricultural Systems*. It was jointly financed by all TIES partners and an external donor (Mr. Allen Boorstein, a Cornell alumnus who supports educational efforts in System Dynamics). There were 27 participants (4 female, 23 male) representing all the TIES partner institutions plus the Universidad Nacional Autónoma de México. (This activity substituted for teaching a Yucatán version of Cornell’s Livestock in Tropical Farming Systems for UADY students.)
- *April 15 TIES project visit by US Ambassador Antonio O. Garza, Jr.* Special efforts were made by UADY and other TIES partners to receive and interact with Ambassador Garza and his team. Representatives from all partner institutions were in attendance—UADY,

UV, INIFAP and Cornell. This provided an important opportunity for information sharing and positive feedbacks to Mexican colleagues. It also permitted significant media coverage (see press articles attached to our report dated April 30, 2005). A team of UADY undergraduate students prepared a video description about the rural development focus and ruminant livestock dimensions of our project. The video contains images from formal and informal parts of this event, including Ambassador Garza's chat with Mr. Leonardo Cocóm, a local farmer who owns sheep and goats.

- *April 18-May 6.* UADY Professor Armín Ayala B. visited Cornell University and completed short-term training and consultation on ruminant nutrition issues for our TIES research platform. Main activities were in the Departments of Animal Science, Applied Economics and Management and International Programs. Professor Ayala (whose full trip report will soon be on our TIES project website) found the visit to be useful in learning more about Cornell University and about future research collaborations between our institutions.
- *May.* **Enlaces**, a 15-min video-description of our TIES project, was the second video produced by students in the UADY course, *Media Analysis and Production*. Like its documentary predecessor ("**Yucatan**" **Bienestar del hombre en el campo**), this one was also the result of novel collaboration between UADY's Schools of Anthropology and Veterinary Medicine and Animal Science.
- *May 31.* On Jennifer Sisane's recommendation, R. Blake wrote to CONACyT's Dr. Luis Gil Cisneros about the potential for allying CONACyT financial support of graduate programs of qualified Mexican applicants in funding proposals for future TIES projects.
 - Thanks to the assistance of Nora Pinzón, brief personal contact was made with Dr. Gil on July 1 at the *US-Mexico University Partnerships for Prosperity* conference in Guadalajara. We look forward to receiving a written reply from Dr. Gil. What we put on the table for consideration (through Dr. Gil and in the Facilitated Discussion 8 at the Guadalajara conference with CONACyT's Dr. Guillermo Aguirre Esponda) is a synergistic and programmatic strategy for improving returns on CONACyT's human capital investments through TIES projects that are aimed at priority development issues and themes.
- *June.* Announcement of our TIES Master degree program and call for applications by qualified Mexicans was circulated nationally. A *pending task* is to make our announcement accessible by the general public via websites at CONACyT and other key institutions. Two more candidates (totaling four) are sought to begin Cornell MS programs in August 2006.
- *June-July.* Two Cornell graduate students, Kotaro Baba (Japanese MS student) and David Parsons (Australian doctoral student) conducted field research in Yucatán in collaboration with UADY graduate students and faculty and farmers owning sheep or cattle. (Specific information on these projects is provided below.)
- *June 29-July 1.* Guillermo Ríos, Juan Ku and Robert Blake teamed to present a progress report about our TIES project at the *US-Mexico University Partnerships for Prosperity*

conference in Guadalajara, Jalisco. This presentation resulted queries by leaders of two projects in Mexico with information and technical needs about ruminant livestock and livestock systems.

- TIES project members at the Universidad Autónoma de Chihuahua requested contact information for future communication and information about livestock systems in that state, where reduced water availability has severely affected animal agriculture. Besides providing E-mail addresses, we informed that our eventual website will contain potentially useful literature and Powerpoint materials for their use.
- Gerald Schmaedick, Director of the IPRC/Mexico project under the USAID Rural Prosperity Program requested technical support from our team for cattle owners and other professionals in the coastal region of Chiapas. Discussions with Drs. Ríos and Blake rendered two suggestions. First, a UADY-led team comprising one or two professors (Drs. Guillermo Ríos and Juan Magaña), one or two UADY graduate students, and a Yucatecan cattle producer could visit cattle producer groups in the IPRC program, also giving seminars and offering suggestions. The second activity was for Chiapas' farmers to visit farmer technology transfer groups in the State of Veracruz, which could be coordinated by our INIFAP and Universidad Veracruzana partners. The Veracruz validation and technology transfer working groups, known as GGAVATTs (Grupo Ganadero de Validación y Transferencia de Tecnología), are important community-based organizations that have emerged from technology validation innovations in the State of Veracruz. These groups are now spreading throughout other regions of Mexico. (The GGAVATTs are among the study elements included in our field laboratory components of joint courses for the 2005-06 academic year.)
- *Throughout this quarter.* Efforts were concentrated on organizing course content, logistics, teleconferencing, and key operational plans to conduct the four core courses (with two field trips) constituting the 2005-06 joint teaching platform. Besides Cornell, UADY and UV our teaching platform also involves INIFAP-Veracruz and the Colegio de Posgraduados, Campus Cárdenas. Appended to this report is the most recent version of our January 5-19, 2006 field course, Agriculture in Developing Nations II, which involves equal participation by UADY and Cornell students and faculty (15 each). The US partnership director, R. Blake, concluded in July a 12-mo sabbatical leave and TIES project assignment at the UADY.
- *TIES research platform.* Substantial progress has been made in recruiting graduate students to our research platform. This platform is a mechanism, naturally linked with the teaching platform, for integrating efforts among three groups of collaborators: UADY students, Mexican graduate students at Cornell University funded through our project, and other Cornell graduate students.

To date, a total of eleven student projects—seven from UADY and four from Cornell—contribute to the TIES research platform. All UADY students are graduates from our program of short courses. This is evidence for substantial student interest in addressing practical problems through applied research to better inform management decisions by

livestock farmers (and recommendations by their advisors) and to better support educational programs in sustainable animal agriculture. Students and their projects are identified below (excludes two MS students beginning Cornell programs in August).

UADY doctoral students:

- Valentín Cárdenas M. Research topic: Estimated Energetic Efficiency of Brahman, Brown Swiss, Charolais and Simmental Cattle in Production Systems in Southeastern Mexico.
- Fernando Duarte V. Research topic: Application of Prediction Models to Estimate Energy and Protein Requirements and Bioeconomic Efficiency of Intensive Feeding Systems with Pelibuey Sheep.
- Raciél Estrada L. Research topic: Genetic Evaluation of Brahman Cattle in Yucatan, Mexico.

UADY MS students:

- Miguel Huchín. Research topic: Evaluation of Reproductive and Production Performance of Hair Sheep in Central Yucatán.
- Carlos Medina N. Research topic: Estimation of Additive Genetic and Heterosis Effects for Beef Production in the Mexican Tropics.
- Timoteo Mejía. Research topic: Estimation of Direct, Maternal and Heterosis Effects on Productivity of Cow-calf Systems in Eastern Yucatan.

UADY undergraduate student:

- Gabriela González M. Research topic: Validation of the Cornell Net Carbohydrate and Protein System to Predict Maintenance and Growth Requirements of Hair Sheep.

Cornell graduate students (excluding V. Absalón and L. Nabté who start programs in August):

- Kotaro Baba (Japanese MS student), assisted by Cornell undergraduate and Torreón native Antonio García, worked with a team of UADY graduate students and faculty and other professionals in June-July 2005 to evaluate nutritional constraints and potentials of beef cattle systems.
- David Parsons (Australian doctoral student) worked with UADY faculty in June-July 2005 and returns to Yucatán in December 2005 to collect data for a doctoral research project entitled, *Enhancing the Sustainability of Smallholder Crop-livestock Systems in the Yucatán Peninsula*.
- *Website construction.* A TIES partnership web site has been designed and the content has been selected. A Cornell technical team is currently working on its creation.
- *Video-Powerpoint presentations.* A UADY team is currently working on the production of these presentations from video-taped conferences of the first three short courses, which will make this information more accessible to other students, faculty and farmers.

- *Continuing partnership challenges.* Despite agreement that remedies are needed (see item #9, TIES progress report of April 30, 2005), shortfalls persist in UADY administrative and logistical support. As previously acknowledged, project activities need to be carried out in a more efficient and timely manner in order to fully realize, and not jeopardize, the expected benefits for all partners, especially UADY students and faculty. The UADY Rector, Dr. Raúl Godoy Montañez, has agreed to facilitate the needed adjustments.

Activities outline for the third quarter of 2005

- *August 11.* Luis Nabté and Victor Absalón initiate Master of Science degree programs in Animal Science at Cornell University. Cornell chairpersons are Professors Michael Van Amburgh (Nabté) and Robert Blake (Absalón). Universidad Veracruzana professors Francisco Juárez and Eduardo Canudas are *ex officio* members of the graduate advisory committee of V. Absalón. His research will focus on pasture-based cattle systems in Veracruz.
- *August 20-October 15.* Short-term training will be conducted at Cornell University for three UADY professors (G. Ríos and J. Magaña, 6 wk each; J. Ku, 1 wk), two UADY doctoral students (V. Cárdenas and F. Duarte, 6 wk each and independently funded with PIFOP-CONACyT resources), one UV professor (E. Canudas, 6 wk and funded by UV), and one INIFAP scientist based in Xalapa (Gabriel Díaz Padilla until November 20). Principal activities include:
 - 1) take Prof. Nicholson's course, *Introduction to System Dynamics Modeling* (ends December 2005, which means that all participants would complete the course via Internet),
 - 2) participate in two core courses on the joint teaching platform for the fall semester,
 - 3) discuss and plan collaborative research activities (including thesis projects),
 - 4) finalize planning of field trips and core courses for the spring semester, and
 - 5) meet various faculty members to learn about their research and Cornell academic programs.
- *August-October-December.* Launch our program of joint courses with teleconferencing, finalize logistical and operational details of the IARD 602 'living laboratory' field course (*Agriculture in Developing Nations II—Gulf Region of Mexico Edition*), plan the field laboratory component (March 2006) and content for the joint course entitled *Livestock in Tropical Farming Systems*, including the logistics and operational plan.
- *July-September.* A UADY technical team should complete production of integrated Powerpoint-with-video presentations given in our first three short courses. This product, which provides the instructor's actual presentation together with the Powerpoint slides, will be available for download from our website and for distribution on DVD.

APPENDIX: IARD 602 field trip itinerary

Following is the 'living laboratory' itinerary for this field course.

Draft Itinerary for IARD 602 in 2006
Agriculture in Developing Nations II—Gulf Region of Mexico Edition

| <u>Date/(day)/time</u> | <u>Activity</u> |
|--------------------------------|---|
| 5 January (Thursday) | <i>Ithaca-Mérida, Yucatán</i> |
| 9:30a | Cornell group departs from Ithaca for Syracuse |
| ~9:30p | Arrive Mérida on Continental Airlines #1842. Transportation to hotel by UADY colleagues Lodging at Hotel San Juan (tel: 999-924-1742, Mexico's country code is 52) |
| 6 January (Friday) | <i>Mérida/Xmatkuil/Tzucalá</i> |
| 7:00a | Buffet breakfast, Maya Yucatán |
| 8:00 | Depart for UADY -FMVZ, Xmatkuil |
| 8:30 | Arrival and welcome by Director Fernando Herrera y Gómez, Rector Raúl Godoy Montañez, and FMVZ-TIES faculty. |
| 8:45 | Meet UADY (Cornell) 602 students and faculty. <i>Leader:</i> Guillermo Ríos Arjona. |
| 9:15 | Brief presentation about FMVZ programs. <i>Leader:</i> Juan Ku Vera |
| 9:45 | Café. Make acquaintances. |
| 10:15 | Visit UADY animal wildlife unit [Agouti paca (tepesquintle), Pecari tajacu (pecari), Odocoileus virginianus "yucatanensis" (white-tailed deer)]. <i>Host:</i> Rubén Montes Pérez |
| 12:00n | Refreshments |
| 12:30p | Local field trip to visit sheep producers. <i>Hosts:</i> Leonardo Cocom (Dzununcán, Unidad Ovina Santa Rosa), Teobaldo Luit Chan y Sra. María Florencia Dzak Ek, and José Sebastian Dzulub Yan y Sra. (Tzucalá). <i>Leaders:</i> Guillermo Ríos Arjona and Andrés Calderón Quintal |
| 3:30 | Lunch and class discussion, Unidad Ovina Sta. Rosa. Coordinate with Leonardo and wife, and invite couples from Tzucalá. |
| 5:30 | Return to hotel |
| 7:00 | <i>Ballet Folklórico de Yucatán</i> , Centro Cultural Universitario- UADY |

7 January*(Saturday)****Mérida-Tizimín***

7:00a

Buffet breakfast, Maya Yucatán

7:30

Depart for Tizimín

9:30

Arrive *Papaya Caribe* (www.papayacaribe.com.mx). Meet Mauricio Solís Trejo, Gerente de Exportaciones. Observe papaya production and packing, seed and cattle units.

Leader: Guillermo Ríos Arjona

11:15

Depart for Panabá and visits with GGAVATT members

12:00n

Arrive *Rancho San José Díaz*. Visit with Wilberth Díaz Aguilar and observe cattle, hair sheep, deer and ranch ecology.

Lunch and informal discussion. *Leader:* Fernando Duarte

2:30p

Depart for *Rancho Dzidzyá*

3:00

Arrival and ranch visit with GGAVATT members Ildefonso Aranda Mena and Agustín (Tini) Mena: challenges in beef herd management. *Leaders:* Valentín Cárdenas and Juan Magaña Monforte.

4:00

Depart for Tizimín

4:30

Check into Hotel San Jorge (tel: 986-3-20-37).

5:30

Snack (on your own) at Restaurante César's

6:30

Class discussion and evening program at UADY-Tizimín campus about ecological issues in the *Ría Lagartos Biosphere Reserve*.

Invited speaker from the Comisión Nacional de Áreas Naturales Protegidas www.conanp.gob.mx

(Biol. Miguel Angel López Valdez, Subdirector or LAE Salvador Sánchez Ramirez)

8 January*(Sunday)****Tizimín/Río Lagartos/Panabá***

7:00a

Buffet breakfast, Restaurante César's

8:00

Depart for Río Lagartos (<http://regionxi.conanp.gob.mx>)

8:30

Arrive *Ría Lagartos Biosphere Reserve*. Tour mangroves with members of local fisherman's cooperative. *Host:* Manuel Salas. Light lunch and presentation by fishermen.

1:00p

Depart Río Lagartos

1:45

Arrive *Rancho San Pedro*. Visit with Freddy Duarte Aranda. Enjoy swimming pool, barbeque, music and conversation. Freddy tells about ranch management and UADY rural programs followed by class discussion.

evening

Return to hotel and visit Tizimín fair..... on your own.

- 9 January**
(Monday)
- 8:00a Buffet breakfast, Restaurante César's
9:00 Depart for Ejido Yaxchekú
- 9:30 Arrival and view honey production with [Melipona becheii](#).
Host: Victor Cemé with Fernando Duarte
- 11:30 Depart for Rancho Santa Cruz
- 12:00n Arrival and observe commercial production of chile habanero (*Capsicum chinense*), rotational cropping with maize, cattle, and reforestation project with cedar (*Cedrela odorata*).
Leader: Fernando Duarte
- 1:30p Lunch at Rancho Santa Rosa and class discussion.
3:00 Depart for Tizimín and free time at the fair.
- 10 January**
(Tuesday)
- 6:15a Buffet breakfast, Restaurante César's
7:00 Depart for Uxmal ruins
- 10:30 Arrival and visit Uxmal.
Leader: Prof. Lili Fernández, UADY archaeologist.
- 2:00p Depart Uxmal ruins
- 2:30 Arrive nearby restaurant (El Borrego Acurrucado or Restaurante Ppapp Hol Chac de Uxmal) for lunch and class discussion with Lili about Mayan communities.
- 4:30 Arrive Hotel Misión Uxmal (tel: 999-923-9500)
Dinner on your own.
- 11 January**
(Wednesday)
- 7:00a Buffet breakfast
7:30 Depart for Frontera, Centla, Tabasco (www.visitetabasco.com)
- 11:30 Arrive at Punta Manglar in the *Centla Pantanos Biosphere Reserve*. Tour wetlands ecosystem followed by lunch.
- 2:30p Depart for Villa Cuahtemoc.
- 3:30 Arrive Villa Cuahtemoc. Visit nearby ejidatario producers of cattle, black pepper and copra: Rafael Ramos Pérez, Franklin Hernández, Cupertino Alejandro García (El Bellote, contact Erasmo Alejandro García (brother) at Abarrotes Rosy, tel: 913-331-6391). *Leader:* Juan Magaña Monforte
- 5:30 Arrive Hotel Solimar (tel: 933-333-2872, 2308, 3650).

12 January
(Thursday)

Paraíso/Comalcalco/Chiltepec/Puerto Ceiba

- 7:00a Buffet breakfast
8:00 Depart for Comalcalco. Visit Oscar Casep, cacao (and cattle) producer and chocolatier. Observe cultivation, processing of pods and beans, and chocolate making. *Leader:* Mario Osorio Arce
- 10:30 Depart for Chiltepec. Visit fisherman's cooperative: oysters, fish.
- 12:00n Arrive at Restaurante Puerto Ceiba. Tour [Laguna Mecoacán](#) mangrove eco-system followed by canal-side lunch and class meeting.
- 5:00p Return to hotel

13 January
(Friday)

Paraíso-Cárdenas/Huimanguillo

- 7:00a Buffet breakfast
8:00 Depart for Cárdenas
- 9:30 Arrive at the Colegio de Posgraduados, Campus Cárdenas. Meet faculty and students followed by a brief presentation about research projects in this water-endowed region.
Leaders: Lorenzo Aceves Navarro and Mario Osorio Arce.
- 10:45 Depart for Huimanguillo to visit 2 producers with dairy and dual purpose cattle herds, rice, and sugarcane.
- 11:30 Arrive at Rancho Polvorín. Visit with Samuel Castillo Notario about pasture-based milk production with Brown Swiss cattle.
Leader: Mario Osorio Arce.
- 1:00p Departure
- 2:00p Lunch
3:00 Departure
- 3:30 Arrive at Rancho San José. Visit with José Adolfo León Pacheco about managing crops and a dual purpose cattle herd.
- 5:00 Departure
- 5:30 Check into Hotel Madan (tel: 937-372-1120, 1145)

14 January
(Saturday)

Cárdenas-Cd. Isla-Puerto de Veracruz

- 7:00a Buffet breakfast
8:00 Depart for Cd. Isla

- 11:30 Arrive at *Rancho Santa Elia (NUTROL)*. Visit with Rafael Aguirre, Cornell alumnus and entrepreneur, about cattle nutrition management in pasture-based systems.
Leader: Francisco Juárez Lagunes
- 1:30p Lunch and informal discussion.
2:30 Depart for Veracruz
- 4:30 Check into Hotel Novo Mar (tel: 229-932-6066 to 70)
5:30 Coctel de bienvenida and welcome by FMVZ-UV Director Carlos Lamothe and UV students.
- evening *Música en los portales* (el zócalo)
- 15 January** *Veracruz/Acatlán/Coatepec/Buena Vista*
(Sunday)
- 7:00a Buffet breakfast
7:30 Depart for the highlands along an altitudinal transect on the Jamapa watershed connecting to the coastal plain of Veracruz. *Leaders:* Gabriel Díaz Padilla, Rosalío López Morgado, and José Luis Martínez.
- 9:00 Arrive at INIFAP's *Campo Experimental Xalapa*. Coffee with brief presentation about the watershed transect and land and water use issues in this region and microwatershed.
9:30 Departure for mountain region (Naolinco-Acatlán)
- 10:30 Arrive at *GGAVATT Nueva Generación* in Acatlán (1600 masl). Observe mixed farming system with dairy cattle, café with sheep for weed control.
11:00 Departure/visit waterfalls (transition zone) and Naolinco, a typical mountain town with leather goods manufacturing (shoes, belts, handicrafts)
- 12:30p Arrive at Teocelo (near Coatepec, 1200 masl). Visit INIFAP's Coffee Experiment Station, diverse coffee production systems, and talk with participants in a collaborative agrosilvopastoral system mountain project financed by CIP and the Government of Spain. Principal farm products include: forages, vegetables, milk, café, sheep and forest products.
- 2:00p Comida campestre at coffee experiment station in Teocelo. Brief presentation by farmer participants about the mountain project.
- 3:00 Depart for the Emiliano Zapata rapids visiting enroute a coffee processing unit (beneficio).
- 4:20 Arrive at Buena Vista (Emiliano Zapata rapids; 400 masl). Observe downstream river charge and rapids.
- 4:45 Departure
6:00 Arrive hotel

16 January*(Monday)****Veracruz/ranchos and GGAVATT on coastal plain watershed***

- 7:00a Buffet breakfast
- 8:00 Depart for farm visits accompanied by UV students and TIES project collaborators.
- 9:00 Arrive at GGAVATT Génesis, Cotaxtla. Visit with ejidatarios and observe agricultural and dual-purpose cattle system technologies and measured impacts. *Leader:* Francisco Juárez L.
- 11:00 Departure
- 11:30 Arrive at *Rancho Las Martas*. Visit with Chuy Pérez who manages leucaena in association with African stargrass in a dual-purpose cattle system. *Leader:* Rubén Loeza Limón
- 1:00p Departure
- 2:30 Arrive *Rancho El Principio*. Brief presentation about the fert-irrigation system and observe this intensive forage production system. *Leader:* Eduardo Canudas Lara
- 3:30 Comida at Restaurante Rosy followed by class discussion.
Leader: Eduardo Canudas L.
- 5:30 return to hotel
- evening on your own

17 January*(Tuesday)****Veracruz/Tezonapa***

- 7:00a Buffet breakfast
- 7:30 Depart hotel to see INIFAP work in reforestation, tree crops, and other crops, including vanilla, rubber, tropical fruits (carambola, rambután, lichi), spices, sugar cane, and low-altitude coffee.
- 9:30 Arrive at INIFAP's *El Palmar Research Station* at Tezonapa (Córdoba). Brief welcome and overview. *Hosts:* MC Antelmo Contreras López, Jefe de Campo.
- 10:00 Visit the INIFAP arboretum containing a collection of nearly 100 species of wood-producing trees, many in danger of extinction. *Hosts:* MC Vicente Sánchez Monsalvo and MC Olga Santiago Trinidad.
- 11:00 Visit rubber (hule) plantation and learn how to collect latex from rubber trees ([link](#) to last 602 Ecuador trip for photos).
Hosts: MC Elias Ortiz Cervantes and Dr. Luis Picón Rubio.
- 12:00 Depart for nearby farm visits
- 12:30p Visit producer participant in the INIFAP agroforestry project.
Host: MC Antelmo Contreras L.
- 1:30 Light lunch at INIFAP cafeteria

2:30 Visit exotic fruit and spice collection.
Host: MC Antelmo Contreras L.
3:30 Depart for Veracruz
5:30 Arrive hotel

18 January *Puerto de Veracruz*

(Wednesday)

7:00a Buffet breakfast and free day....!

7:30p Farewell dinner, Restaurante "Paradise"

19 January *Veracruz-Ithaca, NY*

(Thursday)

5:00a Cornell group departs for airport and return flight (CO #2169) to the frigid north.

later UADY group departs for Mérida