From: Ricardo Hernandez Auerbach
To: "Vilma Ruth Calderon"; "LLoyd Rooney"
Cc: "Rene Clara"; "Bill Rooney"
Subject: RE: farmer to farmer corrected propossal version
Date: Monday, August 24, 2009 4:32:09 PM
Attachments: ELS081_CENTA_sorghum_use.docx
Importance: High

Hi Vilma:

I'm attaching the official format that I sent to our HQ for recruitment. Inside you'll see the "value" of CENTA/INTSORMIL support in country: basically transport with a driver and some coordinator time … all other expenses to field the volunteer will be paid by FTF. Of course, hoping this is fine with you!! We can fix it later …

However, to field a non-US citizen we need a special authorization from USAID in DC. Commonly they don't allow that!. So maybe the Colombian option will not be able to get … I hope that you can understand this Program constraint! However, if the person is a special case we could try!!

Thanks for all your job on this!! We keep us in touch!!

Best,

Ricardo

De: Vilma Ruth Calderon [redacted]
Enviado el: domingo, 23 de agosto de 2009 21:27
Para: Ricardo Hernandez Auerbach; LLoyd Rooney
CC: Rene Clara; Bill Rooney
Asunto: farmer to farmer corrected propossal version

Ricardo

I'm sending you the corrected version of the propossal. This include Dr Rooney sugestions and the cronogram also. Please check it out and let me know if is ok. Dr. Lloyd said that they have the right person for the assignment, someone from Colombia i guess. I think the resources to be contributed by each partner will be discussed later?????

Thank you for your help.

Vilma Ruth

_____ Información de ESET Smart Security, versión de la base de firmas de virus 4357 (20090821) _____

ESET Smart Security ha comprobado este mensaje.

http://www.eset.com

_____ Información de ESET Smart Security, versión de la base de firmas de virus 4364 (20090824) _____

ESET Smart Security ha comprobado este mensaje.

http://www.eset.com

Winrock International
John Ogonowski and Doug Bereteur
El Salvador Farmer-to-Farmer Program
Funded by the U.S. Agency for International Development

Request for Technical Assistance
Scope of Work Outline

ELS081

Title: **Sorghum Utilization and Marketing**

1) Date SOW sent to HQ: August 24, 2009

2) Name of Host Country Organization(s): CENTA (**National Center for Agriculture Technology) / INTSORMIL (The USAID Sorghum and Millet and Other Grains Collaborative Research Support Program)**

a) Is this a repeat organization? No

b) Is there a local partner organization collaborating on this assignment? Yes
Name of partner: CENTA/INTSORMIL

3) Hosts (please provide the following information for each host organization that the volunteer will work with in this Scope of Work)

Name and Address of Host Country Organization: **Food Industries, Farmers, NGO's members and CENTA'S customers project clients.**

(village, town country, district, state/Oblast, region) Different towns around country.

Km 33 1/2 Carretera a Sta Ana, San Andres, San Juan Opico, La Libertad

Telephone/Fax/E-mail/Webpage of Host Country Organization:

Tel +503.2302.0200 / Fax +503.2302.0294 / mobile +503.7115.7181 / [redacted] / www.centa.gov.sv

4) Host Type Public Sector Technical Agency

Definitions from USAID:
All FTF hosts should be counted in only one of the following:

- Cooperatives and Associations: producers' organizations, water users associations, trade and business associations, and community-based organizations.

- Individual Private Farmers: individuals (identified by names) or informal community groups (identified by community with a list of individual farmer names on record) that not assisted because of their affiliation with cooperative or other host organization.
- Other Private Enterprises: agriculture-related firms, primarily agribusinesses (pre-production, input supply, post-harvest handling, processing, etc.).
- Non-Profit, Public Interest NGOs: non-governmental organizations serving community interests, with no profit motive. NGOs are "host country PVOs". Use the NGO category if a host cannot be defined in any other category according to the indicator guidelines set forth. For example, an association is an association first and an NGO second.
- Public and Private Education Institutions: educational and training institutions or any related departments or affiliated agencies.
- Rural Financial Institutions: lending institutions with rural outreach to the agricultural sector (credit unions or other similar organization that provide credit or finance as a primary service).
- Public Sector Technical Agencies: public extension agencies or other government agricultural agencies.

5) Name and Position of Contact Person/s:

Primary contact person
Name: **Vilma Ruth Calderón de Zacatares**
Title: **Research Assistant**
Gender: Female

Secondary contact person
Name: none
Title:
Gender:

6a) Number and Expertise of Volunteer Experts Requested:

Describe in as much detail as possible the technical and training skills needed by the volunteer to fulfill the following tasks. Information needed includes minimum requirements, professional affiliations, specific experience, etc.

The volunteer should have knowledge and skills related with food processing, food analysis, cereal processing, and knowledge of grain milling equipment, economic analysis tools and business / projects management that will help to analyze the economic conditions and help to design an improved strategy of business. He/she should be able to point out the necessary steps in order to assist farmers, food industries personnel, NGO's; students and others, to contribute to the transformation of sorghum from subsistence crops to value added crash crops and analyze the economy of the business / project.

6b) Suggest previous volunteers or EOAs that potential recruits should contact:

List of any previous end of assignment reports, by assignment code that the recruiter should provide in the volunteer's orientation packet.

n/a

7) Duration and Dates of Assignment (including travel): Identify specific dates or windows of opportunity with regards to crop cycles, holidays, etc.

The proposed dates to carry out the assignment are about two (2) weeks starting at beginning of February or mid February 2010.

8) Executive Summary: *Provide a 1-2 paragraph abstract of the assignment. This should include the statement of problem(s) to be addressed and skills required of the volunteer. Note: This section will be cut and pasted into the Winrock Web Pages so please make this as accurate and descriptive as possible.*

Prices of many basic foods skyrocketed in 2008 resulting in a major food crisis that affected millions of poor people throughout the world. The causes of the crisis are many and complex. An increasing demand for food and energy at a time of low food stocks, poor harvest and weak credit has to lead to record prices for food and oil. This situation provide an excellent opportunity for regional research institutions to improve food security, enhance farm income and improve economic activity, promoting sorghum utilization for food as a substitute for wheat and other cereals in baked products, ethnic beverages and nixtamalized products. Sorghum is a local crop and market doesn't depend on importations. Sorghums is growing nation's wide and can be a good substitute for other cereals as corn, rice and mainly wheat in a wide variety of products included in the Salvadorians daily diet.

Scientific Research and technology transference developed by CENTA with INTSORMIL/USAID support since 2003; has been leading efforts to promote sorghum profitable markets, asses economics, and facilitate the evolution of a production supply chain that deliver quality grain to end user for food utilization. Recent INTSORMIL research on the nutritional benefits of food sorghums forms a strong base to enable the processing and commercialization of sorghum varieties. New varieties developed by CENTA scientists, with excellent food quality have been effectively used in many food products to extend the substitution of wheat flour in baked goods, snack foods, and related products where the bland flavor and light grain sorghum color have real advantages. CENTA/INTSORMIL food technicians have been transferring this technology to farmers, food industries personnel, NGO's; students and all interested persons trough the development of workshops. From March 2008 to date a number of 326 people have been trained in the sorghum utilization program for food.

Major activities of this project include the utilization of sorghum as a substitute for costly wheat flour in a wide array of foods. Other objectives are facilitate the growth rapidly expanded markets for sorghum products by providing information (skills or know-how) on nutritional properties, processing quality, food manufacturing processes and milling equipment with improved efficiency and prototype products using sorghum as an ingredient or major component. Other main objective is to develop procedures to use low cost grinders (Omega VI) designed by Compatible Technology International (CTI), Minnesota, USA to mill sorghum into flour for use in food products providing practical technical assistance and information on flour quality for end users.

With this assignment, Farmer to Farmer Program could provide the necessary tools and basic knowledge for entrepreneurs, farmers, NGO's and other interested, and improve the economic analysis to set up or manage business in the Ag sector.

Strengths:
XX

Weaknesses:
XX

9) Background and Host Organization Profile: *Following are examples of information/ details needed. The greater the detail, the greater the chance for the recruiter to select the most appropriate expert(s), the better oriented the volunteer, and the higher the chances for a successful assignment. The information collected here will also make conducting follow-up impact surveys easier to do and provide more accurate information. Provide only information applicable to this assignment.*

For all hosts, describe:

- *Host background: Include a description of the host, history of enterprise and their long-term objectives. Describe relevant milestones that have led up to the present situation. Provide summary and results of all previous FtF assignments, if applicable.*
- *Pertinent information on local physical setting: Population of community/region; infrastructure; availability of electricity water, fuels, etc. and their limitations.*
- *Number of workers: male, female, education levels, host plans to increase or decrease size of workforce, etc.*
- *Market situation: Has a market analysis been done, size of market, existing marketing plans?*
- *Description of management capabilities: strengths & weaknesses.*

For agribusiness/processing enterprise, describe:

- *Current products or services being offered: amount sold, sale prices, and descriptions of quality*
- *Technologies: Equipment and its condition*
- *Production processes and capacity: production levels, number of clients, etc.*
- *List any significant raw material problems, spoilage issues, or other environmental concerns*
- *Post-harvest /marketing, describe:*
- *History of product development*
- *Present situation facility and equipment*
- *methods of processing; packaging techniques and limitations*
- *transportation/distribution methods and limitations*
- *Electronic technology (computer hardware and software used) etc.*

For farms/production enterprise, describe:

- *Crops*
- *Acreage dedicated to each crop, plant/seed varieties/cultivators*
- *Crop yields, amounts sold, and unit prices*
- *Soil types and results of any analysis than have been done*
- *Fertilizer application rates*
- *Climatic conditions {rainfall, temperatures, etc.}*
- *Planting/harvesting seasons*
- *Name brand and condition of equipment employed*
- *Pests, diseases and application rates of pesticides and insecticides used*
- *Plant varieties/cultivators*
- *Description of irrigation system*
- *Post-harvest handling and storage issues*
- *Livestock*
- *Animal numbers and breeds*
- *Pests, diseases and treatments*
- *Feed composition, test analysis and availability*
- *Volumes of production {mi1k, fiber, meat}, amounts sold and unit prices*
- *Costs of inputs*

For association, cooperative, business support organization or education institution, describe:

- *Type of organization and current legal status*
- *Current organization and management structure*
- *List current services, products, curriculum being offered and describe their current quality or difficulties*
- *Membership total, % paying dues, % female*

- *Estimate the current budget for the organization and list current sources of funding { e.g. member fees 25%, government funding 50%, outside donors 25% }*
- *List any current advocacy role the group plays and its effectiveness*

For rural financial service providers and commercial banks, describe:

- *Current products or services being offered" include descriptions of volume, number of clients, and quality*
- *Number of branches or groups*
- *Loan issues: # of clients, % female, Size of portfolio (in US$), % for agriculture-related enterprises; % for micro enterprises*
- *Savings Issues: # of clients, % female, Size of savings (in US$)*
- *Delinquency rate = Principal balance of loans with any missed payment/Total principal balance of all outstanding loans*
- *Average loan size*

For further information about CENTA's activities and information please visit: http://www.centa.gob.sv

CENTA founded in 1977. Is a semi autonomist government institution with a unique mission: the technology generation and transference in the agricultural sector to solve all the problems and constrains from farmers in the different producing areas.

CENTA's main objectives are to reduce poverty and improve economic situation of farmers and other people related to the agricultural sector, providing and promoting technical assistance, training and information on crop production, supply chain management, processing technologies, marketing, laboratory analysis, services and related matters.

CENTA's customers are producers, industries, small, medium and big farmers, exporters requesting technical assistance and services covering a great range of sectors: agriculture crops (cereals, fruits and vegetables) food and beverages, chemical and pharmaceutical, textiles and many others.

10) Objectives of the Assignment (refer to the indicator list at the bottom of this outline): *This will determine what indicators are tracked after the assignment. Describe what kinds of impacts the host expects from this assignment - make sure they are realistic -e.g., increased sales, a new product developed; a new business plan written, new business/farm management skills.*

Facilitate the growth of rapidly expanding markets for sorghum products by providing skills, training on processing quality, processing technology, food manufacturing processes (artisan) with improved efficiency and assistance in product development using sorghum as a major ingredient.

11) Tasks to be Performed: *These are the activities the expert is expected to perform in order to achieve the objectives. If possible, include a draft work schedule for the volunteer.*

- Assist people in food manufacturing processes (GMP)
- Provide Technical assistance for grain and flour quality and milling equipment uses
- Assistance in product development prototypes using sorghum as major ingredient
- Enhance product marketability
- Assist with economic analysis tools and business management
- End of Assignment report completed.

Schedule:

No.	*Activity*	*Place*	*Days*
1	Checking itinerary and discussing activities	CENTA's office	2 days
2	Assist people in product development prototypes using sorghum and food manufacturing processes.	Food industries located in San Salvador and Santa Tecla	3 days
3	Assist in the use of milling equipment and flour quality analysis	Rural bakeries in San Juan Opico, Rafael Cedros, Chalatenango, Usulután	3 days
4	Assist to enhance sorghum product marketability and sensory evaluation analysis	Food industries located in San Salvador and Santa Tecla	4 days
5	Provide to business owners some economy tools to check profitability with the new technology	Food industries located in San Salvador and Santa Tecla	3 days
6	End of assignment report	CENTA's office	2 days
		Total	**17 days**

Deliverables:

Sorghum grain and milling quality and utilization manual and a sorghum recipes brochure.

12) Potential Beneficiaries:

Potential Beneficiaries:	Female	Male
-Number of Members/Owners	tbd	tdb
-Number of Employees	tbd	tbd
-Number of Beneficiaries/Clients	100	50
-Number of Family Members	50	50

Definitions from USAID of Potential Beneficiaries:

- *Members/Owners: This is the number of members of cooperatives, associations and other member-based organizations that receive volunteer assistance. For farms and private enterprises this is the number of owners. For other organizations this is zero.*
- *Employees: This is the number of employees working in the host organization.*
- *Clients: This includes individuals selling product to a volunteer-assister firm or institution (supplier to exporter, processors, wholesalers, grocery chains, etc.) or clients using services or products of an organization or program (extension services, financial services, input supply, etc.) assisted by volunteers.*
- *Family Members: This is estimated number of family members of other categories of beneficiaries. This is calculated by multiplying the total number of other beneficiaries by the average family size minus one (to correct for the individual family member already counted) in the country or region, based on available project records, survey data, or average family size for the country/region.*

13) Working/living Conditions and Materials Needed for Assignment: *Describe the physical conditions the volunteers will encounter, such as the amount of walking/hiking to farm fields that will be required, if there will be large elevation changes, whether there will be hot or cold temperatures that may be difficult for some volunteers, etc. Please suggest what equipment and clothing the volunteer will need. This helps reduce the amount of luggage some volunteers bring. Describe need for water purification tablets, insect repellent, clothing, voltage of electricity, lack of water, etc. volunteer expert/s should be prepared for. Also, include any electronic, teaching materials, video, written information, etc. required for the assignment.*

CENTA main office is located in San Andres, 30-40 minutes outside San Salvador Metropolitan Area (from the hotel by car). The volunteer will travel every day with CENTA and Winrock technicians from San Salvador to field farms and CENTA office. San Andres is an internal valley surrounded by San Salvador Volcano and coffee mountain ranges. Weather in February is dry and warm, sometimes windy with some dust. Volunteer will have a place in Winrock office where can use computer, internet and prepare presentations and documents.

In San Salvador Metropolitan Area the volunteer will be installed in:
Hotel Posada del Angel
85 Ave. Nte. 321, Col. Escalon.
San Salvador
PBX. +503.2237.7171
Mobile: +503.7886.7101
E-mail: [redacted]
Website: www.hotellaposadadelangel.com

Lodging daily rate for Winrock volunteers is US$ 53.10 (breakfast and taxes are included). Other services are: air conditioned, cable TV, private bathroom with hot water, laundry and spa services, telephone in the room, 24 hours security, internet wireless; and taxi / car rental services. Nearby you'll find many restaurants and coffee shops (5-10 min walking). They accept credit cards without extra charges. American Embassy and USAID El Salvador Mission buildings and Winrock office (located in the FUSADES building) are in Santa Elena area, around 15 min. by car from the Hotel, in the southwest of the city. We recommend bringing sport shirts, jeans, and comfortable shoes. We recommend bringing mosquitoes repellent, like B12 vitamin for the city and the field areas. Other insects are no problem, unless the volunteer is allergic to them.

14) End of Assignment Report Required: *List any expectations of the beneficiaries with regard to the report. The report should support the objective and always include a scope of work for succeeding volunteer expert/s.*

At the end of the present assignment and prior to departure for the US, the volunteer should write an end of assignment report highlighting major activities and further recommendations for the dairy farms clients. The report should include the objectives of the assignment, tasks performed and indicators to assess the level of implementation of the volunteer recommendations. Volunteers personal assessment as to any recommendations as to the continuation of activity with the host, and follow up assignments should also be included in the report.

15) Follow-up Impact Survey: *Discuss with the host that an impact survey will be conducted between 6 to 12 months after the assignment and set-up a tentative month or season when the survey might best be conducted.*

A follow up impact survey will be conducted by Winrock staff with partners every six months before the assignment to determine impact and define lessons learned.

Assignment Information (for Program Management)

Date SOW sent to HQ: August 24, 2009

Is there a local partner organization collaborating on this assignment? Yes

Name of partner: CENTA/INTSORMIL

Address: **Km 33 1/2 Carretera a Sta Ana, San Andres, San Juan Opico, La Libertad**
Is this a repeat organization? **No**
Partner Type: **Government technical agency**

Name and Position of Contact Person/s:
Primary contact person
Name: **Vilma Ruth Calderón de Zacatares**
Title: **Research Assistant**
Gender: Female
Tel +503.2302.0200 / Fax +503.2302.0294 / mobile +503.7115.7181 / [redacted] /
www.centa.gov.sv

Suggest previous volunteers or EOAs that potential recruits should contact: n/a

Resources to be contributed by the Host:

A. Driver:	# of Days (15)	Estimated Value in $U.S.:	350.00
B. Interpreter	# of Days (___)	Estimated Value in $U.S.:	_____
C. Lodging:	# of Days (____)	Estimated Value in $U.S.:	_____
D. Meals:	# of Days (____)	Estimated Value in $U.S.:	_____
E. Transportation	# of Days (15)	Estimated Value in $U.S.:	375.00
F. Meeting room	# of Days (____)	Estimated Value in $U.S.:	_____
G. Snack & Refresh.	#of Days (____)	Estimated Value in $U.S.:	_____
H. Others *	#of Days (15)	Estimated Value in $U.S.:	800.00

Total $U.S. …….. $U.S.: 1,525.00

**** This includes: coordinator, office services.***

Estimated Lodging Costs:
All the field activities will be undertaken at

A. Travel and Transportation		Cost: $**tbd**
B. Lodging: # of days in **SAL**	# of days at site (15)	Cost: $ **795.00**
Hotel Posada del Angel US$ 53/night *15		
C. M&IE: # of days in **SAL ($ 60)**	# of days at site (15)	Cost: $ **900.00**
D. Interpreter:	# of days ( )	Cost: $____
E. Other Costs: (i.e.: LOI, in-country travel, drivers)		Cost: $____

Please select one of the Types of Volunteer Assistance (required)*:
If a volunteer provides multiple types of assistance, determine the one category that the volunteer spent the majority of his/her time with and use that for the classification.

- ❑ **Technology Transfer**
- ❑ Organizational Development
- ❑ Business/Enterprise Development
- ❑ Financial Services
- ❑ Environmental Conservation

Please select one of the Commodity Chain Activities involved in this assignment (required)*:
If a volunteer focuses assistance on multiple categories of the commodity chain, determine the one category that the volunteer spent the majority of his/her time with and use that for the classification.

- ❑ Information and Input Support Services (areas as extension services, input supplies, veterinary services)
- ❑ **On Farm Production**
- ❑ Processing (including primary and final product transformation, storage, transportation)
- ❑ Marketing (including branding, advertising, promotion, distribution, sales)

Country FTF Project/Focus Area

- ❑ Horticulture
- ❑ Dairy
- ❑ Climate change
- ❑ **Food Security**
- ❑ Other flexible: _____

Impact Indicators
USAID requires that we identify the key indicators that will be targeted by the volunteer assignment and tracked following the assignment. This table should be completed for each host organization.

USAID Impact Indicators	**Baseline data**	
Date of Assessment		
Potential Beneficiaries:	**Female**	**Male**
-Number of Members/Owners		
-Number of Employees		
-Number of Beneficiaries/Clients		
-Number of Family members		
Economic Impacts:		
-Annual net income (US$		
-Annual gross sales (US$)		
Organizational Impacts:		
-Number of Members/Owners		
-OCAT Rating		
Financial Services Impacts:		

-Amount of rural agricultural loans (US$)	
-Number of rural agricultural loans (US$)	
Environmental Impacts:	
-Area of Environmental/Natural Resource (ha)	
-Persons with environmental/safety threat	

Definitions from USAID:
Host Baseline Data:

- Annual Net Income: Host's current net annual income in US$. May be based on host records or simple enterprise budgets or per-hectare crop budgets (partial budgets will do).
- Annual Gross Sales: Host's current gross annual sales in US$. May be based on host records or simple enterprise budgets or per-hectare crop budgets (partial budgets will do).
- Membership: Number of members of membership based organizations.
- OCAT Rating: See simplified FTF OCAT rating sheet.
- Amount of Rural/Agricultural Loans: Host's current total value of portfolio in agricultural/rural lending in US dollars.
- Number of Rural/Agricultural Loans: Host's current portfolio in number of agricultural/rural loans.
- Area of Environmental/Natural Resource (ha): Area of environmental or natural resources under control or influence of host. Estimates by field staff, hosts, and/or volunteers at or before the first assignment with the host.
- People with Environmental/Safety Threat: Number of people threatened by adverse environmental conditions (pesticide misuse, food safety threats, and water or sanitation threats) or dangerous working conditions, as influenced or controlled by host.

From:	Helms, Adam
To:	Mullet, John E.
Cc:	Spurlin, Shayna; Bill Rooney; Avant, Bob
Subject:	RE: Final drafts of GOAL2, Tasks 2.1, 2.2
Date:	Monday, October 12, 2009 12:57:11 PM

John,

Can you please send me 18 and 36mo quantifiable Go/No-Go metrics for tasks 2.1 and 2.2?

Thanks,

Adam

Adam Helms
AgriLife Research Corporate Relations
979-255-0752 (mobile)
979-458-2677 (office)

-----Original Message-----
From: John Mullet [mailto:jmullet@tamu.edu]
Sent: Wednesday, October 07, 2009 6:18 PM
To: Helms, Adam
Cc: Spurlin, Shayna; Bill Rooney; Avant, Bob
Subject: Final drafts of GOAL2, Tasks 2.1, 2.2

Adam and Shayna,

I am attaching four documents.

1. The Master Preproposal with a revised write up of GOAL 2, Task 2.1, 2.2, 2.3.
2. A Draft of the overall GOAL 2 statement of Deliverable, Metrics, Milestones.
3. A final draft of GOAL 2, Task 2.1 budget justification, Milestones/ Deliverables.
4. A final draft of GOAL 2, Task 2.2 budget justification, Milestones/ Deliverables.

My plan is to work on the STO slides next.

John

From: John Mullet
To: Bill Rooney
Subject: Re: four dwarf line?
Date: Thursday, September 17, 2009 9:21:17 AM

Bill,

These two are plenty. By the way, could you send me Karen's new email address (not sure if she was copied on this)?

Thanks,

John
On Sep 17, 2009, at 9:16 AM, Bill Rooney wrote:

>
> John
>
> We'll get you these two. We have good seed. (Karen please pull and
> get to
> John).
>
> 1 02CS5093 272 B.Tx616 w p
> 1 02CS5091 400 B.Tx406 R P
>
> There are others but I don't have seed - they include Tx3118,
> Tx3121, and
> Tx3123 but I'll have to see if Gary has them. If he doesn't, we'll
> need to
> get them from GRIN.
>
> Bill
>
> Dr. William L. Rooney
> Professor, Sorghum Breeding and Genetics
> Chair, Plant Release Committee
> Texas A&M University
> College Station, Texas 77843-2474
> 979 845 2151
>
>
> -----Original Message-----
> From: John Mullet [mailto:jmullet@tamu.edu]
> Sent: Wednesday, September 09, 2009 3:56 PM
> To: Bill Rooney
> Subject: four dwarf line?
>
>
> Bill,
>
> We are starting to work on Dw1 and general characterization of the
> physiology of the dwarfing genes.
>
> Would you have a four dwarf line we could characterize? (we need
> about 50 seed for the initial study).
>
> The other lines we are including initially are listed below:
>

> dw1Dw2dw3dw4
> dw1Dw2dw3dw4
> Dw1dw2Dw3dw4
> Dw1Dw2Dw3dw4
>
> Kimberley is mapping Dw1 in and we are also
> characterizing height in the population you
> provided.
>
> Thanks,
>
> John
>
> PS: Kimberley and a new Genetics student, Josie Hilley will be working
> on this.
>

From: Bill Rooney
To: "Audie Sciumbato"
Subject: RE: FS-5 Sterility Update
Date: Friday, October 16, 2009 4:58:45 PM

Thanks audie.
Glad to hear it.
Bill

From: Audie Sciumbato [redacted]]
Sent: Friday, October 16, 2009 1:57 PM
To: wlr@tamu.edu
Subject: FS-5 Sterility Update

Dr. Rooney-

I just wanted to drop a quick line to give you an update on the sterility issue up here. They drug their heels a little bit, but it looks like the company will be taking care of the producers' losses without the need for litigation. The producers didn't get quite as much as they wanted, but it was still a fair settlement. I'll be sure to let you know if that changes for some reason.

We appreciate all of your help and your willingness to sacrifice a day to come up here and meet with us. Please let me know if there is ever anything we can do for you.

Sincerely,
Audie

Audie Sciumbato, PhD
Associate Attorney
Underwood Law Firm
P.O. Box 9158
Amarillo, Texas 79105
www.uwlaw.com
Phone: (806) 379-0326
Fax: (806) 379-0316

So, hopefully you are interested in contributing. What we need now is for you to review and edit the information on the Goal I document. Specifically, objective 3 to Searcy and Objective 4 to Richardson. As of now there is $1 million annually (total) for three years for all the objectives in Goal I.

I'm sure you've got questions, and please feel free to contact either Bill M., John M, Bob or myself (979 220-1951).

Regards,

bil
Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151
-----Original Message-----
From: Avant, Bob [mailto:bavant@tamu.edu]
Sent: Wednesday, September 02, 2009 8:17 PM
To: Bill Rooney
Cc: Mullet, John E.
Subject: Re: DARPA draft

I'll work on it tomorrow night.

Would one of you send the latest version to Searcy and Richardson for their input and provide background. This will be their first intro to the project. They both contributed to the document I sent John on Friday, but it was for a DOE proposal.

I am traveling until midnight and will be in meetings until 5 tomorrow. So I can't contribute until then

Sent from my iPhone

On Sep 2, 2009, at 6:50 PM, "Bill Rooney" <wlr@tamu.edu> wrote:

Bob:

I understand and agree. We need additional input on that (or have you write them).

Regards,

Bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

-----Original Message-----
From: Avant, Bob [mailto:bavant@tamu.edu]
Sent: Wednesday, September 02, 2009 3:19 PM

To: Mullet, John E.; Bill Rooney; Stelly_David Stelly
Cc: McCutchen, Bill
Subject: RE: DARPA draft

Under the Project Deliverables section, I think we should include logistics and economics bullets. I won't have time until Thur evening on way back from Albuquerque to edit more. Have to prepare for that meeting by 9 am in morning.

Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu

-----Original Message-----
From: John Mullet [mailto:jmullet@tamu.edu]
Sent: Wednesday, September 02, 2009 8:06 AM
To: Avant, Bob; Bill Rooney; Stelly_David Stelly
Cc: McCutchen, Bill
Subject: DARPA draft

All,

I revised the front part of our proposal and provided space for the GOAL implementation plans/budgets we are developing.

Thanks,

John

From:	James Richardson
To:	Bill Rooney; "Avant, Bob"
Cc:	"Steve Searcy"; "John Mullet"; bmccutchen@tamu.edu
Subject:	Re: FW: DARPA draft
Date:	Monday, September 07, 2009 5:07:11 PM
Attachments:	Goal 1 Objective 4.docx jwrichardson.vcf

Bill and Bob,

Attached is my proposal for Goal 1 Objective 4. If I did not identify the points you think we need hit, please give me a hint and we can change it.

James

Bill Rooney wrote:

> Steve and James
>
> Bob asked me to forward an "opportunity" for your input.
>
> We have been in development stages of a grant proposal to DARPA as is outlined in the attached document DARPA RD Plan. This was submitted as a concept paper back in July; they have now asked for a more detailed proposal. The group working has felt that your expertise is important for Goal I (ie, harvest logistics and economics of production). Bob had some information from a previous grant, but we are trying to tailor more to the concepts described in both of these documents.
>
> So, hopefully you are interested in contributing. What we need now is for you to review and edit the information on the Goal I document. Specifically, objective 3 to Searcy and Objective 4 to Richardson. As of now there is $1 million annually (total) for three years for all the objectives in Goal I.
>
> I'm sure you've got questions, and please feel free to contact either Bill M., John M, Bob or myself (979 220-1951).
>
> Regards,
>
> bil
> Dr. William L. Rooney
> Professor, Sorghum Breeding and Genetics
> Chair, Plant Release Committee
> Texas A&M University
> College Station, Texas 77843-2474
> 979 845 2151
> -----Original Message-----
> **From:** Avant, Bob [mailto:bavant@tamu.edu]
> **Sent:** Wednesday, September 02, 2009 8:17 PM
> **To:** Bill Rooney
> **Cc:** Mullet, John E.
> **Subject:** Re: DARPA draft
>
> I'll work on it tomorrow night.

Would one of you send the latest version to Searcy and Richardson for their input and provide background. This will be their first intro to the project. They both contributed to the document I sent John on Friday, but it was for a DOE proposal.

I am traveling until midnight and will be in meetings until 5 tomorrow. So I can't contribute until then

Sent from my iPhone

On Sep 2, 2009, at 6:50 PM, "Bill Rooney" <wlr@tamu.edu> wrote:

> Bob:
>
> I understand and agree. We need additional input on that (or have you write
> them).
>
> Regards,
>
> Bill
>
> Dr. William L. Rooney
> Professor, Sorghum Breeding and Genetics
> Chair, Plant Release Committee
> Texas A&M University
> College Station, Texas 77843-2474
> 979 845 2151
>
> -----Original Message-----
> From: Avant, Bob [mailto:bavant@tamu.edu]
> Sent: Wednesday, September 02, 2009 3:19 PM
> To: Mullet, John E.; Bill Rooney; Stelly_David Stelly
> Cc: McCutchen, Bill
> Subject: RE: DARPA draft
>
> Under the Project Deliverables section, I think we should include logistics and economics bullets. I won't have time until Thur evening on way back from Albuquerque to edit more. Have to prepare for that meeting by 9 am in
> morning.
>
> Bob Avant
> Program Director
> Texas AgriLife Research
> 979/845-2908
> 512/422-6171 (Cell)
> bavant@tamu.edu
> http://agbioenergy.tamu.edu
>
> -----Original Message-----
> From: John Mullet [mailto:jmullet@tamu.edu]
> Sent: Wednesday, September 02, 2009 8:06 AM
> To: Avant, Bob; Bill Rooney; Stelly_David Stelly
> Cc: McCutchen, Bill

Subject: DARPA draft

All,

I revised the front part of our proposal and provided space for the GOAL implementation plans/budgets we are developing.

Thanks,

John

--
James W. Richardson
Regents Professor & TAES Senior Faculty Fellow
Co-Director Agricultural and Food Policy Center
Department of Agricultural Economics
Texas A&M University
College Station, TX 77845
(979) 845-5913 Office
(979) 777-5228 Cell
Fax: (979) 845-3140
jwrichardson@tamu.edu
Web: www.afpc.tamu.edu

From:	Juerg Blumenthal
To:	Adam Helms; Bob Avant; Bill McCutchen; John E Mullet; Steve Searcy; Bill L Rooney
Subject:	Re: FW: DARPA project
Date:	Thursday, October 08, 2009 11:20:44 AM

All,

If Ceres really does not want to do the testing, one strategy could be to run the thing through my shop at crop testing. We currently run similar projects. My suggestion would be as follows:

For this project I would need the collaboration of Brent Bean at Amarillo and Nael El-Hout at Weslaco. I will contact them as soon as a definite approach is decided on.

Tasks to the investigators:
Blumenthal: trials at 2 environments (years 1+2) and 3 environments (years 3-5)in central and east Texas, gathering of entries, packaging seed for all locations, coordinating reporting; (40% of funding).

Bean: trials at 2 environments (years 1+2) and 3 environments (years 3-5)in the Texas High Plains; (30% of funding)

El-Hout: trials at 2 environments (years 1+2) and 3 environments (years 3-5)in the Rio Grande Valley and the Coastal Bend. (30% of the funding)

Keep me posted about your thoughts and the progress of the situation.

Jrg Blumenthal

Jrg M. Blumenthal, Ph.D.
Associate Professor
State Sorghum Cropping Systems Specialist
Soil & Crop Sciences Department
Texas A & M University
351c Heep Center
Mailstop 2474
College Station, TX 77843-2474

Phone: (979) 845-2935
Fax: (979) 845-0604

>>> "Avant, Bob" <bavant@tamu.edu> 10/8/2009 09:56 >>>
CONFIDEDNTIAL

It looks like Ceres may not want to take on Task 1. As Plan B we need to prepare an approach where we conduct the trialing - - ASAP.

Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu

-----Original Message-----
From: Avant, Bob
Sent: Thursday, October 08, 2009 9:53 AM
To: 'Walter Nelson'
Subject: RE: DARPA project

Thanks Walter,

I'll watch for your call and step out of meeting.

Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu

-----Original Message-----
From: Walter Nelson [mailto:wnelson@ceres.net]
Sent: Thursday, October 08, 2009 6:21 AM
To: Avant, Bob
Subject: DARPA project

Bob,

Didn't get to followup with everyone here till late last night and then
had to go to dinner with family. Leave for Austin on 6:50am flight this
morning so won't be avail by phone till about 9:30 your time in San Diego.

Had discussions around ideas we discussed and our current position would
still prefer A&M handle the research proposal trialing with language saying Ceres will negotiate with DARPA for commercial access to materials as preferred customer etc....

Also spoke to Richard briefly last night and am keen to try to find a solution that will work well for all. Intend to discuss with McCutchin tomorrow at lunch.

Will try reaching during my drive from Austin to College Station.

Walter

-----Original Message-----
From: Avant, Bob [mailto:bavant@tamu.edu]
Sent: Tuesday, October 06, 2009 7:56 PM
To: Helms, Adam
Cc: wlr@tamu.edu; stelly@tamu.edu; Mullet, John E.; ssearcy@tamu.edu; jwrichardson@tamu.edu; jmgould@ag.tamu.edu; pklein@tamu.edu; Russell Jessup; thomasson@tamu.edu; Nael El-Hout; Walter Nelson; Juerg Blumenthal; Simpson, Shay; Spurlin, Shayna; Nelson, Michelle; Bridges, Brenda; McCutchen, Bill
Subject: Re: Highest Priority: DARPA Energy Crops

Thanks Adam

This is presented well and the changes are essential. I would reiterate the importance of receiving the changes by COB Thursday.

PI's please take care to follow a consistent format so we can avoid major reformatting. Please call if you have questions.

In addition to these changes, we will need to redo the milestones document, redo the Gantt chart, prepare the PPT.
Sent from my iPhone

On Oct 6, 2009, at 9:17 PM, "Helms, Adam" <ahelms@dsmail.tamu.edu> wrote:

> Good evening:
>
>
>
> Today we met with Dr. Giroir and he gave us some advice for moving
> forward with the DARPA-Energy Crops Proposal. Perhaps the most
> relevant was how we proceed with the Milestones & Deliverables
> document and the discussion of the Milestone vs. Deliverable vs.
> Metric and how DARPA likes these presented - whether for the entire

> project, per goal or per task. Bob, Shay and I had a lengthy discus

> sion about this very topic when we returned and how we felt it shoul

> d best be presented.

From: Ostilio Portillo
To: Bill Rooney
Subject: Re: FW: Ostilio Portillo
Date: Monday, September 21, 2009 4:38:32 PM

Good afternoon Dr. Rooney;

I hope you are ok by the time you receive this brief note. I just want to ask you how you plan to send me the note (letter of offer). Should I expect to receive it via normal mail or you plan to send me an e-mail. If I receive an electronic copy, can I simply sing and scan it to send it back to you via e-mail or you prefer me to send you the hard copy via snail mail. Please advise, Ate.

Ostilio.

On Mon, Sep 14, 2009 at 7:37 PM, Bill Rooney <wlr@tamu.edu> wrote:

> Ostilio:
>
> Looks like you are admitted. I'll write a letter of offer this week and get that to you. You will not be officially accepted into the program until you sign that offer and return it.
>
> If you are good, then let us plan for a January start date.
>
> Regards,
>
> Bill
>
> Dr. William L. Rooney
> Professor, Sorghum Breeding and Genetics
> Chair, Plant Release Committee
> Texas A&M University
> College Station, Texas 77843-2474
> 979 845 2151
>
> -----Original Message-----
> From: C. Wayne Smith [mailto:cwsmith@tamu.edu]
> Sent: Monday, September 14, 2009 2:52 PM
> To: Bill L Rooney
> Cc: Kathy Ferguson; Glenda Kurten
> Subject: Re: Ostilio Portillo
>
> Bill,
> Yes. I admitted him for Spring 2010 today (I think--new computer system).
>
> Wayne
>
> C. Wayne Smith
> Professor and Associate Head
> Department of Soil and Crop Sciences
> 2474 TAMU

Texas A&M University
College Station, TX 77843-2474
979.845.3450
cwsmith@tamu.edu

>>> "Bill Rooney" <wlr@tamu.edu> 9/11/2009 5:25 PM >>>
Wayne:

I'm interested in having Ostilio Portillo join my program as a graduate assistant to study for a Ph.D. I know that he has applied; I need to know the status of his application and if I can write him an offer letter.

I have INTSORMIL funding for Central America work and it has been impossible to find a student with suitable background to fill that assistantship. Ostilio is as good as a fit as I could ever find and I'd like to make sure he is back in our program and representing our interests in Central America.

regards,

bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

--
Ostilio R. Portillo
Asistente del Líder del Programa de Hortalizas
Centro Experimental y Demostrativo de Horticultura (CEDEH)
Comayagua, Comayagua
Tel.: (504) 715-5189, (504) 89541590
e-mail: [redacted], [redacted]

From:	Carol Rhodes
To:	Bill L Rooney
Subject:	RE: FW: questions
Date:	Monday, September 28, 2009 11:37:17 AM

Thanks. I'll fax it over and then fax you a copy when they assign a Work order #. cj

>>> "Bill Rooney" <wlr@tamu.edu> 9/28/2009 11:06 AM >>>
My cell 979 220 1951

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

> -----Original Message-----
> **From:** Carol Rhodes [mailto:cj-rhodes@tamu.edu]
> **Sent:** Monday, September 28, 2009 10:51 AM
> **To:** Bill L Rooney
> **Cc:** Scott Vajdak
> **Subject:** Re: FW: questions
>
> I'll get the paperwork completed and fax it to telecom. What number do you want them to reach you at when they are ready to install on the notebook?
>
> >>> "Bill Rooney" <wlr@tamu.edu> 9/28/2009 10:35 AM >>>
> Carol:
>
> Per Scott below, do I need to have the computer before I start the paperwork
> for wireless internet connection?
>
> It's on order and I hope to have it by the end of this week so I can take it
> on a trip next week.....
>
> Regards,
>
> Bill
>
> Dr. William L. Rooney
> Professor, Sorghum Breeding and Genetics
> Chair, Plant Release Committee
> Texas A&M University
> College Station, Texas 77843-2474
> 979 845 2151
>
> -----Original Message-----
> From: Scott Vajdak [mailto:SVajdak@ag.tamu.edu]
> Sent: Monday, September 28, 2009 9:50 AM
> To: Bill L Rooney
> Subject: Re: questions
>
> Morning Dr. Rooney,
>
> I did get your message and have ordered that HP Netbook with the extra
> battery for it (I did not order the extra battery for your existing 8510w).

To establish the Verizon Wireless Internet connection for it, I believe you'll have to fill out this form with A&M's telecommunications dept. (I got the link from Carol) http://telecom.tamu.edu/files/workOrderCellPhone.pdf What you're going to need is called a Verizon Mobile Broadband data-plan. The service costs $44.99/mo. for up to 5GB's downloaded- this should be way more than plenty for you if you're just checking email and surfing the net. I don't know all of the information that needs to be filled in so you may want to get with Carol Rhodes or Jana McDonald at the telecommunications dept. at 845-1952. She said that they "may" need the laptop to actually be here before they process the paperwork- need serial number or MAC address from it??

On your current laptop (8510w) are you certain it is the internal part that is failing (not the adapter or cord?). I will check if HP will cover that but we definitely need to try if it's the internal part because that may involve replacing the entire motherboard- if we have to purchase it, they can run up to $400 or more. If there is a chance that I could have the laptop here in my office for an hour or so I could contact HP and be able to test it with them on the phone.

-Scott-

>>> "Bill Rooney" <wlr@tamu.edu> 9/28/2009 7:39 AM >>>
Scott:

First, did you get my response on the small laptop? If not, let me know.

Second, On my current laptop, the power cord insert slot on the laptop is now non-functional and needs to be replaced. I can charge the computer by on my docking station, but can't otherwise. Should I take that to get fixed locally or do you do that?

bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

From:	Patricia Klein
To:	Bill Rooney; sethmurray@neo.tamu.edu; "Mullet, John E"
Cc:	"Schuerman, Peter L."; "McCutchen, Bill"; Avant, Bob; "Simpson, Shay"
Subject:	Re: FW: TAMU sweet sorghum study
Date:	Tuesday, November 10, 2009 2:54:00 PM

Bill

Since I am not working on the sweet sorghum part of the project, I would defer to those who are. With regards to the data from Seth's QTL analysis with the the , if they want the raw marker data for that population I don't have a problem transferring it to them under a standard MTA. However, it sounds as if Tim is talking about material from the association panel.

Thanks
Trish

At 02:08 PM 11/10/2009, Bill Rooney wrote:

> Greetings:
>
> Please forgive me if we discussed this previously, but I need input from the group per the request from I don't remember if we had a discussion pertaining to Cere's request for phenotype information on sweet sorghum (see below). This would affect some the data that Seth collected as well as some of our current data.
>
> I want to be a good collaborator; at the same time we can just turn everything over for the sake of collaboration. I would welcome your input on what level we should participate and what agreements we make any transfers under. Seth, with regard to your information, I'd like to know if you are even interested in sharing that data.
>
> Regards,
>
> Bill
>
> Dr. William L. Rooney
> Professor, Sorghum Breeding and Genetics
> Chair, Plant Release Committee
> Texas A&M University
> College Station, Texas 77843-2474
> 979 845 2151
> **From:** Timothy Swaller [mailto:tswaller@ceres.net]
> **Sent:** Tuesday, November 10, 2009 12:17 PM
> **To:** Bill Rooney
> **Cc:** Jeff Gwyn; Walter Nelson; John Mullet
> **Subject:** TAMU sweet sorghum study
>
> Hi Bill

I am following up on a request that was made a few months back in regards to a population that was phenotyped (NIR, Brix, and height) from 125 diverse accessions and some preliminary marker associations were made (Seth?). Is it possible to get this raw phenotypic information for these 125 accessions (I believe you had mentioned it was going to be available soon)?
We would like to start looking at these types of datasets to begin developing a better comprehensive understanding of these types of studies and the utility they may have for our internal and/or joint programs. Also, this will help us to better understand the benefits and weaknesses of these approaches.

Thanks
Tim

Timothy Swaller
Director, IT and Genomics
Office: 805.376.6545
tswaller@ceres.net

Ceres, Inc. ~ The Energy Crop Company®
1535 Rancho Conejo Blvd. ~ Thousand Oaks, CA 91320 USA
www.ceres.net

Dr. Patricia Klein
Associate Professor
Institute for Plant Genomics and Biotechnology
TAMU 2123
Texas AgriLIFE Research
Texas A&M University
College Station, TX 77843-2123

phone: 979-862-6308
fax: 979-862-4790

From:	Barbara Bracken
To:	Karen L Prihoda
Cc:	Bill L Rooney
Subject:	Re: Fwd: New Timesheets for Manager"s Review
Date:	Thursday, September 17, 2009 10:55:03 AM
Importance:	High

** High Priority **

Karen...
I cannot approve time sheets...Dr. Rooney or someone else will have to be the approver from now on...

>>> "Prihoda, Karen L" <k-prihoda@neo.tamu.edu> 9/17/2009 10:44 AM >>>
Barb:

Would you please see that this gets approved.

Thanks,
Karen

P.S. The twins still have to send there time it.

Sorghum Breeding and Genetics
Department of Soil & Crop Sciences
Texas AgriLife Research
Texas A&M University
College Station, Texas 77842-2474

----- Forwarded Message -----
From: TimeTraq@timetraq.tamu.edu
To: K-PRIHODA@TAMU.EDU
Sent: Wednesday, September 16, 2009 7:34:32 PM GMT -06:00 US/Canada Central
Subject: New Timesheets for Manager's Review

The following timesheets were recently submitted:

Please review and take action on the document(s) at The TimeTraq Web site.

Timesheet 1284576 for GERALD DE LA FUENTE (09/10/2009 to 09/16/2009)

This is an automated message from the TAMUS TimeTraq system.
Please do not reply. For assistance, contact your designated administrator.

From:	Bill Rooney
To:	"Spurlin, Shayna"
Subject:	RE: GA DOE FOA-0000123
Date:	Thursday, August 27, 2009 5:55:00 PM
Attachments:	PMC111_1-RD Environmental Questionnaire Rooney.doc

---

Shayna:

See attached.

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

-----Original Message-----
From: Spurlin, Shayna [mailto:sfspurlin@tamu.edu]
Sent: Thursday, August 27, 2009 5:43 PM
To: Steve Searcy; Bill Rooney
Cc: Avant, Bob; Simpson, Shay; Zak, Kendra
Subject: GA DOE FOA-0000123
Importance: High

Evening Dr. Searcy and Dr. Rooney,

DOE is requiring the attached environmental questionnaire for inclusion in the proposal packet being submitted with General Atomics for FOA-0000123. Can you please complete this questionnaire for your lab and then return to me?

Thanks much!

Shayna Spurlin
Contract Manager
Texas AgriLife Research, Corporate Relations
100-G Centeq Building A
1500 Research Parkway
College Station, Texas 77843-2583
979.845.2364 office
979.255.8319 mobile
979.458.2155 fax
sfspurlin@tamu.edu
http://AgriLifeResearch.tamu.edu

R&D Laboratory Environmental Impact Questions

In order to receive Federal financial assistance, proposed projects must be reviewed under the National Environmental Policy Act (NEPA) for potential environmental impacts. For research and development activities, the following questions must be sufficiently answered before the review can be completed. Please add as much detail as possible.

1. Please provide and describe the location of the facility or facilities where lab work will take place.

   Field work will be completed at Texas Agrilife Research facilities in Pecos, El Paso and College Station, Texas. Laboratory screening trials will be completed on the campus of Texas A&M University.

2. What type of safety protocols are in place in the areas where work will take place? Who monitors these? Internally and externally? Are the safety protocols subject to OSHA or other standards? Please describe all safety and environmental protocols and standards related to this project.

   Standard farm operation safety procedures are in place. These procedures are standard for all on farm research work. These are monitored both internally and externally.

3. How are the gases, chemicals, heavy metals, etc., handled, stored and disposed?

   Not applicable as none are to be used in this research.

4. What type of safety equipment is in place for the facilities (i.e. fume hoods, alarms, scrubbers, etc...)?

   Not applicable as none are to be used in this research

5. What permits are in place for the facility for this type of work? Please list.

   Fieldwork uses existing and standard equipment and procedures. No permits are required to conduct the research.

6. What permits are needed or will be acquired for this type of work? Please list.

   None.

7. How is liquid effluent handled and discharged?

   None.

8. How is toxic waste handled, stored, and disposed?

   None.

9. Will the work being done create any air pollutants? If so please explain how these are regulated, handled, disposed, or mitigated.

   None.

10. Are Genetically Modified Organisms (GMOs) being used? If so please describe how these will be transported, stored, handled and disposed? How are these classified by the USDA Animal and Plant Health Inspection Service (APHIS)?

    All plant germplasm is non GMO.

11. Will prototypes be tested in a separate location, if so, please describe the location and answer questions #1-9?

    Not applicable.

12. Are subcontractors being used for some of the work? If so please answer Questions #1-11 for work being completed by subcontractors.

    No.

From:	Bill Rooney
To:	"Spurlin, Shayna"
Subject:	RE: GA Proposal FOA-0000123 - Budget Justification
Date:	Thursday, August 27, 2009 2:53:00 PM
Attachments:	DOE PMC123_1-Budget_Justification Salinity and Sorghum.xls

---

Shayna:

Attached is my best attempt. Here are my disclaimers:

1. As for years 2 and 3, I just assumed flat costs through the life of the project, so years 2 and 3 mirror exactly the activities and costs of year 1.

2. Indirect was simpling calculated by muliplying the total costs by .465. I don't even know if that is the appropriate rate for this program. In addition, I know that there are several items on which indirect is not charged.

3. You're lucky I've had to fill one of these out before, or I would have just sent the damn thing back empty and told everybody to forget about it.

If you have questions, you can call and ask, but I'm pretty sure that I won't have a good answer.

regards,

bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

> -----Original Message-----
> **From:** Spurlin, Shayna [mailto:sfspurlin@tamu.edu]
> **Sent:** Thursday, August 27, 2009 2:36 PM
> **To:** Bill Rooney
> **Subject:** RE: GA Proposal FOA-0000123 - Budget Justification
>
> The totals shown on the individual task sheets don't include indirect … it looks like Bob just transferred those totals to the overall tab and then added the IDC to that lump sum.
>
> Also, Steve Searcy informed me that only a scope of work for year 1 was provided and so he could only complete the justification for year 1 and not the three year total also listed on that budget worksheet. For now, we are just going with that (justifying year 1 expenditures) while I talk to GA and see what has to be submitted to DOE. If worst comes to worst, we can just copy all the same materials and supplies, etc., that you list in the justification for each of the three years and then correct when we submit updated information at the beginning of years two and three.
>
> That is probably all clear as mud … just call me if you have other questions and we can discuss.
>
> Thanks!
> Shayna Spurlin

Texas AgriLife Research
979.845.2364 office
979.255.8319 cell
979.458.2155 fax

From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Thursday, August 27, 2009 2:29 PM
To: Spurlin, Shayna
Subject: RE: GA Proposal FOA-0000123 - Budget Justification

Shayna:

Is the total include the indirect? If so, then the category totals will change and there are certain things on calculation that I'm not sure about.

regards,

bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

> -----Original Message-----
> **From:** Spurlin, Shayna [mailto:sfspurlin@tamu.edu]
> **Sent:** Thursday, August 27, 2009 10:29 AM
> **To:** Rooney Bill; Steve Searcy; James Richardson
> **Cc:** Avant, Bob; Zak, Kendra
> **Subject:** GA Proposal FOA-0000123 - Budget Justification
> **Importance:** High
>
> PLEASE SUBMIT TO ME BY 10 A.M. tomorrow, Friday, August 28, 2009
>
> Good morning, All:
>
> We are working to complete this proposal for submission to General Atomics, and we are required to use the DOE justification form (PMC123.1) that is attached to this email. Also attached is the Budget spreadsheet for this project containing a separate tab for each of the task areas.
>
> Please complete the PMC123.1 form for your specific task area using the numbers in the attached GA 0000123 budget.xls spreadsheet. Please do not change any of the numbers … the project total here has been approved. We just need you to complete the justification for materials, equipment, supplies, and travel. We will take care of the other tabs and then take care of combining into one large project justification.
>
> If you have any questions, please let us know.
>
> Thanks for your help!
>
> Shayna Spurlin
> Texas AgriLife Research

979.845.2364 office
979.255.8319 cell
979.458.2155 fax

From: Avant, Bob
Sent: Friday, August 21, 2009 3:16 PM
To: shay-simpson@tamu.edu; Spurlin, Shayna
Subject: GA

Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu

From:	James Richardson
To:	Avant, Bob
Cc:	Mullet, John E.; Steve Searcy; Bill L Rooney; stelly@tamu.edu; McCutchen, Bill; Simpson, Shay
Subject:	Re: GOAL 1
Date:	Tuesday, September 08, 2009 8:11:42 AM
Attachments:	jwrichardson.vcf

Bob,
An economic model could be developed for multiple sites and used to rank sites based on their pluses and minuses for variables DARPA feels are critical, such as: proximity to a military base, irrigation vs. rain fed, location relative to current fuel production, available land and water, environmental considerations, and existing crops. A first meeting with DARPA could identify the variables of interest and their ranking. The second and third meetings could be our presentation of site evaluations and discussion of their rankings.
James

Avant, Bob wrote:

> Good suggestion. Steve what are your thoughts?
>
> Bob Avant
> Program Director
> Texas AgriLife Research
> 979/845-2908
> 512/422-6171 (Cell)
> bavant@tamu.edu
> http://agbioenergy.tamu.edu
>
> ---
>
> **From:** John Mullet [mailto:jmullet@tamu.edu]
> **Sent:** Tuesday, September 08, 2009 7:06 AM
> **To:** Avant, Bob
> **Cc:** Steve Searcy; Bill L Rooney; James Richardson; stelly@tamu.edu; McCutchen, Bill; Simpson, Shay
> **Subject:** GOAL 1
>
> Bob and Bill,
>
> Would it be useful to include the following as the first objective of this goal?
>
> 1. Assess the potential for producing energy crops at sites of national security interest.
>
> - This objective would engage DARPA and TAMU in a discussion of potential sites, an assessment of each site in terms of production potential, environmental constraints, etc. prior to attempting to deploy and test energy crops. The depth of this assessment could vary of course (small scale experimental production to

GIS-based analysis on larger scales). This activity would also allow a discussion of production/conversion in site A with delivery to military installations.

John

On Sep 7, 2009, at 9:36 PM, Avant, Bob wrote:

I combined Steve's and Jame's Goal 1; please make sure I didn't do you any harm. Bill Rooney, please work off this copy for your changes.

Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu

From: Steve Searcy [mailto:s-searcy@tamu.edu]
Sent: Monday, September 07, 2009 5:07 PM
To: Avant, Bob; Mullet, John E.; Bill L Rooney
Subject: revised Objective 3 text and budget

Bob et al.

Attached is my revised text for objective 3 based on discussion this afternoon. There were too many tracked changes, so I accepted them all and generated a new version. Look at the items related to objective 3, including the deliverable and objective 3 text.

Regarding budget, I have run some estimates for what I anticipate the work would require based on testing in three distinct locations.

These numbers are large, but getting the equipment in place for demonstrations in three different locations will be expensive, as much of the equipment is likely not available from local custom harvesters. Year 2 is especially a problem as we were talking $1MM total for Goal 1. If you tell me what is allowable from the budget standpoint, I will cut back the scope of the activity. If it is $250k for year 2, that means probably one evaluation location. Unfortunately, that will be after the end of the Edwards DOE project, so we could not piggie back on that as one site. I will be a team player on this, but I wanted to let you know what my initial estimates are.

Steve

Stephen W. Searcy, P.E.
Professor and Associate Head
2117 TAMU
Biological and Agricultural Engineering
Texas A&M University / Texas AgriLife Research
College Station, TX 77843

Email: s-searcy@tamu.edu
Office phone: 979-845-3668
Fax: 979-862-3442

Improving Life Through Science and Technology.

<Goal 1 Searcy and Richardson Combined.doc>

--
James W. Richardson
Regents Professor & TAES Senior Faculty Fellow
Co-Director Agricultural and Food Policy Center
Department of Agricultural Economics
Texas A&M University
College Station, TX 77845
(979) 845-5913 Office
(979) 777-5228 Cell
Fax: (979) 845-3140
jwrichardson@tamu.edu
Web: www.afpc.tamu.edu

From:	James Richardson
To:	Avant, Bob
Cc:	Mullet, John E.; Steve Searcy; Bill L Rooney; stelly@tamu.edu; McCutchen, Bill; Simpson, Shay
Subject:	Re: GOAL 1
Date:	Tuesday, September 08, 2009 8:26:33 AM
Attachments:	jwrichardson.vcf

Yes, I think this information says that we are taking serious the idea that site selection is critical to them and that site selection is not easy when one has to balance many different factors in selecting sites. I like to fact that we would be engaging them in the site selection early, so we will have something to show for our efforts in year 1.
James

Avant, Bob wrote:

> Should we add this to the section for clarity?
>
> Bob Avant
> Program Director
> Texas AgriLife Research
> 979/845-2908
> 512/422-6171 (Cell)
> bavant@tamu.edu
> http://agbioenergy.tamu.edu
>
> ---
>
> **From:** James Richardson [mailto:jwrichardson@tamu.edu]
> **Sent:** Tuesday, September 08, 2009 8:12 AM
> **To:** Avant, Bob
> **Cc:** Mullet, John E.; Steve Searcy; Bill L Rooney; stelly@tamu.edu; McCutchen, Bill; Simpson, Shay
> **Subject:** Re: GOAL 1
>
> Bob,
> An economic model could be developed for multiple sites and used to rank sites based on their pluses and minuses for variables DARPA feels are critical, such as: proximity to a military base, irrigation vs. rain fed, location relative to current fuel production, available land and water, environmental considerations, and existing crops. A first meeting with DARPA could identify the variables of interest and their ranking. The second and third meetings could be our presentation of site evaluations and discussion of their rankings.
> James
>
> Avant, Bob wrote:
> Good suggestion. Steve what are your thoughts?

Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu

From: John Mullet [mailto:jmullet@tamu.edu]
Sent: Tuesday, September 08, 2009 7:06 AM
To: Avant, Bob
Cc: Steve Searcy; Bill L Rooney; James Richardson; stelly@tamu.edu; McCutchen, Bill; Simpson, Shay
Subject: GOAL 1

Bob and Bill,

Would it be useful to include the following as the first objective of this goal?

1. Assess the potential for producing energy crops at sites of national security interest.

- This objective would engage DARPA and TAMU in a discussion of potential sites, an assessment of each site in terms of production potential, environmental constraints, etc. prior to attempting to deploy and test energy crops. The depth of this assessment could vary of course (small scale experimental production to GIS-based analysis on larger scales). This activity would also allow a discussion of production/conversion in site A with delivery to military installations.

John

On Sep 7, 2009, at 9:36 PM, Avant, Bob wrote:

I combined Steve's and Jame's Goal 1; please make sure I didn't do you any harm.
Bill Rooney, please work off this copy for your changes.

Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu

From: Steve Searcy [mailto:s-searcy@tamu.edu]
Sent: Monday, September 07, 2009 5:07 PM

To: Avant, Bob; Mullet, John E.; Bill L Rooney
Subject: revised Objective 3 text and budget

Bob et al.

Attached is my revised text for objective 3 based on discussion this afternoon. There were too many tracked changes, so I accepted them all and generated a new version. Look at the items related to objective 3, including the deliverable and objective 3 text.

Regarding budget, I have run some estimates for what I anticipate the work would require based on testing in three distinct locations.

These numbers are large, but getting the equipment in place for demonstrations in three different locations will be expensive, as much of the equipment is likely not available from local custom harvesters. Year 2 is especially a problem as we were talking $1MM total for Goal 1. If you tell me what is allowable from the budget standpoint, I will cut back the scope of the activity. If it is $250k for year 2, that means probably one evaluation location. Unfortunately, that will be after the end of the Edwards DOE project, so we could not piggie back on that as one site. I will be a team player on this, but I wanted to let you know what my initial estimates are.

Steve

Stephen W. Searcy, P.E.
Professor and Associate Head
2117 TAMU
Biological and Agricultural Engineering
Texas A&M University / Texas AgriLife Research
College Station, TX 77843

Email: s-searcy@tamu.edu
Office phone: 979-845-3668
Fax: 979-862-3442

Improving Life Through Science and Technology.

<Goal 1 Searcy and Richardson Combined.doc>

--
James W. Richardson
Regents Professor & TAES Senior Faculty Fellow
Co-Director Agricultural and Food Policy Center
Department of Agricultural Economics
Texas A&M University
College Station, TX 77845
(979) 845-5913 Office
(979) 777-5228 Cell
Fax: (979) 845-3140
jwrichardson@tamu.edu

Web: www.afpc.tamu.edu

--
James W. Richardson
Regents Professor & TAES Senior Faculty Fellow
Co-Director Agricultural and Food Policy Center
Department of Agricultural Economics
Texas A&M University
College Station, TX 77845
(979) 845-5913 Office
(979) 777-5228 Cell
Fax: (979) 845-3140
jwrichardson@tamu.edu
Web: www.afpc.tamu.edu

From:	Steve Searcy
To:	Richardson, James
Cc:	Avant, Bob; McCutchen, Bill; Mullet, John E; Richardson, James; Rooney, Bill L; shay-simpson@tamu.edu; Stelly, David M
Subject:	Re: GOAL 1
Date:	Tuesday, September 08, 2009 2:11:18 PM
Attachments:	Text.htm Goal 1 Searcy and RichardsonCombined-searcy comments 9-8-09.doc

---

James

I did not have many edits, but I do have some comments. I turned on track changes so you can see the comments and edits.

Steve

Stephen W. Searcy, P.E.
Professor and Associate Head
2117 TAMU
Biological and Agricultural Engineering
Texas A&M University / Texas AgriLife Research
College Station, TX 77843

Email: s-searcy@tamu.edu
Office phone: 979-845-3668
Fax: 979-862-3442

Improving Life Through Science and Technology.

>>> James Richardson <jwrichardson@tamu.edu> 9/8/2009 9:17 am >>>
I fleshed out the suggestion as Objective 1 in the attachment.Â I sent it to Bob but if you see areas where it can be improved please do so.
James

Steve Searcy wrote:
I like both James and John's suggestions.Â Â They certainly fit in with my year 1 activities of identifying the most appropriate logistic system elements for the individual sites.Â James' suggested text should be included.Â This approach tightly integrates the four objectives.
Â
Steve
Â
Â
Stephen W. Searcy, P.E.
Professor and Associate Head
2117 TAMU
Biological and Agricultural Engineering
Texas A&M University / Texas AgriLife Research
College Station, TXÂ 77843

Email:Â s-searcy@tamu.edu
Office phone:Â 979-845-3668
Fax:Â 979-862-3442
Â
Improving Life Through Science and Technology.

>>> "Avant, Bob" <bavant@tamu.edu> 9/8/2009 7:20 am >>>

Good suggestion.Â Steve what are your thoughts?
Â
Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu
Â
From: John Mullet [mailto:jmullet@tamu.edu]
Sent: Tuesday, September 08, 2009 7:06 AM
To: Avant, Bob
Cc: Steve Searcy; Bill L Rooney; James Richardson; stelly@tamu.edu; McCutchen, Bill; Simpson, Shay
Subject: GOAL 1
Â
Bob and Bill,
Â
Would it be useful to include the following as the first objective of this goal?
Â
1. Assess the potential for producing energy crops at sites of national security interest.
Â
- This objective would engage DARPA and TAMU in a discussion of potential sites, an assessment of each site in terms of production potential, environmental constraints, etc. prior to attempting to deploy and test energy crops. Â The depth of this assessment could vary of course (small scale experimental production to GIS-based analysis on larger scales). Â This activity would also allow a discussion of production/conversion in site A with delivery to military installations.
Â
John
Â
Â
On Sep 7, 2009, at 9:36 PM, Avant, Bob wrote:

I combined Steveâ€™s and Jameâ€™s Goal 1; please make sure I didnâ€™t do you any harm.Â Bill Rooney, please work off this copy for your changes.
Â
Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu
Â
From:Â Steve Searcy [mailto:s-searcy@tamu.edu]Â
Sent:Â Monday, September 07, 2009 5:07 PM
To:Â Avant, Bob; Mullet, John E.; Bill L Rooney
Subject:Â revised Objective 3 text and budget
Â
Bob et al.
Â
Attached is my revised text for objective 3 based on discussion this afternoon.Â There were too many tracked changes, so I accepted them all and generated a new version.Â Look at the items related to objective 3, including the deliverable and objective 3 text.
Â
Regarding budget, I have run some estimates for what I anticipate the work would require based on testing in three distinct locations.

Â

Â
These numbers are large, but getting the equipment in place for demonstrations in three different locations will be expensive, as much of the equipment is likely not available from local custom harvesters.Â Year 2 is especially a problem as we were talking $1MM total for Goal 1.Â If you tell me what is allowable from the budget standpoint, I will cut back the scope of the activity.Â If it is $250k for year 2, that means probably one evaluation location.Â Unfortunately, that will be after the end of the Edwards DOE project, so we could not piggie back on that as one site.Â I will be a team player on this, but I wanted to let you know what my initial estimates are.
Â
Steve
Â
Â

Â
Â
Â
Stephen W. Searcy, P.E.
Professor and Associate Head
2117 TAMU
Biological and Agricultural Engineering
Texas A&M University / Texas AgriLife Research
College Station, TXÂ 77843

Email:Â Â s-searcy@tamu.edu
Office phone:Â 979-845-3668
Fax:Â 979-862-3442
Â
Improving Life Through Science and Technology.
<Goal 1 Searcy and Richardson Combined.doc>
Â

--
James W. Richardson
Regents Professor & TAES Senior Faculty Fellow
Co-Director Agricultural and Food Policy Center
Department of Agricultural Economics
Texas A&M University
College Station, TX 77845
(979) 845-5913 Office
(979) 777-5228 Cell
Fax: (979) 845-3140
jwrichardson@tamu.edu
Web: www.afpc.tamu.edu

From: John Mullet
To: Bill Rooney
Subject: Re: Goal 2 Objective 3
Date: Wednesday, September 30, 2009 7:09:24 AM

Bill,

Yes, Trish and I have been working on Goal 2.1 and 2.2 - I will try to send a draft of these budgets/milestones today.

You probably have a better idea of what you need for 2.3 so it makes sense for you to draft that one. I assume you will want us to do some genotyping (MAB) as part of 2.3, probably small scale in years 1/2 and increasing in years 3-5. I would also be interested in testing our ability to screen/map traits in hybrid combination (small scale test that could be expanded if useful).

John

On Sep 29, 2009, at 6:24 PM, Bill Rooney wrote:

> John:
>
> I assume you're developing budgets for Goal 2, Objectives 1 and 2. You want me to work on Objective 3 or have you taken a shot on that one?
>
> bill
>
> Dr. William L. Rooney
> Professor, Sorghum Breeding and Genetics
> Chair, Plant Release Committee
> Texas A&M University
> College Station, Texas 77843-2474
> 979 845 2151

From:	C. Wayne Smith
To:	Rebecca Corn; Bill L Rooney
Subject:	Re: graduation
Date:	Monday, August 31, 2009 9:42:17 AM
Attachments:	C. Wayne Smith.vcf

Rebecca,
You will need to be on campus through the month of October. There could be some wiggle room of a few days but through October is the simple answer.

Good luck on the job search. Let me know if I can help.

Wayne

C. Wayne Smith
Professor and Associate Head
Department of Soil and Crop Sciences
2474 TAMU
Texas A&M University
College Station, TX 77843-2474
979.845.3450
cwsmith@tamu.edu

>>> "Rebecca Corn" <rcorn@neo.tamu.edu> 8/28/2009 10:28 AM >>>
Dr. Smith,

Good morning. I talked to Dr. Rooney about defending my dissertation early this semester and graduating in December. When is the earliest date that I can leave campus without being charged for my out of state tuition? I am actively applying for jobs and need to know when I could start a full time position. I wasn't aware that this is an issue so I've been saying October since I plan to have defended and submitted my dissertation by late Sept/early Oct.

Thanks,

Rebecca Corn

From:	Ostilio Portillo
To:	Bill Rooney
Cc:	g-kurten
Subject:	Re: Greetings from Honduras.
Date:	Thursday, November 05, 2009 4:10:08 PM
Attachments:	Ostilio Portillo Ph.D. Offer Letter.pdf

Good afternoon Dr. Rooney;

Please find attached the Ph.D. Offer Letter. As you said, I will bring the hard copy when I arrive to College Station. I guess I will not be able to be around Choluteca when you come to Honduras, however, I wish you a safe trip.

Thanks a lot.
Ate.

Ostilio.

On Thu, Nov 5, 2009 at 1:56 PM, Bill Rooney <wlr@tamu.edu> wrote:

> Ostilio:
>
> See responses for each question directly below each question.
>
> FYI, I know it is not close to you, but I'll be in Choulteca in the first week of December.
>
> Regards,
>
> Bill
>
> Dr. William L. Rooney
>
> Professor, Sorghum Breeding and Genetics
>
> Chair, Plant Release Committee
>
> Texas A&M University
>
> College Station, Texas 77843-2474
>
> 979 845 2151

1. I understand that I have to send electronically to Mrs. Kurten the Applicant Record Check form; however, can I also sing and simply scan the assistantship offer and send it to you via e-mail as well or you actually need the hard copy which I can send via courier?

Sign and send it via e-mail. That is acceptable. You can bring a hard copy with you when you arrive.

2. I was informed by the Office of Admissions and Records that I was accepted as non-resident; will this be a problem later on in terms of payments? I recall that during my MS term Mrs. Cook from the International Student Services (ISS) changed my status so I became a resident to reduce tuition costs.

With the assistantship, you will be granted resident tuition; since we are paying that anyway, it really doesn't affect you at all.

3. I as mentioned before, I am currently working for FHIA since June last year which means, according to Honduras' laws, I have to turn in my resignation to my direct supervisor (Dr. Donald Breazeale) two months before my departure. Should I proceed now or you think I should wait till the whole process is confirmed with the Monsanto's assistantship?

The process is already confirmed. I have an assistantship for you (not Monsanto). If the Monsanto application works, then that is just additional funds for you (and less that I have to pay). But either way, we are ready for you to arrive in January (or whenever is acceptable to you in the spring). So make your plans accordingly. The spring semester begins January 19.

--
Ostilio R. Portillo
Asistente del Líder del Programa de Hortalizas
Centro Experimental y Demostrativo de Horticultura (CEDEH)
Comayagua, Comayagua
Tel.: (504) 715-5189, (504) 89541590
e-mail: [redacted], [redacted]

AgriLIFE RESEARCH & EXTENSION
Texas A&M System

TEXAS A&M UNIVERSITY

COLLEGE OF AGRICULTURE AND LIFE SCIENCES

Department of Soil and Crop Sciences
Academic & Student Advising Office

November 3, 2009

Mr. Ostilio Portillo
Honduras

Dear Ostilio:

I am pleased to offer you a Graduate Research Assistantship in Soil & Crop Sciences at Texas A&M University. As we discussed, the focus of your Ph.D. research remains to be confirmed, but it will involve sorghum breeding and genetics. I will serve as your committee chair. In addition to your research, you will be expected to assist in the normal tasks associated with the breeding program which include nursery planning, seed preparation, planting, pollination, harvest, threshing and computer inventory and analysis. The amount of assistance expected from each student varies, depending on the demands of his research at the time and the needs of the program. Our program will assist you in the collection of data for your thesis when it is necessary and appropriate. This will provide you with a well-rounded education and the expertise you will need when you are hired to manage a plant breeding program.

The position will begin on or after January 1, 2010, contingent upon successful completion of a state mandated criminal background check which is applicable to all new employees. Go to http://soilcrop.tamu.edu/employees.html and click on Applicant Record Check – revised (form can be found also at http://agservices.tamu.edu/forms/AG-473.pdf.) Complete the form, sign, and fax to Glenda Kurten at 979-458-0533 as soon as possible.

The compensation package will include an annual salary of **$18,000** along with employee health insurance and payment of tuition and fees associated with 9 hours of course work in each of the long semesters and 6 hours during the summer session. Half of your health insurance coverage will be in the form of additional salary that will be deducted each month. The other portion will be paid directly by the State. Note also that the state of Texas mandates a 90 day waiting period before you are covered by health insurance.

Continuation of the Assistantship will require that you maintain a 3.0 GPA and make satisfactory progress towards your thesis/dissertation research. Graduate students in Soil and Crop Sciences are expected to attend the weekly Departmental Seminars and any discipline orientated seminar/discussion groups as deemed appropriate by your Committee Chair to maintain good standing in the Department. Funds supporting this position are provided for up to three years; any extensions will be based on available funding.

Although you will be on a research assistantship, it is departmental policy that all graduate students gain some teaching experience during their graduate training. Thus, all M.S. students are expected to assist in

217 Heep Center, 370 Olsen Boulevard
2474 TAMU
College Station, Texas 77843-2474

cwsmith@tamu.edu
Tel. 979.845-3450 | Fax. 979.458-0533
http://soilcrop.tamu.edu

AgriLIFE RESEARCH & EXTENSION
Texas A&M System

TEXAS A&M UNIVERSITY

COLLEGE OF AGRICULTURE AND LIFE SCIENCES

Department of Soil and Crop Sciences
Academic & Student Advising Office

one lab (two sections) and Ph.D. students are expected to assist in two labs (two sections each) during their tenure.

It is an exciting time to be a part of the Soil and Crop Sciences Department at Texas A&M. We are a large, diverse Department representing a broad array of faculty members and students with which you can interact and collaborate. Please do not hesitate to contact me if I can assist you in any way or if you would like additional information on our program. You may also contact Wayne Smith, Associate Head for Academic Programs, at 979-845-3450 or cwsmith@tamu.edu.

Please indicate your acceptance of this offer and complete the attached form so that we can initiate the state-mandated background check. Return a copy to me and a copy to Glenda Kurten (g-kurten@tamu.edu or fax at 979-458-0533).

Best regards,

William L. Rooney
Professor
Sorghum Breeding and Genetics

I accept the terms and conditions of this offer.

Ostilio Portillo

4/October/2009.
Date

217 Heep Center, 370 Olsen Boulevard
2474 TAMU
College Station, Texas 77843-2474

cwsmith@tamu.edu
Tel. 979.845-3450 | Fax. 979.458-0533
http://soilcrop.tamu.edu

From:	McCutchen, Bill
To:	Schuerman, Peter L.; wlr@tamu.edu
Subject:	Re: harris
Date:	Wednesday, September 23, 2009 3:09:47 PM

Peter, I left Bill a message to call you.

From: McCutchen, Bill
To: Schuerman, Peter L.; 'wlr@tamu.edu' <wlr@tamu.edu>
Sent: Wed Sep 23 15:07:36 2009
Subject: Re: harris

Peter,

Have you and Bill Rooney talked yet? This is critical so that we are in alignment.

Bill

From: Schuerman, Peter L.
To: McCutchen, Bill; 'wlr@tamu.edu' <wlr@tamu.edu>
Sent: Wed Sep 23 15:06:04 2009
Subject: Re: harris

No; I need clarification on what we're trying to achieve. Were the terms I proposed earlier amenable to all? Our discussion this evening should help.
Sent from

From: McCutchen, Bill
To: 'wlr@tamu.edu' <wlr@tamu.edu>; Schuerman, Peter L.
Sent: Tue Sep 22 12:08:02 2009
Subject: Re: harris

Peter,

We are ready to roll. Have you had a chance to talk with Bob?

From: Bill Rooney <wlr@tamu.edu>
To: McCutchen, Bill
Cc: Schuerman, Peter L.
Sent: Tue Sep 22 11:46:14 2009
Subject: RE: harris

Weren't we going to have a phone call and discuss.

bill
Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

From:	Schuerman, Peter L.
To:	McCutchen, Bill; wlr@tamu.edu
Subject:	Re: harris
Date:	Wednesday, September 23, 2009 3:06:20 PM

No; I need clarification on what we're trying to achieve. Were the terms I proposed earlier amenable to all? Our discussion this evening should help.
Sent from 979.571.1816

From: McCutchen, Bill
To: 'wlr@tamu.edu' <wlr@tamu.edu>; Schuerman, Peter L.
Sent: Tue Sep 22 12:08:02 2009
Subject: Re: harris

Peter,

We are ready to roll. Have you had a chance to talk with Bob?

From: Bill Rooney <wlr@tamu.edu>
To: McCutchen, Bill
Cc: Schuerman, Peter L.
Sent: Tue Sep 22 11:46:14 2009
Subject: RE: harris

Weren't we going to have a phone call and discuss.

bill
Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

> -----Original Message-----
> **From:** McCutchen, Bill [mailto:bmccutchen@tamu.edu]
> **Sent:** Tuesday, September 22, 2009 11:45 AM
> **To:** Schuerman, Peter L.
> **Cc:** wlr@tamu.edu
> **Subject:** Fw: harris
>
> ?
>
> ---
>
> **From**: Bill Rooney <wlr@tamu.edu>
> **To**: McCutchen, Bill
> **Sent**: Tue Sep 22 11:33:31 2009
> **Subject**: harris
>
> Bill:
>
> we need to resolve something on Harris. Any plans for a meeting or phone call.
>
> I got an e-mail from him today wondering if anything is happening.

bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

From:	McCutchen, Bill
To:	Schuerman, Peter L.; wlr@tamu.edu
Subject:	Re: harris
Date:	Wednesday, September 23, 2009 3:10:46 PM

Peter,

Have you and Bill Rooney talked yet? This is critical so that we are in alignment.

Bill

From: Schuerman, Peter L.
To: McCutchen, Bill; 'wlr@tamu.edu' <wlr@tamu.edu>
Sent: Wed Sep 23 15:06:04 2009
Subject: Re: harris

No; I need clarification on what we're trying to achieve. Were the terms I proposed earlier amenable to all? Our discussion this evening should help.
Sent from 979.571.1816

From: McCutchen, Bill
To: 'wlr@tamu.edu' <wlr@tamu.edu>; Schuerman, Peter L.
Sent: Tue Sep 22 12:08:02 2009
Subject: Re: harris

Peter,

We are ready to roll. Have you had a chance to talk with Bob?

From: Bill Rooney <wlr@tamu.edu>
To: McCutchen, Bill
Cc: Schuerman, Peter L.
Sent: Tue Sep 22 11:46:14 2009
Subject: RE: harris

Weren't we going to have a phone call and discuss.

bill
Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

> -----Original Message-----
> **From:** McCutchen, Bill [mailto:bmccutchen@tamu.edu]
> **Sent:** Tuesday, September 22, 2009 11:45 AM
> **To:** Schuerman, Peter L.
> **Cc:** wlr@tamu.edu
> **Subject:** Fw: harris
>
> ?

From:	Bill Rooney
To:	"Babitha Jampala"; "Dirk B Hays"
Cc:	"Collins, Stephen D"; "dustin borden"
Subject:	RE: HD X Waxy lines
Date:	Tuesday, August 25, 2009 7:29:00 AM
Attachments:	09 CSf218e 8-19.XLS

Babitha

These are in field 218E (just east of field 218W). The specific plots are

21199-21451 F3 lines
21452-21593 F2:3 lines

Maps and fieldsheets are in the attached fieldbook. Print out what you need.

Please DO NOT SHARE this fieldbook with anyone outside of your research group.

Thanks,
Bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

-----Original Message-----
From: Babitha Jampala [mailto:bjampala@ag.tamu.edu]
Sent: Monday, August 24, 2009 1:44 PM
To: wlr@tamu.edu
Subject: HD X Waxy lines

Hi Dr Rooney

Dr Hays asked me to ask you about the HD X Waxy lines (not the advanced lines that were harvested), but the lines still in the field.

Are those lines harvested?

If they are not harvested can you send me the map of the field where they are, so that we can go and with the help of map harvest them ourselves.

Thanks
Babitha

From: John Mullet [mailto:jmullet@tamu.edu]
Sent: Wednesday, October 07, 2009 11:31 AM
To: Bill Rooney
Cc: 'McCutchen, Bill'; 'Helms, Adam'; 'Avant, Bob'; stelly@tamu.edu; 'Schuerman, Peter L.'; 'Hurley, Janie C.'
Subject: Re: Highest Priority: DARPA Energy Crops

Bill Mc,

I concur that keeping FTO on the versions of is useful because they are now in many other backgrounds and useful for energy crop development. In other words, if you license , it seems wise to retain FTO on these alleles at a minimum. Even though they are now in different backgrounds, it will be easy to trace the alleles back to .

John
On Oct 7, 2009, at 11:21 AM, Bill Rooney wrote:

Bill and John:

has and that might be of value to us. However, we've got those alleles in a lot of other material now and as long as that material is not turned over to Ceres, I think we'll be fine.

has value in the sorghum world as a pollinator. In the sorcane scenario, the pollinator is mostly derived from sugarcane. Hence it is on that seed parent side of things where sorghum is more important (right now). So, sweet seed parents – when and if those are licensed – it would be critical to maintain our breeding rights to move high sugar into iap seed parent backgrounds.

Regards,

Bill

From: John Mullet [mailto:jmullet@tamu.edu]
Sent: Wednesday, October 07, 2009 8:53 AM
To: McCutchen, Bill
Cc: Helms, Adam; Avant, Bob; wlr@tamu.edu; stelly@tamu.edu; Schuerman, Peter L.; Hurley, Janie C.
Subject: Re: Highest Priority: DARPA Energy Crops

Bill,

Currently as you know, Bill is using a modified version of development. Also, has two genes of current value in breeding energy crops

. These genes may be valuable for WH at some point (where cane is modified to be early flowering = ATx623 for example but WH are late flowering). So you might want to retain rights to use per se.

In addition, the genome of will be segregating in a large number of our energy sorghum breeding lines, and we can see some additional traits derived from that will be useful for energy crop design. I am not sure how you want to handle this aspect of

John
On Oct 7, 2009, at 8:16 AM, McCutchen, Bill wrote:

In other words, is 007 critical are do we have enough other germplasm not committed to Ceres that is more than viable?

From: McCutchen, Bill
To: Mullet, John E.; Helms, Adam; Avant, Bob
Cc: 'wlr@tamu.edu' <wlr@tamu.edu>; 'stelly@tamu.edu' <stelly@tamu.edu>; Schuerman, Peter L.; Hurley, Janie C.
Sent: Wed Oct 07 08:15:10 2009
Subject: Re: Highest Priority: DARPA Energy Crops

On another subject, how important would the likes of
he license?

Bill

From: John Mullet <jmullet@tamu.edu>
To: Helms, Adam; Avant, Bob
Cc: McCutchen, Bill; Bill Rooney <wlr@tamu.edu>; Stelly_David Stelly <stelly@tamu.edu>
Sent: Wed Oct 07 07:56:07 2009
Subject: Re: Highest Priority: DARPA Energy Crops

Adam and Bob,

This looks excellent. In addition, I would suggest creating a version that adds one more layer of information - Milestones that define the path or steps to achieve the Deliverable. In this version, one could quickly understand what we intend to deliver, how success will be measured, and the steps we intend to take to achieve the goal.

I will work a bit on Goal 2 as an example and send later today so you can decide if this approach is useful (possibly for STO slides, if not for the proposal).

Thanks,

John

From:	Bill Rooney
To:	"McCutchen, Bill"; "Mullet, John E."
Cc:	"Schuerman, Peter L."; "Hurley, Janie C."
Subject:	RE: Highest Priority: DARPA Energy Crops
Date:	Thursday, October 08, 2009 2:11:06 AM

Bill Mc (and others)

It seems to me that the license agreement (which I just read) specifically allows the use of and or future breeding and research work. If I'm reading that correctly, then I think we are in good shape and don't have a need to push any further.

As of right now, the photoperiod sensitivity in the hybrids is provided by the sugarcane parent. While it is likely that we may want to breed, manipulate and even extract genes using at some point, it probably will not be in the next 1-2 as we still have to understand what we are working with. At that point we would be ready and the Ceres project will be in the process of negotiation for renewal and we can address it at that point.

Regards,

Bill

From: McCutchen, Bill [mailto:bmccutchen@tamu.edu]
Sent: Wednesday, October 07, 2009 4:12 PM
To: wlr@tamu.edu; Mullet, John E.
Cc: Schuerman, Peter L.; Hurley, Janie C.
Subject: Re: Highest Priority: DARPA Energy Crops

Bottom-line, how much is it worth to potentially alienate Ceres and can we work around without too much trouble?

In other words, how critical to our RD program are these recessive alleles and corresponding markers in to advance our causes?

Understand that we will try to negotiate a deal with Ceres, but IF they make a "stand" over THIS...? Knowing that we could gain significant political chips for future and current endeavors and negotiations.

Bill

From: Bill Rooney <wlr@tamu.edu>
To: Mullet, John E.
Cc: McCutchen, Bill; Schuerman, Peter L.; Hurley, Janie C.
Sent: Wed Oct 07 11:32:56 2009
Subject: RE: Highest Priority: DARPA Energy Crops

John has an excellent point with the markers… hadn't thought about that.

Bill

From: John Mullet [mailto:jmullet@tamu.edu]

Sent: Wednesday, October 07, 2009 11:31 AM
To: Bill Rooney
Cc: 'McCutchen, Bill'; 'Helms, Adam'; 'Avant, Bob'; stelly@tamu.edu; 'Schuerman, Peter L.'; 'Hurley, Janie C.'
Subject: Re: Highest Priority: DARPA Energy Crops

Bill Mc,

I concur that keeping FTO on the versions of is useful because they are now in many other backgrounds and useful for energy crop development. In other words, if you license it seems wise to retain FTO on these alleles at a minimum. Even though they are now in different backgrounds, it will be easy to trace the alleles back to .

John
On Oct 7, 2009, at 11:21 AM, Bill Rooney wrote:

Bill and John:

has and that might be of value to us. However, we've got those alleles in a lot of other material now and as long as that material is not turned over to Ceres, I think we'll be fine.

has value in the sorghum world as a pollinator. In the sorcane scenario, the pollinator is mostly derived from sugarcane. Hence it is on that seed parent side of things where sorghum is more important (right now). So, sweet seed parents – when and if those are licensed – it would be critical to maintain our breeding rights to move high sugar into iap seed parent backgrounds.

Regards,

Bill

From: John Mullet [mailto:jmullet@tamu.edu]
Sent: Wednesday, October 07, 2009 8:53 AM
To: McCutchen, Bill
Cc: Helms, Adam; Avant, Bob; wlr@tamu.edu; stelly@tamu.edu; Schuerman, Peter L.; Hurley, Janie C.
Subject: Re: Highest Priority: DARPA Energy Crops

Bill,

Currently as you know, Bill is using a modified version of .
Also, has two genes of current value in breeding energy crops (that confer early flowering in inbreds, but late flowering in specific hybrids). These genes may be valuable for WH at some point (where cane is modified to be early flowering = ATx623 for example but WH are late flowering). So you might want to retain rights to use or the genes per se.

In addition, the genome of will be segregating in a large number of our energy sorghum breeding lines, and we can see some additional traits derived from that will be useful for energy crop design. I am not sure how you want to handle this aspect of

John

On Oct 7, 2009, at 8:16 AM, McCutchen, Bill wrote:

In other words, is critical are do we have enough other germplasm not committed to Ceres that is more than viable?

From: McCutchen, Bill
To: Mullet, John E.; Helms, Adam; Avant, Bob
Cc: 'wlr@tamu.edu' <wlr@tamu.edu>; 'stelly@tamu.edu' <stelly@tamu.edu>; Schuerman, Peter L.; Hurley, Janie C.
Sent: Wed Oct 07 08:15:10 2009
Subject: Re: Highest Priority: DARPA Energy Crops

On another subject, how important would the likes of

Bill

From: John Mullet <jmullet@tamu.edu>
To: Helms, Adam; Avant, Bob
Cc: McCutchen, Bill; Bill Rooney <wlr@tamu.edu>; Stelly_David Stelly <stelly@tamu.edu>
Sent: Wed Oct 07 07:56:07 2009
Subject: Re: Highest Priority: DARPA Energy Crops

Adam and Bob,

This looks excellent. In addition, I would suggest creating a version that adds one more layer of information - Milestones that define the path or steps to achieve the Deliverable. In this version, one could quickly understand what we intend to deliver, how success will be measured, and the steps we intend to take to achieve the goal.

I will work a bit on Goal 2 as an example and send later today so you can decide if this approach is useful (possibly for STO slides, if not for the proposal).

Thanks,

John

On Oct 6, 2009, at 9:17 PM, Helms, Adam wrote:

Good evening:

Today we met with Dr. Giroir and he gave us some advice for moving forward with the DARPA-Energy

Crops Proposal. Perhaps the most relevant was how we proceed with the Milestones & Deliverables document and the discussion of the Milestone vs. Deliverable vs. Metric and how DARPA likes these presented – whether for the entire project, per goal or per task. Bob, Shay and I had a lengthy discussion about this very topic when we returned and how we felt it should best be presented.

First, for each goal there is one deliverable with quantifiable metrics. For example, below are the "over-arching" goals, deliverables and metrics for this project –

example:

3. We need this by close of business Thursday. I know it is a short turn around, but for the most part, it is only simple formatting.

Thanks, and as always, please contact me at your earliest convenience if you have any questions/comments.

Best,

Adam

Adam Helms
AgriLife Research Corporate Relations
979-255-0752 (mobile)
979-458-2677 (office)

<DARPA RD Proposal SemiFinal.doc><DARPA MILESTONES AND DELIVERABLES_Master.doc><Narrative_MD example.doc>

From: John Mullet
To: Bill McCutchen; Peter Schuerman
Cc: Bill Rooney
Subject: Re: Highest Priority: DARPA Energy Crops
Date: Wednesday, October 07, 2009 5:41:45 PM

Bill and Peter,

For WH, we could work around the alleles if need be either by using recessive alleles of other maturity genes, or by generating EMS recessives of genes in a different background. Just so you know there are options.

The main point for me is to be sure we can continue using the alleles and alleles for other genes in Bill's energy hybrid breeding program.

John

On Oct 7, 2009, at 4:11 PM, McCutchen, Bill wrote:

> Bottom-line, how much is it worth to potentially alienate Ceres and can we work around without too much trouble?
>
> In other words, how critical to our RD program are these recessive alleles and corresponding markers in to advance our causes?
>
> Understand that we will try to negotiate a deal with Ceres, but IF they make a "stand" over THIS...? Knowing that we could gain significant political chips for future and current endeavors and negotiations.
>
> Bill
>
> ---
>
> **From**: Bill Rooney <wlr@tamu.edu>
> **To**: Mullet, John E.
> **Cc**: McCutchen, Bill; Schuerman, Peter L.; Hurley, Janie C.
> **Sent**: Wed Oct 07 11:32:56 2009
> **Subject**: RE: Highest Priority: DARPA Energy Crops
>
> John has an excellent point with the markers… hadn't thought about that.
>
> Bill
>
> ---
>
> **From:** John Mullet [mailto:jmullet@tamu.edu]
> **Sent:** Wednesday, October 07, 2009 11:31 AM
> **To:** Bill Rooney
> **Cc:** 'McCutchen, Bill'; 'Helms, Adam'; 'Avant, Bob'; stelly@tamu.edu; 'Schuerman, Peter L.'; 'Hurley, Janie C.'
> **Subject:** Re: Highest Priority: DARPA Energy Crops
>
> Bill Mc,
>
> I concur that keeping FTO on the versions of is useful because

they are now in many other backgrounds and useful for energy crop development. In other words, if you license it seems wise to retain FTO on these alleles at a minimum. Even though they are now in different backgrounds, it will be easy to trace the alleles back to

John
On Oct 7, 2009, at 11:21 AM, Bill Rooney wrote:

Bill and John:

has and that might be of value to us. However, we've got those alleles in a lot of other material now and as long as that material is not turned over to Ceres, I think we'll be fine.

has value in the sorghum world as a pollinator. In the sorcane scenario, the pollinator is mostly derived from sugarcane. Hence it is on that seed parent side of things where sorghum is more important (right now). So, sweet seed parents – when and if those are licensed – it would be critical to maintain our breeding rights to move high sugar into iap seed parent backgrounds.

Regards,

Bill

From: John Mullet [mailto:jmullet@tamu.edu]
Sent: Wednesday, October 07, 2009 8:53 AM
To: McCutchen, Bill
Cc: Helms, Adam; Avant, Bob; wlr@tamu.edu; stelly@tamu.edu; Schuerman, Peter L.; Hurley, Janie C.
Subject: Re: Highest Priority: DARPA Energy Crops

Bill,

Currently as you know, Bill is using a modified version of for WH development. Also, has two genes of current value in breeding energy crops (that confer early flowering in inbreds, but late flowering in specific hybrids). These genes may be valuable for WH at some point (where cane is modified to be early flowering = ATx623 for example but WH are late flowering). So you might want to retain rights to use or the genes per se.

In addition, the genome of will be segregating in a large number of our energy sorghum breeding lines, and we can see some additional traits derived from that will be useful for energy crop design. I am not sure how you want to handle this aspect of

John
On Oct 7, 2009, at 8:16 AM, McCutchen, Bill wrote:

In other words, is critical are do we have enough other germplasm not committed to Ceres that is more than viable?

From: McCutchen, Bill
To: Mullet, John E.; Helms, Adam; Avant, Bob
Cc: 'wlr@tamu.edu' <wlr@tamu.edu>; 'stelly@tamu.edu' <stelly@tamu.edu>; Schuerman, Peter L.; Hurley, Janie C.
Sent: Wed Oct 07 08:15:10 2009
Subject: Re: Highest Priority: DARPA Energy Crops

On another subject, how important would the likes of

Bill

From: John Mullet <jmullet@tamu.edu>
To: Helms, Adam; Avant, Bob
Cc: McCutchen, Bill; Bill Rooney <wlr@tamu.edu>; Stelly_David Stelly <stelly@tamu.edu>
Sent: Wed Oct 07 07:56:07 2009
Subject: Re: Highest Priority: DARPA Energy Crops

Adam and Bob,

This looks excellent. In addition, I would suggest creating a version that adds one more layer of information - Milestones that define the path or steps to achieve the Deliverable. In this version, one could quickly understand what we intend to deliver, how success will be measured, and the steps we intend to take to achieve the goal.

I will work a bit on Goal 2 as an example and send later today so you can decide if this approach is useful (possibly for STO slides, if not for the proposal).

Thanks,

John

On Oct 6, 2009, at 9:17 PM, Helms, Adam wrote:

Good evening:

Today we met with Dr. Giroir and he gave us some advice for moving forward with the DARPA-Energy Crops Proposal. Perhaps the most relevant was how we proceed with the Milestones & Deliverables document and the discussion of the Milestone vs. Deliverable vs. Metric and how DARPA likes these presented – whether for the entire project, per goal or per task. Bob, Shay and I had a lengthy discussion about this very topic when we returned and how we felt it should best be presented.

First, for each goal there is one deliverable with quantifiable metrics. For example, below are the "over-arching" goals, deliverables and metrics for this project –

3. We need this by close of business Thursday. I know it is a short turn around, but for the most part, it is only simple formatting.

Thanks, and as always, please contact me at your earliest convenience if you have any questions/comments.

Best,

Adam

Adam Helms
AgriLife Research Corporate Relations
979-255-0752 (mobile)
979-458-2677 (office)

<DARPA RD Proposal SemiFinal.doc><DARPA MILESTONES AND DELIVERABLES_Master.doc><Narrative_MD example.doc>

From:	James Richardson
To:	Helms, Adam
Cc:	wlr@tamu.edu; stelly@tamu.edu; Mullet, John E.; ssearcy@tamu.edu; jmgould@ag.tamu.edu; pklein@tamu.edu; Simpson, Shay; Spurlin, Shayna; Nelson, Michelle; Bridges, Brenda; Giroir, Brett; Avant, Bob; McCutchen, Bill
Subject:	Re: Highest Priority: DARPA Energy Crops
Date:	Thursday, October 01, 2009 2:41:21 PM
Attachments:	Budget Goal 1 Obj 5.xls Objective 4.doc Objective 5.doc Budget Goal 1 Obj 4.xls jwrichardson.vcf

---

Attached are the products you requested.
James

Helms, Adam wrote:

> Attached is the sample budget justification. Please use this format – it will assist us in the final assembly of this proposal.
>
> Best,
>
> Adam
>
> Adam Helms
> AgriLife Research Corporate Relations
> 979-255-0752 (mobile)
> 979-458-2677 (office)
>
> ---
>
> **From:** Helms, Adam
> **Sent:** Monday, September 28, 2009 2:58 PM
> **To:** wlr@tamu.edu; stelly@tamu.edu; Mullet, John E.; ssearcy@tamu.edu; jwrichardson@tamu.edu; jmgould@ag.tamu.edu; pklein@tamu.edu
> **Cc:** Simpson, Shay; Spurlin, Shayna; Nelson, Michelle; Bridges, Brenda; Giroir, Brett; Avant, Bob; McCutchen, Bill
> **Subject:** Highest Priority: DARPA Energy Crops
> **Importance:** High
>
> Good Afternoon:
>
> Please find attached the proposal for the DARPA Energy Crops proposal. I have updated each objective to include assigned PI's. There are several things we need to accomplish to submit this proposal to DARPA by October 9th.
>
> <!--[if !supportLists]-->1. <!--[endif]-->Please submit your budgets by close of business October 1 to myself and Shayna Spurlin. Shayna prepared the budget template (attached) with instructions for entering information – if you have any questions, please refer them to her (sfspurlin@tamu.edu). If you have any capital equipment or lab supplies, we will need a detailed list of items to be purchased as well as a quote for the expenses. We will send an example budget justification out ASAP.
>
> <!--[if !supportLists]-->2. <!--[endif]-->Timelines for Gantt Chart development – The example we were given for the latest DARPA proposal from Engineering showed a Gantt Chart developed on the weekly level. I do not know if we can honestly justify developing a Gantt Chart to that level of detail and defend it (specifically due to unknown weather concerns, start time, etc). We are aiming for a quarterly Gantt Chart timeline to begin this

project, and if need be, refine the chart to DARPA's specific needs (Dr. Giroir – do you know reporting format is preferred?).

<!--[if !supportLists]-->a. <!--[endif]-->For each Objective you are assigned, please submit a numbered Milestones and Metrics/Deliverables/Total Cost breakdown (example attached)

<!--[if !supportLists]-->3. <!--[endif]-->PowerPoint – John Mullet will send me a PPT which I will distribute to the group. This PPT will be presented to the DARPA team and can be thought of as the "defense" for this project. Please add no more than a slide or two summarizing your assigned task with budget in the spirit and theme of the original PPT.

<!--[if !supportLists]-->4. <!--[endif]-->Drs. Gould, Rooney & Searcy – please forward this note on to Dr. El-Hout, Dr. Blumenthal, Dr. Peterson and Dr. Thomasson once you have updated them to the situation.

If you have any questions, please contact me at your earliest convenience.

Best,

Adam

Adam Helms
AgriLife Research Corporate Relations
979-255-0752 (mobile)
979-458-2677 (office)

From: Avant, Bob [mailto:bavant@tamu.edu]
Sent: Sunday, September 27, 2009 12:54 PM
To: McCutchen, Bill; wlr@tamu.edu; stelly@tamu.edu; Mullet, John E.; ssearcy@tamu.edu; jwrichardson@tamu.edu; jmgould@ag.tamu.edu; pklein@tamu.edu
Cc: Simpson, Shay; ahelms@tamu.edu; Spurlin, Shayna; Nelson, Michelle; Bridges, Brenda; Gilliland, Diane M.; Giroir, Brett; Slovacek, Jackie
Subject: RE: Highest Priority: DARPA

Bill (and Brett can correct me), we do not need to add much more to the scope of work, but we do need to provide the detailed forms that include budget outlays, budget justification, Gantt chart, etc. This takes a lot of work and we must have direct input from all involved PI's (which is the critical path). In the morning, Shayna will be in contact with the PI's to develop this information unless you or Brett advise me otherwise.

Bob Avant
Program Director
Texas AgriLife Research
979/845-2908
512/422-6171 (Cell)
bavant@tamu.edu
http://agbioenergy.tamu.edu

From: McCutchen, Bill
Sent: Sunday, September 27, 2009 12:45 PM
To: 'wlr@tamu.edu'; 'stelly@tamu.edu'; Mullet, John E.; 'ssearcy@tamu.edu'; 'jwrichardson@tamu.edu'; 'jmgould@ag.tamu.edu'; 'pklein@tamu.edu'
Cc: Avant, Bob; Simpson, Shay; 'ahelms@tamu.edu'; Spurlin, Shayna; Nelson, Michelle;

Bridges, Brenda; Gilliland, Diane M.; Giroir, Brett; Slovacek, Jackie
Subject: Highest Priority: DARPA

All,

Please read Brett's email below.

Timing is of critical importance for completing the DARPA package, but we do not have to be as stringent as the example the Bob has (or will) provided.

We need to shoot for having a final package ready for submission by October 9th. Therefore we need to get started immediately, and I believe we have most of the RD components outlined. There maybe a little flex in the budget (+/- 5percent) starting in year 2 but especially year 3-5. We also need to ask Ceres for their input for Hawaii, TX and any other RD/plots that they may oversee.

I have asked Bob and his group to make this project their top priority, and I would suggest we meet as team or small groups periodically to facilitate. Now I am asking all of you to make this your top priority. We have a great opportunity to advance our bioenergy programs to the next level.

Thanks and please call with any questions.

Bill

From: Giroir, Brett
To: McCutchen, Bill
Cc: Pollard, Claudia
Sent: Sun Sep 27 08:28:24 2009
Subject: RE: DARPA UPDATE

I don't think you need that detailed of a statement of work as we did for DTRA. But it gives you some idea. I would not sit too long on this.
I will be happy to meet multiple times in the next 2 weeks to get this done

Brett P. Giroir, MD
Vice Chancellor for Research,
The Texas A&M University System;
Research Professor, Dwight Look College of Engineering;
Adjunct Professor, The Bush School of Government and Public Service;
200 Technology Way, Suite 2043
College Station, Texas 77845-3424
Phone: 979-458-6054
Fax: 979-458-6044

From: McCutchen, Bill
Sent: Friday, September 25, 2009 5:33 PM
To: Schuerman, Peter L.; Ellison, Mark M.; Howell, Bill; Diedrich, Guy
Cc: Giroir, Brett; Avant, Bob
Subject: Fw: DARPA UPDATE

We are starting to round 3rd base with DARPA per dedicated energy crop

proposal.

Bill

From: McCutchen, Bill
To: Rooney Bill <wlr@tamu.edu>; John Mullet (jmullet@tamu.edu) <jmullet@tamu.edu>; stelly@tamu.edu <stelly@tamu.edu>; James Richardson (jwrichardson@tamu.edu) <jwrichardson@tamu.edu>; 'Gould Mike' <jmgould@tamu.edu>; Steve Searcy (ssearcy@tamu.edu) <ssearcy@tamu.edu>; (pklein@tamu.edu) <pklein@tamu.edu>
Cc: Avant, Bob; Dugas, William; Hussey, Mark; Giroir, Brett; Lunt, David; Baltensperger, David; Reinhart, Gregory; Riskowski, Gerald; Nichols, John P; Davis, Tim; Simpson, Shay; Gilliland, Diane M.; Adam Helms <ahelms@tamu.edu>; Spurlin, Shayna; Nelson, Michelle; Bridges, Brenda
Sent: Fri Sep 25 13:51:48 2009
Subject: DARPA UPDATE

All,

I just wanted to provide an update on progress with DARPA per Dedicated Bioenergy Crops proposal.

DARPA is now asking for a detailed technical brief (detailed task, work plan, schedule, and budget) inclusive of the recent proposal that we submitted. We will be receiving an example for you to work from in the near future. We will ask all of you to cooridate with Bob Avant's Corporate Relations and Diane Gilliland's Contracts and Grants groups to make this happen as soon as feasible.

Thanks again for all of your hard work and dedication, and no doubt that this request from DARPA is very positive news – no guarantees yet, but good news.

Thanks,

Bill

--
Bill F. McCutchen, Ph.D.
Associate Director
Texas AgriLife Research
Texas A&M University System
113 Jack K. Williams Administration Building
2142 TAMU College Station, TX 77843-2142
979-845-8488 Tel
979-458-4765 Fax
bmccutchen@tamu.edu

--
James W. Richardson
Regents Professor & TAES Senior Faculty Fellow
Co-Director Agricultural and Food Policy Center
Department of Agricultural Economics
Texas A&M University
College Station, TX 77845
(979) 845-5913 Office
(979) 777-5228 Cell
Fax: (979) 845-3140
jwrichardson@tamu.edu
Web: www.afpc.tamu.edu

From:	Patricia Klein
To:	Bill Rooney; "Stelly, David"; "Stelly, David"
Subject:	RE: Iap mapping objective
Date:	Wednesday, September 30, 2009 8:36:14 AM
Attachments:	RR FedNonFed Budget 2010 Klein.xls Budget Justification Klein.docx

---

David and Bill

Attached is a budget for Goal 3 objective 5 as well as a budget justification. Please provide me with any feedback that you feel is appropriate. I have also talked with John to include additional funding in years 3-5 for the Illumina DGA work that he intends on materials coming from the wide hyb breeding program. If something is missing or needs adjustment please do not hesitate to point it out. Since this is due tomorrow I am just trying to get the numbers to work out to what was originally proposed.

When it comes time to develop the GANTT chart on quarterly activities, I will need your input as to how long it will take to develop additional materials for high res mapping, development of the rapid phenotypic screen, etc. Based on our earlier conversations, I know that it will likely take ~9 months during year 1 to phenotype Les's original population but will need help with the other activities that you guys will be associated with.

Thanks
Trish

From:	Stelly David
To:	Patricia Klein
Cc:	Stelly David; Bill Rooney
Subject:	Re:
Date:	Monday, September 28, 2009 10:09:44 PM

My suggestion is to estimate while only proposing to use existing technology that we know works. It is not fast and while we may well be able to devise better approaches, one bird in hand is better than two in the forest. If we can save money later, I am sure that various lines of success will create additional opportunities that we will want to exploit.

I talked with George about this earlier, to make sure that I had it sized up well, and his salient comment was that when Les was here, he estimated it would take a year's worth of work to classify a large number of individuals for a serious (high-res) mapping effort. George sort of scoffed at that idea, but if I remember correctly, Les spent a lot of time (1-2 weeks at least) to classify very few individuals (, so if on considers much larger populations for high resolution mapping, his assertion would not be unreasonable under the simplest of approaches. Mind you, I think that we can easily devise much simpler ways to get similar or higher resolution, without leaps of faith; for now, however, we should stick with the sure-fire methods, as describe by Les.

More on this later ... too tired now to stay awake!!

David

From: Patricia Klein
To: Bill Rooney; "Stelly David"
Subject:
Date: Monday, September 28, 2009 5:53:31 PM

Bill

That sounds good. I will need some budget numbers from you to make sure we provide the necessary money to make the larger mapping population and to phenotype it. Looking at the budget, I won't need as much as it lists for initial mapping, etc. Thus I want to include money for population development and phenotyping. I can have my student/post-doc who is going to do the mapping/cloning also do the phenotyping but I would need to know what that entails as far as materials go. We should include money for developing the faster, more effective phenotypic screen. Can you help me with that Bill?

Thanks
Trish

From: Stelly David
To: Patricia Klein
Cc: Stelly David; Bill Rooney
Subject: Re: Iap mapping objective
Date: Wednesday, September 30, 2009 8:41:04 AM

I had class all yesterday and have annual reports and other paperwork due today. Due to those obligations, I realistically can address this seriously tonight and tomorrow, but not before. I will meet briefly again today with George to talk about specifics for the WH.

David

On Sep 30, 2009, at 8:35 AM, Patricia Klein wrote:

> David and Bill
>
> Attached is a budget for Goal 3 objective 5 as well as a budget
> justification. Please provide me with any feedback that you feel is
> appropriate. I have also talked with John to include additional
> funding in years 3-5 for the Illumina DGA work that he intends on
> materials coming from the wide hyb breeding program. If something
> is missing or needs adjustment please do not hesitate to point it
> out. Since this is due tomorrow I am just trying to get the numbers
> to work out to what was originally proposed.
>
> When it comes time to develop the GANTT chart on quarterly
> activities, I will need your input as to how long it will take to
> develop additional materials for high res mapping, development of
> the rapid phenotypic screen, etc. Based on our earlier
> conversations, I know that it will likely take ~9 months during year
> 1 to phenotype Les's original population but will need help with the
> other activities that you guys will be associated with.
>
> Thanks
> Trish
>
>
>
> At 11:50 AM 9/29/2009, Bill Rooney wrote:
>> Trish and David:
>>
>> Essentially what David is describing in his last e-mail is what I
>> didn't
>> describe but referred to in a previous e-mail.
>>
>> First, we should use Les's population as a start. As David
>> mentioned, it
>> did take a significant amount of time to phenotype these
>> materials. If I
>> remember correctly, based on Les's timeline, it would take 6-7
>> months to
>> phenotype all the plants that Les collected (assuming that the
>> person was
>> proficient at the task when they started). So this is a good
>> start, but it
>> points to the need for a rapid initial first screen to eliminate
>> all the

>> obvious dominant IAP phenotypes.
>>
>> One of the details that Matt has noticed is that may
>> serve well
>> in that venue. Since it readily sets seed on the genotype,
>> this
>> maybe the quick screen we need. (Trish we need to send you progeny
>> for
>> molecular analysis but more on that at another time). Matt and
>> George are
>> now testing it on a segregating population to determine if it is a
>> good
>> screen. If it works, the assumption is that we can pollinate
>> segregating,
>> male sterile plants with if it sets seed then it is
>> very likely
>> that it is If it doesn't then it is . We could then
>> eliminate cytology on the IAP class and focus only on the iap class.
>>
>> I'll visit with you this afternoon...
>>
>> Regards,
>>
>> Bill
>>
>> Dr. William L. Rooney
>> Professor, Sorghum Breeding and Genetics
>> Chair, Plant Release Committee
>> Texas A&M University
>> College Station, Texas 77843-2474
>> 979 845 2151
>>
>>
>> -----Original Message-----
>> From: Patricia Klein [mailto:pklein@tamu.edu]
>> Sent: Tuesday, September 29, 2009 7:36 AM
>> To: Stelly_David; Stelly_David
>> Cc: Bill Rooney
>> Subject: Re: Iap mapping objective
>>
>>
>> David
>>
>> Thanks for your thoughts on this. Obviously I don't completely
>> understand the breeding portion of this since I haven't been involved
>> in any of that work and it isn't my area of expertise. Based on your
>> outline below can you estimate what supplies and costs would be
>> needed to create the population(s) and properly phenotype them with
>> the current way of doing it? I can certainly estimate the DNA
>> extractions/genotyping/mapping work but am at a lose as to define
>> what is needed for the population development/phenotyping portion of
>> the project. I am assuming that you and/or Bill would take the lead
>> on that aspect of the objective while I take the lead on the
>> mapping/cloning aspect of the objective. I am not sure that we need
>> to expand the narrative (unless you think it needs to be done with
>> this new information) but we will need to determine what
>> materials/supplies/greenhouse fees etc are needed to create the high
>> res population and get it phenotyped as well as the mapping/cloning
>> work and then we will need to write up a budget justification for
>> it. More later as I need to go teach now.

From: Rene Clara
To: Bill Rooney
Subject: Re: information for annual regional report
Date: Monday, November 09, 2009 6:58:22 PM
Attachments: Sorgo PCCMCA 2008.pdf

Dear Dr. Bill,

I am sending to you information for the annual report:
1- Better hybrids of the PCCMCA of the companies of seeds (attached).
2- Handmade seed production of the "SOBERANO" sorghum improved variety.
3- Three nurseries of new varieties BMR to be distributed in Central America.
==========

2- HANDMADE SEED PRODUCTION OF "SOBERANO" VARIETY

Farmer group	ha	SEED PRODUCTION (tm)
- ADISA	56	280
- ACOPAI	11.9	55.25
- FECASAL	14	70
- FORO AGROPECUARIO	14	70
TOTAL	95.9	475.25 (tm of seed)

With the quantity of produced seed this project go away to attend to 47,500 small farmers for 2010 year.

3- New BMR varieties
- Nursery of tall plant height 12 varieties
- Nursery of medium plant height 48 "
- Nursery of short plant height 15 "

TOTAL 75 new BMR varieties

INTSORMIL signed an agreement with 5 small farmers associations to produce handmade seed of improved varieties of sorghum. This is the second cycle of production with tendency to increase.
Regards,

René Clará V.
INTSORMIL
Host Regional Coordinator

CENTA, Apdo. Postal 885,
San Salvador, El Salvador, C.A.
Tel. (503) 2302 0239 - (503) 7815 2238 cel.
Fax: (503) 2302 0239

E-mail: [redacted]

De: Bill Rooney <wlr@tamu.edu>
Para: Vilma Ruth Calderon [redacted]>
CC: Rene Clara [redacted]>
Enviado: dom, noviembre 8, 2009 10:28:30 AM
Asunto: information for annual regional report

Vilma:

Can you provide with a list fo the training and extension shortcourses you've done in the past year in El Salvador?

I'm writing the annual regional report and would like to have this information in the report.

Rene, if there are others besides Vilma, can you provide that to me as well?

I need this information by Tuesday.

Thanks,

Bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

INTSORMIL
Sorghum, Millet and Other Grains CRSP

"INFORME DEL COMPORTAMIENTO DE LOS SORGOS HÍBRIDOS PARA GRANO DEL PCCMCA DURANTE EL 2008". [1]

René Clará Valencia[2] - Coordinador, Rafael Obando y Nury Gutiérrez[2] - ensayo CNIA, Salvador Zeledón[2] –ensayos Santa Cruz Porrillo y San Andrés, Rigoberto Nolasco, Alberto Morán y Norman Danilo Escoto Gudiel [2] –ensayos Las Acacias, La Lujosa y Cholutaca, Juan José Catalán[2] -ensayo Las Vegas, Julián Ramírez y Juan Quiñónez[2] – ensayo Cuyuta.

RESUMEN

Los ensayos uniformes de sorgo del PCCMCA, son el medio regionalizado para evaluar y seleccionar los mejores sorgos híbridos comerciales y pre-comerciales de las empresas productoras de semillas y programas nacionales de la región. Esta información ha sido la base para que los agricultores reciban las mejores semillas que les aseguren buena rentabilidad del cultivo.

En el 2008 este ensayo fue conformado por un total de 13 híbridos, de los cuales el CBH 8075, CBH 8076, CBH 8077 y CBH 8078, son de la empresa Cristiani Burkard; BORA, MSG 540 y MSG 541 de la empresa Monsanto; ESHG-3 del CENTA; 81T91 de Pioneer; SR-340 y SR-360 de PROSEMILLAS, el AMBAR como testigo común y un testigo local que se incluía en cada localidad.

El diseño utilizado fue de bloques completos al azar, con 4 repeticiones, la parcela experimental fue de 4 surcos de 5 m. de largo y 0.70 m. entre surco (14 m^2); la parcela útil de 2 surcos de 4 m. de largo (5.6 m^2). Los datos a tomar fueron, días al 50% de floración, altura de planta (cm), Rendimiento de grano (kg ha^{-1}), largo de panoja (cm), aspecto de planta (escala 1-5), tolerancia a plagas y enfermedades (escala 1-5), donde 1=bueno y 5= malo. El ensayo fue sembrado en 12 localidades de Centroamérica y al momento de escriturar este informe solo se habían recibido datos de 8 localidades, con los cuales se realizó un análisis de varianza por localidad, un combinado para cada país y un análisis tipo Biplot con siete localidades (Guatemala 2, Honduras 2, El Salvador 2 y Nicaragua 1). También se hizo un análisis químico para detectar el contenido de taninos del grano de cada híbrido.

Los híbridos estables en rendimiento de grano a través de las siete localidades fueron AMBAR y MSG 540. Los híbridos que mejor respondieron a las condiciones ambientales prevalecientes en el ciclo del cultivo y presentaron mejores rendimiento de grano fueron MSG 540 y MSG-541. Los híbridos ESHG-3 y Bora presentaron mejor comportamiento en las localidades de Cuyuta (Guatemala) y CNIA (Nicaragua). Los híbridos MSG-40, MSG-41, SR-340 y SR-360 presentaron mejor comportamiento en San Andrés, La Lujosa, Choluteca y Santa Cruz Porrillo. Ninguno de los híbridos mostró taninos perceptibles en el grano.

==========

1 Informe de los ensayos uniformes de sorgos híbridos para grano sembrados en Centro América durante el 2008-2009.

2 Coordinador y responsables de la conducción de los ensayos.

INTSORMIL
Sorghum, Millet and Other Grains CRSP

"PERFORMANCE REPORT OF THE HYBRID SORGHUMS FOR GRAIN OF THE PCCMCA TRIALS DURING 2008 ". 1

René Clará Valencia[2] - Coordinator, Rafael Obando y Nury Gutiérrez[2] – CNIA trial, Salvador Zeledón[2] – Santa Cruz Porrillo y San Andrés trials, Rigoberto Nolasco, Alberto Morán y Norman Danilo Escoto Gudiel [2] – Las Acacias, La Lujosa y Cholutaca trials, Juan José Catalán[2] - Las Vegas trial, Julián Ramírez y Juan Quiñónez[2] –Cuyuta trial.

SUMMARY

The sorghum uniform trials of PCCMCA in Central America, are the way regionalizado to evaluate and to select the best commercial hybrid and pre-commercial sorghums of the seed production companies and national programs of the region. This information has been the base so that the farmers receive the best seeds that assure to them good profitability of the farming.

In 2008 this trial was shaped by a whole of 13 hybrids, of which the CBH 8075, CBH 8076, CBH 8077 and CBH 8078, they are of the Cristiani Burkard company; BORA, MSG 540 and MSG 541 of the Monsanto company; ESHG-3 of the CENTA national program; 81T91 of Pioneer; SR-340 and SR-360 of PROSEMILLAS, the AMBAR as common check and a local check which was included in every locality.

The used design was ofrandomating block, with 4 repetitions, the experimental plot was 4 rows 5 m. of length and 0.70 m. between row (14 m^2); the useful plot of 2 rows 4 m. of length (5.6 m2). The information to take was, days to 50 % of flowering, plant height (cm), grain yield (kg ha 1), length of panicle (cm), plant aspect (scale 1-5), tolerance to pest and deseases (scale 1-5), where 1=good and 5 = poor.

The stable hybrids in yield of grain across seven localities were AMBAR and MSG 540. The hybrids that better they answered to the environmental prevailing conditions in the cycle of the farming and presented better grain yield were MSG 540 and MSG-541. The hybrids ESHG-3 and Bora presented better performance in the localities of Cuyuta (Guatemala) and CNIA (Nicaragua). The hybrids MSG-40, MSG-41, SR-340 and SR-360 presented better performance in San Andrés, La Lujosa, Choluteca and Santa Crúz Porrillo.

None of the hybrids showed perceptible tannins in the grain.

"INFORME DEL COMPORTAMIENTO DE LOS SORGOS HÍBRIDOS PARA GRANO DEL PCCMCA DURANTE EL 2008". [1]

René Clará Valencia[2] - Coordinador, Rafael Obando y Nury Gutiérrez[2] - ensayo CNIA, Salvador Zeledón[2] –ensayos Santa Cruz Porrillo y San Andrés, Rigoberto Nolasco, Alberto Morán y Norman Danilo Escoto Gudiel [2] –ensayos Las Acacias, La Lujosa y Choluteca, Juan José Catalán[2] -ensayo Las Vegas, Julián Ramírez y Jorge Cardona[2] – ensayo Cuyuta.

INTRODUCCIÓN

El desarrollo de los ensayos de sorgo del PCCMCA, ha beneficiado a los países de la región a través de los años; ya que mediante sus resultados se han podido identificar sorgos de mayor potencial de rendimiento, adaptación y estabilidad. Las empresas privadas y programas nacionales generadores de semillas mejoradas, también se han beneficiado enfocando sus recursos de producción hacia los materiales que mejores resultados han presentado en estos ensayos.

De esta manera los agricultores han podido producir los sorgos de mayor potencial, mejorando de esta forma la rentabilidad y la producción nacional del grano en la región.

Esta actividad ha sido gracias al esfuerzo de la empresa privada y programas nacionales los cuales en una manera coordinada por el PCCMCA, han implementado estas evaluaciones en los diferentes años y localidades.

OBJETIVOS

1- Identificar los cultivares de mejor potencial de rendimiento y calidad de grano, tolerantes a los principales problemas bióticos, abióticos y de buena adaptación al clima y suelo de la región.
2- Poner la información de los resultados de las evaluaciones a disposición de los países y empresas, para que les sea útil a sus intereses.

ANTECEDENTES

En los últimos cinco años los resultados de estos ensayos han reportado sus resultados de la manera siguiente: en 1997 (Morán J.L. y Mateo R.A.) reportan el CB-2966 (6.5 t ha^{-1}), DK-69 (6.46 t ha^{-1}), DK-72 (6.33 t ha^{-1}), 82G55 (6.32 t ha^{-1}), MX7124 (6.16 t ha^{-1}), DK-68 (6.13 t ha^{-1}) y ICI770 (6.10 t ha^{-1}) como los híbridos que presentaron rendimiento arriba de la media general. También reportaron a CB-897-5, ICI-770,DK-68, 8346, MX7124,AS63155,Ambar, MX44977 y CB897-1, como los mas estables.

En 1998 (Paz P.E. y Mateo R.A.) reportaron los híbridos X-0714 (4.67 t ha^{-1}) con el rendimiento mas alto arriba de la media y los híbridos MX-52277, Cuarzo, MX-7337, CB-8971, DK-68, XS-739 y Marfil obtuvieron rendimiento arriba de la media (4.1 t ha^{-1}). También reportaron los híbridos mas estables XM-5287 y CB-2966.

En 1999 (Mateo R. Y Sierra H.) reportan que los híbridos AS 7327 (5.16 t ha^{-1}), DK-69 (5.14 t ha^{-1}), DKX-9811 (5.11 t ha^{-1}) y AS- 82247 (5.06 t ha^{-1}), presentaron los mejores rendimientos arriba de la media.

En el 2000 (Clará R. et al) reportaron que en rendimiento de grano, los mejores híbridos fueron CB-XII2006 (6.34 t ha-1) y CB-XII 8976 (6.29 t ha^{-1}), siendo la media general de 5.51 t ha^{-1}. En el 2001 (Clará R. et al) reportaron que el híbrido CBX-8016-2 (6737 kg ha^{-1}) fue superior ($P<0.05$) e igual estadísticamente a CBX-8016-1 (6645 kg ha^{-1}), Himeca 101 (6459 kg ha^{-1}), MTC 1197 (6260 kg ha^{-1}), MTC 7439 (6224 kg ha^{-1}), D-66 (6147 kg ha^{-1}),MTC 7379 (6068 kg ha^{-1}), MTC 1177 (6061 kg ha^{-1}), CB-2006 (6028 kg ha^{-1}), MTC 7389 (5979 kg ha^{-1}) e Himeca 404 (5681 kg ha^{-1}). La media general fue de 5843 (kg ha^{-1}).

En el 2002 (Clará R. et al) reportaron que en las seis localidades de Guatemala(2), El Salvador(2) y Nicaragua(2), los mejores híbridos en rendimiento de grano fueron: SR-360 (6,638 kg ha^{-1}), CB-8996 (6,567 kg ha^{-1}), CB-8016 (6,290 kg ha^{-1}) y CB-8966 (6,158 kg ha^{-1}).

En el 2003 (Clará R. et al) reportaron que todos los híbridos evaluados fueron estadísticamente iguales ($P<0.05$) y se comportaron en forma estable en las diferentes localidades, excepto el Acero, que fue más consistente y tuvo mejor respuesta en buenos ambientes.

En el año 2004, los mejores híbridos en rendimiento de grano para las localidades de Guatemala, El Salvador y Nicaragua fueron: MSD 528 (6475 kg ha^{-1}), AMBAR (6461 kg ha^{-1}) y CB-8027-1 (6345 kg ha^{-1}).

En el año 2005 (Clará R. et al), los mejores híbridos en rendimiento de grano para las localidades evaluadas en Guatemala, El Salvador, Honduras y Nicarágua, fueron: AMBAR,utilizado como testigo común, con 5.34 t ha^{-1}, H-8046-2 (5.24 t ha^{-1}), MSD 528 (5.22 t ha^{-1}), H-8027-1 (5.16 t ha^{-1}), MSD 328 (5.12 t ha^{-1}), ESHG-3 (5.08 t ha^{-1}), Exp. 242(TL) con 4.98 t ha^{-1}, ESHG-2 (4.68 t ha^{-1}), ESHG-1 (4.65 t ha^{-1}) y H-8046-1 (4.26 t ha^{-1}).

En el 2006, (Clará R. et al) reportó que el mejor híbrido en rendimiento de grano fue el ESHG-3 (6.76 t ha^{-1}), superior e igual estadísticamente ($P\leq0.05$) a los híbridos CBH 8997 (6.67 t ha^{-1}), CBH 8046-2 (6.61 t ha^{-1}) y MSD 421 (6.57 t ha^{-1}).

En el año 2007, Clará et al, reportaron que los híbridos DKS 74, MSD 422 y Ambar, presentaron los mayores rendimientos de grano y los primeros dos presentaron buena estabilidad en la región, con rendimientos de 7.07, 6.83 y 6.75 t ha^{-1} respectivamente.

MATERIALES Y METODOS

El ensayo fue formado con un total de 13 híbridos, de los cuales uno fue testigo local, el AMBAR fue testigo común, la empresa Cristiani Burkard aportó los híbridos, CBH 8075, CBH 8076, CBH 8077 y CBH 8078, MONSANTO los híbridos BORA, MSG 540 y MSG 541, PROSEMILLAS el SR-340 y SR-360, Pioneer el 81T91 y el CENTA en ESHG-3.

El diseño estadístico utilizado fue de bloques completos al azar, con 4 repeticiones, la parcela experimental fue de 4 surcos de 5 m. de largo y 0.70 m. entre surco (14 m^2); la parcela útil de 2 surcos de 4 m. de largo (5.6 m^2). Los datos a tomar fueron, días al 50% de floración, altura de planta (cm), Rendimiento de grano (kg ha^{-1}), largo de panoja (cm), aspecto de planta (escala 1-5), tolerancia a plagas y enfermedades (escala 1-5), donde 1=bueno y 5= malo. El ensayo fue sembrado en 12 localidades de Centroamérica y al momento de escriturar este informe solo se habían recibido datos de 8 localidades, con los cuales se realizó un análisis de varianza por localidad, un combinado para cada

país y un análisis de estabilidad de siete localidades (Guatemala 2, Honduras 2, El Salvador 2 y Nicaragua 1).
El ensayo enviado a Estelí fue principalmente para evaluar la tolerancia a la enfermedad del Mildiú Lanoso del sorgo en todos los híbridos, pero la enfermedad no se presentó. Adicionalmente en los laboratorios del CENTA se evaluó el contenido de taninos en el grano, utilizando el método de blanqueo y el que pintaba a café, se le hizo la prueba con Vainillina para identificar el contenido de tanino. Los ensayos se sembraron en época de postrera en condiciones de temporal y con el manejo agronómico que el agricultor utiliza en la zona.

Cuadro 1. HÍBRIDOS DE SORGO EVALUADOS EN EL ENSAYO DEL PCCMCA 2008.

No.	Nombre	Empresa
1	SR-340	PROSEMILLAS
2	SR-360	PROSEMILLAS
3	ESHG-3	CENTA
4	81T91	PIONEER
5	Bora	MONSANTO
6	MSG540	MONSANTO
7	MSG541	MONSANTO
8	CBH-8075	Cristiani Burkard
9	CBH-8076	Cristiani Burkard
10	CBH-8077	Cristiani Burkard
11	CBH-8078	Cristiani Burkard
12	AMBAR	Testigo común (TC)
13	Testigo local	Testigo local (TL)

TC = Testigo Común, TL = Testigo Local

Cuadro 2. LOCALIDADES DONDE SE ESTABLECIERON LOS ENSAYOS DE SORGO PCCMCA 2008.

Localidad	País	Técnico responsable
Hda. Las Vegas	Guatemala	Ing. Juan José Catalán
Estac. Exp. Cuyuta	Guatemala	Ing. Julián Ramírez y Juan Quiñónez
Estac. Exp. Santa Cruz Porrillo	El Salvador	Ing. Salvador Zeledón
Estac. Exp. San Andrés	El Salvador	Ing. Salovador Zeledón
Estac Exp. CNIA	Nicaragua	Ing. Rafael Obando
Estac. Exp. La Lujosa	Honduras	Ing. Alberto Morán y Rigoberto Nolasco
Choluteca	Honduras	Ing. Alberto Morán y Rigoberto Nolasco
Las Acacias, Jamastrán	Honduras	Ing. Norman Danilo Escoto Gudiel y Rigoberto Nolasco

Cuadro 3. DATOS CLIMÁTICOS DE LAS LOCALIDADES DEL ENSAYO DE SORGO PCCMCA 2008.

Localidad	Altitud (msnm)	Latitud	Lluvia durante el cultivo (mm)	Temperatura (^oC)
Hda. Las Vegas	15	14º 09' 27'' N	590.28	21.3º a 34.7º
Estac. Exp. Cuyuta	40	14º, 05', 12" N	734.9	27º
Estac. Exp. Santa Cruz Porrillo	30	13º 26' 4' N	929	28º
Estac. Exp. San Andrés	460	13º 48' 5''	630	29.2º
Estac Exp. CNIA	50	12º 05' N	384.0	27º
Est. Experimental Las Acacias	450	14º 01' N	507.4	27.85º
Estac. Exp. La Lujosa	45	13º 19'	695.2	27.77º
Choluteca	52	14º 01' N	538.8	27.85º

RESULTADOS Y DISCUSION

Con los datos recibidos de las ocho localidades, se realizó un análisis de varianza por localidad, un combinado para cada uno en Guatemala, El Salvador, Honduras, un combinado y un análisis de varianza tipo IV Biplot GGE-SREG con siete localidades para rendimiento de grano de los 12 genotipos evaluados en los ocho ambientes de Centro América. Además se hizo una separación de medias utilizando la prueba diferencia mínima significativa (DMS) al 5%, en las localidades donde se encontró diferencias en rendimiento de grano.

Los ensayos enviados a Panamá no fueron recibidos, el ensayo de Chinandega, Nicaragua se anuló por tener alto CV, el ensayo de Estelí donde se iba a evaluar para Mildiú Lanoso no se presentó la enfermedad y el ensayo de Zacapa, Guatemala se perdió debido a mucha lluvia.

GUATEMALA

Loc. "Cuyuta"

En Esta localidad el híbrido MSG-540 y AMBAR, fueron estadísticamente mejores en rendimiento de grano, ambos con 6.20 t ha^{-1} e igual ($P \leq 0.05$) a 9 híbridos mas y superando a la variedad local ICTA Mitlán (testigo local) en un 47%. En el resto de características de planta (días a flor, altura de planta, largo de panoja y exención) no hubo diferencia significativa (Cuadro 4).

Hay que hacer notar que en esta Estación la normalidad de lluvia es de 600 mm y que este año fue de 135 mm mas lo que afecto el manejo agronómico del ensayo y el normal desarrollo de las plantas, sin embargo se recuperaron muy bien para presentar un buen nivel de rendimiento de grano.

CUADRO 4. Características agronómicas de 13 híbridos de sorgo evaluados en el ensayo del PCCMCA. Cuyuta, Guatemala, 2008.

Responsables: Ing. Julián Ramírez y Juan Quiñónez (ICTA).

HIBRIDO	Rend. t ha^{-1}	Días flor	Altura planta (cm)	Largo Panoja (cm)	Exersión (cm)	Color de grano
MSG 540	6.20 a	67	125	29.5	22.2	R
AMBAR (TC)	6.20 a	67	122	27.0	13.8	R
BORA	6.08 ab	66	105	28.2	18.5	R
CBH 8075	5.93 abc	63	117	30.8	21.5	R
ESHG-3	5.72 abc	67	106	32.0	21.5	B
SR-360	5.69 abc	67	118	29.5	20.2	R
MSG 541	5.65 abc	69	125	29.8	11.2	R
SR-340	5.60 abc	67	116	29.2	21.0	R
CBH 8076	5.19 abc	71	120	29.2	15.5	R
81T91	4.81 abc	67	115	26.0	17.5	R
CBH 8078	4.73 abc	66	110	30.2	17.5	R
ICTA-Mitlán (TL)	4.21 bc	72	120	27.5	10.5	B
CBH 8077	4.15 c	66	105	32.0	14.2	R
X	5.4	67	116	29.3	17.3	
Significancia	**	ns	ns	ns	ns	
DMS (0.05)	1.21		9.8	2.9	4.8	
CV(%)	15.7	1.72	6.0	7.1	19.3	

Loc. “Las Vegas”

Los híbridos CBH-8076 y CBH-8997 (Testigo local), fueron mejores en rendimiento de grano con 5.62 y 5.52 t ha^{-1} respectivamente e iguales estadisticamente a 9 híbridos mas (Cuadro 5). La variedad ICTA Mitlán, utilizada como testigo y sembrada ampliamente en el Sur-este de Guatemala rindió 47% menos que el mejor híbrido. Ocho híbridos estuvieron arriba de la media general. El viento causó un 15.9% de acame al ensayo y dañó por igual a todos los materiales. Los híbridos que presentaron mejor aspecto en cuanto a sus características fueron el CBH-8997 (testigo local) y ESHG-3; el que presentó una mala apariencia fue el CBH-8077. El híbrido MSG540 fue el mas alto

CUADRO 5. Características agronómicas de 13 híbridos de sorgo evaluados en el ensayo del PCCMCA. Las Vegas, Tiquisate, Guatemala, 2008.

Responsable: Juan José Catalán (CB).

HIBRIDO	Rend. t ha^{-1}	Dias flor	Altura planta (cm)	Largo Panoja (cm)	Enferm Foliares (1 a 5)	% Acame	Asp Planta (1 a 5)
CBH-8076	5.62 a	70	199	30.8	2.8	14.7	3.2
CBH-8997 (TL)	5.52 a	68	180	32.5	2.2	18.2	2.0
CBH-8077	5.23 ab	68	152	33.5	3.5	17.5	3.5
AMBAR (TC)	5.19 ab	70	177	27.8	2.8	15.5	3.2
MSG540	5.14 ab	69	206	30.0	2.8	17.8	2.5
SR-360	5.12 ab	67	192	30.8	2.8	15.8	3.0
CBH-8078	5.10 ab	65	185	31.5	2.5	14.2	2.2
SR-340	4.99 ab	68	189	31.5	2.5	14.2	2.8
CBH-8075	4.99 ab	65	182	32.0	3.2	15.5	2.8
ESHG-3	4.95 ab	68	175	31.8	2.5	14.5	2.0
81T91	4.74 ab	65	194	24.2	3.0	18.7	3.2
MSG541	4.62 b	68	191	30.5	2.5	15.0	2.3
BORA	4.40 b	66	155	27.2	2.2	15.0	2.8
X	0.77	67	183	30.8	2.7	15.9	2.7
Significancia	**	**	**	**	*	ns	**
DMS (0.05)	0.77	1.4	7.9	2.5	0.73	4.2	0.65
CV(%)	7.9	1.5	3.0	5.9	18.7	18.5	16.5

COMBINADO DE GUATEMALA

Para obtener una información del comportamiento de estos híbridos en Guatemala se realizó un análisis combinado de las localidades de Cuyuta y Las Vegas el cual se presenta en el cuadro No. 6, donde se puede observar que todos los materiales fueron estadísticamente iguales ($P \leq 0.05$) en rendimiento de grano, sin embargo los híbridos AMBAR (5.70 t ha^{-1}), MSG 540 (5.67 t ha^{-1}), CBH-8075 (5.46 t ha^{-1}), SR-360 (5.40 t ha^{-1}), CBH-8076 (5.40 t ha^{-1}), ESHG-3 (5.33 t ha^{-1}), SR-340 (5.29 t ha^{-1}) y BORA (5.24 t ha^{-1}), presentaron rendimientos arriba de la media general.

CUADRO 6. **Análisis combinado de rendimiento de grano de 13 híbridos de sorgo evaluados en dos localidades de Guatemala en el ensayo del PCCMCA. 2008.**

HIBRIDO	Rend. t ha^{-1}	Días floración	Altura planta (cm)	Largo Panoja (cm)	Color grano
AMBAR (TC)	5.70	68	150	27.4	R
MSG540	5.67	68	165	29.8	R
CBH-8075	5.46	64	150	31.4	R
SR-360	5.40	67	155	30.1	R
CBH-8076	5.40	70	159	30.0	R
ESHG-3	5.33	67	140	31.9	B
SR-340	5.29	67	152	30.4	R
BORA	5.24	66	130	27.8	R
MSG541	5.14	68	158	30.1	R
CBH-8078	4.92	65	147	30.9	R
Testigo local	4.87	70	150	30.0	----
81T91	4.78	66	154	25.1	R
CBH-8077	4.69	67	128	32.8	R
X	5.22	67	149	29	
Significancia	ns	*	*	**	
DMS (0.05)	1.39	2.7	17	2.5	
CV(%)	12.2	1.82	5.3	3.9	

EL SALVADOR

Loc. "Santa Cruz Porrillo"

En esta localidad de la zona costera de El Salvador (Cuadro 7), el híbrido MSG540 presentó el rendimiento mayor (6.56 t ha^{-1}), pero fue igual a los híbridos SR-340 (5.49 t ha^{-1}), AMBAR (5.28 t ha^{-1}), SR-360 (5.26 t ha^{-1}), CBH 8078 (5.17 t ha^{-1}), MSG541 (5.15 t ha^{-1}), ESHG-3 (5.05 t ha^{-1}), CBH-8076 (4.99 t ha^{-1}), CBH-8075 t ha^{-1}) y 81T91 (4.32 t ha^{-1}). De todos ellos, solo los híbridos CBH-8075 y 81T91 presentaron rendimientos de grano debajo de la media general.

CUADRO 7. Características agronómicas de 13 híbridos de sorgo evaluados en el ensayo del PCCMCA. Santa Cruz Porrillo, El Salvador. 2008.

Responsable: Salvador Zeledón (CENTA).

HIBRIDO	Rend. t ha^{-1}	Días flor	Altura planta (cm)	Largo Panoja (cm)	Exer-sión (cm)	Enferm Foliares (1 a 5)	Asp Planta (1-5)
MSG 540	6.56 a	63	170	28.7	13.2	2.0	2.9
SR-340	5.49 ab	59	156	31.7	15.0	2.1	3.0
AMBAR (TC)	5.28 abc	61	150	28.2	12.0	2.1	2.9
SR-360	5.26 abc	59	151	32.0	13.8	2.0	2.7
CBH 8078	5.17 abc	56	151	32.5	15.0	2.0	3.0
MSG 541	5.15 abc	63	158	28.5	8.7	2.0	3.0
ESHG-3	5.05 abc	65	144	33.0	14.0	2.0	2.0
CBH 8076	4.99 abc	68	146	25.0	12.5	2.5	3.3
CBH 8075	4.58 abc	54	157	29.8	13.4	2.2	3.1
81T91	4.32 abc	59	157	27.2	14.5	2.1	3.1
CBH 8077	4.19 bc	58	128	37.2	12.7	3.1	4.1
SOBERANO (TL)	3.24 bc	66	141	24.0	6.2	2.1	2.8
BORA	3.10 c	62	126	27.7	13.7	2.2	3.3
X	4.8	61	149	29.7	12.7	2.2	3.0
Significancia	**	**	**	**	**	**	**
DMS (0.05)		3.3	7.8	3.5	2.9	0.4	0.3
CV(%)	21.6	3.9	3.7	8.2	15.7	15.4	8.9

Loc. “San Andrés”

En esta localidad, los híbridos presentaron una diferencia significativa en rendimiento de grano, siendo los híbridos MSG 540 (6.87 t ha^{-1}), y MSG 541 (6.71 t ha^{-1}), los de mejor rendimiento (Cuadro 8), pero iguales ($P \leq 0.05$) a 8 híbridos mas. En esta localidad llovió más de lo normal en las primeras etapas del cultivo y el ensayo fue bastante afectado, principalmente en su altura de planta, sin embargo se obtuvo una media de rendimiento de grano aceptable.

CUADRO 8. Características agronómicas de 13 híbridos de sorgo evaluados en el ensayo del PCCMCA. San Andrés, El Salvador. 2008.

Responsable: Salvador Zeledón (CENTA).

HIBRIDO	Rend. tn ha^{-1}	Días madurez fisiológica	Altura planta (cm)	Largo Panoja (cm)	Exer-sión (cm)	Enferm Foliares (1 a 5)	Asp Planta (1 a 5)
MSG540	6.87 a	94	115	27.5	11.2	2.7	2.0
MSG541	6.71 a	93	113	26.2	18.5	3.0	2.5
BORA	6.42 ab	90	85	27.5	17.5	3.0	3.0
ESHG-3	6.38 ab	96	94	31.2	16.2	2.0	1.8
SR-340	6.17 ab	90	97	30.5	19.5	2.7	2.2
CBH-8076	6.17 ab	93	91	26.0	13.0	3.0	3.0
SR-360	6.08 ab	89	100	27.0	18.0	2.5	2.2
AMBAR	5.90 ab	92	104	38.0	14.0	2.8	2.5
CBH-8078	5.75 abc	92	99	29.5	19.5	2.5	2.0
CBH-8077	5.63 abc	89	79	32.2	15.8	3.0	3.0
Testigo local	5.28 bc	98	104	23.2	10.5	2.0	2.5
CBH-8075	5.08 bc	87	97	29.5	19.8	2.7	2.5
81T91	4.54 c	89	112	22.0	19.8	2.7	2.5
X	5.92	91.8	99	28.5	16.4	2.7	2.4
Significancia	*	Ns	**	ns	*	**	**
DMS	1.16	9.7	7.5	10.3	6.5	0.5	0.6
CV(%)	13.7	15.7	5.3	25.1	27.7	14.7	17.7

COMBINADO DE EL SALVADOR

En el análisis combinado de las dos localidades de El Salvador, no hubo diferencias en el rendimiento de grano, todos los híbridos fueron iguales ($P \leq 0.05$), sin embargo los híbridos MSG 540 y MSG541, SR-340, ESHG-3, y SR-360, presentaron rendimientos de grano arriba del mejor testigo AMBAR (5.6 t ha^{-1}). Es importante destacar la mayor tolerancia al ataque de enfermedades foliares del híbrido ESHG-3 (Cuadro 9) .

CUADRO 9. Análisis combinado de rendimiento de 13 híbridos de sorgo evaluados en dos localidades de El Salvador en el ensayo del PCCMCA. 2008.

HIBRIDO	Rend. (t ha^{-1})	Altura planta (cm)	Largo Panoja (cm)	Exer-sión (cm)	Enferm Foliares (1-5)	Asp Planta (1-5)
MSG540	6.71	143	28.1	12.2	2.4	2.4
MSG541	5.93	136	27.4	13.6	2.5	2.8
SR-340	5.83	126	31.1	17.2	2.4	2.6
ESHG-3	5.71	119	32.1	15.1	2.0	1.9
SR-360	5.67	126	29.5	15.9	2.2	2.5
AMBAR (TC)	5.60	127	33.1	13.0	2.4	2.7
CBH-8076	5.59	119	25.5	12.8	2.8	3.1
CBH-8078	5.46	125	31.0	17.2	2.2	2.5
CBH-8077	4.90	104	34.7	14.2	3.1	3.6
CBH-8075	4.83	127	29.6	16.8	2.5	2.8
BORA	4.76	106	27.6	15.6	2.6	3.1
81T91	4.43	134	24.6	17.1	2.4	2.8
Soberano (TL)	4.26	23	23.6	8.4	2.1	2.6
X	5.36	124	29.1	14.6	2.4	2.7
Significancia	ns	**	*	*	ns	**
DMS	1.31	10.2	5.9	4.3	0.5	0.5
CV(%)	11.2	3.7	9.3	13.6	10.0	7.8

HONDURAS

Loc. “La Lujosa”

En esta localidad también llovió mas de lo normal en las primeras etapas del cultivo y afectó el al ensayo, por lo que puede verse con un coeficiente de variación de rendimiento mas alto que lo permitido (Cuadro 10). Los híbridos no presentaron diferencias en rendimiento de grano y pueden considerarse iguales estadísticamente. Aún así, puede destacarse la calificación en el aspecto de la planta de cada uno y los mas destacados fueron el MSG 540, ESHG-3 y MSG 541.

CUADRO 10. Características agronómicas de 12 híbridos de sorgo evaluados en el ensayo del PCCMCA. La Lujosa, Honduras, 2008.

Responsable: Ing. Rigoberto Nolasco e Ing. Alberto Morán (DICTA)

HIBRIDO	Rend. t ha^{-1}	Días flor	Altura planta (cm)	Largo Panoja (cm)	Exer-sión (cm)	Enferm Foliares (1 a 5)	% Acame	Asp Planta (1-5)
MSG 540	5.65	66	177	26.0	14.8	2.8	3.7	1.2
AMBAR(TC)	5.54	63	158	26.00	13.0	2.8	1.2	1.8
SR-340	5.37	64	167	25.2	22.2	2.5	28.8	2.5
CBH 8078	5.20	61	160	27.2	19.0	2.8	23.8	2.5
ESHG-3	5.07	64	158	28.2	21.0	1.3	3.8	1.5
CBH 8076	4.74	69	155	24.2	15.2	2.2	0	2.5
SR-360	4.37	64	159	26.7	14.2	2.0	28.8	2.8
MSG 541	4.32	67	157	27.0	13.0	2	12.8	1.5
CBH 8075	3.80	57	160	25.2	18.5	3.8	7.5	3.2
CBH 8077	3.74	61	126	28.0	15.5	3.2	2.5	3.5
BORA	3.62	61	127	24.5	18.8	3.5	0	3.5
81T91	2.57	57	157	21.5	20.0	3.8	1.2	3.2
X	4.5	62.9	155	25.8	17.1	2.7	9.5	2.5
Significancia	ns	ns	ns	ns	**	ns	ns	**
DMS	2.4	4.2	16.4	4.16	5.12	1.05	29.4	1.3
CV(%)	37.04	4.7	7.3	11.1	20.8	26.9	165	35.5

Loc. “Choluteca”

En esta localidad los híbridos tampoco presentaron diferencias en rendimiento de grano, sin embargo los híbridos MSG 540 (5.35 t ha^{-1}), MSG 541(5.34 t ha^{-1}), SR-340 (4.82 t ha^{-1}), SR-360 (4.59 t ha^{-1}) y AMBAR (3.9 t ha^{-1}), presentaron rendimientos mayores que la media general (3.89 t ha^{-1}). El coeficiente de variación se vió afectado probablemente por condiciones de variabilidad del suelo y fuertes lluvias en las primeras etapas del cultivo. En lo demás el ensayo se desarrolló bajo condiciones normales (Cuadro 11).

CUADRO 11. Características agronómicas de 12 híbridos de sorgo evaluados en el ensayo del PCCMCA.Choluteca, Honduras, 2008.

Responsable: Ing. Rigoberto Nolasco e Ing. Alberto Morán (DICTA)

HIBRIDO	Rend. t ha^{-1}	Días flor	Altura planta (cm)	Largo Panoja (cm)	Exer-sión (cm)	Enferm Foliares (1 a 5)	% Acame	Asp Planta (1 a 5)
MSG 540	5.35	62	180	28.0	21.7	2.7	20.0	1.7
MSG 541	5.34	60	170	30.0	25.0	2.3	6.7	1.7
SR-340	4.82	60	170	29.7	22.7	2.0	13.3	2.0
SR-360	4.59	58	168	29.7	26.3	2.3	8.3	2.7
AMBAR(TC)	3.90	59	158	26.7	16.0	2.7	5.0	2.0
CBH 8078	3.72	59	157	27.0	19.3	3.3	15.0	3.0
ESHG-3	3.62	63	157	30.3	25.3	1.0	6.7	2.0
CBH 8077	3.62	57	129	29.0	19.0	3.7	13.3	4.0
BORA	3.61	59	129	27.3	23.0	3.0	0.0	2.3
CBH 8075	2.87	57	155	29.3	19.3	3.3	1.7	2.7
CBH 8076	2.70	61	156	25.3	21.3	2.3	0.0	3.7
81T91	2.43	57	159	25.0	18.0	3.7	6.7	3.7
X	3.89	59	157	28.1	21.4	2.7	8.06	2.6
Significancia	ns	ns	**	ns	ns	**	ns	**
DMS	2.0	3.8	12.2	6.2	7.0	0.7	18.5	0.9
CV(%)	30.2	3.8	4.6	12.9	19.4	16.4	93.5	20.7

Loc. “Las Acacias, Jamastrán”

En esta localidad (Cuadro 12) los híbridos presentaron niveles de rendimiento de grano iguales estadísticamente, solamente podemos destacar que los híbridos que superaron la media de rendimiento fueron: ESHG-3 (7.90 t ha^{-1}), CBH-8077(7.73 t ha^{-1}), BORA(7.23 t ha^{-1}), Testigo local(7.12 t ha^{-1}), SR-340(6.780 t ha^{-1}) y MSG-540(6.60 t ha^{-1}). Las condiciones de clima en esta localidad fueron buenas y la precipitación reportada fue justa para las necesidades del cultivo, sin embargo el coeficiente de variación se presenta un poco alto debido, posiblemente, a diferencias de suelo y manejo poscosecha.

CUADRO 12. Características agronómicas de 13 híbridos de sorgo evaluados en el ensayo del PCCMCA. Las Acacias, Honduras, 2008.

Responsable: Ing. Rigoberto Nolasco e Ing. Norman Danilo Escoto Gudiel (DICTA)

HIBRIDO	Rend. t ha^{-1}	Días floración	Altura planta (cm)	Largo Panoja (cm)	Exersión (cm)	Enferm Foliares
ESHG-3	7.90	63	110	32	20.7	1.8
CBH-8077	7.73	56	92	35.8	15.5	4.4
BORA	7.23	57	97	29	19.5	2.8
CBH-8015 (TL)	7.12	56	163	28.2	23.7	2.2
SR-340	6.70	59	135	29.2	21.7	2.4
MSG540	6.60	61	150	30.0	16.-5	2.2
CBH-8076	6.39	46	146	25.5	21.7	2.5
AMBAR (TC)	6.21	60	140	25.8	16.7	2.4
SR-360	6.13	58	132	29.8	20.5	2.6
CBH-8075	5.82	58	131	32.5	20.2	2.6
CBH-8078	5.50	56	126	28.5	22.8	1.8
MSG541	5.40	60	140	27.8	14.7	2.5
81T91	4.96	58	134	25.2	24.2	2.4
X	6.43	57	130	29.2	19.9	2.4
Significancia	ns	ns	**	**	*	**
DMS	3.16	12.7	9.6	3.8	6.0	0.8
CV(%)	34.3	15.4	5.1	9.1	21.3	22.7

COMBINADO DE HONDURAS

En el análisis de las tres localidades de Honduras (Cuadro 13) los híbridos no presentaron diferencias significativas en rendimiento de grano y los híbridos arriba de la media general (4.92 t ha^{-1}), fueron: MSG 540(5.87 t ha^{-1}), SR-340(5.63 t ha^{-1}), ESHG-3(5.53 t ha^{-1}), AMBAR(5.23 t ha^{-1}), SR-360(5.03 t ha^{-1}), CBH-8077(5.03 t ha^{-1}), y MSG 541(5.02 t ha^{-1}). Debido a que la parcela del testigo local no nació en Choluteca y La Lujosa, no se pudo incluir en este combinado.

CUADRO 13. Características agronómicas de 12 híbridos de sorgo evaluados en tres localidades de Honduras en el ensayo del PCCMCA. 2008.

HIBRIDO	Rend. tn ha^{-1}	Días floración	Altura planta (cm)	Largo Panoja (cm)	Exer-sión (cm)	Enferm Foliares
MSG540	5.87	63	169	28.0	17.6	2.6
SR-340	5.63	61	157	28.0	22.2	2.3
ESHG-3	5.53	63	142	30.2	22.4	1.3
AMBAR (TC)	5.23	59	152	26.1	15.2	2.6
SR-360	5.03	60	153	28.7	20.4	2.2
CBH-8077	5.03	58	115	30.9	16.7	3.7
MSG541	5.02	62	156	28.2	17.6	2.3
BORA	4.82	59	118	26.8	20.4	3.0
CBH-8078	4.81	59	147	27.6	20.2	2.6
CBH-8076	4.61	59	152	24.9	19.4	2.4
CBH-8075	4.16	57	148	28.8	19.4	3.2
81T91	3.32	57	150	23.9	20.7	3.3
X	4.92	60	147	27.7	19.3	2.6
Significancia	Ns	Ns	Ns	**	ns	**
DMS	1.34	5.4	10.3	2.5	4.7	0.8
CV(%)	16.08	5.3	4.1	5.3	14.3	17.4

NICARAGUA

Loc. "INTA/CNIA"

En esta localidad el híbrido MSG 541 con rendimiento de grano de 8.37 t ha^{-1} tuvo el mejor rendimiento, pero fue igual a los híbridos MSG 540 (7.77 t ha^{-1}), ESHG-3 (7.39 t ha^{-1}), CBH-8996(7.38 t ha^{-1}), Bora (7.23 t ha^{-1}) y CBH 8076 (7.20 t ha^{-1}). Estos mismos híbridos estuvieron arriva de la media general (Cuadro 14).

CUADRO 14. Características agronómicas de 13 híbridos de sorgo evaluados en el ensayo del PCCMCA. CNIA, Nicaragua, 2008.

Responsable: Ing. Rafael Obando (INTA)

HIBRIDO	Rend. t ha^{-1}	Días flor	Altura planta (cm)	Largo Panoja (cm)	Exer-sión (cm)	Enferm Foliares (1 a 5)	Acame	Uniformidad Planta (1 a 5)	Asp Planta (1 a 5)
MSG541	8.37 a	61	173	28.0	13.3	3.1	1.0	1.1	1.9
MSG540	7.77 ab	61	186	26.8	16.8	3.1	1.0	1.8	2.1
ESHG-3	7.39 ab	60	163	30.8	19.0	2.5	1.0	1.4	1.1
CBH-8996 (TL)	7.38 ab	60	173	30.2	15.5	2.9	1.0	1.6	1.9
BORA	7.23 ab	59	141	25.8	15.8	2.6	1.0	1.5	2.2
CBH-8076	7.20 ab	63	182	25.0	22.8	3.0	1.0	1.3	1.8
SR-340	6.93 b	59	176	28.5	18.5	3.1	1.1	2.3	2.2
AMBAR (TC)	6.90 b	61	174	28.5	11.8	3.2	1.0	1.6	1.9
CBH-8075	6.74 b	57	170	30.2	16.3	3.5	1.0	2.2	2.6
SR-360	6.67 b	61	175	29.5	16.5	3.8	1.0	2.3	2.6
CBH-8078	6.59 b	59	165	28.0	21.2	3.2	1.0	2.0	2.2
81T91	6.41 b	58	178	21.8	18.0	3.5	1.0	2.3	3.1
CBH-8077	4.98 c	59	129	33.5	9.8	4.1	1.0	4.0	4.0
X	7.0	60	168	28.2	16.5	3.2	1.0	1.9	2.3
Significancia	Ns	ns	ns	ns	ns	ns	Ns	*	Ns
DMS (0.05)	1.12	1.6	7.70	2.52	5.59	1.05	0.09	0.72	0.8
CV(%)	9.14	1.88	3.2	6.23	23.6	22.8	6.9	25.9	26.1

ANALISIS COMBINADO DE SIETE LOCALIDADES EN CENTRO AMERICA

Se realizó un análisis combinado de rendimiento de grano de las localidades: Las Vegas, Cuyuta, Santa Cruz Porrillo, San Andrés, La Lujosa, Choluteca y CNIA (Cuadro 15), en el cual hubo diferencias altamente significativas, siendo los híbridos superiores en rendimiento: MSG 540 (6.08 t ha^{-1}) y MSG 541 (5.76 t ha^{-1}). En segundo término de potencial de rendimiento de grano están los híbridos: SR-340 (5.46 t ha^{-1}), AMBAR (5.38 t ha^{-1}) testigo común, SR-360 (5.34 t ha^{-1}) y ESHG-3 (5.19 t ha^{-1}), En este análisis no se incluyó la localidad Las Acacias, debido a que tenía un coeficiente de variación muy alto.

CUADRO 15. Análisis combinado de rendimiento de grano de 12 híbridos de sorgo en siete localidades en Centroamérica del ensayo del PCCMCA 2008. -

.

HIBRIDO	Rendimiento grano. (tn ha^{-1})	Días floración	Altura planta (cm)	Largo Panoja (cm)	Exer-sión (cm)	Enferm. Foliares **(1-5)**	Color grano
MSG 540	6.08a	68	161	28.1	17.0	2.60	Rojo
MSG 541	5.76ab	67	152	28.6	14.8	2.40	Rojo
SR-340	5.46 bc	66	153	29.1	18.9	2.43	Rojo
AMBAR **(TC)**	5.38 bcd	66	147	27.4	14.7	2.67	Rojo
SR-360	5.34 bcd	66	151	29.3	18.6	2.58	Rojo
ESHG-3	5.19 bcde	68	137	30.7	19.9	1.85	Blanco
CBH-8078	4.97 cdef	65	145	28.5	17.9	2.60	Rojo
CBH-8076	4.95 cdef	68	150	26.8	18.4	2.55	Rojo
BORA	4.83 defg	65	122	27.5	18.4	2.72	Rojo
CBH-8075	4.73 efg	63	147	31.0	17.6	3.10	Rojo
CBH-8077	4.43 fg	64	118	32.7	14.6	3.67	Rojo
81T91	4.27 g	65	149	25.3	18.3	3.08	Rojo
X	5.12	66	145	28.6	17.2	2.66	
Significancia	**						
DMS	0.61						
CV(%)	16.95						

Adicionalmente en el laboratorio de Tecnología de Alimentos del Centro Nacional de Tecnología Agropecuaria y Forestal (CENTA) se realizó un análisis para identificar los taninos del grano. Primeramente se pasaron todos los granos por el método de Blanqueo y el que mostraba una solución oscura era sospechoso y se le hizo la prueba de Vainillina para identificar el nivel de taninos presente. En el Cuadro 16 se muestran los resultados, donde en la prueba de Blanqueo ninguno mostró la solución oscura, por lo que se concluye que ningún híbrido tiene niveles de taninos perjudiciales en el grano.

Cuadro 16. Análisis de Taninos en el grano de los sorgos híbridos del ensayo del PCCMCA 2008.

MINISTERIO DE AGRICULTURA Y GANADERIA
CENTRO NACIONAL DE TECNOLOGIA AGROPECUARIA Y FORESTAL

LABORATORIO DE TECNOLOGIA DE ALIMENTOS

ANALISIS DE CALIDAD DE GRANO DE SORGO

MUESTRAS: 12 Materiales de grano de sorgo del PCCMCA

SOLICITANTE: Ing. Salvador Zeledón, Granos Básicos, CENTA

FECHA DE ENTREGA: 19/03/09

RECEPCION FECHA DE INGRESO: 18/03/09

ANALISIS DE LABORATORIO

Nº de laboratorio	Nombre de la Muestra	Prueba Detección de Taninos por método de Blanqueo
1	401 (MSG-540)	Negativo
2	402 (BORA)	"
3	403 (SOBERANO)	"
4	404 (SR-340)	"
5	405 (MSG-541)	"
6	406 (CBH-8077)	"
7	407 (CBH-8076)	"
8	408 (CBH-8075)	"
9	410 (SR-360)	"
10	411 (AMBAR) Testigo común	"
11	412 (81T91)	"
12	409 (ESHG-3)	"

OBSERVACIONES:
En ninguna de las muestras analizadas se detectó la presencia de testa en el grano al realizar la escarificación por el método de blanqueo, por lo tanto ninguno de los sorgos analizados contiene taninos. Las muestras le fueron devueltas al solicitante y se le mostraron los resultados del análisis.

Ing. Margarita Alvarado de Torres
Jefa Laboratorio de Alimentos.

Técnico Analista: Licda. Vilma Ruth Calderón

ANALISIS BIPLOT

des que

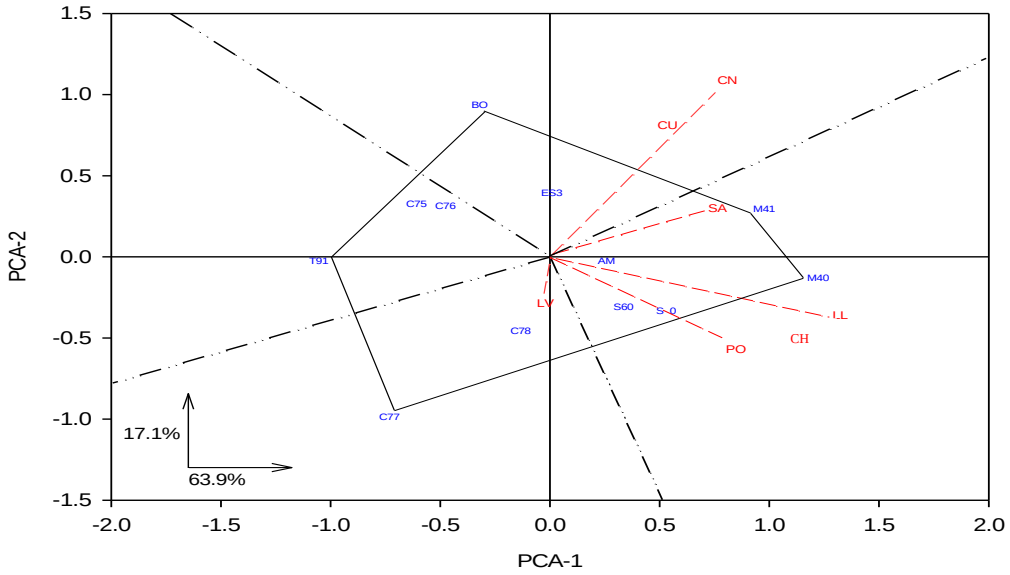

Figura 1. Puntuaciones del primer y segundo eje del componente principal de 12 sorgos en 7 ambientes de Centro América, 2008 (Biplot-GGE-SREG)

Nombre	Abrev.	Rend (t/ha)	PCA 1	PCA 2
SR-340	**S40**	5.435	0.52957	-0.33280
SR-360	**S60**	5.315	0.33567	-0.31030
ESHG-3	**ES3**	5.134	0.00759	0.39053
81T91	**T91**	4.207	-1.05434	-0.01422
BORA	**BO**	4.791	-0.32124	0.93420
MSG-540	**M40**	6.051	1.22135	-0.13069
MSG-541	**M41**	5.746	0.97600	0.29658
CBH-8075	**C75**	4.660	-0.60901	0.32242
CBH-8076	**C76**	4.868	-0.47688	0.31488
CBH-8077	**C77**	4.400	-0.73186	-0.98948
CBH-8078	**C78**	4.927	-0.13407	-0.45698
AMBAR	**AM**	5.329	0.25723	-0.02414
CNIA	**CN**	6.933	0.80775	1.08702
Las Vegas	**LV**	4.808	-0.02232	-0.28912
La Lujosa	**LL**	3.885	1.32257	-0.36368
Cuyuta	**CU**	5.496	0.53572	0.80852
San Andrés	**SA**	5.975	0.76365	0.29876
SC Porrillo	**PO**	4.916	0.84728	-0.56821
Choluteca	**CH**	3.490	1.13144	-0.51559

Cuadro 17. Puntuaciones de los dos ejes correspondientes a los componentes principales (PCA) para rendimiento de grano según genotipo y localidad.

Interacción Genotipo por Ambiente:

El Cuadro 18 muestra el análisis de varianza del rendimiento de grano, así como el valor de los dos ejes principales de la interacción genotipo-ambiente, obtenidos a través del modelo AMMI Biplot GGE-SREG. El resultado de este análisis indicó que los dos primeros ejes (PCA) explicaron el 81.1% de la interacción genotipo ambiente con tan solo el 42.9% de los grados de libertad. El PCA-1 explicó el 63.9 %, mientras que el PCA-2 fue responsable del 17.1% con el 23 y 20% de los grados de libertad, respectivamente.

Cuadro 18. Análisis de varianza Tipo IV y componentes principales (PCA) para la variable rendimiento de grano de la Prueba Regional de sorgo, PCCMCA, 2008.

F de V.	*g.l.*	*Suma de Cuadrados Tipo IV*	*Cuadrados. Medios*	*Prob > F*
AMB	6	406.23	67.71	0.001
GEN	11	89.15	8.10	0.001
GEN x AMB	66	84.60	1.28	0.001
PCA-1	16	111.11	6.94	0.001
PCA-2	14	29.79	2.13	0.001
Residuo	36	32.85	0.91	0.001

En el Cuadro 17 se presentan las puntuaciones o valores AMMI, tanto de los 12 genotipos como de los siete ambientes, los mismos presentan diferentes patrones de interacción. De acuerdo a las puntuaciones de ambos ejes (PCA-1 y PCA-2) los híbridos más estables fueron Ambar y MSG-540, siendo los híbridos MSG-540 y MSG-541 los que mejor respondieron a las condiciones ambientales prevalecientes durante el desarrollo del cultivo, presentando a su vez los mejores rendimientos. De acuerdo al análisis Biplot se conformaron tres Grupos ambientales el primero formado por las localidades de Cuyuta y CNIA (Grupo Ambiental A); el segundo por las localidades de San Andrés, La Lujosa, Choluteca y Santa Cruz Porrillo (Grupo Ambiental B). El tercer Grupo ambiental lo formó la localidad de Las Vegas (Grupo Ambiental C).

Los cultivares ESHG-3 y Bora, presentaron el mejor comportamiento en las localidades del grupo A, mientras que en el Grupo B, los de mejor comportamiento fueron el MSG-540, MSG-541, SR-340 y SR-360. De acuerdo a Yan *et al*. (2000), al graficar las puntuaciones de ambos ejes principales (PCA1 y PCA2), se forma un polígono con los

híbridos que quedan en la parte externa de la figura 1 (éstos fueron los híbridos MSG-40, MSG-41, BORA, 81T91 y CBH-8077). Los híbridos localizados en los vértices son considerados los mejores e inferiores dependiendo de su ubicación. Con relación a la interacción genotipo ambiente la Figura 1, muestra los híbridos que mejor se comportaron en cada uno de los grupos ambientales, de acuerdo a la posición o cercanía a la que se encuentran de cada grupo. La Figura 1, muestra que CNIA (CN) en el Grupo A y La Lujos (LL) en el Grupo B, fueron los ambientes que mejor discriminaron los genotipos.

Cuadro 19. Rendimiento de los 12 híbridos en las distintas localidades de Centro América, 2008

		GA-A	GA-A	GA-B	GA-B	GA-B	GA-B	GA-C	
		CNIA	Cuyuta	La Lujosa	San Andrés	Choluteca	SC Porrillo	Las Vegas	Promedio
1	MSG_540	7.77	6.21	5.35	6.87	4.80	6.43	4.93	6.24
2	MSG_541	8.38	5.65	5.34	6.71	4.56	5.15	4.44	5.96
3	SR_340	6.93	5.60	4.82	6.17	4.25	5.49	4.78	5.54
4	AMBAR	6.91	6.20	3.94	5.90	4.09	5.28	4.98	5.39
5	SR_360	6.67	5.69	4.59	6.07	4.00	5.26	4.92	5.38
6	ESHG_3	7.39	5.72	3.62	6.38	3.04	5.04	4.76	5.20
7	CBH_8078	6.59	4.73	3.72	5.75	3.64	5.17	4.90	4.93
8	CBH_8076	7.20	5.19	2.70	6.17	2.43	5.00	5.40	4.78
9	BORA	7.23	6.08	3.62	6.42	2.87	3.10	4.23	4.89
10	CBH_8075	6.74	5.93	2.87	5.08	2.64	4.58	4.79	4.64
11	CBH_8077	4.99	4.15	3.62	5.63	3.20	4.18	5.02	4.30
12	81T91	6.41	4.81	2.43	4.54	2.38	4.32	4.55	4.15
	Promedio	**6.93**	**5.50**	**3.89**	**5.97**	**3.49**	**4.92**	**4.81**	**5.12**

En este caso (Cuadro 19) las flechas indican la posición en términos percentiles de cada uno de los genotipos en cada localidad y el promedio general. El significado de las flechas es el siguiente.

Tipo de flecha	Posición percentil
Verde hacia arriba	100 – 80%
Amarilla diagonal arriba	80 – 60%
Amarilla acostada	60 – 40%
Amarilla diagonal abajo	40 – 20%
Roja hacia abajo	0 – 20%

Si observamos la gráfica Biplot con cada uno de los resultados de esta última Tabla se puede concluir que existe una alta relación en la interpretación. Nótese que los MSG-40 y MSG-41 fueron los mejores en el Grupo Amb-B. Mientras que en el Grupo Am-A tanto el Bora como los de Cristiani ocupan una posición en los percentiles superiores.

CONCLUSIONES

- Los híbridos mas estables en rendimiento de grano a través de las siete localidades fueron AMBAR y MSG 540.

- Los híbridos que mejor respondieron a las condiciones ambientales prevalecientes en el ciclo del cultivo y presentaron mejores rendimiento de grano fueron MSG 540 y MSG-541.

- Los híbridos ESHG-3 y Bora presentaron mejor comportamiento en las localidades de Cuyuta (Guatemala) y CNIA (Nicaragua).

- Los híbridos MSG-40, MSG-41, SR-340 y SR-360 presentaron mejor comportamiento en San Andrés, La Lujosa, Choluteca y Santa Cruz Porrillo.

- Los granos de todos los híbridos evaluados no presentaron taninos perceptibles.

From: Bill Rooney
To: "George L Hodnett"
Subject: RE: inspection 955
Date: Saturday, October 10, 2009 11:11:08 PM

George:

You should have been copied on the original message (my mail indicated that you were). If you don't have it by Monday, let me know and I can find it.

Bill

-----Original Message-----
From: George L Hodnett [mailto:ghodnett@ag.tamu.edu]
Sent: Friday, October 09, 2009 11:40 AM
To: Bill L Rooney
Subject: Re: inspection 955

Bill,

955 is my greenhouse and it is clean. I don't know anything about an inspection of the greenhouse though. Can you fill me in?

With respect to what we need: a tank water shut off valve repaired, cooling pads replaced (some are falling apart), a metal lip placed at the bottom of the cooling pads to catch the water would help eliminate the algae growth on the cement floor, and we need to change the heater system from radiant heat to forced air. I cannot have my males near the heater when it is operating for obvious reasons. That limits the space we can use.

Regards,
George

>>> "Bill Rooney" <wlr@tamu.edu> 10/9/2009 1:48 AM >>>
Is 955 your greenhouse (or is it my half greenhouse)?

If it is yours, and it is now clean, we can respond immediately. In that case, write what is needed and we'll get it taken care of immediately. If not yours, let me know and I'll deal with it.

Bill

From: George L Hodnett
To: Bill L Rooney
Subject: RE: inspection 955
Date: Monday, October 12, 2009 10:09:59 AM

Bill,

If we are talking about the lab inspection, I was copied that notice. From your email I understood the greenhouse itself was inspected (or to be inspected); for that I have not received a notice.

George

>>> "Bill Rooney" <wlr@tamu.edu> 10/10/2009 11:11 PM >>>
George:

You should have been copied on the original message (my mail indicated that you were). If you don't have it by Monday, let me know and I can find it.

Bill

-----Original Message-----
From: George L Hodnett [mailto:ghodnett@ag.tamu.edu]
Sent: Friday, October 09, 2009 11:40 AM
To: Bill L Rooney
Subject: Re: inspection 955

Bill,

955 is my greenhouse and it is clean. I don't know anything about an inspection of the greenhouse though. Can you fill me in?

With respect to what we need: a tank water shut off valve repaired, cooling pads replaced (some are falling apart), a metal lip placed at the bottom of the cooling pads to catch the water would help eliminate the algae growth on the cement floor, and we need to change the heater system from radiant heat to forced air. I cannot have my males near the heater when it is operating for obvious reasons. That limits the space we can use.

Regards,
George

>>> "Bill Rooney" <wlr@tamu.edu> 10/9/2009 1:48 AM >>>
Is 955 your greenhouse (or is it my half greenhouse)?

If it is yours, and it is now clean, we can respond immediately. In that case, write what is needed and we'll get it taken care of immediately. If not yours, let me know and I'll deal with it.

Bill

From:	Bill Payne
To:	Lloyd Rooney
Cc:	David Baltensperger; Dirk Hays; Edwin Price; Gary C Peterson; wlr@tamu.edu
Subject:	Re: INTSORMIL
Date:	Wednesday, October 07, 2009 2:49:11 PM
Attachments:	INTSORMILBrdMtgSep09.pdf

Loyd,

Please find attached the agenda. I will forward the minutes when available. To me the biggest issue was the budget allocation from the $3.9 million increase in USAID funds. As with other CRSPs, USAID has specified that much of the increase must be spent on technology transfer and impact assessment, largely with a view towards appeasing congressional critics. The budget is attached in the same pdf. Apparently it was agreed to at the July PI Advisory Committee mtg in Nebraska.

The other major issue, at least to me, was the exclusion of INTSORMIL from the Gates funding that will go to ICRISAT for sorghum research in Africa. I think you were aware of that already.

I was at the Borlaug activities and only saw you at a distance, but had to leave soon after the memorial service to meet with grad students and take care of McKnight business. Bert Rivers of CTI in Minnesota asked me to say hello--apparently you worked on millet threshers in Central America.

If you, Bill, or Dirk have any other questions about the meeting let me know. Gary Peterson was also in attendance and graciously made hosting arrangements in Lubbock.

Best wishes

Bill

>>> Lloyd Rooney 10/7/2009 1:49 PM >>>
What happened at the BD? I failed to meet you at the Borlaug activities. What do we need to know about review etc etc. ? lwr

INTSORMIL
Board of Directors Meeting
September 29-30, 2009

Texas AgriLife Research & Extension Center
Lubbock, TX

Participants: Bahiru Duguma (USAID), Jess Lowenberg-Deboer (Purdue), Bill Payne (Texas A&M), Fred Cholick (Kansas St.), Steve Slack (Ohio St.), Donald Topliff (West Texas A&M), David Jackson (Univ. of Nebraska), Gary Peterson (Texas A&M) and John Yohe, Short Heinrichs, Joan Frederick (ME)

Tuesday, September 29, 2009
8:30 a.m. - 5:00 p.m.

Call to Order and Introductions: Jess Lowenberg-Deboer, Board Chair (Purdue)

INTSORMIL Board of Directors

Election of Officers (September 30, 2009 – September 29, 2010)
Current Chair: Dr. James Lowenberg-Deboer
Current Vice Chair: Dr. Don Topliff
Approve August 26/27, 2008 BOD Minutes

Agenda Review and Additions

USAID Update: Bahiru Duguma

Office of Agriculture Status
Horticulture CRSP
Livestock & Climate Change CRSP
Water CRSP
INTSORMIL CRSP Year 4 Evaluation Process and Criteria
Funding Outlook

"Ad Hoc Advisory Group" and Meeting Report
Discuss Technical/Advisory Committee versus a PI Committee
John Yohe and Gary Peterson

Status of Authorization Ceiling Increase: John Yohe

University and Host Country Memorandum of Agreements (MOU) Status: Joan Frederick

Global Work Plan/Evaluation Criteria for Year 4: John Yohe
Review of Work Plans and Budget Discussions: John Yohe and Joan Frederick

New Program Initiatives
Journalism
Technology Transfer
Impact Assessment

Annual Report Guidelines

Progress Reports: John Yohe

Regional Program Report: John Yohe
West Africa: Coordinators: Bruce Hamaker and Bonnie Pendleton
Horn of Africa: Coordinator: Gebisa Ejeta
Southern Africa: Coordinator: Gary Peterson (Peterson reporting)
Central America: Coordinator: William Rooney
CRSP Council
ICRISAT/INTSORMIL Collaboration (Gates Proposal) Partnerships Partnerships
Information Bulletins
Global Development Commons – Short Heinrichs

Wednesday September 30, 2009
8:00 a.m. - 12:00 p.m.

Continuation of Progress Reports (if necessary)

Report on the USAID/Mali Associate Award, "Transfer of Sorghum, Millet Production, Processing and Marketing Technologies in Mali": Short Heinrichs

Quarterly Reports: Coordinator – Short Heinrichs (INTSORMIL)
Production - Marketing: Coordinator - John Sanders (Purdue)
Decrue Sorghum: Coordinators - Vara Prasad & Scott Staggenborg (Kansas St)
Processing Technology: Coordinator - Bruce Hamaker (Purdue)
Training: Coordinator - Jess Lowenberg DeBoer (Purdue)

New Business [illegible]

Adjournment documents in advance in pdf

DRAFT BUDGET ALLOCATIONS (8/19/2009)

2009_2011 Projects

INTSORMIL PROGRAM *2009-2010*

U.S. PROJECTS	LEAD P.I.	2009-2010 DRAFT
ARS 101	J. WILSON	105,000
WTAM 101	B PENDLETON	105,000
OSU 101	M. ERBAUGH	105,000
	D. LARSON	
KSU 101	J. LESLIE	105,000
KSU 102	J. HANCOCK	105,000
KSU 104	V. PRASAD	105,000
	S. STAGGENBORG	
UNL 101	C. WORTMANN	105,000
UNL 102	D. JACKSON	105,000
PRF 101	G. EJETA	105,000
PRF 102	B. HAMAKER	105,000
PRF 103	J. SANDERS	105,000
PRF 104	M. TUINSTRA	105,000
PRF 105	G. EJETA/STRIGA	100,000
TAM 101	W. ROONEY	105,000
TAM 102	G. PETERSON	105,000
TAM 103	L. ROONEY	105,000
Totals		1,675,000

REGIONAL Programs	LEAD P.I.	2009-2010 DRAFT
West Africa Region	B.Hamaker	275,000
	B. Pendleton	
Southern Africa Region	G. Peterson	150,000
Horn of Africa Region	G. Ejeta	150,000
Central America Region	W. Rooney	100,000
Totals		675,000
Program Initiatives		
Impact Assessment Studies		
West Africa and Central America		101,000
East and Southern Africa		120,000
Technology Transfer Project		155,000
Communication/Media Development		100,000
TOTAL		476,000

Management Office		2009-2010 APPROVED
Personnel	294,915	
Fringe	95,933	
Travel	25,000	
Equipment		
Supplies	16,653	
Contractual		
Construction		
other	54,800	
sub total	487,301	
IDC	218,799	
TOTAL	706,100	
Total Program	3,630,000	

Management Projects	2009-2010 APPROVED
CRSP COUNCIL SYNTHESIS PROJECT	25,000
CRSP COUNCIL MEETINGS	10,000
WORKSHOPS	43,395
TECHNICAL COMMITTEE	9,295
BOARD OF DIRECTORS	10,210
TOTAL	97,900

2009-2010 PROGRAM BUDGET

Funding : 2009-2010 $ (3,630,000)

From: Bill Rooney
To: "Rene Clara"
Subject: RE: Is anything happening?
Date: Saturday, October 10, 2009 11:17:36 PM

Rene:

MY apologies. Too many issues to work on.

You should have gotten some responses from me in earlier messages just sent.

More to come later.

Also, you should know that Dr. Rosenow passed away this morning after a month long illness…..

Regards,

Bill

From: Rene Clara [mailto:reneclara@yahoo.com]
Sent: Saturday, October 10, 2009 11:08 AM
To: Bill Rooney
Subject: Is anything happening?

Dear Dr. Bill,

I don´t know what is happening, but lately you have not answered to my emails. The import permit that I sent to you, won on September 25 and You not sent me the engaged germoplasma. I ask you if these in agreement that I visits the ICTA and Prosemillas of Guatemala and you do not answer me. I consult you on the plan of delivery of the bmr advanced lines in Central América and I am expecting your answer.
Please say to me what it happens? Are you uncomfortable with me?

René Clará V.
INTSORMIL
Host Regional Coordinator

CENTA, Apdo. Postal 885,
San Salvador, El Salvador, C.A.
Tel. (503) 2302 0239 - (503) 7815 2238 cel.
Fax: (503) 2302 0239

E-mail: reneclara@yahoo.com

De: Bill Rooney <wlr@tamu.edu>
Para: Rene Clara <reneclara@yahoo.com>
Enviado: mié, octubre 7, 2009 10:39:39 AM
Asunto: RE: Expenses report

Rene:

Thanks for the information. I'll look for the package and once approved, I'll send it on to Joan.

Regards,

Bill

From: Rene Clara [mailto:reneclara@yahoo.com]
Sent: Tuesday, October 06, 2009 12:53 PM
To: Bill Rooney
Cc: Joan Frederick
Subject: Expenses report

Dear Dr. Bill,

This morning I sent to you the expenses report of PCCMCA meeting of Vilma, Salvador, Mario Jaco and René Clará, by *EMS* courier.

We all spend the received money, neither return nor restoration money. Jaco bought the ticket, but it did not use it, because at the last hour the CENTA Director did not authorize his trip. This ticket is available in CENTA.
Vilma and Salvador did not use the funds for buy of tickets of plane because they obtained it of FOCAGRO.

Regards,

René Clará V.
INTSORMIL
Host Regional Coordinator

CENTA, Apdo. Postal 885,
San Salvador, El Salvador, C.A.
Tel. (503) 2302 0239 - (503) 7815 2238 cel.
Fax: (503) 2302 0239

E-mail: reneclara@yahoo.com

From:	Delroy Collins
To:	Borden, Dustin Ross
Cc:	bill ronney
Subject:	Re: Jason Wright using forage harvester
Date:	Wednesday, October 07, 2009 7:17:49 PM

Dustin:

When does he want to use it? And, when will our FORH's in CS be ready for the second cuts?

Delroy

Sent from my iPhone

On Oct 7, 2009, at 12:48 PM, "Borden, Dustin Ross" <dborden@neo.tamu.edu> wrote:

> Dr. Rooney and Delroy
>
> Jason wants to know if he can use the one row harvester here. I told him that I would leave that up to Delroy.
>
> He also is still insisting on taking the one row to wesalco to harvest things, but I told him that I dont think it is worth the time and money. His test is just as bad as our (lodging).
>
>
> Thanks
>
> Dustin
>
>
>
> Dustin Borden '07
> Research Assistant
> Sorghum Breeding and Genetics
> Texas A&M University
> College Station, TX 77843
> (979)845-2151
>

From: Bill Rooney
To: "Pam Wilhelm"
Subject: RE: last years Cropping Systems money
Date: Friday, October 09, 2009 2:01:50 AM

Pam:

That makes total sense and I can work with that....

Bill

-----Original Message-----
From: Pam Wilhelm [mailto:PWilhelm@ag.tamu.edu]
Sent: Thursday, October 08, 2009 10:55 AM
To: Bill L Rooney
Cc: Lea Dell Morris; Carol Rhodes
Subject: RE: last years Cropping Systems money

One more thing, I think you and I were talking about a different thing and Carol straightened me out. You do need to get a blanket authorization to travel for everyone. You do not have to have a blanket P.O. document in order to have a blanket authorization to travel.

>>> "Bill Rooney" <wlr@tamu.edu> 10/8/2009 3:59 AM >>>
Pam:

Understood, and didn't know we had that much money left. However, if we don't do a blanket, the number of requests will go up exponentially. How are we to handle that? Until we replace Karen, there is no way that we can.
After that, I would defer to the appropriate approach based on input from all (Karen's replacement, Lea Dell and you).

Thanks,

Bill

-----Original Message-----
From: Pam Wilhelm [mailto:PWilhelm@ag.tamu.edu]
Sent: Tuesday, October 06, 2009 4:59 PM
To: Bill L Rooney
Cc: Sonnie Feagley
Subject: last years Cropping Systems money

Afternoon Dr. Rooney,

You had many many blanket travel P.O.'s on this account that were established last September. I had to release them because they cannot be used for travel after 9-1-09. So you now have an unspent balance in this account of $9169. I suggest that you do not use blanket P.O.'s for this very reason. As a rule we stopped doing that several years ago.

From:	Pam Wilhelm
To:	Bill L Rooney
Cc:	Lea Dell Morris; Carol Rhodes; Sonnie Feagley
Subject:	RE: last years Cropping Systems money
Date:	Thursday, October 08, 2009 7:55:47 AM

It's O.K. for you to have many requests. LeaDell will just handle each trip as it come along and you will use what money is available at that time for the appropriate account your traveling for. I'm sure Sonnie could also help you out if you need her to. How long before you start the process of hiring a replacement?
We're here to help when you need us.

>>> "Bill Rooney" <wlr@tamu.edu> 10/8/2009 3:59 AM >>>
Pam:

Understood, and didn't know we had that much money left. However, if we don't do a blanket, the number of requests will go up exponentially. How are we to handle that? Until we replace Karen, there is no way that we can.
After that, I would defer to the appropriate approach based on input from all (Karen's replacement, Lea Dell and you).

Thanks,

Bill

-----Original Message-----
From: Pam Wilhelm [mailto:PWilhelm@ag.tamu.edu]
Sent: Tuesday, October 06, 2009 4:59 PM
To: Bill L Rooney
Cc: Sonnie Feagley
Subject: last years Cropping Systems money

Afternoon Dr. Rooney,

You had many many blanket travel P.O.'s on this account that were established last September. I had to release them because they cannot be used for travel after 9-1-09. So you now have an unspent balance in this account of $9169. I suggest that you do not use blanket P.O.'s for this very reason. As a rule we stopped doing that several years ago.

From: Bill Rooney
To: "Pam Wilhelm"
Subject: RE: last years Cropping Systems money
Date: Thursday, October 08, 2009 3:59:57 AM

Pam:

Understood, and didn't know we had that much money left. However, if we don't do a blanket, the number of requests will go up exponentially. How are we to handle that? Until we replace Karen, there is no way that we can. After that, I would defer to the appropriate approach based on input from all (Karen's replacement, Lea Dell and you).

Thanks,

Bill

-----Original Message-----
From: Pam Wilhelm [mailto:PWilhelm@ag.tamu.edu]
Sent: Tuesday, October 06, 2009 4:59 PM
To: Bill L Rooney
Cc: Sonnie Feagley
Subject: last years Cropping Systems money

Afternoon Dr. Rooney,

You had many many blanket travel P.O.'s on this account that were established last September. I had to release them because they cannot be used for travel after 9-1-09. So you now have an unspent balance in this account of $9169. I suggest that you do not use blanket P.O.'s for this very reason. As a rule we stopped doing that several years ago.

From: Bill Rooney
To: "George L Hodnett"
Subject: RE: Lunch for helpers
Date: Thursday, October 08, 2009 4:00:55 AM

George:

Difficult to do so. The best way is to get it preapproved from the main office and then use our ProCard. Let me ask when I return.

Bill

-----Original Message-----
From: George L Hodnett [mailto:ghodnett@ag.tamu.edu]
Sent: Wednesday, October 07, 2009 9:01 AM
To: wlr@tamu.edu
Subject: Lunch for helpers

Bill,

I would like to provide a lunch as a thankyou for Dr. Stelly's crew who helped clean up the lab. How do I do that?

George

From:	Bill Rooney
To:	"Bridges, Brenda"
Cc:	"bavant@tamu.edu"; "Nancy Turner"; "Lloyd Rooney"
Subject:	RE: M.D. Anderson sorghum onepager
Date:	Thursday, September 03, 2009 8:21:00 AM
Attachments:	DCP_5090.JPG DCP_5053.JPG DCP_5042.JPG DCP_5043.JPG DCP_5050.JPG DCP_5051.JPG

Brenda:

Here are some photos of various colored sorghums.

DCP 5090 is an arrangement of white, yellow, red, tannin and black.
DCP 5042 bright red in the field
DCP 5043 black sorghum in the field
DCP 5050 white food grade sorghum in the field
DCP 5051 traditional red hybrid in the field
DCP 5053 bright red in the field

You can use what you need for the document, but I would definitely recommend replacing the grain photos that you have on the sheet at this time.

I have some closeup of grain (different colors) but I can't access them until I get back to the office tomorrow.

regards,

bill
Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

> -----Original Message-----
> **From:** Bridges, Brenda [mailto:bridges@tamu.edu]
> **Sent:** Wednesday, September 02, 2009 5:19 PM
> **To:** Nancy Turner; Lloyd Rooney; Bill Rooney
> **Cc:** McCutchen, Bill; Helms, Adam; shay-simpson@tamu.edu; bavant@tamu.edu
> **Subject:** M.D. Anderson sorghum onepager
>
> Attached is the latest rendition of the sorghum onepager for M.D. Anderson meeting. Bill Rooney, if you have better sorghum photos or other photos you'd like to use, please email them to me.
>
> Thanks.
>
> Brenda Bridges
> Program Associate
> Texas AgriLife Research Corporate Relations
> College Station TX 77843-2583

O: (979)862-7136
C: (979)324-7823
Fax (979)458-2155
http://agbioenergy.tamu.edu


3:1.2000


3.1.2000


3.1.2000


3. 1. 2000


3 1 2000

From: James Osborne
To: delroy@tamu.edu
Cc: Dr. Bill Rooney; dustin_b82@yahoo.com
Subject: RE: map of TAMU sorghum at PR
Date: Monday, November 09, 2009 8:47:52 PM

Delroy,
Thank you for your punctuality, I will be looking for the seed in the morning.
Yes, you will still have the $53.50/night rate including tax, if you have any problems let me know.
Thanks again, I will let you know as soon as we get the nurseries planted.
Regards,
Jim

From: delroy@tamu.edu
To: kjo64@msn.com
CC: wlr@tamu.edu; dustin_b82@yahoo.com
Subject: map of TAMU sorghum at PR
Date: Mon, 9 Nov 2009 11:24:47 -0600

Jim:

One box of packaged seed should arrive at Andale tomorrow (Tuesday) morning. Rows are in separate bundles arranged by range from front of field to back. Seed has been treated with Concep III, Apron XL, Poncho, Precise, and Maxim FS. Field map is attached. If you have questions, please let me know. I assume we can still make reservations at La Parguera when needed?

Cordially,

Mr. S. Delroy Collins, Research Associate
Sorghum Breeding and Genetics
Dept. of Soil & Crop Sciences
Texas A&M University
370 Olsen Blvd.
College Station, TX 77843
delroy@tamu.edu
(979) 845-2151

From:	Brummett, Robert G.
To:	Bill Rooney
Cc:	Brummett, Robert G.
Subject:	RE: Material Request Form (Selahattin Aydn)
Date:	Thursday, August 13, 2009 8:58:45 AM
Attachments:	Research Material Disclosure Form.doc

Thanks Bill,

I've attached the Research Material Disclosure form.

Is this material something we need to look at regarding the Ceres agreement?

I know things are busy, but we need to get the disclosure forms for the other recent agreements we've done - do you want me to get with Karen on that?

Thanks,
Robert

-----Original Message-----
From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Thursday, August 13, 2009 6:14 AM
To: Brummett, Robert G.
Subject: RE: Material Request Form (Selahattin Aydn)

Robert:

I propose that we send F2 population seed to Selahattin. An F2 population
between two lines is the point in a breeding program in which there is maximum genetic variation and little to no genetic uniformity, ie, every plant is genetically different although all plants in the population are related.

Other than the characteristics of the parents, there is little to disclose
because there is not descriptors that can be assigned to anything in specific.

Because these are F2 populations, IF he was to develop anything of commercial value, then he would do the vast majority of the work (all I did
was make a cross and grow it for one generation). We would be entitled to
5-10% of the value (maximum), IF something was to develop. As I understand
it their interest is research - you would have to ask if they are interested
in commercial development. I would consider it research material.....

Bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

-----Original Message-----
From: Brummett, Robert G. [mailto:brummettr@tamu.edu]
Sent: Wednesday, August 12, 2009 9:45 PM
To: wlr@tamu.edu
Cc: Hurley, Janie C.
Subject: FW: Material Request Form (Selahattin Aydn)

Bill,

Received the Material Request Form this evening from Selahattin Aydn.

I need a disclosure form on this.

Would you consider this purely research material? If so, a Research Material
Disclosure can be completed instead of a Plant Variety/Germplasm Disclosure.
Note that if we go with the Research Material Disclosure and at a later date
the material is wanted for commercial purposes, a Plant Variety/Germplasm
Disclosure form would need to be completed. For purely research purposes
with another institution, the Research form is fine, but if you anticipate
future commercial interest (even with the Dr. Aydn), we would need a the
PV/Germplasm form. You're call on which to go with for this Material
Request if this is purely research material.

Thanks,
Robert

Robert Brummett
Licensing Associate
The Texas A&M University System
Office of Technology Commercialization
1700 Research Parkway, Suite 250
MS 3369
College Station, TX 77845
ph. 979.847.8682
direct 979.862.3002
cell 979.204.0766
brummettr@tamu.edu
http://technology.tamu.edu

-----Original Message-----
From: Selahattin Aydin [mailto:saydin571@gmail.com]
Sent: Wed 8/12/2009 5:59 PM
To: Brummett, Robert G.

Subject: Material Request Form

Dear Mr. Brummett,

I am so sorry for interrupting you, but I am sending this massage to request
a material that we need in our mapping project.

The form is attached for requesting the material. At the form I put Yuksel
Bolek as contact person. He is the supervisor of the project.

If you have any question, please feel free to contact with me, best regards...

Selahattin Aydin, Ph.D

TEXAS A&M SYSTEM Office of TECHNOLOGY COMMERCIALIZATION

RESEARCH MATERIAL DISCLOSURE FORM

Please use the form fields to answer the questions regarding your research material. Complete only one form for each material, or set of materials, that you may want to distribute to others for research purposes.

(attach additional pages as necessary)

1. Research Material Designation (name or label for material):

2. Research Material Description:

3. Please describe typical and expected uses for this Research Material:

4. Principal Investigator(s):

5. List all Texas A&M System creators of the Research Material:

Name	Department	Center System Member

6. List all other creators of the Research Material	Institution / Company / Organization Name

Office of TECHNOLOGY COMMERCIALIZATION

RESEARCH MATERIAL DISCLOSURE FORM

(attach additional pages as necessary)

7. Identify the grants, contracts, or other sources of funding contributing to the development of the Material. Please provide the grant number, granting entity, as well as the name of the Office and contact person that manages each grant.

8. Were these materials originally created using A&M facilities and resources?
☐ **Yes** ☐ **No** **If No, please explain below.**

9. Does this material relate, in whole or in part, to any disclosure previously submitted or anticipated for submission in the future, to the Office of Technology Commercialization?
☐ **Yes** ☐ **No** **If Yes, please provide details below.**

10. Does the Research Material incorporate materials that have been provided by a third party?
☐ **Yes** ☐ **No** **If Yes, please identify the providers of the other materials.**

11. Do you anticipate any commercial entities having interest in this material?
☐ **Yes** ☐ **No**
If yes, please identify any that have expressed interest and check if this disclosure is being submitted specifically in response to that entities' interest.

☐
☐
☐

12. Supporting Documents:
Please attach any documents relevant to this material and that may be important for our consideration, e.g., publications, Material Transfer Agreements, etc.

By typing my name below and emailing this completed form to mta@tamu.edu using my tamu.edu email account, I certify that the above information is complete and accurate.

Principal Investigator	**Date**

Answer all questions on this form and email to the Office of Technology Commercialization at mta@tamu.edu

From:	Bill Rooney
To:	"Brummett, Robert G."
Subject:	RE: Material Request Form (Selahattin Aydn)
Date:	Thursday, August 13, 2009 12:46:00 PM
Attachments:	Research Material Disclosure Form - Aydin.doc

I assume RMDF is for the Aydin materials.

If so, here it is.

Bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

-----Original Message-----
From: Brummett, Robert G. [mailto:brummettr@tamu.edu]
Sent: Thursday, August 13, 2009 8:59 AM
To: Bill Rooney
Cc: Brummett, Robert G.
Subject: RE: Material Request Form (Selahattin Aydn)

Thanks Bill,

I've attached the Research Material Disclosure form.

Is this material something we need to look at regarding the Ceres agreement?

I know things are busy, but we need to get the disclosure forms for the other recent agreements we've done - do you want me to get with Karen on that?

Thanks,
Robert

-----Original Message-----
From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Thursday, August 13, 2009 6:14 AM
To: Brummett, Robert G.
Subject: RE: Material Request Form (Selahattin Aydn)

Robert:

I propose that we send F2 population seed to Selahattin. An F2 population between two lines is the point in a breeding program in which there is maximum genetic variation and little to no genetic uniformity, ie, every plant is genetically different although all plants in the population are related.

Other than the characteristics of the parents, there is little to disclose because there is not descriptors that can be assigned to anything in specific.

Because these are F2 populations, IF he was to develop anything of commercial value, then he would do the vast majority of the work (all I did was make a cross and grow it for one generation). We would be entitled to 5-10% of the value (maximum), IF something was to develop. As I understand it their

interest is research - you would have to ask if they are interested in commercial development. I would consider it research material.....

Bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474
979 845 2151

-----Original Message-----
From: Brummett, Robert G. [mailto:brummettr@tamu.edu]
Sent: Wednesday, August 12, 2009 9:45 PM
To: wlr@tamu.edu
Cc: Hurley, Janie C.
Subject: FW: Material Request Form (Selahattin Aydn)

Bill,

Received the Material Request Form this evening from Selahattin Aydn.

I need a disclosure form on this.

Would you consider this purely research material? If so, a Research Material Disclosure can be completed instead of a Plant Variety/Germplasm Disclosure. Note that if we go with the Research Material Disclosure and at a later date the material is wanted for commercial purposes, a Plant Variety/Germplasm Disclosure form would need to be completed. For purely research purposes with another institution, the Research form is fine, but if you anticipate future commercial interest (even with the Dr. Aydn), we would need a the PV/Germplasm form. You're call on which to go with for this Material Request if this is purely research material.

Thanks,
Robert

Robert Brummett
Licensing Associate
The Texas A&M University System
Office of Technology Commercialization
1700 Research Parkway, Suite 250
MS 3369
College Station, TX 77845
ph. 979.847.8682
direct 979.862.3002
cell 979.204.0766
brummettr@tamu.edu
http://technology.tamu.edu

-----Original Message-----
From: Selahattin Aydin [mailto:saydin571@gmail.com]
Sent: Wed 8/12/2009 5:59 PM

To: Brummett, Robert G.
Subject: Material Request Form

Dear Mr. Brummett,

I am so sorry for interrupting you, but I am sending this massage to request a material that we need in our mapping project.

The form is attached for requesting the material. At the form I put Yuksel Bolek as contact person. He is the supervisor of the project.

If you have any question, please feel free to contact with me, best regards...

Selahattin Aydin, Ph.D

Office of TECHNOLOGY COMMERCIALIZATION

RESEARCH MATERIAL DISCLOSURE FORM

Please use the form fields to answer the questions regarding your research material. Complete only one form for each material, or set of materials, that you may want to distribute to others for research purposes.

(attach additional pages as necessary)

1. Research Material Designation (name or label for material):

1

2. Research Material Description:

This is an F2 population segregating for various traits, but specifically sugar concentration, biomass yield, plant height and maturity.

3. Please describe typical and expected uses for this Research Material:

The cooperator will use the population to develop an RIL population in order to map QTL for biomass yield and composition.

4. Principal Investigator(s):

William Rooney

5. List all Texas A&M System creators of the Research Material:

Name	Department	Center System Member
William Rooney	**Soil & Crop Science**	

6. List all other creators of the Research Material

Institution / Company / Organization Name

Office of TECHNOLOGY COMMERCIALIZATION

RESEARCH MATERIAL DISCLOSURE FORM

(attach additional pages as necessary)

7. Identify the grants, contracts, or other sources of funding contributing to the development of the Material. Please provide the grant number, granting entity, as well as the name of the Office and contact person that manages each grant.

none

8. Were these materials originally created using A&M facilities and resources?

☒Yes ☐No If No, please explain below.

9. Does this material relate, in whole or in part, to any disclosure previously submitted or anticipated for submission in the future, to the Office of Technology Commercialization?

☐Yes ☒No If Yes, please provide details below.

10. Does the Research Material incorporate materials that have been provided by a third party?

☐Yes ☒No If Yes, please identify the providers of the other materials.

11. Do you anticipate any commercial entities having interest in this material?

☐Yes ☒No

If yes, please identify any that have expressed interest and check if this disclosure is being submitted specifically in response to that entities' interest.

☐

☐

☐

12. Supporting Documents:

Please attach any documents relevant to this material and that may be important for our consideration, e.g., publications, Material Transfer Agreements, etc.

By typing my name below and emailing this completed form to mta@tamu.edu using my tamu.edu email account, I certify that the above information is complete and accurate.

Principal Investigator	**Date**

Answer all questions on this form and email to the Office of Technology Commercialization at mta@tamu.edu

From: Brummett, Robert G.
To: Bill Rooney
Cc: Brummett, Robert G.
Subject: RE: Material Request Form
Date: Tuesday, September 22, 2009 2:07:32 PM

I was wondering about Crosbyton the other day as well. I don't recall seeing the signed copy come back from them, but will double check.

-Robert

Robert Brummett,
Licensing Associate
The Texas A&M University System
Office of Technology Commercialization
3369 TAMU
800 Raymond Stotzer Parkway
College Station, TX 77845
(979) 862-3002 direct
(979) 204-0766 cell
(979) 847-8682 office
(979) 845-1402 fax
brummettr@tamu.edu
http://technology.tamu.edu

From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Tuesday, September 22, 2009 2:05 PM
To: Brummett, Robert G.
Subject: RE: Material Request Form

Robert:

1. No problems with the agreement.

2. I had a call from Crosbyton Seed Company. They were wondering if the supplemental agreement was completed. I think they assumed that it was finished and that I should be sending the seed. Is that correct - can I send the seed? Please let me know on that one.

regards,

bill

Dr. William L. Rooney
Professor, Sorghum Breeding and Genetics
Chair, Plant Release Committee
Texas A&M University
College Station, Texas 77843-2474

979 845 2151

-----Original Message-----
From: Brummett, Robert G. [mailto:brummettr@tamu.edu]
Sent: Tuesday, September 22, 2009 10:49 AM
To: Bill Rooney
Cc: Brummett, Robert G.
Subject: RE: Material Request Form

Bill,

Does the attached look OK to you?

Is paragraph 2 OK: "RESEARCH PURPOSES" means the development of recombinant inbred lines ("RIL") in order to map quantitative trait loci ("QTL") for biomass quality and yield and composition traits. RESEARCH PURPOSES excludes transgenic or traditional breeding activities (except for creating the RIL) using MATERIALS. Furthermore, RESEARCH PURPOSES excludes any sale, transfer, or disposition of MATERIALS for commercial exploitation purposes.

I not sure about some of the terminology and want to make sure I'm good on the definition.

Thanks,
Robert

Robert Brummett,
Licensing Associate
The Texas A&M University System
Office of Technology Commercialization
3369 TAMU
800 Raymond Stotzer Parkway
College Station, TX 77845
(979) 862-3002 direct
(979) 204-0766 cell
(979) 847-8682 office
(979) 845-1402 fax
brummettr@tamu.edu
http://technology.tamu.edu

From: Selahattin Aydin [mailto:saydin571@gmail.com]
Sent: Sunday, September 13, 2009 5:23 AM
To: Brummett, Robert G.
Subject: Re: Material Request Form

Dear Mr. Brummett,

I have send Material Request Form for BTx623/Della. If you can please let me know what is the status of
request. Because so far we do not get any news from you.

I look forward to hearing from you, best regards...

Selahattin Aydin

On Wed, Aug 12, 2009 at 5:59 PM, Selahattin Aydin <saydin571@gmail.com> wrote:
Dear Mr. Brummett,

I am so sorry for interrupting you, but I am sending this massage to request a material that we need in our mapping project.

The form is attached for requesting the material. At the form I put Yuksel Bolek as contact person. He is the supervisor of the project.

If you have any question, please feel free to contact with me, best regards...

Selahattin Aydin, Ph.D

From:	Brummett, Robert G.
To:	dswink@crosbytonseed.com
Cc:	Bill Rooney; Brummett, Robert G.
Subject:	Re: Material Transfer and Evaluation License Agreement
Date:	Friday, August 07, 2009 8:27:08 AM
Attachments:	Crosbyton Evaluation License Agreement.pdf

Donnie,

The attached pdf file is the Material Transfer and Evaluation License Agreement for the sorghum lines we have been discussing. Please print, sign and date, and return to me at the address below or you may fax or scan and email it to me.

We are pleased to enter into another Agreement with Crosbyton Seed Co. and look forward to continuing a mutually rewarding relationship.

Please don't hesitate to call or email if you have any questions or need anything else I may be of assistance with.

Best regards,
Robert

Robert Brummett,
Licensing Associate
The Texas A&M University System
Office of Technology Commercialization
3369 TAMU
1700 Research Parkway, Suite 250
College Station, TX 77845
(979) 862-3002 direct
(979) 204-0766 cell
(979) 847-8682 office
(979) 845-1402 fax
brummettr@tamu.edu
http://technology.tamu.edu

Material Transfer and Evaluation License Agreement
between
Crosbyton Seed Company
and
The Texas A&M University System

This material transfer and evaluation license agreement ("Agreement") is made and entered into by and between Crosbyton Seed Company ("COMPANY"), a company with principal offices at 306 East Main, Crosbyton, Texas 79322, and The Texas A&M University System ("SYSTEM"), of which Texas AgriLife Research ("AGRILIFE") is a part, both having principal offices in College Station, Texas. The parties to this Agreement are collectively referred to as the "Parties" and individually as a "Party."

WITNESSETH:

WHEREAS, SYSTEM owns certain sorghum germplasm lines that were developed by AGRILIFE ("MATERIALS") that may be useful as parental lines for the development of new improved sorghum hybrids and useful in breeding programs for the development of new parental lines; and

WHEREAS, COMPANY has expertise related to development and sale of hybrid sorghum products; and

WHEREAS, COMPANY wishes to obtain seeds of AGRILIFE's MATERIALS for testing and evaluation purposes only; and

WHEREAS, SYSTEM is willing to provide seeds of MATERIALS to COMPANY to further its evaluation for testing of MATERIALS for development of experimental hybrids.

NOW, in consideration of the mutual covenants and premises contained in this Agreement, the receipt and sufficiency of which is acknowledged, the Parties agree to the following:

ARTICLE I - DEFINITIONS

1.01 "MATERIALS" means the sorghum lines identified and individually listed in Exhibit A (attached and made part of this Agreement), and any progeny of these lines. "MATERIALS" further includes any and all genes, germplasm, portions or subunits of MATERIALS.

1.02 "DERIVATIVES" means any germplasm or other material derived or developed by combining, through traditional or artificial means, MATERIALS with any other materials. For the avoidance of doubt, SYSTEM retains its ownership of MATERIALS as they comprise DERIVATIVES.

1.03 "RESEARCH PURPOSES" means any activity performed as an integral part of a program of testing and evaluation using the MATERIALS, including production of DERIVATIVES, and use of MATERIALS or DERIVATIVES for experimental breeding purposes. RESEARCH PURPOSES excludes any sale, transfer, or disposition of MATERIALS or DERIVATIVES for commercial exploitation purposes.

1.04 "TERRITORY" means the United States.

1.05 "EFFECTIVE DATE" means the date this Agreement has been executed by the last Party.

ARTICLE II – SUPPLY OF MATERIALS AND OBLIGATIONS OF COMPANY

2.01 Supply of Materials. Following execution of this Agreement and payment of the Material Evaluation Fee as provided in paragraph 3.02, AGRILIFE will supply to COMPANY a reasonable quantity of seed of MATERIALS. No further supply of MATERIALS is anticipated or guaranteed under this Agreement.

PS

2.02 Grant of Rights to use MATERIALS and DERIVATIVES. SYSTEM grants to COMPANY the non-exclusive right to use the MATERIALS in the TERRITORY for RESEARCH PURPOSES, subject to the following terms and conditions:

a. Safety. COMPANY agrees to use the MATERIALS and DERIVATIVES in a safe manner and in compliance with all applicable laws and regulations.

b. Company's Use. MATERIALS and DERIVATIVES will be used only at COMPANY'S facilities and strictly for RESEARCH PURPOSES only. COMPANY may, however, provide the MATERIALS or DERIVATIVES to a third party under contract with COMPANY solely for the conduct of RESEARCH PURPOSES. COMPANY is responsible for ensuring that such third party is fully informed of, and agrees to comply with, the terms and conditions of this Agreement.

c. Commercial Use. Any commercial use of MATERIALS or DERIVATIVES or any other use outside of RESEARCH PURPOSES is strictly prohibited. "Commercial Use" includes sale, lease, license, or transfer of MATERIALS or DERIVATIVES directly, or to third parties for such, and includes performing contract research, genetic screening, producing or manufacturing products for general sale. Furthermore, MATERIALS and DERIVATIVES must not be used in research that is subject to funding, consulting, reporting, or licensing obligations, options or rights to or of a third party as consideration for providing funding for the research conducted under this Agreement, unless prior written permission is obtained from SYSTEM. Nothing in this Agreement should be construed to grant to COMPANY neither a commercial license from SYSTEM nor any rights whatsoever to license the MATERIAL.

d. Commercial Terms. Should COMPANY desire to use one of more of the MATERIALS or DERIVATIVES for commercial purposes, COMPANY will notify SYSTEM of its interests and the Parties will enter into diligent negotiations in good faith for a commercial license for the subject MATERIALS of interest ("License Agreement"). Terms and conditions for a License Agreement will be determined at the time of such negotiations.

e. Integrity of Materials. COMPANY agrees not to analyze, or have analyzed, the genetic composition of the MATERIALS.

f. No Transfer. COMPANY must not transfer or provide MATERIALS or DERIVATIVES or any portion thereof to any other organization or individual than as otherwise allowed in this Agreement without the prior written consent of SYSTEM. Furthermore, COMPANY acknowledges that the MATERIALS are the valuable and proprietary properties of AGRILIFE and SYSTEM. Ownership in MATERIALS, including MATERIALS as may be present in DERIVATIVES, shall be retained by AGRILIFE and SYSTEM. COMPANY will to the best of its ability utilize the MATERIALS or DERIVATIVES in a manner that serves to protect the proprietary interests of AGRILIFE and SYSTEM.

g. Confidentiality. COMPANY will not publish or disclose to third parties any description or technical information provided by AGRILIFE or SYSTEM concerning MATERIALS that is marked "confidential" without the prior written consent of AGRILIFE. Nothing in this Agreement shall be construed as a representation that AGRILIFE or SYSTEM may provide such written consent. For the duration of this Agreement, and furthermore, for five (5) years after the termination or expiration of this Agreement, COMPANY shall not disclose technical information obtained by COMPANY concerning MATERIALS to any third party without the prior written consent of SYSTEM. These obligations of confidentiality shall not apply to: (i) information which is now under, or hereafter enters, the public domain without a breach of this Agreement; (ii) information known to COMPANY prior to the time of disclosure by

MS

SYSTEM, or independently developed by employees of COMPANY without access to MATERIALS; (iii) information disclosed in good faith to COMPANY by a third person legally entitled to disclose the same; and (iv) information required to be disclosed by law or order of a court of law or governmental agency of competent jurisdiction.

h. Publications. COMPANY shall not publicly disclose, or transfer to a third party, any information derived from COMPANY's use of MATERIAL without prior written consent from SYSTEM.

ARTICLE III - CONSIDERATION

3.01 Shipping Cost Reimbursement. COMPANY will pay for the expenses incurred in handling and shipment of the MATERIALS to COMPANY. Such expenses will be paid by COMPANY upon receipt of a supporting invoice from SYSTEM.

3.02 Material Evaluation Fee. In consideration for the supply of MATERIALS and the grant of rights to use MATERIALS as set forth herein, an initial payment in the amount of five thousand dollars (US$5,000), payable to The Texas A&M University System, is required to be paid by COMPANY. In consideration of COMPANY's recent license of other sorghum germplasm lines from SYSTEM, this fee is hereby waived.

3.03 Sharing of Information. In further consideration for the transfer of MATERIALS made to COMPANY by SYSTEM, COMPANY, within thirty (30) days following the completion of COMPANY's testing of MATERIALS, or the termination or expiration of this Agreement, whichever is earlier, COMPANY shall deliver to SYSTEM a written report as to COMPANY's efforts and results, including information regarding new hybrids and parental lines developed and reports generated, during its use of MATERIALS. SYSTEM will be free to use such reports and data for its own purposes.

ARTICLE IV- TERMINATION

4.01 Expiration. This Agreement, unless sooner terminated as provided herein, shall remain in effect for a period of three (3) years from the EFFECTIVE DATE.

4.02 Termination by Company. COMPANY may terminate this Agreement by providing written notice to SYSTEM at least thirty (30) days before the termination is to take effect.

4.03 Termination by System. If COMPANY materially breaches this Agreement, SYSTEM may give COMPANY written notice of the breach. COMPANY shall have a period of thirty (30) days from receipt of the notice to cure the breach. If COMPANY does not cure the breach within this period, SYSTEM may terminate this Agreement by giving written notice of its election to do so.

4.04 Disposal of MATERIALS. Upon the expiration or termination of this Agreement, and in the absence of a License Agreement between the Parties, COMPANY agrees (a) to destroy, at COMPANY's expense, all quantities of DERIVATIVES in COMPANY's possession and (b) to destroy or return, at SYSTEM's request and COMPANY's expense, all quantities of MATERIALS in COMPANY's possession. SYSTEM will not be held responsible for any expense or investment whatsoever that COMPANY may have incurred in association with the purposes of this Agreement, or will incur in association with such termination of this Agreement.

4.05 Matters Surviving Termination. All accrued obligations and claims, including claims or causes of action for breach of this Agreement, shall survive expiration or termination of this Agreement. Obligations of confidentiality shall survive expiration or termination of this Agreement. This section controls in the case of a conflict with any other section of this Agreement.

ARTICLE V – LIABILITY AND REPRESENTATIONS

5.01 Indemnification. **COMPANY SHALL AT ALL TIMES DURING THE TERM OF THIS AGREEMENT AND THEREAFTER, INDEMNIFY, DEFEND AND HOLD HARMLESS SYSTEM, AGRILIFE, ITS REGENTS, OFFICERS, EMPLOYEES, AND AFFILIATES, AGAINST ANY CLAIM, PROCEEDING, DEMAND, LIABILITY, OR EXPENSES (INCLUDING LEGAL EXPENSES AND REASONABLE ATTORNEY'S FEES) WHICH RELATES TO INJURY TO PERSONS OR PROPERTY, OR AGAINST ANY OTHER CLAIM, PROCEEDING DEMAND, EXPENSE AND LIABILITY OF ANY KIND WHATSOEVER RESULTING FROM COMPANY'S USE OF THE MATERIALS.**

5.02 Representation. **SYSTEM AND AGRILIFE MAKE NO REPRESENTATIONS AND EXTEND NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NOR DOES SYSTEM OR AGRILIFE ASSUME ANY OBLIGATIONS WITH RESPECT TO INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OR OTHER RIGHTS OF THIRD PARTIES DUE TO COMPANY'S ACTIVITIES UNDER THIS AGREEMENT.**

5.03 Nature of the Materials. All MATERIALS provided hereunder should be considered experimental and should be handled by COMPANY with appropriate safety precautions as provided in paragraph 2.02(a).

ARTICLE VI - NOTICES

6.01 Notices. Payments, notices, or other communications required by this Agreement shall be sufficiently made or given if mailed by certified First Class United States mail, postage pre-paid, or by commercial carrier (e.g., FedEx, UPS, etc.) when such carrier maintains receipt or record of delivery, addressed to the address stated below, or to the last address specified in writing by the intended recipient.

(a) If to SYSTEM:
Vice Chancellor,
Office of Technology Commercialization
The Texas A&M University System
3369 TAMU
College Station, Texas 77843-3369
USA
Phone: (979) 847-8682
Fax: (979) 845-1402

(b) If to COMPANY:
Donnie Swink,
Vice President and General Manager
Crosbyton Seed Company
306 East Main
Crosbyton, Texas 79322
Phone: (806) 675-2308
Fax: (806) 675-2407

ARTICLE VII - MISCELLANEOUS PROVISIONS

7.01 Assignment. This Agreement, with the rights and privileges it creates, is assignable only with the written consent of both Parties.

PS

7.02 Force Majeure. Each Party shall be excused from any breach of this Agreement which is proximately caused by government regulation, war, strike, act of God, or other similar circumstance normally deemed outside the control of well-managed businesses.

7.03 Independent Contractor. Each Party is and shall remain an independent contractor as long as this Agreement is in effect and neither Party shall act as an agent, legal representative, partner or joint venturer of the other Party for any purpose whatsoever and the employees of one shall not be deemed to be the employees of the other. This Agreement is not intended to restrict or confine either Party in independent development of the underlying plant material, as long as such independent development does not compromise the rights or obligations of the Parties prescribed in this Agreement.

7.04 Entire Agreement. This Agreement contains the entire understanding of the Parties with respect to the MATERIALS and supersedes all other written and oral agreements between the Parties with respect to the MATERIALS. It may be modified only by a written amendment signed by the Parties.

7.05 Governing Law. This Agreement shall be construed under the Constitution and laws of the State of Texas.

7.06 Headings. Headings are solely for convenience of reference and are not part of, and may not be used to construe, this Agreement.

7.07 No Waiver; Severability. If any provision of this Agreement is invalid, illegal, or unenforceable, the validity, legality and enforceability of the remaining provisions will not in any way be affected or impaired. A waiver of any breach of this Agreement does not waive any other breach of the same or other provision of this Agreement. A waiver is not effective unless made in writing.

7.08 Privileges and Immunities. AGRILIFE and SYSTEM are agencies of the State of Texas and nothing in this Agreement waives or relinquishes the right of AGRILIFE and SYSTEM to claim any exemptions, privileges, or immunities as may be provided by law.

7.09 Counterparts. This agreement may be executed in any number of counterparts, including facsimile or scanned PDF documents. Each such counterpart, facsimile, or scanned PDF document shall be deemed an original instrument, and all of which, together, shall constitute one and the same executed Agreement.

The Parties have caused this Agreement to become effective as of the date last executed below.

Crosbyton Seed Company	The Texas A&M University System
_____	_____
Donnie Swink Vice President and General Manager Date: _____	Guy K. Diedrich Vice Chancellor for Federal Relations and Commercialization Date: _____

Exhibit A
MATERIALS

From: Bill Rooney
To: "Tim Trop"
Subject: RE: Maui biofuel project
Date: Thursday, October 08, 2009 4:28:17 PM

Tim:

Questions to ask

1. Why is it too rocky for grain sorghum?
    a. Too difficult to plant?
    b. Fertility/watering an issue?
    c. Harvest? (If so, how is the harvest done?)
2. What is grown there? (ie, what is the soil not too rocky for?)
3. Have you ever grown grain sorghum on this land before? (NOT SWEET or FORAGE SORGHUM!)
4. IF the answer to 3 is yes, please provide a list of the hybrids, the agronomic conditions and the agronomic production information.

If you can get answers to those questions, then I can give you some specific insight.
If there are not any answers to those questions, then the only way to start is to actually have a look at the location and get a soil and water analysis done. THEN start testing.

As I said before, I have a difficult time understanding without specific information, why on earth it is not too rocky to cultivate, but it is too rocky to grown grain sorghum. Those two statements by themselves don't make a lot of sense…..(in my experience). There has to be another scientific explanation or it is not valid.

Regards,

Bill

From: Tim Trop
Sent: Thursday, October 08, 2009 11:26 AM
To: Bill Rooney
Subject: Maui biofuel project

Bill
The landowner on Maui, HCS, has us persuaded that the rockiness of some fields may well be a problem for growing grain sorghum. We are meeting today with HARC at HCS's suggestion to do field trials. They already have stations in place on HCS property. Also they have done tests there on sweet sorghum . So now I need to figure out how to analyze whether a major portion of the 35000 acres is too rocky for sorghum. I would like your input on how to proceed. We also have an issue with topography and use of center pivot irrigation.

Tim Trop