

From: [Pam Wilhelm](#)
To: [Bill L Rooney](#)
Cc: [Sonnie Feagley](#)
Subject: new account
Date: Wednesday, November 04, 2009 10:43:25 AM

Good Morning,

I found a new account for you when I was reconciling. is the United Sorghum Checkoff Program Bd. There is \$29347 in salaries, \$1000 in travel and \$5000 in supplies.

Pamela K. Wilhelm
Business Coordinator II
Soil & Crop Sciences
Texas A&M University
2474 TAMUS
College Station, TX 77843-2474
979/862-1023
FAX 979/845-0456
pwilhelm@ag.tamu.edu

From: [Plant breeding activities and graduate students at TAMU](#) on behalf of [C. Wayne Smith](#)
To: TAMU-PLANTBREEDING@LISTSERV.TAMU.EDU
Subject: November 2009 Plant Breeding Bulletin
Date: Monday, November 09, 2009 10:06:50 AM
Attachments:

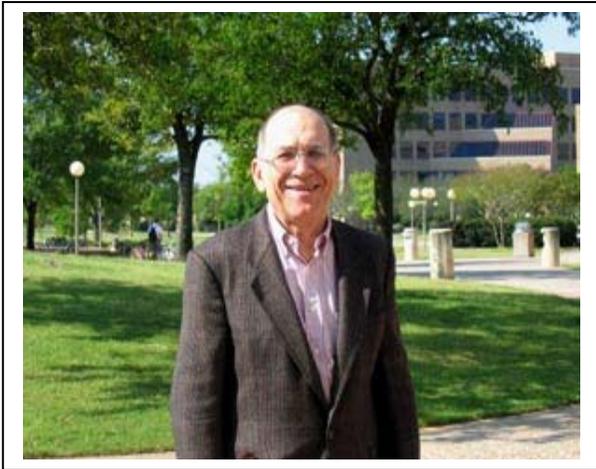
Attached is the November 2009 Plant Breeding Bulletin highlighting Dr. Lloyd Rooney who has been a part of our grain improvement program in Soil and Crop Sciences and AgriLife Research for the past 44 years. I hope that you enjoy learning more about Lloyd's program and accomplishments.

Regards,

Wayne

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

TEXAS A&M PLANT BREEDING
November 2009



Dr. Lloyd Rooney has been a vital part of our wheat and sorghum breeding programs for 44 years. His expertise in determining food and feed quality attributes of sorghum, corn, wheat, and pearl millet have been instrumental in the development of large numbers of wheat varieties, sorghum lines and hybrids, and corn hybrids with improved processing quality for alkaline

cooking and dry milling. He has collaborated with a large number of colleagues domestically and internationally.

Lloyd's research interests include cereal improvement through genetics as a collaborator with Texas AgriLife Research plant breeders, processing of feed and food products, food and feed quality attributes, and understanding physiological mechanisms that influence cereal quality. Lloyd's research group has used light fluorescence, scanning electron microscopy (SEM), and environmental scanning electron microscopy (ESEM) for analyzing food microstructure as affected by process modifications for a variety of products and processes including pretzels, tortilla chips, extruded snacks, popped and puffed products and ready-to-eat breakfast foods.

Lloyd's work with breeders includes evaluation of wheat lines for bread and tortilla using small-scale tests of preliminary and advanced genotypes. The most promising lines are tested further in USDA-ARS testing. Sorghum nutritional value, composition, and processing properties for food, feed, and industrial processing has been extensively evaluated in collaborative research with sorghum improvement programs around the world. He pioneered methods for evaluation of processing qualities of grains that have been used to develop grains with improved food properties involving some unique phytochemicals that are important for human health.

His group has documented that special sorghums have higher levels of antioxidants than blueberries and produce healthy products with natural dark color and increased dietary fiber. Some of these special sorghums have high levels of flavanones, flavones, 3-deoxyanthocyanins and condensed tannins.

Lloyd has been a major player in the INTSORMIL CRSP since its inception in 1979. He has provided expertise in developing methods to evaluate the processing quality of grains that have been applied in sorghum and millet breeding programs from India to Africa and Central America. His efforts in improving food processing properties of sorghum and millets led to profitable value-added processed food products for urban consumers. He has traveled extensively in sorghum, maize and millet consuming areas of the world and has many former students in those areas.

Dr. Rooney's graduate level courses provide an in-depth understanding of chemical and biochemical properties of cereals and prepare students for academic, industry, or government sector careers. Lloyd has mentored 83 MS and 44 PhD students during his lustrous career. "Our best legacy is our former graduate students located around the world interacting with breeders, geneticists, biotechnologists, and others to improve crop quality."

His teaching reaches beyond the classroom and graduate student guidance through workshops, seminars and publications to transfer useful information. Extensive collaboration with Professor Taylor and others at the University of Pretoria occurs in the area of graduate training and related items. Collaborative efforts continue with Dr. Serna-Saldivar at ITESM in Monterrey Mexico.

He is an international member of the Mexican Academy of Sciences because of his group's research on corn nixtamalization and tortilla quality. This work was partially funded by the Snack Food Association (SFA) and the Tortilla Industry Association (TIA). Prior to TIA, Dr.

Rooney's Cereal Quality Lab hosted three workshops on Mexican Food Ingredients which emphasized corn and flour tortilla quality. Lloyd has co-edited a Snack Foods Processing book, edited an SFA Corn Quality Assurance Manual for the Snack Foods Association, edited several workshop proceedings, and has written several book chapters on sorghum quality.

Other areas of activity include troubleshooting for causes of product defects and changes during processing that affect structure and product quality. This includes extrusion, flaking, micronizing, and other processes. The Cereal Quality Lab pioneered in understanding the process of nixtamalization to produce tortillas and chips from maize and sorghum.

Collaboratively with the late Dr. Ralph Waniska, fundamental understanding of flour tortilla production and its chemistry was developed at Texas A&M. Factors affecting the texture and staling of tortillas were documented and additives to prevent staling were evaluated. Methods of evaluating food corn quality were devised which led breeders to develop hybrids with improved snack food processing quality. Improved methods were developed for dry masa evaluation involving industrial in-plant trials, pilot-plant research, and sensory panels determined how corn properties affect its processing.

Lloyd is an integral part of our plant improvement program at Texas A&M. You can find additional information at <http://soilcrop.tamu.edu>.

Monsanto supported PhD Graduate Assistantships:

Texas A&M University Department of Soil and Crop Sciences and Monsanto announces the availability of Monsanto Ph.D. Graduate Assistantships in Plant Breeding. Applicants must have earned a minimum 3.5 GPA on their M.S. course work, demonstrated an aptitude for research, and meet all other requirements for admission to Texas A&M, including completion of the GRE. Successful candidates will be required to register for nine hours of course work each fall and spring semester and six hours during the summer. Annualized salary is \$ 24,000, all tuition and required fees are paid by the assistantship, and group health insurance is available. Dissertation research will be in the area of crop improvement through the

application of breeding and genetics. Additional information and application protocol can be found at <http://soilcrop.tamu.edu> or by contacting Dr. Wayne Smith, Soil and Crop Sciences, 2474 Texas A&M University, College Station, TX 77843-2474, (979-845-3450 or cwsmith@tamu.edu).

Please direct comments concerning this bulletin to Wayne Smith, cwsmith@tamu.edu or 979.845.3450.

From: [Calvin L Trostle](#)
To: [Mark Marsalis](#); [David R Drake](#); [Juerg Blumenthal](#); [REDACTED]; [REDACTED];
[REDACTED]; [Richard L. Vanderlip](#); [Scott Staggenborg](#); [REDACTED];
[REDACTED]; [Dennis Pietsch](#); [Chad Godsey](#); [David A. Peterson](#); [Rodney Carpenter](#); [Rick Kochenower](#);
[REDACTED]; [Dr. Jeff Dahlberg](#); [Tim Lust](#); [REDACTED]; [Brent Bean](#); [Dan](#)
[Fromme](#); [Gary C Peterson](#); [John W Sij](#); [Todd Baughman](#); [Bill L Rooney](#)
Subject: Old Texas A&M Document on Sorghum Off-Types
Date: Wednesday, November 04, 2009 6:12:31 AM
Attachments: [Off-Type Sorghum Plants A&M MP-885 Aug1968.pdf](#)

Dear Colleagues: Attached is a PDF copy of a 1968 Texas A&M document entitled "Off-Types in Grain Sorghum" (publication MP-885, August 1968) by Ed Clark and Darrell Rosenow. This document came to me out of the files of one of our seed companies, who commented that they had received some questions about sorghum off types this year, and they asked if there was anything more updated or might have more recent, higher resolution color photographs.

Do any of you know of anything more recent? I will read through this on my next rainy day, but I wanted to call this to your attention. As far as A&M is concerned this document was essentially lost, so I appreciate the opportunity to bring it to light again.

Calvin

Calvin Trostle, Ph.D.
Extension Agronomy
Texas Cooperative Extension/Texas A&M--Lubbock
1102 East FM 1294
Lubbock, TX 79403
Phone: (806) 746-6101
FAX: (806) 746-4057
E-mail: ctrostle@ag.tamu.edu

MP-885
August 1968



OFF-TYPE SORGHUM PLANTS

TEXAS A&M UNIVERSITY
TEXAS AGRICULTURAL EXPERIMENT STATION
H. O. Kunkel, Acting Director
College Station, Texas



1-A

1-B

Figure 1. Tall mutants. Figure 1A. A field with tall-mutant plants; Figure 1B. A closeup of two normal plants and one tall-mutant plant. Tall-mutant plants occur in all grain sorghum hybrids, and they are identical to the hybrid in which they are found except that they are 1 to 2 feet taller. They occur as a result of spontaneous genetic change (mutation) in one or both parents of the hybrid and do not result from contaminating pollen. They usually occur in relatively small numbers and are of little consequence with respect to production and harvesting, although they give fields a nonuniform appearance. There is no greater volunteer problem with seed from these tall mutants than with normal grain sorghum, and there is little advantage to roguing them out of a field other than to obtain a uniform appearance.



2

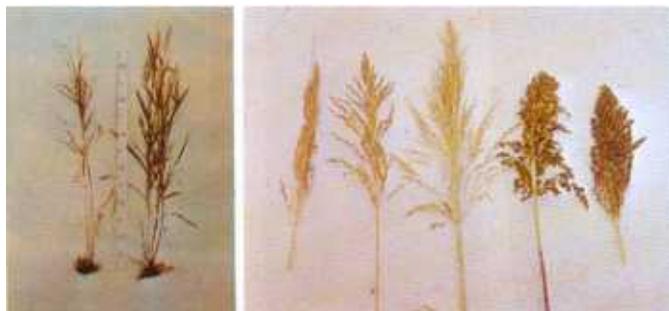
Figure 2. Off-type or off-color heads. Figure 2. A field of red grain sorghum with numerous white heads. These off-type grain sorghum plants are similar in height to the grain hybrid in which they are found but may be extremely variable for head type and grain color. The grain color may be white, yellow, red, brown or intermediate shades. These plants may develop from seed that are planted, or some may be volunteer plants. Off-type plants developing from seed that are planted are outcrosses originating from foreign pollen contaminating the seed production field. The foreign pollen may be from fertile plants (shedders) in the male-sterile seed row, or from other grain sorghum fields located near the seed production field (usually a mile or closer). Usually there is little, if any, greater volunteer problem with off-type grain sorghum than with normal grain sorghum, and there is little advantage to roguing out these off-types.



3-A

3-B

Figure 3. Forage types. Figure 3A. A field with some forage-type plants; Figure 3B. A close-up of a forage-type plant. These are tall, vigorous plants with coarse stems and fairly compact grain-type heads, and their maturity may be similar to the grain sorghum or much later. These plants may develop from seed planted with the crop, or they may be volunteer plants. Off-type plants developing from planted seed are outcrosses, resulting from pollen of forage-type plants contaminating the seed production field. The forage-type plants referred to here include such types as forage hybrids made with grain sorghum and hegari, or sorgo types such as Atlas, Sumac, Orange, or the varieties themselves, which have fairly compact heads and whose seed thresh free of the glumes. Plants in this group are more objectionable than the previous ones, because they frequently cause loss of grain in the combining operation. These tall plants may be pushed under the combine and carry considerable grain sorghum with them. Seed from these plants usually are not any more dormant than grain sorghum, but since their seed frequently are not harvested, they provide a potential source of additional volunteer plants in succeeding crops. These off-type plants should be rogued out of a field before seed are formed, or the plants should be completely removed from the field after seed are formed, instead of leaving them in the field as in the usual roguing process.



4-A

4-B

Figure 4. Rhizomatous grassy types. Figure 4A. A comparison of johnsongrass (left) and a grain sorghum X johnsongrass hybrid (right); Figure 4B. Variation in head type—hybrids of grain sorghum with: johnsongrass (two heads on left), sorghum alnum (middle), sudangrass (two heads on right); Figure 4C. Root system of a grain sorghum X sorghum alnum hybrid showing rhizomes; Figure 4D. Root system of a grain sorghum X sudangrass hybrid showing no rhizomes. These rhizomatous grassy hybrid plants usually are taller than the grain sorghum, and have slender stalks with many tillers. The heads are very loose and open, like johnsongrass or sorghum alnum, and produce few or no seed because the plants are genetically unbalanced and highly sterile. Compared to johnsongrass, these plants usually have short, weak rhizomes (underground stems). Plants in this group may develop from seed planted with the crop, or they may be volunteer plants from seed or rhizomes. If they are from seed planted with the crop, they result from johnsongrass or sorghum alnum pollen contaminating the seed production field. If they are volunteer plants, they may result from the few seed that can be produced by the off-type hybrids, or they may volunteer from rhizomes which overwinter.

Although plants in this group seldom produce seed, the seed that are produced are protected by long glumes, and most of the seed are dormant for long periods, partly because of the persistent glumes. Some of the rhizomes may overwinter, especially in areas with mild winters, and produce plants the following year. Deep plowing, preferably in the fall, digging up the rhizomes or chemical control may be necessary.

Regardless of the source of these plants, they should be rogued out of any field in which they are found. They should be destroyed as soon as they are recognizable to avoid establishment of rhizomes. Roguing can be accomplished by digging the plants out or by spot spraying with chemicals. The rhizomes and any seed that may be formed should be completely destroyed or removed from the field.



4-C

4-D

Figure 5. Non-rhizomatous grassy types. Figure 5A. A field with numerous non-rhizomatous grassy-type plants; Figure 5B. A single plant of a grain sorghum X sudangrass hybrid with three tillers; Figure 5C. Variation in head type of grain sorghum X sudangrass hybrids; Figure 5D. A field with numerous grassy-type plants with the seed shattered from the heads. These plants commonly referred to as shattercane are normally taller than grain sorghum. Many tillers usually are produced, and each tiller produces a head that is loose and open.

These plants are completely fertile and produce many seed which may volunteer in succeeding crops. They may be present in a grain sorghum field as volunteers or may result from seed planted with the crop. If they are from the latter source they result from pollen from sudangrass, sorghum-sudangrass hybrids, Honey sorgo or Amber sorgo types contaminating the seed production fields. The plants in this group are extremely variable with respect to height and other plant characteristics. However, the type that tends to persist after one or more years of volunteering is tall with slender stalks, loose heads, and seed covered with long dark brown or black glumes.

Plants in group 5 probably are the most objectionable of all the off-types. This is because they produce so many seed which are protected by long glumes and which may remain dormant in the soil for several years. The volunteer problem with this type is very severe. The source of these volunteers originally may be from seed planted with grain sorghum. However, many of the volunteers may originate in acreage previously planted to sorghum-sudangrass hybrids, either for grazing or diverted acreage. Other sources of seed of this type causing volunteer problems include cattle and bird droppings, flood water and irrigation water. Seed of these plants also may be carried into a field by machinery, particularly harvesting equipment. Still another source of off-types is mixing planting seed, particularly carryover seed from the previous year which may have the labels removed.

Plants in groups 3 through 5 may produce seed which shatter easily; however, the shattering problem is most severe in groups 4 and 5. These seed usually shatter before harvest and plants in group 5 provide a tremendous number of seed, many of which may produce volunteer plants. This is illustrated in Figures 5D and 6. Plants in group 5 should be rogued out of fields before they produce seed. Seed are potentially germinable as soon as 10 days after flowering. Therefore, off-type plants must be removed at flowering time, or at least, no later than a week after flowering. They should be cut at or below ground level to avoid regrowth. If some plants are missed and seed are formed, these plants must be carefully removed from the field to avoid a volunteer problem.



5-A

5-B



5-C

5-D



Figure 6. Seed deposited on ground from shattering type plants shown in Figure 5D.



Figure 7. Large circular patch of volunteer grassy type sorghum plants.



Figure 8. Volunteer sorghum in a soybean field.

OFF-TYPE SORGHUM PLANTS

L. E. Clark and D. T. Rosenow*

Off-type sorghum plants compete with grain sorghum and other crops for water, nutrients and sunlight. These plants not only compete with the current crop, but some may produce seed that will contribute to a severe volunteer problem in succeeding years. The off-type plants that contribute most to a volunteer problem should be controlled the same as other weeds.

There are two main sources of off-type sorghum plants: (1) Volunteer plants from seed present in the soil from previous years. Plants from this source have been present as long as sorghum has been grown. (2) Seed present in the planting seed that will produce off-type plants. Plants from this source have increased since the advent of sorghum hybrids in 1957. The reason for this is that male-sterile plants (plants that

produce no pollen) must be used in the production of hybrid seed. Male-sterile and male-fertile plants are grown in alternate rows in a crossing block. Pollen from the fertile plants is carried by wind to the male-sterile plants where pollination occurs and hybrid seed are formed. Pollen from undesirable plants can be carried in the air for long distances and can also pollinate male-sterile plants. The hybrid seed resulting from foreign pollen appear the same as the desirable hybrid seed and cannot be detected in laboratory tests for pure seed. Plants from these seed are called outcrosses.

The five major groups of off-type sorghum plants are illustrated in the following photographs. A description and the possible origin of plants in each group are presented with each photograph.

DISCUSSION

At present, it is not possible to completely avoid off-type plants in hybrid grain sorghum. Few, if any, sources of planting seed are completely free of off-types. Because these off-types in planting seed are hybrid seed, they are not distinguishable from desirable grain sorghum seed in laboratory tests. However, the Texas Department of Agriculture provides winter grow-out tests in which these off-types can be detected. Most producers of hybrid grain sorghum seed either avail themselves of this service or conduct their own grow-out tests. Every attempt should be made to buy seed with a minimum number of objectionable off-type plants, keeping in mind that all other quality factors of purity, germination and hybrid performance also must be considered.

It is important to determine whether off-type plants in a grain sorghum field are volunteers or from planted seed. To determine this, the following should be observed:

1. If the off-type plants are from planted seed, they will be individual plants uniformly distributed over the entire field. These plants will be in the seed furrow with the grain sorghum.
2. If the off-type plants are volunteers, they will be in circular patches of several to many plants and normally will be concentrated in certain areas of the field in which smaller patches were located in previous years. This is illustrated in Figure 7. Some of the volunteer plants will be to the side of the seed furrow, but many will be in the seed furrow due to normal cultivating practices.

To control volunteer plants from seed already in the soil, rotations should be used if possible. Rotating

with broad-leaved crops such as cotton or soybeans combined with herbicides recommended for controlling grasses in these crops is a good practice to control volunteer sorghum. Seed already in the soil may produce volunteer plants for several years. Therefore, 1 or 2 years out of grain sorghum is not always sufficient to control volunteer sorghum. The number of years plants will volunteer from seed already in the soil is influenced by weather conditions from year to year and by different geographical locations. The volunteer problem is more severe in areas that have a short growing season. Cold weather early in the fall and/or low rainfall during the off-season will not permit plants to volunteer so they can be plowed up in the fall and before planting in the spring. These conditions will cause the volunteer problem to be more severe as is evident in Figure 8 which shows grain sorghum, as well as grassy type, volunteers in a soybean field after an extremely dry winter in the High Plains of Texas. On the other hand, longer growing seasons combined with mild winters with adequate rainfall will permit much of the volunteer to be plowed out during the fall and possibly again in the spring before planting. To encourage volunteering in the fall, it is a good practice to shred and disc immediately after harvest.

Buying good seed, continuous roguing in grain sorghum fields, and appropriate control measures in rotations are the only approaches to reducing the problem of off-type sorghums.

ACKNOWLEDGMENTS

Some of the photographs in this publication were contributed by members of the sorghum seed industry. Their contribution is appreciated. The efforts of Dr. K. F. Schertz in the initial planning and organization of the publication and in criticizing the manuscript during preparation are appreciated.

*Respectively, assistant professors, Department of Soil and Crop Sciences, and Texas A&M University Agricultural Research and Extension Center at Lubbock.

From: [Pam Wilhelm](#)
To: [Bill L Rooney](#)
Subject: OSU money
Date: Wednesday, November 04, 2009 11:15:10 AM

Hey Dr. Rooney, I know I asked you this last month but I didn't make a note of what you said. This account has \$62,180.00 in the base account that needs to go to a support account. Right now I have an account for you, Peterson, Blumenthal, Bean. Can you tell me where the money should go?

Salaries \$32,545
Travel \$4,643
Supplies \$8,350.00

From: [Stacy Ferrell](#)
To: [Bill L Rooney](#)
Subject: poster printing
Date: Tuesday, November 03, 2009 10:41:29 AM
Attachments:

Please see attached invoice for poster printing.
Please return with account advice for payment.
Thanks,
Stacy

Stacy Ferrell
Business Coordinator I
Agrilife Soil & Crop Sciences
Texas A&M University
2474 TAMUS
College Station, TX 77843-2474
979-845-3913 Voice
979-845-0456 Fax
sferrell@ag.tamu.edu

Invoice

Date	Invoice #
11/3/2009	08016-1057

Soil & Crop Sciences
Texas A&M University
TAMU 2474
College Station, TX 77843-2474
979-845-3913 Fax # 979-845-0456

Bill To				
Dept. of Soil & Crop Sciences Bill Rooney Heep Center College Station, TX 77843-2474				
Acct. #		203104-08016	Terms	Thank you,
			Net 30	
Description	Quantity	Rate	Amount	
Poster Printing; Matte 48"		9.50	9.50	
Poster Printing; Glossy 54"		11.50	11.50	
Daniel Packer, Heterosis for Biomass Yield in PS Hybrid Sorghums				
Amount Due			\$21.00	

REMIT TO: Texas AgriLife Research
SOIL & CROP SCIENCES
2474 TAMU
COLLEGE STATION, TX 77843-2474

VID: 3556556556V

Please reference invoice number on remittance

Invoice

Date	Invoice #
11/3/2009	08016-1058

Soil & Crop Sciences
Texas A&M University
TAMU 2474
College Station, TX 77843-2474
979-845-3913 Fax # 979-845-0456

Bill To				
Soil & Crop Sciences Mark McFarland MS 2474				
Acct. #		203104-08016	Terms	Thank you,
			Net 30	
Description		Quantity	Rate	Amount
Poster Printing - Matte 36"		2	7.00	14.00
Nikki Dictson 1) Geronimo Creek NLCD 2) Geronimo Creek General Map				
			Amount Due	\$14.00

REMIT TO: Texas AgriLife Research
SOIL & CROP SCIENCES
2474 TAMU
COLLEGE STATION, TX 77843-2474

VID: 3556556556V

Please reference invoice number on remittance

From: [John Mullet](#)
To: [Bill Rooney](#)
Subject: PR grow out
Date: Friday, November 06, 2009 2:47:19 PM

Bill,

We would like to provide seed for

Of these, if we can cross one or more that would be great.
I will send a spread sheet tomorrow am and bring seed on Monday.

Thanks,

John

From: [Pedersen, Jeff](#)
To: [Bill Rooney](#)
Cc: [Joshua Wong](#); [Peggy Lemaux](#)
Subject: quick question
Date: Wednesday, November 04, 2009 11:22:36 AM

Bill:

I am working on a manuscript and need proper citations for Tx7078 and B35. GRIN is not helpful. Can you help me out.

Jeff

From: [Stefaniak, Thomas R](mailto:Stefaniak.Thomas.R)
To: ["Bill Rooney"](mailto:Bill.Rooney)
Subject: RE:
Date: Wednesday, November 04, 2009 7:15:26 PM

Bill

I am not sure what site I should use to search for your post-doc position. I have not yet found it at the TAMU or Texas AgriLife sites. I assume the hiring department is Soil and Crop Science; but if or when you know the N.O.V. position number I would be grateful if you emailed it to me. Again, I hope I am not being a nuisance. I very much do not want to miss this opportunity
Regards

Thomas R. Stefaniak Ph.D.
Plant and Soil Sciences Department
College of Agriculture
1405 Veterans Drive
322 Plant and Soil Sciences Building
Lexington, KY 40546-0312
Office: 859-257-5020 ext. 80295
Fax: 859-257-7125
email: trstef1@uky.edu

-----Original Message-----

From: Bill Rooney [<mailto:wlr@tamu.edu>]
Sent: Wednesday, October 21, 2009 10:01 PM
To: Stefaniak, Thomas R
Subject: RE:

Thomas

Send both samples. We don't need 2-3 kg; just make sure we'll have at least 500 g of dry material.

As for the post doc, I will be posting that position once I return to Texas on November 1.

Thanks for asking, regards,

Bill

-----Original Message-----

From: Stefaniak, Thomas R [<mailto:trstef1@uky.edu>]
Sent: Wednesday, October 21, 2009 11:33 AM
To: wlr@tamu.edu
Subject:

Bill

I am hoping you can give me some advice concerning harvesting sorghum from the DOE trial after a frost here in KY. I have already measured yield components and taken grab samples for all the plots. For the Graze-all and Graze-n-Bale plots I took two grab samples; one when we made the first cut, and one a week ago.

I am planning on harvesting the final total biomass from all plots tomorrow 10-22. Unfortunately we had a hard frost last Sunday. The mostly dead plants obviously have less moisture content than they did when I collected the grab samples. Consequently I think I need to sample them again so I can more accurately adjust the weight to dry yield. My question to you is should I also send you those post harvest grab samples as well? I am glad

to do it but do not want to overwhelm your people with samples (8 from the first cut, 24 from last weeks sample date , and 24 post frost). Another question is that last year I sent you very large samples (like 2 or 3 kgs). Can I send less?

If this email is hard to follow you can call me on my cell at 859-489-3553.

Also, is there any more news about your post-doc?

Respectfully

Thomas R. Stefaniak

From: [Shekhar Joshi](#)
To: [Bill Rooney](#)
Subject: Re: [Fwd: Re: Bioenergy Crops: Chapter Invitation]
Date: Friday, November 06, 2009 2:54:26 PM

Dear Dr. Bill Rooney,

I was wondering if you discussed with your graduate student about writing the chapter on "Sweet sorghum" for our Bioenergy book? Is there any hope that you and your student could write this chapter soon?

If you are unable to do this soon, I understand. In that case, could you please suggest some names of your colleagues who might quickly help us out. This chapter is too important for us to drop it from the book.

With best wishes,

Shekhar Joshi

--

Dr. C. P. Joshi
Professor of Plant Molecular Genetics &
Director, Biotechnology Research Center
School of Forest Resources and Environmental Science
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931
Ph: 906-487-3480, Fax: 906-487-2915; Email: cpjoshi@mtu.edu
<http://forest.mtu.edu/faculty/joshi/>

From: [REDACTED]
To: [Bill Rooney](#)
Subject: RE: 09-105
Date: Wednesday, November 04, 2009 9:56:07 AM

Dear Dr. Rooney,

The files for your manuscript do not appear to be there. We had some difficulties with uploaded files and it may have affected your manuscript. If you can e-mail me the final files for your manuscript I can send them to the publisher and uploaded them to the system when it's working properly.

I have everything else. Sorry for this inconvenience.

Sincerely,
Alistair Coulthard
Assistant to the Editor
GENOME
e-mail: [REDACTED]
phone and fax: 905-237-3645
OSPRey link:
<https://osprey.pubs.nrc-cnrc.gc.ca/publisher/access.view?journalCode=GENOME>

Quoting Bill Rooney <wlr@tamu.edu>:

> Please find attached the signed colour approval form.
>
> If you need anything else, please let me know.
>
> 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: Editorial Office [[mailto:\[REDACTED\]](mailto:[REDACTED])]
> Sent: Monday, October 26, 2009 12:46 PM
> To: wlr@tamu.edu
> Subject: 09-105
>
> Dear William Rooney :
>
> Re: 09-105
> Early-generation Germplasm Introgression from Sorghum macrospermum into
> Sorghum (S. bicolor) Les LCK Kuhlman, Byron BLB Burson, David Stelly,
> Patricia Klein, Robert R Klein, Harold James H.J. Price, and William WLR
> Rooney
>
> We are short on manuscripts for our January issue and we should be able to
> get you in that issue if you can upload your files and return the attached
> form within the next couple of days.

>
> Sincerely,
> Alistair Coulthard
> Assistant to the Editor
> GENOME
>

From: [Ioan Negulescu](#)
To: [Bill Rooney](#)
Subject: Re: 2010 USDA SBIR Panel
Date: Monday, November 02, 2009 10:16:01 AM

Bill: Here are the answers:

1. It depends on the individual proposal. Narrative text around 20-25 pages. Support documents (forms, CV of authors, history of support, support letters) may add up to 20-40 pages.

2. From my experience: To write a review (for 6 proposals as a primary reviewer) I need usually around 1 hour for each. To read and make some notes for discussion as a secondary reviewer (5-6 proposals) I need usually 30-40 minutes per proposal. About 30 minutes to read a proposal for which I've been assigned as a reader (5-6 proposals, to intervene as necessary during the discussion of the proposal). You will be provided with a laptop so that you will have access to all proposals and reviews (yours and that of ad-hoc reviewers, usually 2-4 reviews). Roughly speaking, some 12-14 hours of intense work. But this is from my experience, you might be a faster reviewer!

6. Last year the honorarium was \$225/day.

I hope that you will join the 2010 panel! Best regards, Ioan

From: Bill Rooney <wlr@tamu.edu>
To: Ioan Negulescu <[REDACTED]>
Sent: Mon, November 2, 2009 8:55:07 AM
Subject: RE: 2010 USDA SBIR Panel

From: [Malone, Stephen \(MDA\)](#)
To: [Bill Rooney](#)
Subject: RE: C-4 Seed for Biofuel Crops Symposium
Date: Tuesday, November 03, 2009 1:50:42 PM

Bill,

I too am sorry it didn't work out for you to be here. It went well. I kind of fell off my game of follow-up and organization when my surgery and subsequent complexities came up. I'm not sure why you were deleted from the schedule.

Steve

From: Bill Rooney [wlr@tamu.edu]
Sent: Sunday, November 01, 2009 11:12
To: Malone, Stephen (MDA)
Subject: RE: C-4 Seed for Biofuel Crops Symposium

Steve:

I just got back from Indonesia (two days late due to flight disruptions). Since I'm not on the official schedule, and due to my travel disruptions, I'm not going to make it to Pittsburgh for tomorrow's symposium.

My apologies, but thankfully, my name isn't on the schedule, so at least there is no expectation.

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: Stephen Malone (MDA) [mailto:Stephen.Malone@state.mn.us]
Sent: Wednesday, April 29, 2009 8:00 AM
To: wlr@tamu.edu
Subject: C-4 Seed for Biofuel Crops Symposium

From: [Stelly David](#)
To: [John Mullet](#)
Cc: [Stelly David David M.](#); [Rooney Bill](#); [Avant Bob](#)
Subject: Re: cane, sorcane DNA
Date: Tuesday, November 03, 2009 7:50:40 PM

OK -- I appreciate the follow up, John ... I may be difficult to reach as I might be dragged out to the field we are trying to finish up our fall harvest and help the USDA group do likewise (they let us use their harvester to pick our yield test). Also have a conference call 2:30-3:30 and student's seminar at 4pm.

From our demo last week with a new table-top unit, we had some very nice results with flow cytometry that prospectively shows in chimerism for ploidy among colchicine treated meristems, especially given they were from a first crack. Really underscores the utility such an instrument will have for this project (and others).

David

On Nov 3, 2009, at 5:27 PM, John Mullet wrote:

> David,
>
> I know we talked about testing our genotyping method on
> but I never followed up to collect DNA or leaf tissue. I
> will give you a call to see what you want to do along these lines.
>
> Thanks,
>
> John

From: [Simpson, Shay](#)
To: [Bill Rooney](#)
Subject: RE: Ceres meeting
Date: Monday, November 02, 2009 11:49:11 AM

Not yet. But, here is what I am thinking. Since Ceres and we decided it should be in January (last January when we met that is what we decided), plus some people (Trish in particular) will already be in that area the week of Ag Prg Conference, we could go that week.

If we fly out on Wednesday (Jan 13), meet all day Thursday (Jan 14), meet partial morning (Jan 15), and fly back afternoon of 15th. Would you go those days? Bob said he would go then.

Shay

Shay L. Simpson
Associate Director, Corporate Relations
Texas AgriLife Research
Centeq Building 100D
979-845-6315 Office
979-571-3137 Mobile
shay-simpson@tamu.edu

From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Monday, November 02, 2009 11:25 AM
To: Simpson, Shay
Subject: Ceres meeting

Shay:

Any news on the scheduling of the Ceres meeting?

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: [Ken Davenport](#)
To: [Bill Rooney](#)
Subject: RE: Chromatin Visit
Date: Wednesday, November 04, 2009 7:36:31 AM

Bill,

If you could present what you covered with Larry and me when we visited in September, this would be fine. I think we would also be interested in your perspective as to the challenges and opportunities as they pertain to improving sorghum yields and quality as a bioenergy feedstock. I am thinking of the presentation you made at the sorghum improvement conference in Amarillo a couple of months ago.

I have to follow-up with Janie Hurley regarding the non-disclosure agreement that we are trying to put in place between AgriLife and Chromatin. I understand from Larry that he is working with you, Bill and Gary to access some of your germplasm. Presumably, this is proceeding well. I will likely give Bob Avant a call as well with regard to the MTA and terms.

Lambright, Rounsley and I will drive down on Thursday evening and will plan to meet you at your hotel at 7:30 a.m. for breakfast and then we will all head over to the Research Park. I do not believe I have your mobile phone number. If you would provide it to me, I will be able to contact you if need be.

See you next Friday

Kenneth G. Davenport, Ph. D.
Strategic Development
Chromatin Inc.
3440 S. Dearborn St., Suite 280
Chicago, IL 60616

+1.312.235.3619 (O)
+1.312.235.3611 (F)
+1.214.215.2984 (M)

From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Tue 11/3/2009 2:38 PM
To: Ken Davenport
Subject: RE: Chromatin Visit

Ken:

I'll be occupied with U Illinois through Thursday evening, but Friday morning is allocated to visiting with Chromatin. I'll be available from 7 am through airport departure. Breakfast is fine, just let me know. As soon as I know accommodations, I'll let you know (U Illinois is making those arrangements).

What do you want in the seminar – like what you saw here at TAMU?

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: Ken Davenport [mailto: [REDACTED]]
Sent: Tuesday, November 03, 2009 1:06 PM
To: Bill Rooney
Cc: Daphne Preuss; Shawn Carlson; [REDACTED] rounsley@email.arizona.edu; Song Luo; Jeff Scheib; Greg Zinkl; Brad Schwartz
Subject: RE: Chromatin Visit

Bill,

Thanks much for this information. Let's plan on beginning at 9:00 a.m. at the Enterprise Works Building 60 Enterprise Drive. This location is the Research Park at the University of Illinois where we are based in Champaign. We will be either driving down Thursday evening (12th) or that Friday morning (13th). Would you be available for breakfast that Friday morning? If so, some of us would arrange to have breakfast with you if you wish.

I have copied Shawn Carlson who leads the science team in Champaign and will serve as the host for the meeting. We would begin with a seminar presentation by you, followed by a brief tour of our facilities and discussion. We will arrange for your transportation to the airport. In all probability, Larry, Steve and I will take the same flight from CMI since we will be heading on to our respective destinations.

We look forward to meeting with you next Friday.

Best regards,

Ken

Kenneth G. Davenport, Ph. D.
Strategic Development
Chromatin Inc.
3440 S. Dearborn St., Suite 280
Chicago, IL 60616

+1.312.235.3619 (O)
+1.312.235.3611 (F)
+1.214.215.2984 (M)

From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Tue 11/3/2009 12:53 PM
To: Ken Davenport
Subject: RE: Chromatin Visit

Ken

I'm scheduled to depart Champaign at 12:40 pm on AA4052

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: Ken Davenport [mailto:]
Sent: Monday, November 02, 2009 8:10 PM
To: wlr@tamu.edu
Subject: Chromatin Visit

Bill, we are beginning to make arrangements for your visit next Friday, 13 November. Because I am arranging for Larry Lambright to fly in from Lubbock and our folks to drive down from Chicago, knowing your departure time that Friday would facilitate planning. Steve Rounsley (U AZ) bioinformaticist will be with us in Chicago and drive down with us for your seminar. Please advise at your earliest opportunity or feel free to give me a call (214,.215.2984) tomorrow if you wish. . Thanks, Ken

From: [Ken Davenport](#)
To: [Bill Rooney](#)
Cc: [Daphne Preuss](#); [Shawn Carlson](#); [REDACTED]; rounsley@email.arizona.edu; [Song Luo](#); [Jeff Scheib](#); [Greg Zinkl](#); [Brad Schwartz](#)
Subject: RE: Chromatin Visit
Date: Tuesday, November 03, 2009 1:07:16 PM

Bill,

Thanks much for this information. Let's plan on beginning at 9:00 a.m. at the Enterprise Works Building 60 Enterprise Drive. This location is the Research Park at the University of Illinois where we are based in Champaign. We will be either driving down Thursday evening (12th) or that Friday morning (13th). Would you be available for breakfast that Friday morning? If so, some of us would arrange to have breakfast with you if you wish.

I have copied Shawn Carlson who leads the science team in Champaign and will serve as the host for the meeting. We would begin with a seminar presentation by you, followed by a brief tour of our facilities and discussion. We will arrange for your transportation to the airport. In all probability, Larry, Steve and I will take the same flight from CMI since we will be heading on to our respective destinations.

We look forward to meeting with you next Friday.

Best regards,

Ken

Kenneth G. Davenport, Ph. D.
Strategic Development
Chromatin Inc.
3440 S. Dearborn St., Suite 280
Chicago, IL 60616

+1.312.235.3619 (O)
+1.312.235.3611 (F)
+1.214.215.2984 (M)

From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Tue 11/3/2009 12:53 PM
To: Ken Davenport
Subject: RE: Chromatin Visit

Ken

I'm scheduled to depart Champaign at 12:40 pm on AA4052

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: Ken Davenport [mailto:████████████████████]
Sent: Monday, November 02, 2009 8:10 PM
To: wlr@tamu.edu
Subject: Chromatin Visit

Bill, we are beginning to make arrangements for your visit next Friday, 13 November. Because I am arranging for Larry Lambright to fly in from Lubbock and our folks to drive down from Chicago, knowing your departure time that Friday would facilitate planning. Steve Rounsley (U AZ) bioinformaticist will be with us in Chicago and drive down with us for your seminar. Please advise at your earliest opportunity or feel free to give me a call (214,.215.2984) tomorrow if you wish. . Thanks, Ken

From: [John Mullet](#)
To: [McCutchen, Bill](#)
Cc: wlr@tamu.edu
Subject: Re: Confidential IBERS
Date: Sunday, November 08, 2009 9:03:02 AM

Bill,

I will contact Mike and let him know that we are meeting with IBERS on Friday and that he may also want to talk to Iain about cane X Miscanthus opportunities. I thought he had already done this, but lets make sure.

Thanks,

John

PS: Mendel/BP was always going to be difficult to align with Chevron/Ceres.

On Nov 7, 2009, at 8:56 PM, McCutchen, Bill wrote:

- > I am OK with the approach, but want you to know that Gould was in my
- > office Thursday. It is looking like his relationship with Mendel
- > may finally be ending - they are trying to screw us. So he wants to
- > meet with IBERS and has contacted them.
- >
- > So may I suggest and so that we don't look uncoordinated, and so
- > that we don't upset the apple cart too much, I believe it would be a
- > good idea for one of us to let Mike know about the meeting per their
- > request. Perhaps we could also spend a little time with IBERS about
- > potential Weslaco needs, crossing houses, etc.
- >
- > Please work with me gentlemen. Our long range future, success and
- > potential growth will undoubtedly have Weslaco as an important
- > component for our bioenergy goals. We need to work together as much
- > as possible.
- >
- > By the way, Bob and I are meeting with Chevron mid December to
- > discuss ideas about a bioenergy Center.
- >
- >

From: [John Mullet](#)
To: [McCutchen, Bill](#)
Cc: [Bill Rooney](#)
Subject: Re: Confidential IBERS
Date: Saturday, November 07, 2009 8:49:34 AM

Bill and Bill,

I think this one is pretty straight forward.

IBERS contacted Bill and me about discussing opportunities. This discussion is separate from IBERS collaboration with Ceres but there is potential for linkage at some point that we should keep open. It seems unlikely that any collaboration will involve Weslaco scientists or that location. However, if involvement of any REC or other unit became important, then the unit head and scientists would be brought into the discussion.

Weslaco's ongoing research with Mendel on miscanthus could significantly inhibit the

Apparently IBERS separately contacted Mike about cane X miscanthus opportunities. This is good and allows a separate research discussion involving cane/miscanthus and IBERS/Weslaco. This sounds like a good opportunity for our cane research group.

So the IBERS discussion has three tracks;

You and Bob Avant are in the loop in both IBERS discussions (I will ask Bob if he can have Michelle, Adam or Shay sit in on our discussion). If either IBERS engagement develops to the point of a formal proposal, then synergies with other groups/proposals should be explored.

Remember, there are no funds associated with this opportunity, only access to germplasm and collaboration.

I would recommend and will schedule an hour wrap up meeting between you/Bob and Iain Donnelson (IBERS lead) following our morning research discussion. This way if IP and larger project issues, etc. need to be addressed, this can be done right after the meeting.

I plan to ask Bob if we can use his conference room to make this convenient. If we can schedule lunch, then you/Bob can talk to Iain during this time.

Let me know what you think about this approach.

Thanks,

John

From: [Geraldo Eugenio](mailto:Geraldo_Eugenio)
To: malves@ipomail.tamu.edu; wlr@tamu.edu; lrooney@ag.tamu.edu
Cc: rnorton@ipomail.tamu.edu; Ebishop@ipomail.tamu.edu
Subject: Re: FW: Visit of Geraldo Eugenio Franca - Embrapa
Date: Friday, November 06, 2009 2:57:40 AM

Dear Dr. Rooney, Dr. Bill,

I am forwarding the message sent from Mrs. Maria Alves on a proposed schedule for my trip to College Station. Is that fine with you? Are you planning to go to the game?

Yours.

Geraldo Eugenio

On Qui 05/11/09 20:21 , "Alves, Maria" malves@ipomail.tamu.edu sent:

Estimado Geraldo Eugenio,

Espero que a sua viagem a Havana tenha sido produtiva.

Abaixo esta uma proposta de agenda que preparamos tomando em consideração o seu email.

Espero que você possa marcar a sua chegada a College Station na sexta a noite. Se isso for possível, nos gostaríamos de convidá-lo para assistir o jogo de football americano entre a Texas A&M e a Baylor que será no sábado as 2:30pm. Gostaríamos também de convidá-lo para o almoço oferecido pelo presidente da universidade antes do jogo.

Aguardo a sua confirmação.

Obrigada,

Maria

PROPOSED AGENDA

Saturday – November 21, 2009

8:30 am Breakfast meeting with Maria Alves and Roger Norton

Location: TBC

10:00 am Meeting with Brazilian Students

Location: TBC

12:00 pm Presidential Buffet

Location: Kyle Field

2:30 pm Football Game: Texas A&M x Baylor

Location: Kyle Field

Sunday – November 22, 2009

Off

-

Monday – November 23, 2009

9:00 am Meeting with Dr. Sam Feagley and Dr. David Zuberer
Location: room 437, Heep Center

10:30 am Courtesy visit with Ms. Violetta Cook
Location: 351 Bizzell Hall West

11:45 am Lunch with Dr. Eleanor Green, Dean of the College of Veterinary Medicine; and Dr. Roger Norton, Executive Director of the Office for Latin American Programs (TBC)
Location: University Club

2:00 pm Meeting with Dr. Mark Hussey; Dr. Alan Sams, Executive Associate Dean for the College of Agriculture and Life Sciences; and Dr. Roger Norton, Executive Director of the Office for Latin American Programs
Location: Dr. Hussey's office, 113 Administration Bldg

3:30 pm Meeting with Dr. Bill Rooney and Dr. Lloyd Rooney
Location: 204C Coke Bldg

Maria Alves

Program Manager for South America, Office for Latin America Programs
Texas A&M University

204 Coke Building | 4251 TAMU
College Station, TX 77843-4251 | USA
Tel. +1 979.845.3367 | Fax. +1 979.845.6228
Email: malves@tamu.edu | Web <http://olap.tamu.edu>

Welcome to Aggieland

E-mail verificado pelo Terra Anti-Spam.
Para classificar esta mensagem como spam ou não spam, [clique aqui](#).
Verifique periodicamente a pasta Spam para garantir que apenas mensagens indesejadas sejam classificadas como Spam.

Esta mensagem foi verificada pelo E-mail Protegido Terra.
Atualizado em 05/11/2009

From: [Rene Clara](#)
To: [LeAnn Taylor](#); [REDACTED]
Cc: [Vilma Ruth Calderon](#); [Bill Rooney](#)
Subject: Re: harina de sorgo
Date: Wednesday, November 04, 2009 5:54:37 PM

Hola Sr. Osvaldo,

Yo trabajo con el Dr. Bill Rooney en la creación de variedades mejoradas de polinización libre de sorgo, con la calidad de grano adecuado para producir harina. Lástima que lo estamos haciendo en América Central que esta dentro de los 12° a 13° Latitud Norte y estas variedades no podrían tener un buen desarrollo en su país. Pienso que el Dr. Bill Rooney, que trabaja para todo el mundo, pueda tener variedades mas adaptadas a su clima; puede solicitárselas.

Mientras tanto, le recomiendo ponerse en contacto con empresas de semillas como MONSANTO, PIONEER, DEKALB, etc..., porque ellos pueden proveerle a corto plazo, semillas de plantas canela, con grano blanco sin taninos, que son las mas adecuadas.

Saludos,

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: LeAnn Taylor <[REDACTED]>
Para: [REDACTED]
CC: Vilma Ruth Calderon <[REDACTED]>; Lloyd Rooney <lrooney@tamu.edu>; Rene Clara <[REDACTED]>
Enviado: mar, noviembre 3, 2009 8:31:19 PM
Asunto: RE: harina de sorgo

Osvaldo – ¡Ay perfecto! Es justo por la misma razón que se están realizando investigaciones y promoción del uso del sorgo en el Salvador. Toda la promoción se está haciendo por el CENTA, que es parte del gobierno del Salvador, pero con apoyo del INTSORMIL. Allí entra mi organización con nuestros molinos chicos para el uso en micro-empresas.

Mire, asistí una junta en el Salvador en agosto, donde un panadero habló sobre cómo han formado su equipo de molienda y también sus trabajos en crear recetas y en convencer al público a comerlas. La que está organizando las juntas y promociones se llama Vilma Ruth Calderón y le estoy copiando en este e-mail. Puede preguntarle cualquier cosa ya que ella sabe de todo éso, y tal vez puede darle el nombre/e-mail del panadero.

Además le estoy copiando este mensaje al Ing. Rene Clara, que trabaja en la creación de variedades 'puras' del sorgo y está manejando la promoción con la esperanza de que el cultivo del sorgo crezca en toda América Latina. Tal vez le puede dar unas ideas o nombres de personas que trabajan con el sorgo en su país.

Por fin, le estoy copiando al Dr. Lloyd Rooney de Texas A & M Universidad porque él trabaja con INTSORMIL, cuyo trabajo es de promover el uso del sorgo por todo el mundo. Le recomiendo que vaya a su sitio-web par aver si tal vez hay trabajos suyos en la Argentina. Que yo sepa, el Dr. no habla español, pero le agradecerá saber de su trabajo. Tal vez, también conoce a gente en Argentina que le puede ayudar. Le mandaré un mensaje aparte en ingles explicando quién es Ud.

¿Encontró mi nombre en el internet? Pues, ni conocía mi fama. ☺.

Claro que si me encantaria ver sus fotos! Dígame, ¿en que más le puedo ayudar?

LeAnn

From: [REDACTED]
To: [REDACTED]
Subject: RE: harina de sorgo
Date: Tue, 3 Nov 2009 00:26:22 -0200

hola. mira yo soy de la repueblica Argentina, yo me dideco a la distribucion de harina de trigo, elaño pasado adquiri unos molinos de cafe industriales de discos y empese a armar el microemprendimiento, lo q sucede es q aca en argentina yo esta un poco difisileltema de conseguir trigoy buscandootras alternativas encuentre el sorgo,aca hay mucho sorgo rojoy el sorgo blanco es difisil de encontrar, mi molino esta en construccion,es algo ya queme costo mucho diseñar los cajones de zaranda,y elsistema de vibraciones, para separa la cascara, a mi me interezaria informacionde como es el proceso, desde ya muchas gracias,cuando lo termine te mando fotos,si quieres,
tu mail lo saque por internet.
un saludo

From: [REDACTED]
To: [REDACTED]
Subject: RE: harina de sorgo
Date: Mon, 2 Nov 2009 20:03:31 -0600

Hola Sr. Osvaldo: Que sorpresa encontrar su mensaje. ¿De dónde sacó mi nombre y e-mail? Me alegro mucho que estén interesados en trabajar con la harina de sorgo, ya que los beneficios son muchos para todos tanto como en nutrición como en mercado aumentado para los agricultores locales y empresarios como Uds. Le confieso que mi parte en este proceso es de proveer molinos. Pues, mi organización los fabrica o puede enseñarles a fabricarlos allá. (Y por casualidad buscamos distribuidor de ellos por se acaso les interesa o conoce a alguien que trabaja en éso.)

Lo que no sé es cómo se consigue sorgo blanco. Pero tal vez le puedo ayudar un poquito conectándolo con gente que trabaja con el cultivo y molienda de sorgo. No me queda clara una cosa - ¿Es que Ud. Vive en Argentina el país o es una parte de El Salvador? Tal vez de allí le puedo dar unas ideas.

¿Hay algo más en que le puedo ayudar?

LeAnn Taylor

Compatible Technology International

From: [REDACTED]
To: [REDACTED]
Subject: harina de sorgo
Date: Fri, 30 Oct 2009 13:43:22 -0200

hola, estamos proyectando un molinos de sorgo, y necesitaríamos si nos pueden brindar informacion, nosotros contamos con tres molinos y tres conjuntos de zarandas ,todabia estamos armando el molinos, es un microemprendimiento,el fin de esa harina, es para comercializarla para la elaboracion de pan y afines.
lo importante para nosotros es q dicha harina salga blanca ,nosotros contamos con sorgo rojo, ya q hay en nuestra zona, desde ya muchas gracias,
osvaldo,argentina

Windows 7: encontrá el equipo adecuado para vos. Obtené más información.

Hotmail: Trusted email with powerful SPAM protection. Sign up now.

Ingresá a tu Hotmail desde tu Messenger. [¡Windows Live hace tu vida más simple!](#)

Hotmail: Trusted email with Microsoft's powerful SPAM protection. [Sign up now.](#)

¡Todo sobre la Liga Mexicana de fútbol!
Estadísticas, resultados, calendario, fotos y más:
<http://espanol.sports.yahoo.com/>

From: [Dr. Fred Miller](#)
To: ["Spinks, Merrelyn"](#); ["Dr. William L. Rooney"](#)
Cc: ["Fields, Tiffany"](#); ["Chalkley, Lee Ann"](#)
Subject: RE: Help with Sorghum identifiers in U.S. Sorghum collection
Date: Monday, November 09, 2009 8:54:42 AM

Merrelyn: Thanks for asking! The correct designations for materials released (developed) by Texas Agricultural Experiment Station are as follows:

1. **BTx638** is correct. Some people would request or misrepresent the material as "638", "TX638", or "Tx638".
2. **RTx2909** is correct. Some people would request or misrepresent the material as "2909", "TX2909", or "Tx2909".
3. **RTx2910** is correct. Some people would request or misrepresent the material as "2910", "TX2910", or "Tx2910".
4. **RTx430** is PI655996. It is frequently misrepresented as "430", "TX430", or "Tx430".
5. **PI536632** is a partially converted RTx430 into A₃ cytoplasm, and is male sterile. It is maintained by RTx430. (I registered the release of RTx430 in Crop Science but I do not have the reference here in Vega with me at the moment. I can look it up for you when I get home if you need it.)

All the letters etc in the pedigree of RTx430 represent locations of selection with exception of x which normally indicates a cross.

I hope that this clears the confusion, and if there are other questions please let me know. Best regards, Fred

From: Spinks, Merrelyn [mailto:Merrelyn.Spinks@ars.usda.gov]
Sent: Monday, November 09, 2009 8:13 AM
To: Dr. Fred R. Miller; Dr. William L. Rooney
Cc: Fields, Tiffany; Chalkley, Lee Ann
Subject: Help with Sorghum identifiers in U.S. Sorghum collection

Drs. Miller and Rooney,

I wonder if you could help us sort out some Texas A&M sorghum identifiers? We have a request at Griffin for some accessions that the cooperator listed by developer name. All of them were developed by someone affiliated with Texas A&M at some point. Could you please take a look at the following designations and let me know what you think is correct?

Cooperator requested 'Tx 638.' We have PI 574455 with BTx 638 on GRIN donated by Dr. Fred Miller. Is this the same as Tx 638?

Cooperator requested 'RTx 2909.' We have PI 598069 with Tx 2909 on GRIN donated by Dr. William Rooney et al. Is the same as RTx 2909?

Cooperator requested 'RTx 2910.' We have PI 598070 with Tx 2910 on GRIN donated by Dr. William Rooney et al. Is the same as RTx 2910?

Cooperator requested 'Tx 430.' There are two accessions with similar id's on GRIN. PI 536632 is on GRIN as A3Tx430 donated by L. Clark, D. Rosenow, and K. Schertz. The pedigree on this accession is 'A3Tx398/5*RTx430'. PI 655996 is on GRIN as RTx430 donated by Texas A&M with pedigree as 'Derived from (Tx2536 crossed with SC0170-6-5-1-E2)-10- 4-4-1-4-X. 2 (in "E2)" is a subscript. X represents one generation of selfing.' Could either PI 536632 or PI 655996 be the same as Tx 430?

Thanks very much for your help in sorting out these ID's.

Merrelyn

Merrelyn Spinks

IT Specialist - USDA, ARS

Plant Genetic Resources Conservation Unit

1109 Experiment Street

Griffin, GA 30223-1797

(770) 229-3297

From: [Wilfred Vermerris](#)
To: [Seth C. Murray](#)
Cc: [Ana I Saballos](#); [Bill Rooney](#); [Stephen Kresovich](#); [Jeff Pedersen](#); [Martha Hamblin](#); [sem30](#)
Subject: Re: HIF Tissue for RNA - expression sequencing
Date: Thursday, November 05, 2009 10:47:54 AM

Hi Seth,

Thanks for the update. My preference is that you ship all samples. With the constant improvements in sequencing technology we will likely be able to pool samples and use barcodes to distinguish the sample origins. The core facility at Cornell is, from what I understand, getting an upgrade to their Solexa system that would make that approach feasible.

You may want to prepare two separate shipments on dry ice to reduce the risk of mishaps during transit and ship at the beginning of the week. The boxes will need special stickers to indicate they have dry ice in them. Please email the tracking numbers so we can monitor. I have had to run out to the FedEx distribution center once or twice to rescue frozen items....

Let me know if you have any questions.

Thank you,

Wilfred

Seth C. Murray wrote:

- > I finished the harvesting of tissue on Monday - given the cool temperatures the plants were in early hard dough stage and still had decent brix.
- >
- > For each plant that I harvested I collected two samples;
- > Boot Time point: Flag Leaf and Internode 4
- > Hard dough: Peduncle and Internode 4
- > I took the center ~2 inches of internode 4 for RNA extraction and used each end of internode 4 in a handheld juice press to collect brix these two end values were then averaged. These values are reported in the attached spreadsheet.
- >
- > In preparing to ship these to Florida I have two main questions:
- >
- > 1. Handsqueezed brix values from a single internode are probably not reliable and full of error. However, in the samples I took from family 7, the handsqueezed brix value was higher for the allele line than the allele. Should we cherry pick the samples that behaved as we expect (Choose samples with allele having the highest handheld brix, samples with allele have lowest brix?). If so we could use Family 12 which behaves closer to what we expect but only has two samples in boot stage. Should we just ignore these handsqueeze values?
- >
- > 2. Should I ship all samples or a subset? There are probably three times more samples than we have money to analyze. If I ship a subset then if something happens we have backups I can reship.
- >
- > Any thoughts appreciated.
- >
- >
- > Ana: the hard dough samples (especially the peduncle) are dirty and should be surfaced washed

and/or cored to get the pith before RNA extraction if possible. I did not think about this until I was in the field with the liquid nitrogen and only a bandanna to wipe them off.

>

>

> Thanks,

>

> Seth

>

>

>

From: [Debra Cummings](#)
To: [Carol Rhodes](#); [Mika Wyatt](#)
Cc: [Gary C. Peterson](#); [Bill L. Rooney](#)
Subject: Re: IDC for INTSORMIL CRSP
Date: Monday, November 02, 2009 1:29:46 PM

Mika,

I have transferred the \$3,500 from _____ as requested.

Debbie

>>> Mika Wyatt 11/2/2009 9:13 AM >>>
Hello Debbie:

Hope you had a GREAT weekend!

Please transfer \$3,500 from our account

Thanks and God Bless the USA!
Mika

>>> Debra Cummings 10/22/2009 10:17 AM >>>
I have transferred your \$7,000 for the INTSORMIL CRSP IDC to your _____.

Please let me know if you have any questions regarding the transfer.

Thanks,

Debbie

Debra A. Cummings
Texas A&M AgriLife - Budgets
Wells Fargo Building, Suite 602
3000 Briarcrest Drive
Bryan, TX 77802-2147
979-845-4783 phone
979-845-0365 fax
DACummings@ag.tamu.edu

From: [Mika Wyatt](#)
To: [Debra Cummings](#)
Cc: [Gary C. Peterson](#); [Bill L. Rooney](#)
Subject: Re: IDC for INTSORMIL CRSP
Date: Monday, November 02, 2009 9:30:17 AM

Hello Debbie:

Hope you had a GREAT weekend!

Please transfer \$3,500 from our account

Thanks and God Bless the USA!
Mika

>>> Debra Cummings 10/22/2009 10:17 AM >>>
I have transferred your \$7,000 for the INTSORMIL CRSP IDC to your

Please let me know if you have any questions regarding the transfer.

Thanks,

Debbie

Debra A. Cummings
Texas A&M AgriLife - Budgets
Wells Fargo Building, Suite 602
3000 Briarcrest Drive
Bryan, TX 77802-2147
979-845-4783 phone
979-845-0365 fax
DACummings@ag.tamu.edu

From: [Rene Clara](#)
To: [Bill Rooney](#)
Subject: Re: information for annual regional report
Date: Monday, November 09, 2009 6:58:22 PM

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

<u>Farmer group</u>	<u>ha</u>	<u>SEED PRODUCTION (tm)</u>
- ADISA	56	280
- ACOPAI	11.9	55.25
- FECASAL	14	70
- FORO AGROPECUARIO	<u>14</u>	<u>70</u>
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	<u>15 "</u>
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

¡Obtén la mejor experiencia en la web!
Descarga gratis el nuevo Internet Explorer 8
<http://downloads.yahoo.com/ieak8/?l=e1>



INTSORMIL
Sorghum, Millet and Other Grains CRSP



**“INFORME DEL COMPORTAMIENTO DE LOS SORGOS
HÍBRIDOS PARA GRANO DEL PCCMCA DURANTE EL
2008”.¹**

René Clará Valencia² - Coordinador, Rafael Obando y Nury Gutiérrez² - ensayo CNIA, Salvador Zeledón² –ensayos Santa Cruz Porrillo y San Andrés, Rigoberto Nolasco, Alberto Morán y Norman Danilo Escoto Gudiel² –ensayos Las Acacias, La Lujosa y Cholutaca, Juan José Catalán² -ensayo Las Vegas, Julián Ramírez y Juan Quiñónez² – 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 m²); la parcela útil de 2 surcos de 4 m. de largo (5.6 m²). 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 escribir 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 Valencia² - Coordinator, Rafael Obando y Nury Gutiérrez² – CNIA trial, Salvador Zeledón² – Santa Cruz Porrillo y San Andrés trials, Rigoberto Nolasco, Alberto Morán y Norman Danilo Escoto Gudiel² – Las Acacias, La Lujosa y Choluteca trials, Juan José Catalán² - Las Vegas trial, Julián Ramírez y Juan Quiñónez² –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 of randomizing block, with 4 repetitions, the experimental plot was 4 rows 5 m. of length and 0.70 m. between row (14 m²); 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 diseases (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 Cruz 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 Valencia² - Coordinador, Rafael Obando y Nury Gutiérrez² - ensayo CNIA, Salvador Zeledón² –ensayos Santa Cruz Porrillo y San Andrés, Rigoberto Nolasco, Alberto Morán y Norman Danilo Escoto Gudiel² –ensayos Las Acacias, La Lujosa y Choluteca, Juan José Catalán² -ensayo Las Vegas, Julián Ramírez y Jorge Cardona² – 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 Nicaragua, 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≤0.05) 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 m²); la parcela útil de 2 surcos de 4 m. de largo (5.6 m²). 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 escribir 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. Salvador 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 (°C)
Hda. Las Vegas	15	14° 09' 27'' N	590.28	21.3° a 34.7°
Estac. Exp. Cuyuta	40	14°, 05', 12'' N	734.9	27°
Estac. Exp. Santa Cruz Porrillo	30	13° 26' 4' N	929	28°
Estac. Exp. San Andrés	460	13° 48' 5''	630	29.2°
Estac Exp. CNIA	50	12° 05' N	384.0	27°
Est. Experimental Las Acacias	450	14° 01' N	507.4	27.85°
Estac. Exp. La Lujosa	45	13° 19'	695.2	27.77°
Choluteca	52	14° 01' N	538.8	27.85°

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 estadísticamente 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	Días flor	Altura planta (cm)	Largo Panoja (cm)	Enferm Foliare (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 Foliales (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 Foliales (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 Foliales (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)	Exer sión (cm)	Enferm Foliales
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 Foliales
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 arriba 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 Foliales (1 a 5)	Aca me	Unifor midad 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. Foliar (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, CENITA

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

ANÁLISIS BIPLLOT

des que

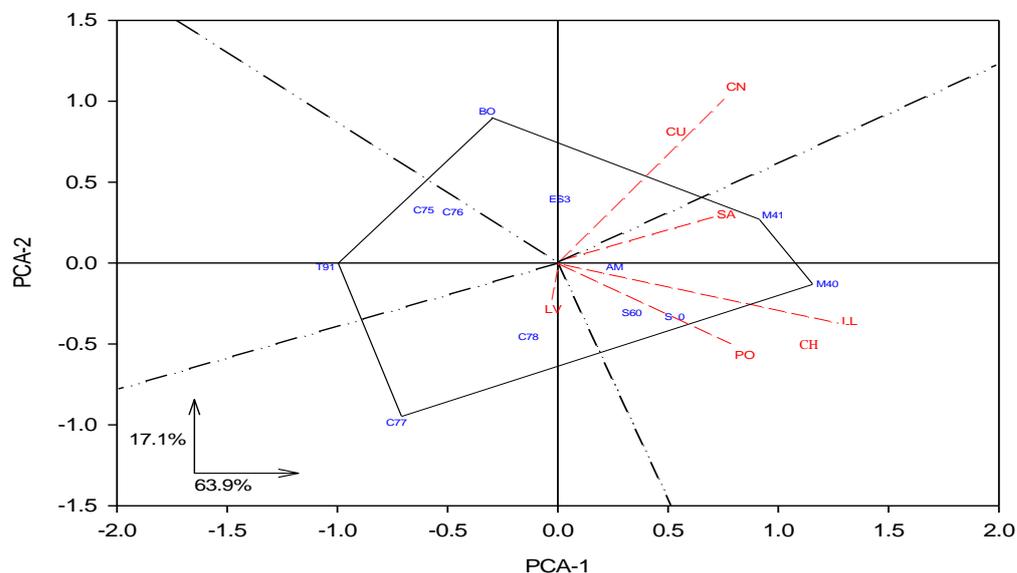


Figura 1. Puntuaciones del primer y segundo eje del componente principal de 12 sorgos en 7 ambientes de Centro América, 2008 (Biplot-GGE-SREG)

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.

<i>F de V.</i>	<i>g.l.</i>	<i>Suma de Cuadrados Tipo IV</i>	<i>Cuadrados. Medios</i>	<i>Prob > F</i>
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, Cholteca 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 Lujosa (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-B		GA-B		GA-C		Promedio
	CNIA	Cuyuta	La Lujosa	San Andrés	Choluteca	SC Porrillo	Las Vegas		
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: [Lee, DoKyoung](#)
To: [Bill Rooney](#)
Subject: RE: invited seminar
Date: Friday, November 06, 2009 4:50:42 PM

Bill,

If you send me your title during the weekend I will start advertising.
Have a nice weekend,

D.k=K.

From: Bill Rooney [mailto:wlr@tamu.edu]
Sent: Thursday, November 05, 2009 3:06 PM
To: Lee, DoKyoung
Subject: RE: invited seminar

DK – see title below.

Redefining Sorghum as Bioenergy Crop

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: Lee, DoKyoung [mailto:leedk@illinois.edu]
Sent: Tuesday, November 03, 2009 9:52 PM
To: Bill Rooney
Subject: RE: invited seminar

Bill,

I will be back to school on Thursday and I will arrange your hotel.
Please save all of your receipts and i will turn into the department.

I guess your research related with sorghum breeding and production will be great for your presentation.
If you give me a title I will start advertising and people will contact me to meet you. I will show you our energy farm and sorghum trial on Thursday.

Thanks,

D.K.

From: Bill Rooney [wlr@tamu.edu]
Sent: Tuesday, November 03, 2009 1:31 PM
To: Lee, DoKyoung
Subject: RE: invited seminar

DK:

I'm scheduled to arrive Wednesday evening at 8:50pm on AA3418. I've allocated all of Thursday to spend on campus. I'm open to visit with anybody you see fit during the day.

On Friday morning, I've been asked to meet with Chromatin, a company based in Chicago who will come down to Champaign for the morning. Bottom line, you don't have to worry about me on Friday.

Once you get a schedule together for Thursday, just let me know. Also, what topics do you want coverage of? Anything specific?

I'll cover my plane ticket. If you can cover the hotel, that'll be fine with me. I don't really care which hotel - just let me know.

Regards,

Bill

11NOV - WEDNESDAY

LV COLLEGE STATION 3:55 PM 3387 American
Airlines
AR DALLAS FT WORTH 4:50 PM ECONOMY
OPERATED BY AMERICAN EAGLE Food For Purchase
WILLIAM ROONEY SEAT 10A FREQUENT FLYER:75YJ910

11NOV - WEDNESDAY

LV DALLAS FT WORTH 6:50 PM 3418 American
Airlines
AR CHAMPAIGN 8:50 PM ECONOMY
OPERATED BY AMERICAN EAGLE Food For Purchase
WILLIAM ROONEY SEAT 11C FREQUENT
FLYER:75YJ910

13NOV - FRIDAY

LV CHAMPAIGN 12:40 PM 4052 American
Airlines
AR CHICAGO OHARE 1:35 PM ECONOMY
OPERATED BY AMERICAN EAGLE Food For Purchase
WILLIAM ROONEY SEAT 16C FREQUENT
FLYER:75YJ910

13NOV - FRIDAY

LV CHICAGO OHARE 3:25 PM 2335 American
Airlines
AR DALLAS FT WORTH 5:50 PM ECONOMY
Food For Purchase

WILLIAM ROONEY
FLYER:75YJ910

SEAT 30E FREQUENT

13NOV - FRIDAY

LV DALLAS FT WORTH 8:35 PM 3498 American
Airlines
AR COLLEGE STATION 9:25 PM ECONOMY
OPERATED BY AMERICAN EAGLE Food For Purchase
WILLIAM ROONEY SEAT 14C FREQUENT
FLYER:75YJ910

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: DoKyoung Lee [mailto:leedk@illinois.edu]
Sent: Thursday, October 29, 2009 1:59 PM
To: 'Bill Rooney'
Subject: invited seminar

Dear Bill,

I hope you remember the seminar for our department scheduled on November 12.
If you arrange your travel we will reimburse later. I will arrange a hotel if you don't have any
preference. Also It will be nice to have your title sometime next week.
I am wondering if you go to ASA meeting. I will be there.
Thanks,

D.K.

DoKyoung "D.K." Lee
Assistant Professor of Biomass and Bioenergy Crop Production
Department of Crop Sciences, University of Illinois
S-320 Turner Hall, MC-046
1102 South Goodwin Avenue
Urbana, Illinois 61801
217-333-7736/Fax: 217-333-5299