

From: [Editorial Office](#)
To: wlr@tamu.edu
Subject: 09-105
Date: Monday, October 26, 2009 12:46:03 PM
Attachments: [Copyright form.pdf](#)
[COLOURApprovalE form.pdf](#)

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: [James Osborne](#)
To: [Dr. Bill Rooney](#); [Dr. Cleve Franks](#); [Dale Wimmer](#); delroy@tamu.edu; [Donnie Swink](#); [Dr. Gary C. Peterson](#); [Dr. George Graef](#); [Dr. Gebisa Ejeta](#); [REDACTED]; [jerry](#); [Jianming Yu](#); [Prihoda, Karen L](#); [Dr. Kassim Al-Khatib](#); [Leslie L Korte](#); mmolina@ksu.edu; [Mitch Tuinstra](#); [Nathan Boardman](#); [Reba Cargile](#); [sbrown](#); [Shan Podduturi](#); [Sharon E. Mitchell, Ph.D.](#); [Stephen Kresovich](#); [Tesfaye Tesso](#); [Lemming, Terry R.](#); [Mark Stelter](#)
Subject: 2009-2010 Puerto Rico Winter Nursery and Growout Service.
Date: Thursday, October 08, 2009 12:40:49 PM
Attachments: [CSCo Nursery Pricing for2009-2010.doc](#)

All,

It is that time of year again!

Crosbyton Seed Company will once again be offering the winter (Off Season) Nursery and Grow out planting Service in the Indios Valley of Puerto Rico. I will have you ship your seed to me here in Kansas, I will assemble it for nursery planting, then forward it to the Crosbyton Seed Company personnel in Puerto Rico. Once again because of family concerns I will not personally be planting again this year, however, the highly experienced employees who planted last season will be planting again this year.

Some points to remember or information for those of you that will be working with us for the first time:

PLEASE try and send your nurseries to me by November 10 so I can have them in planting order and in Puerto Rico for planting the week following Thanksgiving.

Package your seed in the 2 3/8" x 4 1/4" coin envelopes with the **1/4"** hole in the flap and the top of the packet stapled **below** the hole. If you need nursery planting packets they will be available from Crosbyton Seed Company, let us know and we will send them to you as soon as possible.

Plan your nurseries in multiples of 25 or 50 plot increments, (fields will be 25-15 ft. plots long, 2 rows wide = 50 plots/bed).

Be sure and let me know if you want row 1&2 on the same bed or if you want row 1 on the right side of bed #1 and row 2 on the left side of bed #2 so you can work your material walking in the furrow between beds.

Please include your nursery field map so we are sure to plant your nurseries the way you want them. You can also email your maps to me at [REDACTED]

If any of you have special herbicide experiments I recommend 3 beds/6 rows buffer between treatments to help reduce the chance of drift from resistant onto non-resistant material. The sprayer is 7 beds/14 rows wide, we can spray using just the one side of the sprayer boom (4 beds/8 rows) minimum coverage on one pass.

Please let me know AS SOON AS YOU CAN the approximate number of rows/beds you will be using this year so we can get the land reserved and prepared.

If you know of anyone interested in this service that I have inadvertently missed please forward this email to them or let me know so I can contact them personally. It appears that we will have more corn this year and in the coming years so please include those interested in winter corn nursery space also.

Thank you all, I look forward to another productive year for the Corn and Sorghum Research Community!! If you have any questions, please, give me a call or send an email.

Please find attached the price schedule for 2009-2010, which remains the same as 2008-2009 prices.

Regards,

Jim Osborne
Crosbyton Seed Company
2500 N. 231st. W.
Andale, Kansas 67001-9510
(H) 316.444.2530
(C) 316.734.2303
(Fax) 316.444.2530 (please call first)



**Crosbyton Seed Company
Research Division
Puerto Rico
Price Schedule
2009 – 2010**

100+ 15 ft. rows – Sorghum Nursery \$4.75/row – customer furnishes all supplies and labor except planting and normal cultural crop care. (Corn Nursery \$7.15/row)

365 ft. Hand rows of Sorghum Nursery B &/or R lines - \$385.00/row – customer furnishes all supplies and labor except planting and normal cultural crop care. (Corn Nursery \$575.00/row)

100+ 25 ft. rows – Sorghum Nursery \$8.40/row – customer furnishes all supplies and labor except planting and normal cultural crop care. (Corn nursery \$12.65/row)

Dryer and Utility Expense will be billed at \$450.00/day of use.

Pollinating bags billed at \$85.00/1,000 (special quantity and bulk ordering available at reduced pricing).

Annual Puerto Rico Import, Export and Seed Production License Fee: \$350.00/Customer.

1/20th Acre Grow Out \$115.00/sample (Sorghum) (\$200.00/sample (Corn) customer furnishes all supplies and labor except planting and normal cultural crop care.

1/10th Acre Grow Out \$230.00/sample (Sorghum) (\$400.00/sample (Corn) customer furnishes all supplies and labor except planting and normal cultural crop care.

1/5th Acre Grow Out \$460.00/sample (Sorghum) (\$800.00/sample (Corn) customer furnishes all supplies and labor except planting and normal cultural crop care.

Seed quantities not guaranteed. “Act-of-God” pro-rated to stage of growth at time of loss.

All Seed must be safened and a phytosanitary certificate must accompany all seed sent to Puerto Rico.

All nursery planting seed must be packaged in 2 3/8” x 4 1/4” coin envelopes with 1/4” hole in flap and the top of packet stapled below the hole. Nursery planting packets will be available at no charge from Crosbyton Seed Company. Seed storage packets for returning nursery seed are the customer’s responsibility or will be billed with the final

billing after harvest. Prices include land and planting, all chemicals and application. All rates are based on normal planting dates of late November – early December in Puerto Rico all other planting dates or special requests will be priced on a case-by-case basis.

Local, part-time, labor is available at the rate of \$12.50/hour billed through Crosbyton Seed Company. Pollinating and harvest supplies may be available on site and/or can be ordered from Crosbyton Seed Company in advance. A Stationary Plot Thresher/Sheller is available. All seed leaving Puerto Rico requires a U.S.D.A. inspection before shipment.

Terms for Service: 10% of projected project cost prior to planting, 40% “at stand” and the balance due at harvest and final billing.

From: [Lacewell, Ron](#)
To: Jan_Nimmo@Baylor.edu; [Bill Rooney](#)
Cc: [Baltensperger, David](#); [Hussey, Mark](#); [Dugas, William](#); [Boleman, Larry](#); [REDACTED]; [Gilliland, Diane M.](#); [Payton, Stephanie](#)
Subject: 2010 appropriations for Advancing Biofuels Production
Date: Friday, October 02, 2009 8:46:29 AM

Dr. Nimmo and Dr. Rooney

The project on Advancing Biofuels Production was appropriated \$300,000 for 2010. It is anticipated that there will be some rescission. Nevertheless, a good time to begin thinking about developing the proposal for the funding. A great partnership where support is coming from Rep. Edwards and Senator Hutchison. Congratulations

Ron

*Ronald D. Lacewell
Assistant Vice Chancellor
Office of Federal Relations
Texas A&M AgriLife
979 862 7138 phone
979 777 5231 cell
979 845 1527 fax*

From: [Corey Pittman](#)
To: [Corey](#)
Subject: 2010 Match Commitment Letter Sample.doc
Date: Thursday, October 08, 2009 3:22:15 PM
Attachments: [2010 Match Commitment Letter Sample.doc](#)

2010 CPBR Competition PI,

In response to inquiries from industry representatives and yourselves regarding match source letters we have put together a sample letter for your use. Please feel free to distribute this information to your match source company to avoid confusion and revisions. If you have any further questions regarding this document please do not hesitate to contact me.

Regards,

Corey

W. Corey Pittman
Research Grants Coordinator
The Consortium for Plant Biotechnology Research, Inc.
p (912) 638-4900
f (912) 638-7788


SAMPLE MATCHING
COMMITMENT LETTER

Company Letterhead

Company Representative
Address

-

Date

Dr. Principal Investigator
Address

-

Dear Dr. PI:

Company X will provide \$_____ match for Year One and \$_____ match for Year Two for your project, "*A very good project*," subject to funding by CPBR.

We will pay directly to CPBR ten (10) percent of both the Year One and the Year Two match as a commercialization fee. The remainder will be sent directly to the University. We understand no indirect costs will be charged by the University on our match.

The Year One commercialization fee will be sent to CPBR upon receipt of its invoice, and the Year Two commercialization fee will be sent to CPBR when it notifies us that your Year Two funding has been approved.

We understand that our participation in your project requires a continued membership in CPBR for the full project period.

We thank you for the opportunity to collaborate with you and your team. We look forward to hearing of your success and further opportunities provided through our CPBR membership.

Regards,

Company Representative
Company X

From: [C. Wayne Smith](#)
To: [REDACTED]; [Bill L. Rooney](#)
Subject: 9 hour requirement
Date: Friday, October 23, 2009 4:44:03 PM
Attachments: [C. Wayne Smith1.vcf](#)

[REDACTED],

Below is the email that I sent a few minutes ago. I know that you wanted to drop BB's course and we had given you wrong info a few days ago. I hope we didn't cause you any problems.

"During the past few years a graduate student on assistantship who registered for 9 hours in a long semester could Q drop a minimum of 3 hours after the Drop/Add deadline and still be considered a full time graduate student. That rule has been modified such that graduate students on assistantships MUST be enrolled for 9 hours during each long semester and 6 hours during the summer semester(s).

A graduate student can "Late Q Drop & Add" but payment for that action will be the responsibility of the student since it falls outside of the electronic programing for t&f payment that Mrs. Kurten does at the request of the major professor and since the major professor has already paid the tuition (and fees in many cases) for the original hours. Thus the student will be responsible for the late registration and the t&f associated with the hours added."

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

From: [Pam Wilhelm](#)
To: [Bill L Rooney](#)
Subject: account 503699-00000
Date: Monday, October 05, 2009 3:46:00 PM

Dr. Rooney, this is Oklahoma State University account. There is money in the base account that has not been moved. I need to know where it goes? To you or someone else. There is \$4643 in travel, \$8350 in supplies

From: [Simpson, Shay](#)
To: [Long, Michelle Y. \(YLONG\) \(MYLong\)](#); [Jones, Doug M](#)
Cc: [Gould Mike](#); [John Mullet](#); [El-Hout Nael](#); [Erik Mirkov](#); [John Jifon](#); [lt-wilson@tamu.edu](#); [p-baumann@tamu.edu](#); [Bill Rooney](#); [McCutchen, Bill](#); [Avant, Bob](#); [Helms, Adam](#); [Nelson, Michelle](#); [Zak, Kendra](#); [Travis Miller](#); [Alex Thomasson](#); [McCutchen, Bill](#); [Slovacek, Jackie](#); [Baltensperger, David](#); [tmaldonado@tamu.edu](#)
Subject: AGENDA Chevron/AgriLife Quarterly Review in Weslaco
Date: Tuesday, October 06, 2009 6:27:20 PM
Attachments: [Chevron Attendee List.doc](#)
[Agenda - Chevron Oct Review.doc](#)

Michelle and Doug:

Please find attached the close-to-final agenda and attendee list for our meeting in Weslaco next week. Please forward to your team and Curt and Paul. Note that the dress is casual with work shoes as we will be in the fields and in agricultural processing plants both days.

If you have any suggested changes to the schedule, please forward them.

Mike Gould's team will be forwarding a written report soon.

Thanks,
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: [Delroy Collins](#)
To: [REDACTED]; [Bill](#); [Catherine](#); [REDACTED]; [Dustin](#); [George L Hodnett](#); [Karen Prihoda](#); [REDACTED]; [Michael](#); [Miguel](#); [Mohan](#); [Nilesh](#); [REDACTED]
Subject: anthracnose re-inoculations
Date: Thursday, October 01, 2009 11:53:49 AM

Everyone:

The plots in field 224 will need to be re-inoculated for anthracnose. They were shredded about 3 weeks ago and are ready for inoculating. Dr. Prom says that he'll have the inoculum ready on Wednesday, October 7. If a group of you can meet him in the field at 8:30am that would be great. A field map is attached to the board.

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

From: [Lindra G Blum](#)
To: [Bill L Rooney](#)
Subject: Approval
Date: Thursday, October 08, 2009 10:35:08 AM
Attachments: [B Rooney.pdf](#)

This takes the place of the Stamp on the Invoice.

Vendor: Transportation

Purchase Order :

Received Date (This is the date you received the Item(s)) 09/30/09

Account to use.

Order . Complete or Partial:

Amount: (s) \$72.63 \$45.53 \$158.69 & \$47.54

Approved for Payment:

B. Rooney

OCT -7 2009

TSC Fleet Accounts Receivable Invoice

Customer Copy

Date: 10/06/2009

Reference Number: W402723

Customer: TALR/SOIL & CROP SCIENCE

MailStop: MS 2474

Billing Department: Transportation Services

Description	Selling Account	Support Account	Object Code	System Part	Buying Account	Support Account	Object Code	Amount
TSC FUEL			0481	06			4030	\$72.63
Total								\$72.63

Please include the above reference number on all payments.

Make checks payable to Texas A&M University – Sales and Receivables.

Send all payments to:
Texas A&M University
Sales and Receivables
6000 TAMU
College Station TX 77843-6000

For billing inquiries, please contact Sherry Shipley at 847-8915



9/1/09 To 9/30/09

Inv: W402723

72.63
.00

72.63	0.00
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.00	72.63
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Fleet Management Billing Report

9/1/09 To 9/30/09

Account:

Department: 757300 / TALR/SOIL & CROP SCIENCE/SMITH / MS 2474

Inv: W402717

Equipment: 0227 1995 GMC SAFARI License: 666-440

Description	Rental/Usage	In House	Fuel	State	WO	Ind Iss	Labor	Sublet	Misc	Total Maint	Total
WORK ORDER # 0000099497	0.00	0.00	0.00	0.00	16.55	0.00	28.98	0.00	0.00	45.53	45.53

Totals for Vehicle 0227: *B. Rooney*

45.53

Equipment: 0401 1992 GMC 3500 VAN License: 607-363

Description	Rental/Usage	In House	Fuel	State	WO	Ind Iss	Labor	Sublet	Misc	Total Maint	Total
WORK ORDER # 0000099372	0.00	0.00	0.00	0.00	65.63	0.00	37.71	36.56	0.00	139.90	139.90

Totals for Vehicle 0401: *Inst.*

139.90

Equipment: 0635 1999 CHEV EXPRESS VAN License: 753-148

Description	Rental/Usage	In House	Fuel	State	WO	Ind Iss	Labor	Sublet	Misc	Total Maint	Total
FUEL - UNL / 20.08 / 123 - 09/08/2009	0.00	50.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.59

Totals for Vehicle 0635: *Inst.*

50.59

Equipment: 1856 2003 FORD F350 2DR CAB License: 842-321

Description	Rental/Usage	In House	Fuel	State	WO	Ind Iss	Labor	Sublet	Misc	Total Maint	Total
WORK ORDER # 0000099628	0.00	0.00	0.00	0.00	90.45	0.00	68.24	0.00	0.00	158.69	158.69

Totals for Vehicle 1856: *B. Rooney*

158.69

Equipment: 2108 2009 CHEV TRAIL BLAZER License: 106-4259

Description	Rental/Usage	In House	Fuel	State	WO	Ind Iss	Labor	Sublet	Misc	Total Maint	Total
FUEL - UNL / 20.23 / 123 - 09/22/2009	0.00	47.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.54	47.54

Totals for Vehicle 2108: *B. Rooney*

47.54

Equipment: CAR WASH 1 2003 BULK BULK FUEL License: N/A

Description	Rental/Usage	In House	Fuel	State	WO	Ind Iss	Labor	Sublet	Misc	Total Maint	Total
RES# 59387 - 09/11/2009 50.00 50.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00

Totals for Vehicle CAR WASH 1: *Inst.*

50.00



Fleet Management Billing Report
9/1/09 To 9/30/09

Totals for Acct
Inv: W402717

Daily Rental:	0.00							
Van Training:	0.00							
Car Wash:	50.00							
MVR:	0.00							
Insurance Deductable:	0.00							
Long Term Rental:	0.00							
	50.00	98.13	0.00	172.63	0.00	134.93	36.56	0.00
								344.12
								492.25



TSC Fleet Accounts Receivable Invoice

Customer Copy

Date: 10/06/2009

Reference Number: W402717

Customer: TAES Soil & Crop Science

MailStop: MS 2474

Billing Department: Transportation Services

Description	Selling Account	Support Account	Object Code	System Part	Buying Account	Support Account	Object Code	Amount
MAINTENANCE			0496	06	111222	00000	5511	\$344.12
TSC FUEL			0481	06	111222	00000	4030	\$98.13
VEHICLE DETAILING			0496	06	111222	00000	5511	\$50.00
Total								\$492.25

Please include the above reference number on all payments.

Make checks payable to Texas A&M University – Sales and Receivables.

Send all payments to:
Texas A&M University
Sales and Receivables
6000 TAMU
College Station TX 77843-6000

For billing inquiries, please contact Sherry Shipley at 847-8915

From: [Avant, Bob](#)
To: [Bill Rooney](#); bmccutchen@tamu.edu; [John Mullet](#); stelly@tamu.edu; dbaltensperger@ag.tamu.edu; shay-simpson@tamu.edu; ahelms@tamu.edu
Subject: ARPA-E
Date: Wednesday, October 28, 2009 8:03:38 AM
Attachments: [ARPA-E Project Selections.pdf](#)

Attached are the ARPA-E awards. Ceres got \$5 million for “genes that enable energy crops to produce more biomass”! There are several other interesting awards is enzyme conversion and pyrolysis. After looking at this, I would like to know why our paper wasn’t competitive?

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

ARPA-E Project Selections
Announced October 26, 2009

Lead Research Organization (Partner Organizations)	DOE Grant Amount	Lead Organization Location	Project Description
1366 Technologies Inc. (Massachusetts Institute of Technology – Lab for PV Research)	\$4,000,000	Lexington, MA	<i>Renewable Power (solar)</i> "Direct Wafer" technology to form high efficiency "monocrystalline-equivalent" silicon wafers directly from molten silicon, with potential to halve the installed cost of solar photovoltaics.
Agrivida, Inc.	\$4,565,800	Medford, MA	<i>Biomass Energy</i> Cell wall-degrading enzymes grown within the plant itself that are activated after harvest, dramatically reducing the cost of cellulosic biofuels and chemicals
Arizona State University (Fluidic Energy, Inc.)	\$5,133,150	Tempe, AZ	<i>Energy Storage</i> A new class of metal-air batteries using ionic liquids, with many times the energy density of today's lithium-ion batteries. Could enable long range, low cost plug-in hybrid and all-electric vehicles.
Arizona State University (Diversified Energy, North Carolina State University)	\$5,205,706	Tempe, AZ	<i>Direct Solar Fuels</i> Cyanobacteria that produce and secrete fatty acids for biofuel feedstock using just sunlight, water, and carbon dioxide as inputs.
Ceres, Inc.	\$4,989,144	Thousand Oaks, CA	<i>Biomass Energy</i> Genes that enable energy crops to produce more biomass using less land (and lower quality land), less water, and less fertilizer than standard energy crops. This approach would provide sustainable biofeedstocks to displace oil and coal for fuels and power production.
Delphi Automotive	\$6,733,386	Kokomo, IN	<i>Vehicle Technologies</i>

Systems LLC (International Rectifier, Oak Ridge National Laboratory)			New power electronics technology based on a Gallium Nitride on Silicon process with innovative thermal management that can enable up to 50% more efficient power delivery from batteries to electric motors.
E.I. du Pont de Nemours and Company (Bio Architecture Lab)	\$9,000,000	Wilmington, DE	<i>Biomass Energy</i> Production of bio-butanol, an advanced biofuel, from macroalgae (seaweed). Seaweed is a potentially sustainable and scalable new source of biomass that doesn't require arable land or potable water.
EaglePicher Technologies LLC (Pacific Northwest National Laboratory)	\$7,200,000	Joplin, MO	<i>Energy Storage</i> High energy, low cost planar liquid sodium beta batteries for grid scale electrical power storage. Could enable continuous power from renewable resources, like wind and solar, and could support a highly stable and reliable grid.
Envia Systems (Argonne National Laboratory)	\$4,000,000	Hayward, CA	<i>Energy Storage</i> High energy density Lithium-ion batteries with 3x better energy density than current batteries. Based on novel nano silicon-carbon composite anodes and manganese composite cathodes discovered at Argonne National Laboratory. Could lower the cost and speed the adoption of plug-in hybrids and electric vehicles.
Exelus, Inc. (Zeolyst International, Linde Process Plants)	\$1,000,000	Livingston, NJ	<i>Oil & Gas</i> A novel catalyst to convert the olefins in refinery off-gas, which is currently flared and lost, into high-octane alkylate fuel. Could enable recovery up to 45 million barrels per year of gasoline.
FastCAP Systems Corporation (MIT)	\$5,349,932	Cambridge, MA	<i>Energy Storage</i> A nanotube enhanced ultracapacitor with energy density approaching that of standard batteries, but with many times greater power density and thousands of times the cycle

			life. Could greatly reduce the cost of hybrid and electric vehicles and of grid-scale storage.
FloDesign Wind Turbine Corp.	\$8,325,400	Wibraham, MA	Renewable Power (wind) A new high efficiency shrouded wind turbine able to deliver significantly more energy per unit of swept area. Could also reduce noise and safety concerns, enabling distributed wind applications.
Foro Energy, Inc.	\$9,151,300	Littleton, CO	Renewable Power (geothermal) A new hybrid thermal/mechanical drilling technology for much faster drilling with less wear and tear on the drill bit. Could open up cost effective access to the geothermal energy in deep, hard basement rock, a potentially huge new source of domestically available, carbon-free baseload power.
General Motors Company (University of Michigan, HRL Laboratories, LLC, Dynalloy, Inc.)	\$2,655,174	Warren, MI	Vehicle Technologies A shape memory alloy (SMA) energy recovery device to convert waste heat from car engines into electricity. Could significantly increase fuel efficiency in cars (most energy is lost as heat) and could be used in many other heat recovery applications.
Inorganic Specialists, Inc. (Ultramet, Inc., EaglePicher, Southeast Nonwovens, EMTEC)	\$1,999,447	Miamisburg, OH	Energy Storage A silicon-coated carbon nanofiber paper for the anode of next generation Lithium-ion batteries. These low cost, manufacturable batteries could accelerate the deployment of plug-in hybrids and electric vehicles, shifting U.S. transportation energy from imported oil to the grid.
Iowa State University (Purdue University)	\$4,373,488	Armes, IA	Direct Solar Fuels Metabolic engineering and synthetic biology approaches to increase lipid production, carbon dioxide uptake, and thermal tolerance of algae for the production of biofuels directly from

			sunlight and CO ₂ . Could make algae-based biofuels production economically viable.
ITN Energy Systems, Inc. (MAG Industrial Automation Systems, EPRI, Colorado School of Mines)	\$4,986,249	Littleton, CO	<i>Building Efficiency</i> Solid-state electrochromic film on plastic substrates with roll-to-roll production process to substantially reduce the cost of electrically controlled smart windows for net-zero energy buildings. These windows reduce heating and cooling loads and minimize overhead lighting use.
Lehigh University	\$566,641	Bethlehem, PA	<i>Carbon Capture</i> Electric field swing adsorption for carbon capture using high surface area conductive solid carbon sorbents. Uses electric fields to change the interaction of molecules on a surface, capturing and then releasing the CO ₂ using far less energy than current approaches.
Massachusetts Institute of Technology	\$6,949,624	Cambridge, MA	<i>Energy Storage</i> An all liquid metal grid-scale battery for low cost, large scale storage of electrical energy. This new class of batteries could enable continuous power supply from renewable energy sources, such as wind and solar and a more stable, reliable grid.
Michigan State University	\$2,540,631	East Lansing, MI	<i>Vehicle Technologies</i> The wave disc engine, a gas-fueled electric generator that is five times more efficient than traditional engines for electricity production, as well as lighter and cheaper to manufacture. Could replace current generators for plug-in hybrid electric vehicles.
Momentive Performance Materials (Soraa, Advanced Photonic Crystals)	\$4,519,259	Strongsville, OH	<i>Building Efficiency</i> A high-pressure ammonothermal process for the inexpensive production of high quality, single crystal GaN substrates at high crystal growth rates. Could allow

			production of light emitting diodes (LEDs) at costs equal to current low-cost fluorescent lighting. LED lighting consumes as little as one tenth of the energy of current lighting options.
Nalco Company (Argonne National Laboratory, Argonne, IL USA)	\$2,250,487	Naperville, IL	<i>Carbon Capture</i> An electrochemical process for CO ₂ capture using Resin-Wafer Electrodeionization. Uses pH changes to adsorb and desorb CO ₂ from flue gas without energy intensive, costly processes such as heating or a vacuum.
NanOasis Technologies, Inc.	\$2,031,252	Richmond, CA	<i>Water</i> Carbon nanotubes for reverse osmosis membranes that require less energy and have many times higher flux. Could dramatically reduce the cost and energy required for desalination to supply fresh water for our crops and communities.
Ohio State University (PSRI, CONSOL Energy, Inc., Shell/CRI, The Babcock and Wilcox Company)	\$5,000,000	Columbus, OH	<i>Carbon Capture</i> Syngas Chemical Looping (SCL) to convert coal or biomass into electricity while efficiently capturing the CO ₂ . Has successfully been demonstrated at laboratory scale; this project will scale it up to a pilot plant at the National Carbon Capture Center.
PAX Streamline, Inc. (Georgia Tech Research Institute)	\$3,000,000	San Rafael, CA	<i>Renewable Power (wind)</i> “Blown Wing” technology for wind turbines. Creates a virtual airfoil by jetting compressed air along a wing. Can be dynamically adjusted to maximize power under a wide range of wind conditions. A new design that can be manufactured at a fraction of the cost.
Pennsylvania State University (Sentech Corporation)	\$1,900,067	University Park, PA	<i>Direct Solar Fuels</i> Catalyst-coated titanium dioxide nanotube membranes to convert sunlight, carbon dioxide and water into methane and other hydrocarbon

			fuels.
Phononic Devices, Inc (University of Oklahoma, California Institute of Technology, University of California at Santa Cruz)	\$3,000,000	Norman, OK	<i>Waste Heat Capture</i> A new class of high efficiency thermoelectric devices and materials that use thermally insulating semiconductors with high thermal-to-electric conversion efficiencies. An astounding [60%] of U.S. energy is lost in the form of waste heat – from power plants, industrial processes, and vehicles. High efficiency thermoelectrics hold great promise to tap into this vast hidden energy resource while reducing U.S. greenhouse gas emissions.
Porifera Inc. (University of California Berkeley, Lawrence Livermore National Laboratory)	\$1,077,992	Hayward, CA	<i>Carbon Capture</i> Carbon nanotubes integrated into polymer membranes to increase the flux of CO ₂ capture membranes by two orders of magnitude. Could enable much less expensive carbon.
RTI International (Archer Daniels Midland Company, ConocoPhillips, Albemarle Corporation)	\$3,111,693	Research Triangle Park, NC	<i>Biomass Energy</i> A single-step catalytic biomass pyrolysis process with high carbon conversion efficiency to produce a stable bio-crude “oil” with low oxygen content. The approach combines pyrolysis oil production, stabilization, and upgrading into one process.
Stanford University	\$4,992,651	Stanford, CA	<i>Building Efficiency</i> Sensors, software, and controls to track and improve energy use patterns. Could lead to substantial reductions in building energy use by changing human behavior through timely information and usable controls.
Sun Catalytix Corporation	\$4,085,350	Cambridge, MA	<i>Direct Solar Fuels / Energy Storage</i> A novel catalyst to greatly enhance

			the efficiency of splitting water into hydrogen and oxygen. An important platform technology for the production of solar fuels and for distributed energy storage systems.
United Technologies Research Center (Hamilton Sundstrand, CM-Tech, Inc., Worley-Parsons, Columbia University)	\$2,251,183	East Hartford, CT	<i>Carbon Capture</i> Synthetic enzymes for capturing CO ₂ from coal plant flue gas streams. Uses a synthetic form of the enzyme carbonic anhydrase, which our bodies use to remove CO ₂ . Could dramatically reduce the cost of carbon capture.
Univenture, Inc. (Rockwell Automation, Ohio University, Case Western Reserve University)	\$5,992,697	Marysville, OH	<i>Biomass Energy / Direct Solar Fuels</i> A novel algae harvesting system that could dramatically reduce the energy cost necessary to harvest, dewater, and dry algae by using a novel absorbent moving belt harvester. This technology offers the potential to transform the economics of algae-based biofuel production by removing a major barrier to large scale commercialization.
University of California, Riverside	\$760,705	Riverside, CA	<i>Vehicle Technologies</i> Alkaline polymer electrolyte fuel cell membranes that eliminate the use of expensive catalyst materials. Potential to drastically reduce fuel cell costs and enable their widespread application in building and automotive applications.
University of Delaware (University of Nebraska-Lincoln, Northeastern University, Virginia Commonwealth University, Ames)	\$4,462,162	Newark, DE	<i>Vehicle Technologies</i> Novel high energy density, low rare-earth content magnetic materials with double the energy density of current materials. Would decrease the weight and increase the efficiency of motors for hybrid, plug-in hybrid, and electric vehicles and generators for advanced wind turbines. Also could greatly reduce

Laboratory, Electron Energy Corporation)			U.S. imports of key rare-earth elements that are not domestically available.
University of Illinois (MC10, Inc.)	\$1,715,752	Urbana, IL	<i>Waste Heat Capture</i> A novel thermoelectric waste heat harvesting device based on large area arrays of 1-D concentric silicon nanotubes. Can be inexpensively printed as stacked thermoelectric junctions. This low cost thermoelectric technology holds great promise to allow the U.S. to begin to harvest the more than 60% of its energy that it loses in the form of waste heat.
University of Minnesota (BioCee, Inc.)	\$2,200,000	St. Paul, MN	<i>Direct Solar Fuels</i> Production of liquid hydrocarbon transportation fuels directly from sunlight, water and CO2 using an artificial symbiotic colony of photosynthetic cyanobacteria and <i>Shewanella</i> , a hydrocarbon producing bacteria.

From: [Energy Recovery Act Operations](#)
To: [undisclosed-recipients:](#)
Subject: ARRA Update on FederalReporting.gov: DOE Invitation to Webinars on Reporting
Date: Thursday, October 01, 2009 7:14:04 PM

Energy Recovery Act Recipient/Contractor,

On February 17, 2009, President Obama signed into law the American Recovery and Reinvestment Act of 2009 (P.L. 111-5). Section 1512 of the Recovery Act requires your organization to report on the use of Recovery Act funding. The Recovery Accountability and Transparency Board ("Recovery Board") has identified and deployed a nationwide data collection system at the website FederalReporting.gov that serves to collect data required by Section 1512. The first of these reports is due no later than October 10, 2009.

To help DOE recipients meet this reporting requirement, DOE has established a website with a variety of helpful information at http://www.energy.gov/recovery/ARRA_Reporting_Requirements.htm. There, you will find, among other things:

- (1) Webinar presentations
- (2) A spreadsheet with awardee name, award/contract number, project value/description, CFDA code (for grantees), CFDA description, DUNS number, total awarded/obligation. This will help you complete the forms.
- (3) Instructions on how to fill-out web-based version of FederalReporting.gov
- (4) DOE's guidance for recipients who want to report jobs created/retained using a statistical methodology instead of actual jobs count.
- (5) Contact information for the DOE Clearinghouse, who is the POC to provide technical information to recipients to help them complete the forms.

DOE IS PLEASED TO INFORM YOU THAT WE WILL BE HOSTING WEBINARS TO HELP RECIPIENTS WITH THIS REPORTING REQUIREMENT.

To join one of these webinars, a recipient will need to take the following steps:

- (1) Log onto www.JoinWebinar.com
- (2) Type a Webinar ID (see below for ID for each day/time)
- (3) Type an e-mail address
- (4) After hitting "enter", the e-mail address entered in (3) will receive an automatically generated e-mail identifying the website to log into to see the webinar, as well as phone number to call in the event the recipient's computer does not have speakers to hear the webinar.

-- Recipients will have an opportunity to submit written questions during the webinar. These questions will be answered "in bulk" within 48 hours and posted on the DOE website http://www.energy.gov/recovery/ARRA_Reporting_Requirements.htm. As we get closer to October 10th, responses will be posted in a more timely manner.

-- Recipients can register at anytime, including during the webinar.

The Schedule/Webinar ID for Grant, Loan, or other non-Contractor Recipients:

Session 1: Tuesday, September 29th, 1:00 pm EST. Webinar ID: 996-580-266 Session 2: Wednesday, September 30th, 1:00 pm EST. Webinar ID: 983-816-842 Session 3: Thursday, October 1st, 1:00 pm EST. Webinar ID: 843-491-019 Session 4: Friday, October 2nd, 1:00 pm EST. Webinar ID: 723-034-379 Session 5: Monday, October 5th, 1:00 pm EST. Webinar ID: 340-569-499 Session 6: Tuesday, October 6th, 1:00 pm EST. Webinar ID: 158-110-770 Session 7: Wednesday, October 7th, 1:00 pm EST. Webinar ID: 433-499-946 Session 8: Thursday, October 8th, 1:00 pm EST. Webinar ID: 343-721-602 Session 9: Friday, October 9th, 1:00 pm EST. Webinar ID: 994-285-338

The Schedule/Webinar ID for Contractors:

Session 4: Friday, October 2nd, 2:30 pm EST. Webinar ID: 280-490-939
Session 5: Monday, October 5th, 2:30 pm EST. Webinar ID: 670-444-411
Session 6: Tuesday, October 6th, 2:30 pm EST. Webinar ID: 682-853-234

Session 7: Wednesday, October 7th, 2:30 pm EST. Webinar ID: 499-740-435
Session 8: Thursday, October 8th, 2:30 pm EST. Webinar ID: 220-540-778
Session 9: Friday, October 9th, 2:30 pm EST. Webinar ID: 173-021-835

Energy Recovery Act Operations

From: [mohan.gowda](#)
To: [bill.payne](#); [Dr.Bill Rooney](#)
Cc: [Maria Balota](#)
Subject: ASA-poster
Date: Monday, October 26, 2009 5:50:32 PM
Attachments: [ASA09.ppt](#)

Dear all,
Here is my poster for ASA meeting-09. I am planing to get printed by Thursday. Please let me know your suggestions.

Thanks
Mohan

Mohankumar Kapan gowda Wi liam A Payne Will am L Rooney and Maria Balo a²

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 v l e s h a s u g e s o p e o m p o v d W E n d p o d c i i y

he e s an i c e a s n g n e d t o m p o v e c o p w a e - s e e c e c y (WUE) i e h e a i o o w h o e p a n t o m a s t o c m l t v e t n s p a i o) d u e o d e c e s n g w a e a a l b l y a n d n c e a e d o d a n d e e y e m n d s h u g h u t h e w o l d B a o a e t a l 20 8)

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Experiment was conducted at Texas AgriLife Research and Extension Station (35° N at 102°06' W) using 70 m elevation Bushland, TX.

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answered with content that is not on the agency COA's main page (A. The main page is E). Based on the evidence, Bao et al. (2008)

Experimental design was a Randomized Complete Block with two types of treatments (control and weeding) and two times (40 and 80 days after sowing) as experimental factors and replications.



g View o t e e p e m e t l a o t n
g e e h u s a t E S B s h n d X



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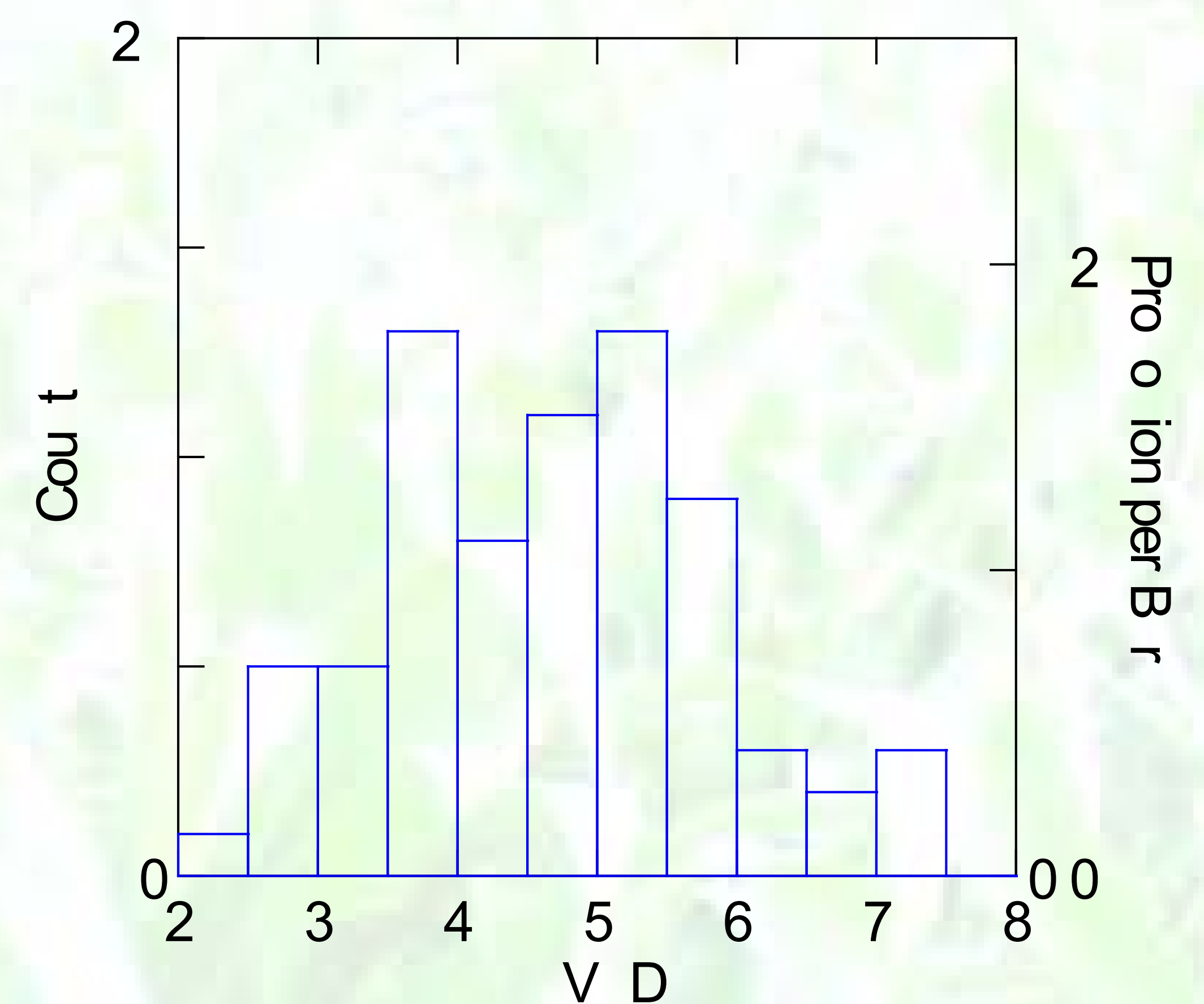
Group type was eigme and hei ne cin ad a sign i ant e ec on A E and A E (ab e)

Table 1. Mean squares and probabilities () from combined ANOVA for CO₂ assimilation rate (A), transpiration rate (E) and transpiration ratio (A/E) on a single morph (*So ghum b co o* ()) Monochotyledonous 7 combinations and populations (430 and x778) under monochotyledonous and euglyme) and with populations

S u e	d	A		E		A E	
		μ C O m s		mmol H O m s		mmo C O mol H O	
		Mean s u a e		Mean s u a e	p	M a n s q a	
W a e e g m e		0645	0 000	96 978	0 000	5 8	0 000
E t y	7	4 3	0 000	3 4 9	0 000	4 7	0 000
W a e e g m e * E n t y	7	07 42	0 000	2 384	0 00	5 5	0 000
E o	64	50 3 7		475		0 7 2	

Regression on E how d age te gen t c va ab i y amo g he nb ed i es han amo g a n s o
t an pi a on to (AE) (g) Ave a e AE was 3 07 mmo CO mol o x430 nd 2 80 o x7078

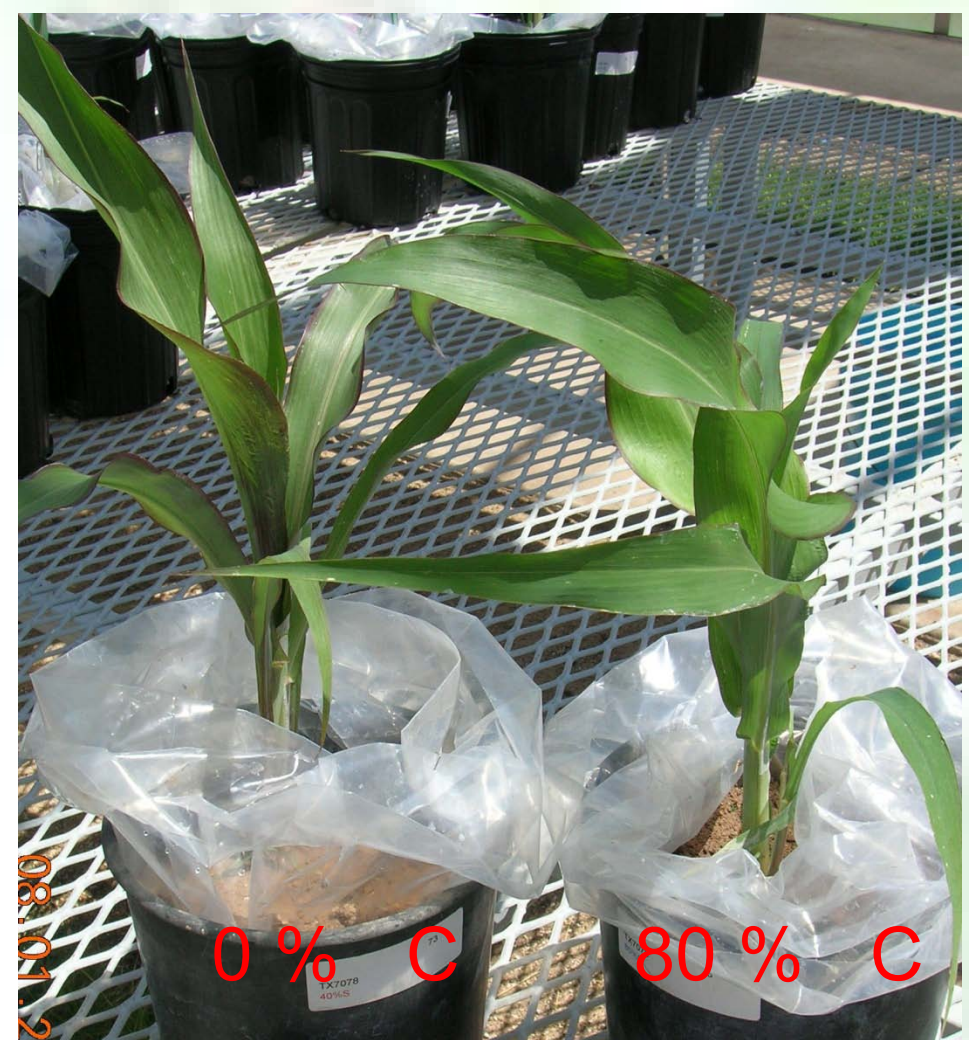
He ably estimates σ^2 and σ^2 as 0.33 and 0.08 respectively



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his work was supported by Grants from the National Science Foundation

From: [Hall, Susan R](#)
To: [Rooney Bill](#)
Subject:
Date: Friday, October 02, 2009 4:22:16 PM

Good afternoon!

Is it possible for us to get about 50 seeds of the . If it is
easier we can come gather it -- as long as somebody can point to it for us. :)

Hope you have a good weekend!!
Susan

From: [Thomas H Ulrich](#)
To: [Bill Rooney](#)
Cc: [Camile C. Cervantes](#)
Subject: BILLION TON STUDY WORKSHOP
Date: Tuesday, October 20, 2009 12:46:32 PM
Attachments: [Invitation background 10-20-09.docx](#)

Bill,

The DOE Office of Biomass Programs is updating the Billion-Ton 2005 Report and would like your participation in a five hour mid-day workshop in Chicago on December 10, 2009. Attached is some background on this and related workshops.

Please let me know if you can participate.

Best regards,

Tom



Thomas H. Ulrich, Ph.D. • *Biofuels & Renewable Energy Technologies*
Idaho National Laboratory
PO Box 1625 • Idaho Falls, ID 83415-2203
Office Phone: 208.526.7282 • Fax: 208.526.0828
E-mail: Thomas.Ulrich@Inl.gov

HIGH-YIELD RESOURCE ASSESSMENT SCENARIO WORKSHOPS

Objectives

1. Develop alternate assumptions for biofuel feedstock assessment analyses beyond current baseline assumptions that factor in potential improvements in crop yield and management strategies
2. Validate alternate assumptions with scientific experts and gather industry, academic, and government support for the high-yield feedstock assessment

Summary

Developing a sustainable cellulosic biofuels industry capable of meeting ambitious national targets (e.g., Renewable Fuel Standard) presents a number of challenges for current production systems. While existing systems are effective at meeting demands for food, feed, and fiber, serious questions remain about the sustainability of pushing land resources to produce significant quantities of fuel. Securing the volume of biomass feedstocks necessary to achieve national goals will likely require crop yield improvements, as well as implementing innovative management strategies that increase the productive capacity of the landscape.

The overall goal of the High-Yield Scenario Workshop is to develop an industry-based U.S. biofuel feedstock assessment that challenges current baseline assumptions. This high-yield scenario will accompany the forthcoming update to the 2005 report *Biomass as Feedstock for a Bioenergy and Bioproducts Industry: The Technical Feasibility of a Billion-Ton Annual Supply* (Billion-Ton Study). The updated Billion-Ton Study will include county-level baseline feedstock supply estimates and a high-yield scenario to support program objectives of the U.S. Department of Energy (DOE) Office of Biomass Program (OBP) and the multi-agency Biomass Research and Development Initiative (BRDI).

Feedstock base assumptions will be identified and prioritized based on their impact to the total available supply. The focus of the High-Yield Scenario Workshops is on the collection of data that supports an alternative high-yield resource assessment and on obtaining reputable scientific and industrial support that validates high-yield scenarios developed for different biomass feedstocks.

Where possible, alternate assumptions with potential to increase the amount of cellulosic biomass available will be identified based on published literature and industry input. Three workshops with invited experts from industry, academia, and government will be coordinated to validate the alternate assumptions and outline science and technology advances needed to achieve these new targets. The workshops, to be held in December of 2009, will be organized by type of biomass resource – Corn/Agricultural Crop Residues, Herbaceous Bioenergy Crops, and Woody Bioenergy Crops/Forest Residues. A new high-yield scenario assessment will be developed using the alternate high-yield assumptions and evaluated during these workshops.

Workshop Schedule

Corn/Agricultural Residues
The Renaissance Hotel
St. Louis, MO

Dec 3rd

Herbaceous Energy Crops
Hyatt near airport
Chicago, IL

Dec 10th

Woody Energy Crops/Forest Residues
Hyatt near airport
Chicago, IL

Dec 11th

From: [Walter Nelson](#)
To: [Rooney, Bill](#)
Subject: Bloom dates
Date: Monday, October 05, 2009 12:48:56 PM

Bill,

We're doing some pilots in Puerto Rico with Grassl and Wray. Any thoughts on their bloom dates in a short-day environment? Clint is designing the splits...

Thanks!

W

From: [Juerg Blumenthal](#)
To: [Adam Helms](#); [Shayna Spurlin](#)
Cc: [Bill L Rooney](#)
Subject: Budgets for DARPA
Date: Friday, October 02, 2009 2:55:14 PM
Attachments: [blumenthalbudgettask1.2.xls](#)
[blumenthalbudgettask3.2.xls](#)

Shayna and Adam,

attached are the budgets for my subtasks 1.2 and 3.2. I will work on the rest of the requested items this weekend and get them to you on Monday. If you have questions, please call me on my cell phone

Thanks for all your help.

Jrg Blumenthal

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

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Fax: (979) 845-0604