

Producers - Processors - Policy Makers - Future Ag Leaders



# AGRIFUTURE

*Growing the future of Ag today*

**AGRIFUTURE 2011 CONFERENCE**

**OCTOBER 12-14, 2011**

**LARAMIE WYOMING**

**HILTON GARDEN INN**



**CONFERENCE SUMMARY GUIDE**

# WHAT IS OUR AGRIFUTURE?

Agriculture is rapidly changing with advances in technology and a growing world population.

An industry as old as the land itself, and its lifestyle and economic viability must be cultivated just as carefully as the land that yields our crops and livestock.

In order to address our “agrifuture” we must measure, discuss and tackle the most pressing ag issues of the present.

As part of this effort, the following subjects were addressed during the AgriFuture 2011 conference in Laramie, WY from October 12-14, 2011.

- **What is the future of Ag?**
- **What are the challenges facing Ag?**
- **What are the innovative ways to meet those challenges?**

Please enjoy this summary of the conference and we hope you find it useful as a reference tool.



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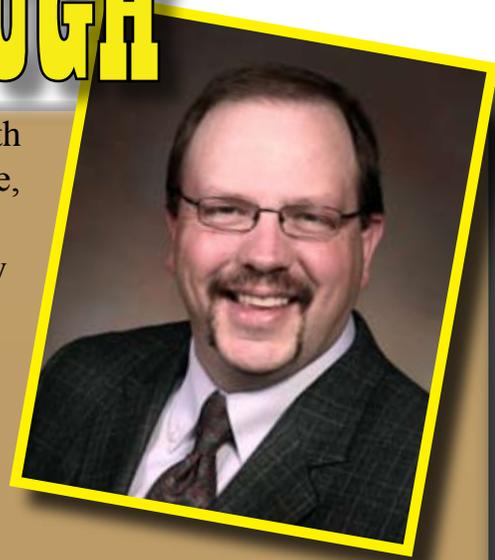
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## SPECIAL THANKS TO ALL OF OUR GENEROUS SPONSORS



# Introduction

# JASON FEARNEYHOUGH



The future of the agriculture industry is bright. I can say this with more confidence now after participating in AgriFuture 2011 in Laramie, Wyoming. As many of you know, AgriFuture started as a dream of mine after years of discussions with young people, agriculture industry folks and others throughout the world and I couldn't be happier with how this idea has materialized over the last two years. Like the first conference in Evanston, the main goal of AgriFuture 2011 was to bring people together. This year, attendance was up and we brought numerous young people, producers, industry members, and decision makers together to discuss and map the future of our industry. This group brought remarkable ideas and insight on how we can collectively get through some of the challenges we all face today in order to reach the immense potential of agriculture. Through incredible speakers, productive brainstorming sessions, a beautiful setting in Laramie, and meaningful conversations, we took a positive and important step toward the future and health of our industry.

I would like to take this opportunity to thank all of those involved with putting this conference together. Their hard work made AgriFuture an event to remember and provided an great stepping stone to the possibilities we all know are out there. I would also like to thank the speakers for taking the time to come and present during the conference. They offered all in attendance some new ways to look at the industry challenges and provided innovative ideas that could be taken home, implemented and built on. And finally, I would like to thank those who attended AgriFuture . Like last year, the interaction between heads of agencies, industry and students was something I was very excited to see. Along with this, the breakout sessions provided a forum for equal footing and valuable input from everyone participating. This type of dialog doesn't happen on often and it helped move the discussions forward in a constructive and impactful way through unique perspectives.

All in all, I am proud to say that AgriFuture 2011 was a success. I think it is safe to say that all who attended benefited from the conference in one way or another. Hopefully we can all take the valuable information gathered from the conference and start moving agriculture toward the bright future ahead.

Sincerely,

A handwritten signature in black ink that reads "Jason Fearneyhough".

Jason Fearneyhough  
Director, Wyoming Department of Agriculture

# CONFERENCE AGENDA

## Wednesday: Oct. 12, 2011

5:00 - 8 p.m.

Reception

Cash bar and Hors d'oeuvres

## Thursday: Oct. 13, 2011

7:30 - 8:30 a.m.

Breakfast Provided

8:30 - 8:45 a.m.

Jason Fearneyhough - Welcome & Intro

Tom Buchanan - Welcome to Laramie

8:45 - 9 a.m.

Rep. Cynthia Lummis - U.S. House of Representatives - Wyoming (At Large)

9 - 10 a.m.

Dr. Lowell Catlett - Keynote Speaker

How we can ensure a Bright Future for American Ag

10 - 10:30 a.m. - BREAK

10:30 - 11 a.m.

Looking back and moving forward  
brainstorming session

11 - Noon

Challenge breakouts

Noon - 1 p.m.

Lunch speaker Kevin Edberg,  
(Cooperative Development Services of  
St. Paul, Minnesota)

1 - 1:45 p.m.

Dallas Tonsager

USDA Undersecretary for  
Rural Development

## Thursday: Oct. 13, 2011 Continued

1:45 - 5:30 p.m.

Breakout Sessions, Innovations in  
Agriculture - Two Sessions

Session One: 1:45 - 3:30 p.m.

David Bell and Gregory Hanes - Local/Global:  
Feeding the neighbors and the world

Don Collins - Western Research Institute  
Milt Geiger - UW Cooperative Extension  
Energy in Agriculture - Back to the Future

Margaret Fogarty - Farm Credit Services  
The Media and Ag... Wait, that's not what I said

Kim Cullen, Troy Randall and Patrick  
Zimmerer

You graduated with an Ag degree... Now what?

3:30 - 3:45 p.m. - BREAK

Session Two : 3:45 - 5:30 p.m.

Repeat Breakout Session Presentations

## Friday: Oct. 14, 2011

7:30 - 8:30 a.m. - Breakfast

8:30 - 8:45 a.m.

Jason Fearneyhough - Review the day

8:45 - 10 a.m.

Break out session - Bring it all together

10:00 - 10:15 a.m. - BREAK

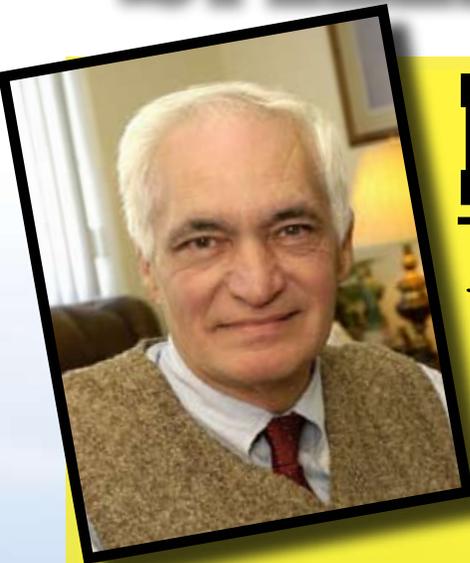
10:15 - Noon

Report Out: Agricultural Opportunities  
for the Future

12 p.m.

Jason Fearneyhough, Closing and adjourn

# SPEAKER BIOGRAPHIES



## **DR. LOWELL CATLETT**

*New Mexico State University*

Dr. Lowell Catlett, is a Regents Professor in Agricultural Economics and Agricultural Business and Extension Economics and the Dean of the College of Agricultural, Consumer and Environmental Sciences at New Mexico State University. He is an exciting futurist whose knowledge of technologies and their implications on the way we will live and work is addressed in his varied and upbeat presentations. His vast knowledge astounds corporate and association audiences both nationally and internationally. His presentations are thought-provoking and highly-entertaining.

Dr. Catlett received his doctorate in Economics from Iowa State University, and has twice received the Don C. Roush Award for Excellence in Teaching. He is also a recipient of the prestigious Burlington Foundation Faculty Achievement Award for Outstanding University Teaching. In 1994 he was one of two Western Regional recipients of the National Association of State Universities and Land Grant Colleges "Excellence in College and University Teaching in the Food and Agricultural Sciences Award."

In February, 2007 he received the Carl F. Hertz Distinguished Service to Agriculture Award from the American Society of Farm Managers and Rural Appraisers for his service to agriculture.

In addition to his selection in 2002 as a member of the original class of six New Mexico State University Regents Professors, Dr. Catlett has received every teaching award the university offers, including the Westhafer Award for Teaching in 1990, New Mexico State University's top honor. The professor of agricultural economics and agricultural business is internationally known as an expert in commodities futures markets and is in demand as a speaker and consultant on predicting and planning for near- and long-term futures.

Lowell recently received the College of Agriculture and Home Economics Advisor of the Year as well as Teacher of the Year at New Mexico State University.

He is a consultant to the U.S. Departments of Agriculture, the Interior, Defense and Labor. He has also been a consultant to many Fortune 500 companies.

# **CYNTHIA LUMMIS**

## *U.S. House of Representatives*

Cynthia Lummis was elected to represent the people of Wyoming in the U.S. House of Representatives in 2008. She was raised on her family ranch in Laramie County and graduated from the University of Wyoming with bachelor degrees in Animal Science and Biology. In 1979, Cynthia became the youngest woman ever elected to the Wyoming Legislature. She returned to the University of Wyoming for a law degree, which she received in 1985.

Cynthia then clerked at the Wyoming Supreme Court, practiced law in Cheyenne, and served a total of fourteen years in the Wyoming House and Senate, concentrating on natural resource and taxation issues. She completed her legislative service in 1994 and then chaired Governor-elect Jim Geringer's transition team. She continued to work in the Governor's office for two more years, primarily on natural resource issues. Cynthia also served as the interim Director of the Office of State Lands and Investments.

Cynthia was elected Wyoming State Treasurer in 1998. In eight years (two terms) as Wyoming State Treasurer, she converted Wyoming's primarily fixed income investment portfolio of \$3.5 billion to a fully diversified portfolio of equities, real estate and fixed income investments, public and private, domestic and international, totaling \$8.5 billion. Her term of office as State Treasurer ended in January 2007.

Cynthia continues to be involved in the daily operations of the Lummis family ranch. She and her husband, Al Wiederspahn, former Wyoming legislator who is a Cheyenne attorney, have one daughter, Annaliese.



I felt honored to be able to listen to and talk with the people who attended the 2011 AgriFuture Conference. The caliber of people at this meeting was amazing as were the discussions we had about providing a future for agriculture. I will definitely be attending next years conference and I have high expectations for it!

**KATELYN SCHADE**

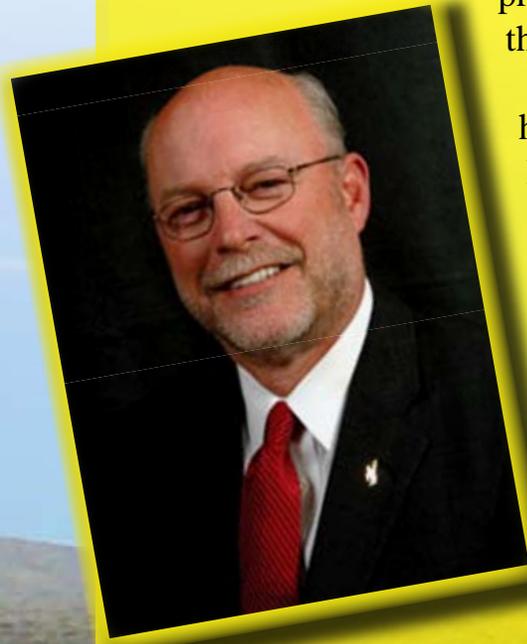
*University of Wyoming*

# **TOM BUCHANAN**

## *University of Wyoming*

Tom Buchanan, President, University of Wyoming, has had a career in higher education that has spanned more than 35 years, as a student, teacher, and administrator. A native of New York, Buchanan attended the State University of New York at Cortland where he graduated with his undergraduate degree in 1973. He earned his master's of science from the University of Wyoming in 1975 and a Ph.D. from the Institute for Environmental Studies at the University of Illinois at Urbana-Champaign in 1979. After completing his doctorate, Buchanan returned to Wyoming as an assistant professor in the Department of Geography at the University of Wyoming. Over the next 30 years, he rose through the faculty ranks to full professor, and has held various administrative positions including department head, associate dean of the College of Arts and Sciences, and vice president for academic affairs. On July 1, 2005, he was appointed the 23rd president of the University of Wyoming.

As UW president, Buchanan's priorities for the University have included excellence in academics, promoting access to higher education in Wyoming, and enhancing economic and workforce development in Wyoming. Buchanan is the recipient of numerous awards recognizing excellence in teaching and administration, including the Ellbogen Meritorious Classroom Teaching award and the Seibold Professorship in the College of Arts and Sciences. He serves on the governing boards of the Mountain West Athletic Conference, the Western Interstate Commission for Higher Education, and the Western Cooperative for Educational Telecommunications. He is Wyoming's representative to State Higher Education Executive Officers (SHEEO).



“The AgriFuture Conference provides one of the best opportunities for students, agricultural producers, private business and public agencies to network.”

**NANCY VERES CLARKE**

*Rural Development - USDA*

# DALLAS TONSAGER

## *USDA Under Secretary for Rural Development*



Dallas Tonsager was appointed by President Obama as Under Secretary for Rural Development and sworn into office in May of 2009. Tonsager has over 35 years of agricultural, business, cooperative and financial experience through his work as a farmer, businessman, and community, state and national leader.

Prior to joining USDA, Tonsager served from 2004 to 2009 on the board of directors for the Farm Credit Administration. As one of three board members, Tonsager was responsible for regulatory oversight of the Farm Credit System, which provides approximately one-third of the agricultural credit in the United States. During his tenure as a board member of the Farm Credit Administration, Mr. Tonsager supported passage of a new authority, which allowed Farm Credit System institutions to invest in rural communities across America. Among the many benefits provided by this authority was that it also opened a way for the System to provide funding for critical access hospitals in rural America.

Tonsager served as the executive director of the South Dakota Value Added Agriculture Development Center from 2002 to 2004, leading efforts to develop farmer-owned agricultural facilities, such as ethanol, to increase economic value and consumer appeal of agricultural products. The center is composed of 18 farm and rural business organizations, and provides project management, feasibility assessment, business planning, education, funding access, research and networking assistance.

In 1993, then-President Bill Clinton selected Tonsager to serve as USDA South Dakota's state director for Rural Development. In 1999, he was recognized as one of two outstanding state directors in the nation and received the national "Hammer Award" from then-Vice President Gore for his work as part of a team that reinvented USDA's rural business guarantee loan program. Tonsager served as state director until 2001.

Tonsager served two terms as president of the South Dakota Farmers Union. He also served on the board of National Farmers Union Insurance from 1989 to 1993, and was a member of the advisory board of the Commodity Futures Trading Commission from 1990 to 1993.

Tonsager grew up on a dairy farm near Oldham, S.D. and has been involved in the family's diversified farm operations since 1976. He graduated from South Dakota State University with a Bachelor of Science in agriculture in 1976. Tonsager and his wife, Sharon, have two sons.

Rural Development has a network of 6,100 employees and 500 offices, a portfolio of business, housing, and infrastructure loans totaling \$132 billion, and provides an estimated \$20 billion annually to support economic and community development in rural America



# KEVIN EDBERG

## Cooperative Development Services of St. Paul MN

Kevin Edberg is the executive director of Cooperative Development Services, a 26 year old non-profit organization that helps to start and expand cooperative businesses in Minnesota, Wisconsin and Iowa. CDS' current programs focus on finding cooperative solutions to issues of community development, environmental improvement, and renewable energy.

Kevin brings to his work a broad background in agriculture. Before coming to CDS in October 2000, Kevin spent 13 years with the Minnesota Dept. of Agriculture, the last seven as head of all state agricultural marketing programs. In his early years at the MDA, he led the development of the state's local foods program, agricultural diversification program, and served as the state's organic agriculture program leader. Later he served as the Commissioner's representative on 13 state commodity councils; led the department's international trade programs, oversaw the development of the state's cooperatively based ethanol program, and created a program to support farmer ownership of value-added agricultural businesses.

Kevin holds a Bachelor of Science degree in Horticulture and Agricultural Economics; a Masters Degree in Plant Breeding and Plant Physiology; and another Bachelor of Science degree in Secondary Science Education in Chemistry and Biology, all from the University of Minnesota.

He has also been active in his community, with over 20 years of elected service on his local school board and city council.



# **DAVID BELL**

## *Boulder County Parks and Open Space*

David has been employed by Boulder County Parks and Open Space for fourteen years, and is currently the Agricultural Resource Manager for the Department. In this position David is responsible for the management of 25,000 acres of agricultural land that is owned by the county and leased to local farmers and ranchers. In addition to working with traditional agricultural operations, the Department has made a commitment to supporting local market-farms on Open Space properties.

To help minimize these new operations on public lands from impacting existing producers, the Agricultural Division has created an “Exploring Local Markets” program, which helps put local buyers in contact with local agricultural producers in order to expand opportunities in the county.

David received his B.S. in Wildlife Biology from Colorado State University and his Master in Environmental Law from the University of Denver.

# **GREGORY HANES**

## *U.S. Meat Export Federation*

Gregory Hanes is currently the Assistant Vice President of International Marketing at the U.S. Meat Export Federation in Denver, Colorado and is responsible for strategic marketing and program direction as they relate to the USMEF mission statement. Prior to moving into this position in August 2009, he was the USMEF’s Japan Director, for the organization’s office based in Tokyo. As Japan Director, he was responsible for all activities occurring in Japan. During his tenure, he spearheaded the launch of the “We Care” beef campaign to rebuild demand for US beef and the “Erabarete No.1” (chosen #1) campaign for US pork, which has seen record growth. He held this position for over 3 ½ years but lived in Japan since January 2001. During this 8 ½ year period, he worked as the only foreigner in a Japanese company and in another position had responsibilities that covered all of Asia. Before moving to Japan, Hanes worked at USMEF for 4 years and was Assistant Director for Program Planning, a position which worked closely on the annual planning document for the Foreign Ag Service in USDA.

Hanes has a Master’s Degree of International Management with an emphasis on marketing from Thunderbird in Phoenix Arizona and a BA in Economics, with a minor in Asian Culture & History from Colorado College. He spent a semester abroad at Kansai Gaidai University near Kyoto Japan during his junior year. After graduating from C.C., he worked 1 year in Osaka with the JET Program. In total he has lived and worked in Japan for over 10 years and extensive experience working and traveling throughout Asia and other countries. Hanes is a Wyoming native, having been born and raised in Cheyenne.

# MILTON GEIGER

## *Wyoming Cooperative Extension Service*

Milton Geiger currently serves as the energy extension coordinator for the University of Wyoming, Cooperative Extension Service. In this capacity, Milt coordinates outreach and applied research activities related to energy efficiency and renewable energy for the College of Agriculture and Natural Resources, School of Energy Resources, and College of Engineering and Applied Science.

# DON COLLINS

## *Western Research Institute*

Don Collins is the Chief Executive Officer of the Western Research Institute located in Laramie, WY. At WRI, Don is focused on transitioning science to commercialization of clean energy technologies and lower cost methods for building highways, including zero-emission coal power plants and bioasphalt highways.

He has 25-years of experience in engineering and management of research, design, and construction of new technologies. His first 17-years were dedicated to submarine technologies R&D and integration of complex systems for SEAWOLF and VIRGINIA Class submarines, for the U.S. Navy, and the first dry mini-sub for the Navy Seals.

He is a mechanical engineer and computer software engineer by training and early career work during which he completed a Master of Science degree in systems engineering management from the George Washington University.

Prior to arriving at WRI, Don was responsible for managing groups of scientific and engineering project managers in pursuit of the U.S. Department of Energy Clean Coal Technology R&D goals. For ~6.5-years he managed DOE R&D programs focused on fuel cells and energy storage technology R&D for distributed and central power applications, including integration of technologies to achieve smart grid objectives. He was also responsible for hydrogen turbines and high efficient CO2 compressors development under the DOE's FutureGen and Carbon Sequestration programs.



# MARGARET FOGARTY

## *Farm Credit*

Margaret Fogarty is the National Communications Director for Farm Credit, with more than a decade of experience in planning and executing integrated communications and public relations programs in industries ranging from telecommunications and restaurants, to automotive financing and political campaigns. Margaret specializes in creating results-driven programs with integration across traditional and digital media.

Shortly after joining Farm Credit she launched an award-winning national website at [www.farmcredit.com](http://www.farmcredit.com), which serves as the cornerstone for communications across the Farm Credit System for both internal and external clients.

Her previous work includes:

- Creating a consumer social media program for a Fortune 200 telecom company
- Developing community-focused public relations campaigns and sponsorship activation
- Driving integration and adoption of new communications technologies across organizations

She holds a Master's degree from Colorado State University in Technical Communications Management and a Bachelor's degree in English and Spanish from the University of Iowa, and is active in the Public Relations Society of America's Colorado Chapter.

# KIM CULLEN

## *K2 Red Angus*

Kim Cullen of Wheatland grew up on a commercial cattle operation. She bought her first heifer when she was 9 years old and began her journey to becoming a breeder of Red Angus cattle. Kim graduated from the University of Wyoming with a degree in Animal Science in 1996. Two years later she bought her first Red Angus cattle and started her own business. She has expanded into a very successful A.I. business, which reached third in sales in the US in 2010 and fourth in North America.

Kim started her registered Red Angus business without a name or reputation, but she was armed with an idea of what she thought a cow should be and what it should raise. Her philosophy on how to run her herd has reaped rewards. People now travel to see her cattle and are interested in her nationally recognized genetics.

As president of the Wyoming Red Angus Association, Kim looks at the cow on a commercial basis first. She takes into account the cow's input costs, the calf it raised and whether it will make her money at a sale barn. Kim has also made strides in genetics, working in a niche markets with Red Angus for low PAP genetics.

She is a graduate of the Wyoming L.E.A.D. program and recently served on the State Fair Advisory Committee.

# **PATRICK ZIMMERER**

## *Table Mountain Vineyards*

Patrick Zimmerer comes from four generations of farmers with operations in Huntley growing a variety of crops: sugar beets, beans, alfalfa, corn and a cattle production operation. He graduated from the University of Wyoming in 2001 with degrees in Ag Business and Ag Communications and received his Juris Doctorate from UW in 2004.

The concept of a vineyard started as part of a school research project and after graduating from UW, Patrick convinced his family to start with 300 vines on the farm. Since 2001, Table Mountain Vineyards has grown to over 10 acres and 10,000 vines and boasts about 12 different varieties of cold hardy hybrid grapes. The next logical step was to establish a winery on the farm. Table Mountain Winery was established in 2004 and produces hand crafted wines from 100 percent Wyoming grapes, raspberries, honey and agricultural products.

Patrick is the Southeast youth representative on the Wyoming Board of Agriculture and a graduate of the Wyoming L.E.A.D. program.

# **TROY RANDALL**

## *TR Custom Wicking*

Troy Randall became an entrepreneur at a young age – in fact when he was in Jr. High School in Pine Bluffs, Wyoming. Purchasing a wicker cart in 2004 Troy started his rye wicking service. (Rye wicking removes or kills common rye plants in wheat fields.) He has expanded his service area to include all of southeastern Wyoming and western Nebraska. His strong customer base has grown by word-of-mouth and some advertising.

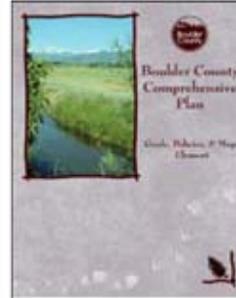
Troy is currently a junior at the University of Wyoming, majoring in Ag Business. The rye wicking business is seasonal, typically for about 4-5 weeks beginning the end of May. He has grown large enough to hire one or two additional people during the summer to help him meet his customer demands, and hopes to continue the business after graduation. He has already garnered many awards including the McKelvey Entrepreneurial Scholarship, a national scholarship program that is awarded to 100 young business owners.



# DAVID BELL

## Boulder County Parks and Open Spaces

### Agriculture On Open Space Feeding the World and Our Neighbors



### 1978 Boulder County Comprehensive Plan

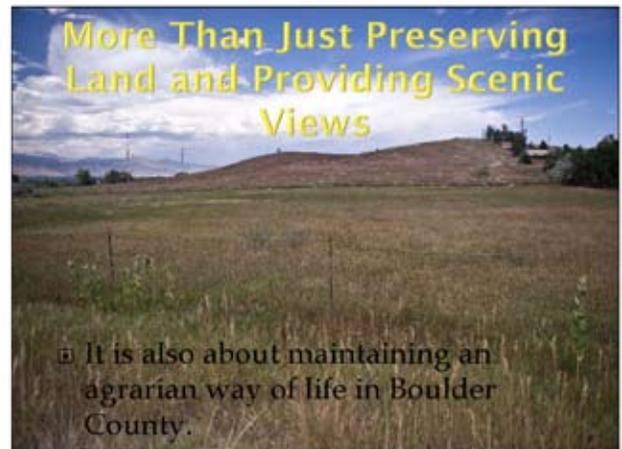
- ▣ Agricultural Land is a nonrenewable resource. Once public and private decisions are made that result in the conversion of agricultural land and /or water to nonagricultural uses, this vital resource is almost always irretrievably lost.

Since 1978 18,000 acres of agricultural land has been annexed into Boulder County's municipalities.

### Parks and Open Space

Boulder County owns or oversees almost 98,000 acres of open space, conserving natural, cultural, and agricultural resources and providing public uses that reflect sound resource management and community values.

### More Than Just Preserving Land and Providing Scenic Views



- ▣ It is also about maintaining an agrarian way of life in Boulder County.

### Breakdown of Ag Lands

- ▣ Total agricultural land owned by Boulder County: 25,000
  - Cropland: 16,000
    - Irrigated: 12,000
    - Dryland: 4,000
  - Range: 7,000
  - Out of production: 2,000
    - roads, ditches, buildings, wildlife habitat, etc...

### WHAT DOSE PARKS AND OPENS SPACE PRODUCE?



*Nothing....  
We manage the space*

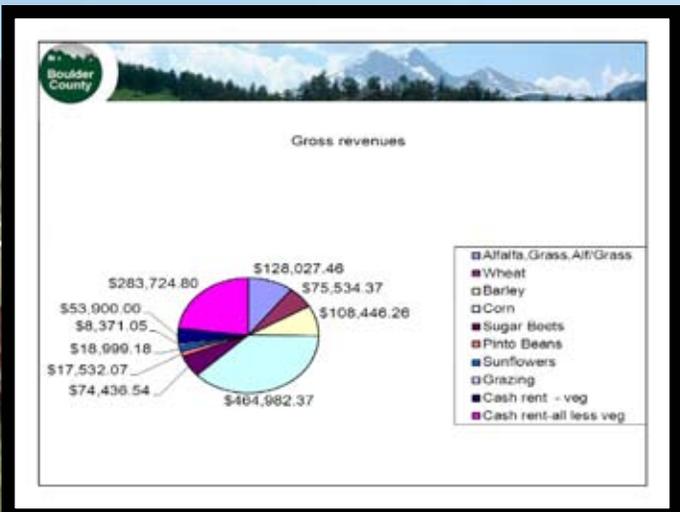
How Do We Accomplish This?





### POS Share of Revenue

Crop	Gross revenues	Acres	\$/Acre	Net \$/Acre
Alfalfa, Grass, Alf/Grass	\$128,027.46	2999	\$47.44	\$15.00
Wheat	\$75,534.37	1124	\$67.20	\$35.00
Barley	\$108,446.26	947	\$114.52	\$77.00
Corn	\$464,882.37	1484	\$311.23	\$201.00
Sugar Beets	\$74,436.54	200	\$372.18	\$214.67
Pinto Beans	\$17,532.07	135	\$129.87	\$91.00
Sunflowers	\$18,999.18	413	\$46.00	\$10.10
Grazing	\$8,371.05	3305	\$2.53	\$2.53
Cash rent - veg	\$53,900.00	539	\$100.00	\$100.00
Cash rent-all less veg	\$283,724.80	9936	\$28.55	\$28.55
<b>TOTAL</b>	<b>\$1,283,954.10</b>	<b>20,792</b>		



### TOP FIVE PRODUCERS

- They farm 5,089 acres of POS AG Land (0.6% of leased land)
- They generated \$731,771 gross revenues (59.3% of gross revenue)
- They average \$144.93 in gross revenues per acre.

**Top Five Crops include:**  
Livestock, Sugar Beets, Forage, Corn, Wheat, Sunflowers, Pinto Beans, Barley

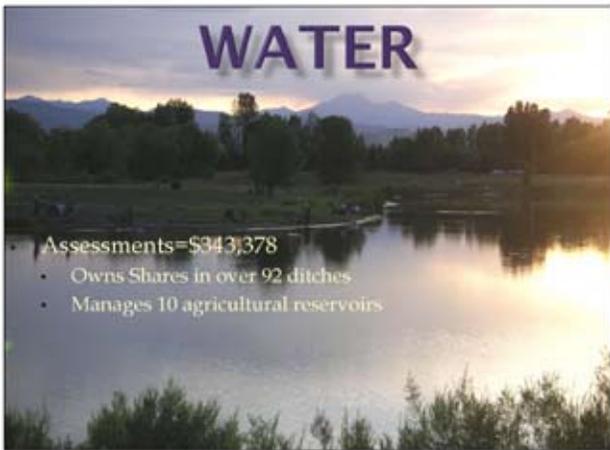
## Where does it go?



## The Revenue is Returned to the Program

	Budgeted	Spent	Remainder
O&M	\$178,163.00	\$171,507.93	\$6,655.07
Water	\$352,000.00	\$343,378.75	\$8,621.25
Crop Share	\$434,500.00	\$473,532.62	-\$39,032.62
<small>Budgeted 2717</small>	\$964,663.00	\$988,419.30	-\$23,756.30

## WATER



- Assessments=\$343,378
- Owns Shares in over 92 ditches
- Manages 10 agricultural reservoirs

## OPERATIONS AND MAINTENANCE



- \$171,507
- Irrigation
- Fencing
- Market Farms

## Meeting the Demands for Food, Fiber, Forage and Fuel



## WHAT THEY ARE PRODUCING

- Forage-Alfalfa, Grass, Alf/Grass
- Wheat
- Barley
- Corn
- Sugar Beets
- Pinto Beans
- Sunflowers
- Livestock
- Vegetables

## TYPES OF PRODUCTION



- Certified Organic
- Organic practices
- Non-organic non-traditional practices
- Conventional agriculture

## Community Gardens



## GROWERS ASSOCIATIONS

- Association of individuals who want to do small parcel farming
- County Breaks up larger portion of land to allow for smaller acreage than a typical lease
- County creates necessary water source for drip irrigation  
Association a necessity to deal with irrigation/water use issues



## Market Farms



## Ownership with an Ag Lease

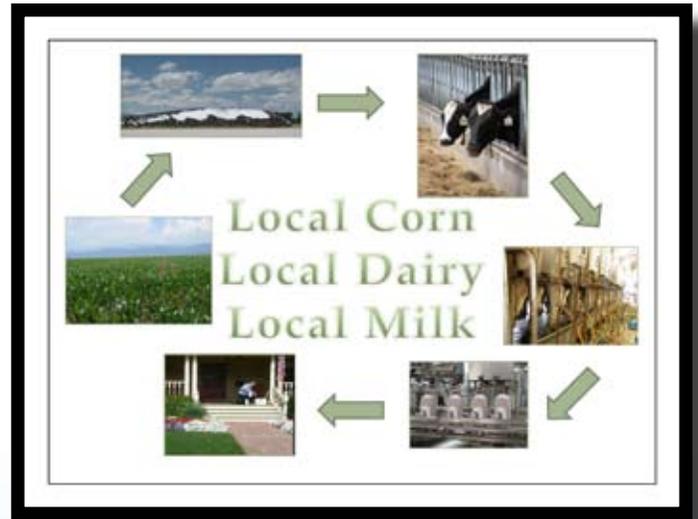


## LARGE SCALE VEGETABLE OPERATIONS



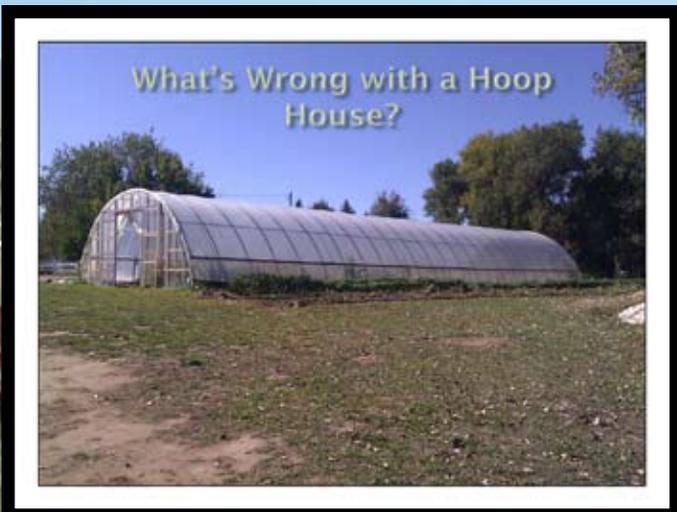
## Traditional Commodity Crops





- ### CHALLENGES
- Weather
  - Water
  - Wildlife
  - Weeds

- ### CHALLENGES CONTINUED
- The urban interface
    - Visual
    - Noise
    - Smells
    - Practices
    - The Crops



- ### OPPORTUNITIES
- Local Food Movement
  - Organic
  - Gluten free
  - Cage Free
  - Grass feed
  - Natural

## OPPORTUNITIES CONTINUED

- Malting facilities
- Processing
- Milling

## OPPORTUNITIES CONTINUED

- Innovation
- Creativity
- Efficiencies

### Farmer's Market



- Gunbarrel Growers Association
  - Hoot-n-Howl
  - Dew Farm
  - Frog Star Farm
- Niwot Growers Association
  - Gorilla Farm
  - Ginger Cat Farm
  - Dew Farm
  - Oxford Gardens
- Monarch Growers Association
  - Black Cat
- Peck
  - Ollin Farm
- Peck Growers Association
  - Mark Guttridge
  - Peter Volz
  - John Brown
- Hygiene Dairy
  - Red Wagon Organic Farm
- ERTL
  - Glen Schultz

## EXPANSION OF FARMER'S MARKET SITE IMPROVEMENTS

- Concrete walkway, trees and vendor sites with electric hookups: \$150,000
- Electric upgrades: \$80,000
- Additional vendor sites, concrete walkways and a pavilion: \$150,000

### St. Vrain Valley School District



## ORGANIC INCENTIVES



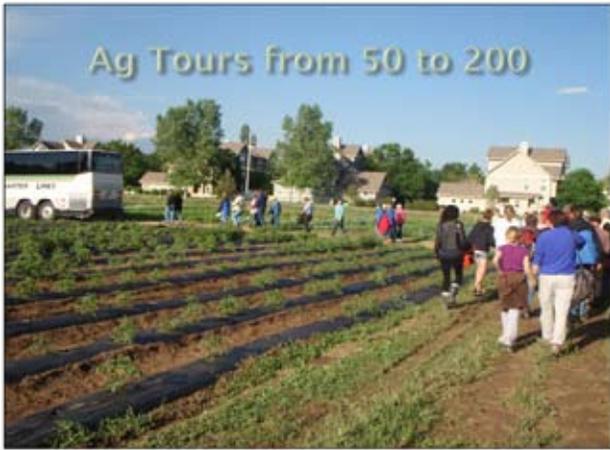
- Reduced rent during transition
- Organic preferences
- Infrastructure improvements

## Exploring Local Markets



- 11 Producers
- 15 Buyers
- 12 Supporting entities

## Ag Tours from 50 to 200



## OUTREACH



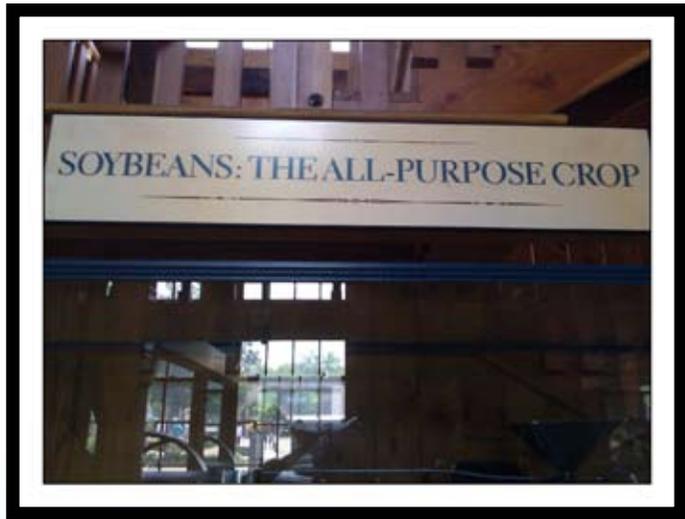
- Community Outreach
- Ag Tours
- Booth at the County Fair

## Evaluating the Use of Municipal Compost on Agricultural Properties



## Local Biodiesel Program





“The future of Wyoming agriculture rests on our ability to engage the next generation of farmer, ranchers and agribusiness innovators. The strong participation by knowledgeable and enthusiastic young people in the 2011 AgriFuture Conference left me with a sense of comfort and hope regarding our future.”

**JIM MAGAGNA**

*Wyoming Stock Growers Association*

# GREG HANES

U.S. Meat Export Federation



**Exports: Why Should I Care?**

Greg Hanes  
Asst. VP, International Marketing  
U.S. Meat Export Federation



PUTTING U.S. MEAT ON THE WORLD'S TABLE



**Who Is USMEF?**



**USMEF History & Funding**

**History**

- Nonprofit trade association formed in 1976
- 35<sup>th</sup> anniversary meeting Nov. 2-4 in Tucson

**Funding**

- Membership dues, private contributions and beef, pork, lamb, corn and soybean checkoff programs.
- USDA - Market Access, Emerging Market and Foreign Market Development programs
- 3<sup>rd</sup> Party contributions



**USMEF Membership**

- Packer/processor
- Purveying & trading
- Beef/veal producing & feeding
- Pork producing & feeding
- Lamb producing & feeding
- Feedgrain producing
- Oilseed producing
- Farm organizations
- Supply and service organizations



**Breakdown of Ag Lands**

- Total agricultural land owned by Boulder County: 25,000
  - Cropland: 16,000
    - Irrigated: 12,000
    - Dryland: 4,000
  - Range: 7,000
  - Out of production: 2,000
    - roads, ditches, buildings, wildlife habitat, etc...

**USMEF's Global Footprint**



Locations marked on the map include: Denver, Mexico City, Monterrey, Caribbean, Lima, Brussels, St. Petersburg, Moscow, Beijing, Shanghai, Tokyo, Seoul, Guangzhou, Hong Kong, Singapore, and Bairo.



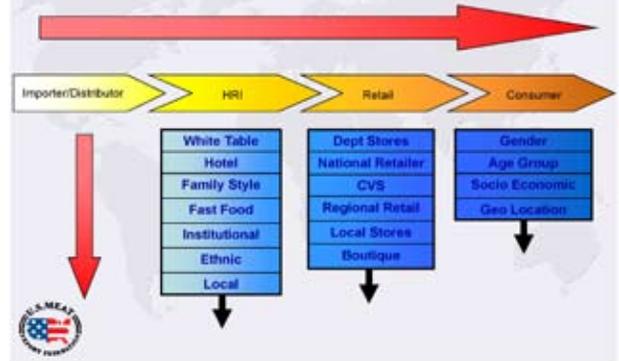
## Two Key Strategies

**Market Access** – minimize the impact on U.S. beef exports of issues arising in the international markets from government policies and consumer perceptions

**Market Development** – introduce U.S. beef to new buyers in each market while expanding the volume and range of cuts purchased by current buyers

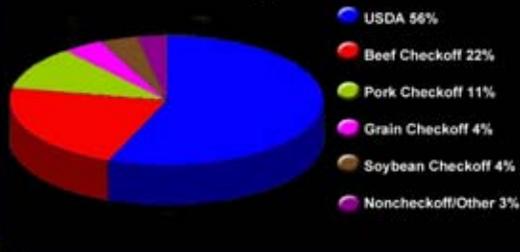


## TQM Marketing

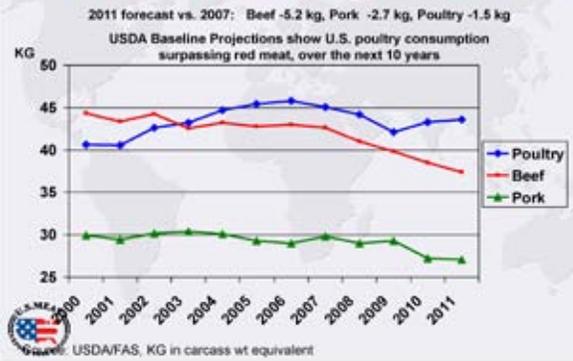


## Importance of Checkoff Funds

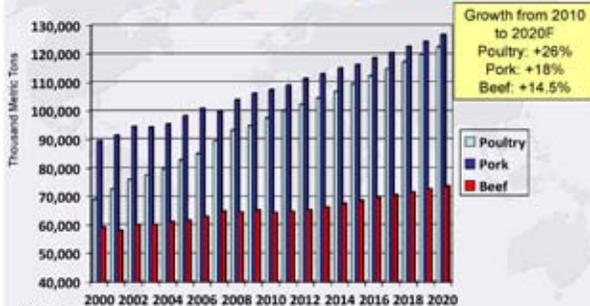
### USMEF Funding Sources



## U.S. Per Capita Meat Consumption

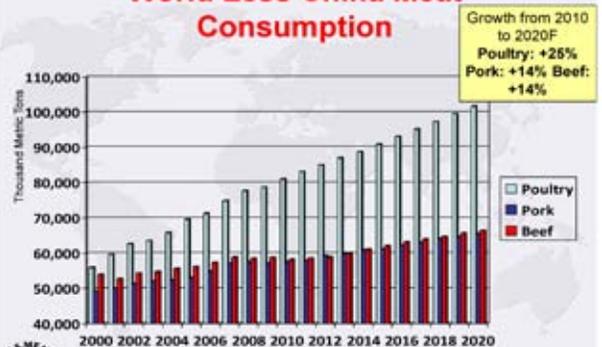


## World Meat Consumption

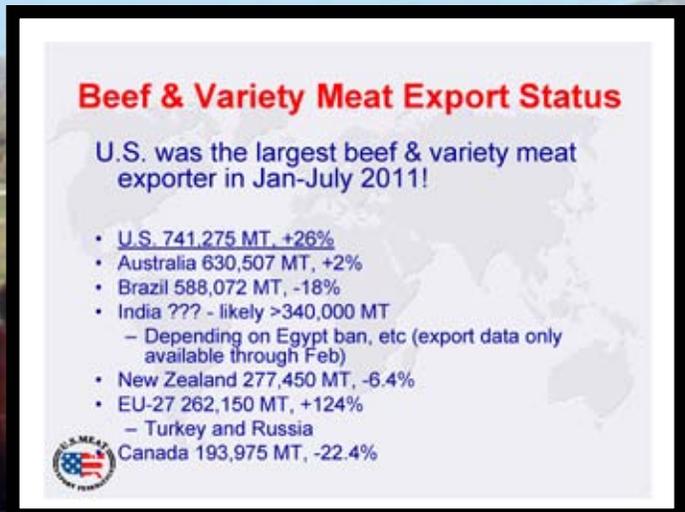
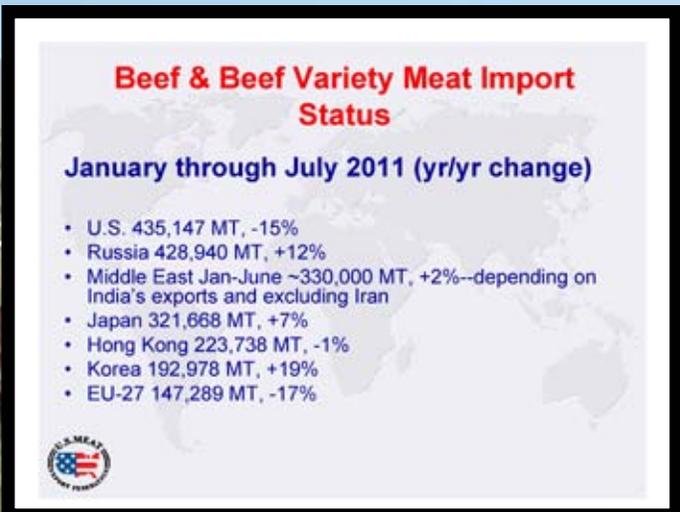
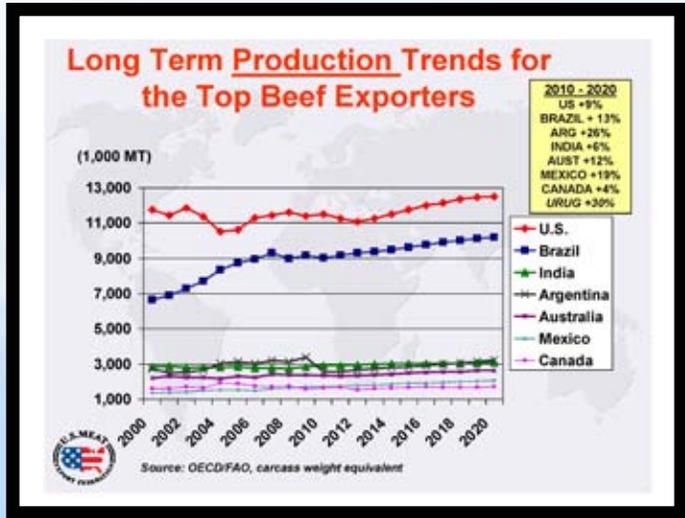
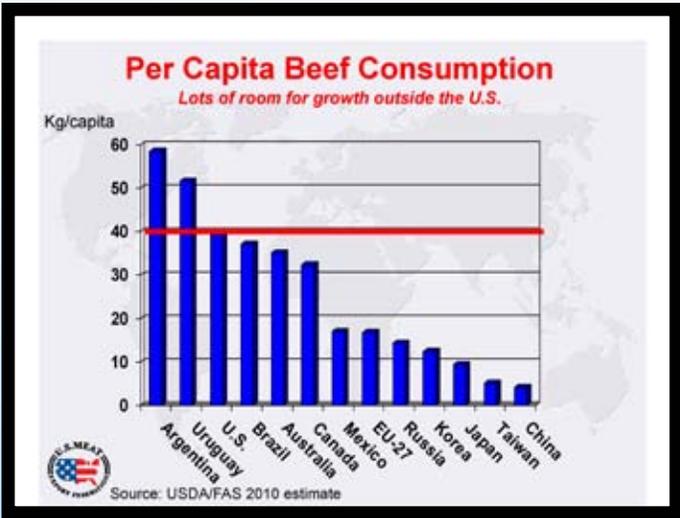
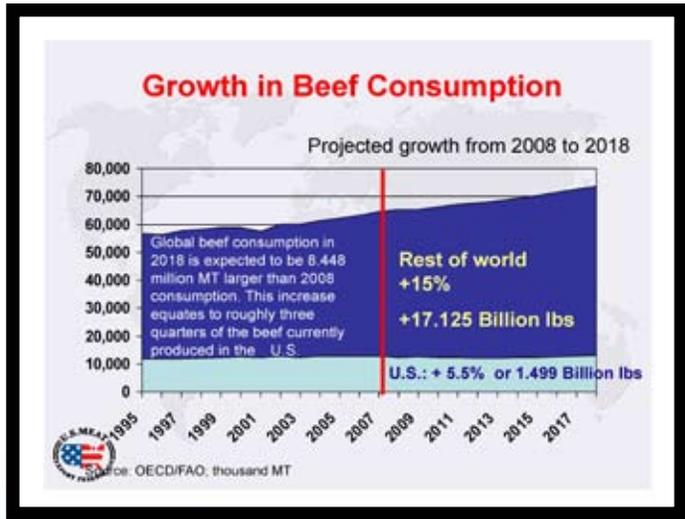


Source: OECD/FAO Agricultural Outlook, June 2011, beef & pork in carcass wt equivalent, poultry in rc

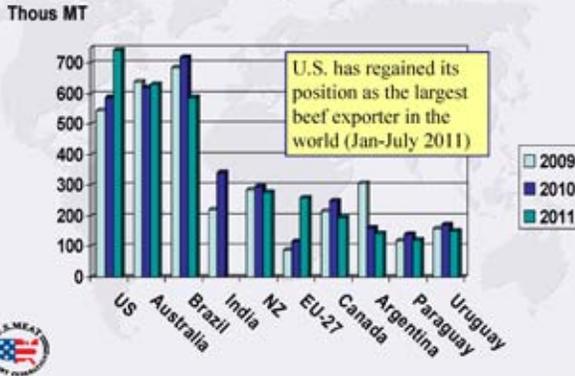
## World Less China Meat Consumption



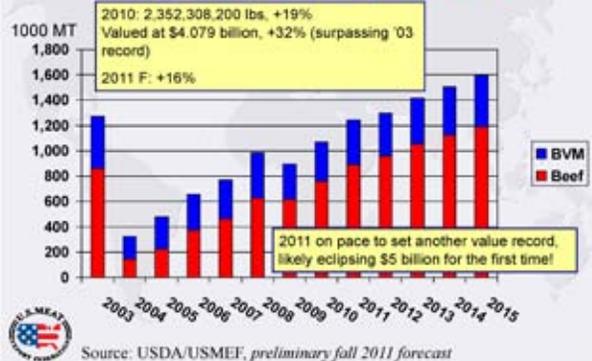
Source: OECD/FAO Agricultural Outlook, June 2011, beef & pork in carcass wt equivalent, poultry in rc



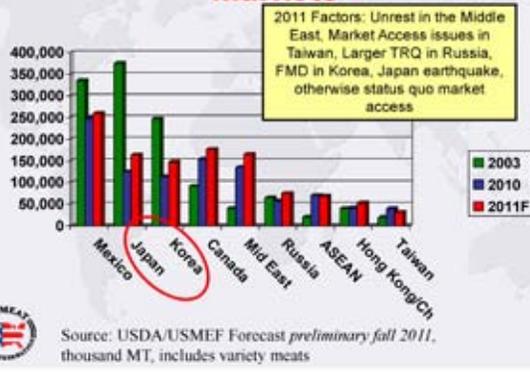
### Jan-July Beef Export Status



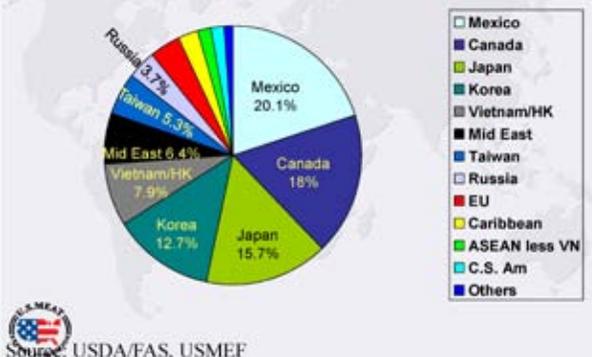
### U.S. Beef Exports, Volume Recovery & Record Values



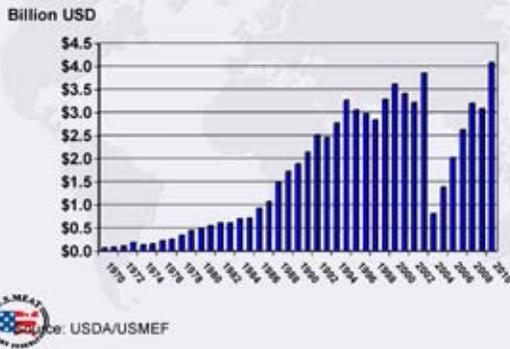
### U.S. Beef Exports to Top Markets



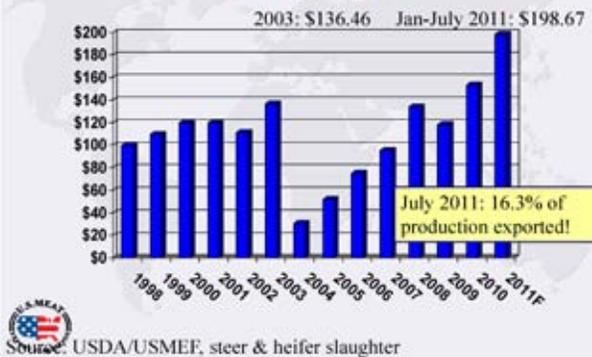
### 2010 U.S. Beef & Variety Meat Exports Top Value Markets



### Value of U.S. Beef Exports



### Value of Exports per Head Slaughtered



## Maximizing Carcass Value

Rounds, shoulder clods, inside skirts, and variety meats to Mexico

Rounds and livers to Russia

Livers to Egypt & growing volume of forequarter cuts

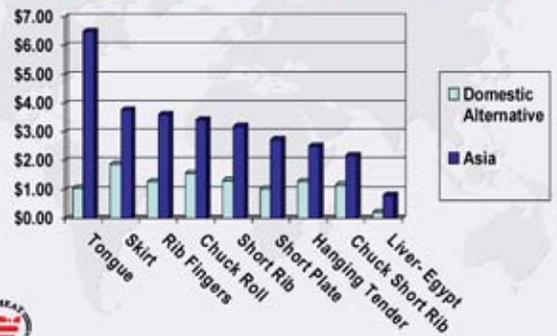
Short ribs, chuck rolls, short plates, variety meats to Korea

Short plates, chuck rolls, short ribs, and variety meats to HK/China & Taiwan

Short plates, chuck eye rolls, briskets, short ribs, tongues & outside skirts to Japan



## A Few Cut Premium Examples



## Exporting our way to profitability: Maximizing carcass value



Chuck, round and short plate now account for 50% of the cutout value while middles= 44%

Cutout: \$1.82/lb  
800 lb carcass

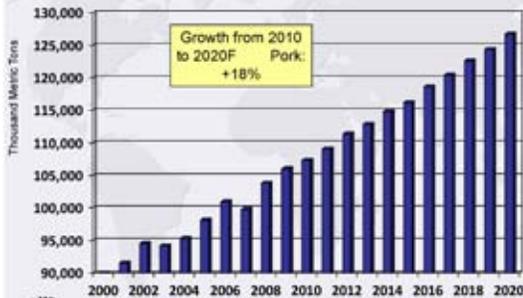
+\$173 from year-ago!  
 +\$62 from Chuck!  
 +\$43 from Round!  
 +\$20 from Rib  
 +\$16 from Loin  
 +\$14 from short plate



## Pork Trends

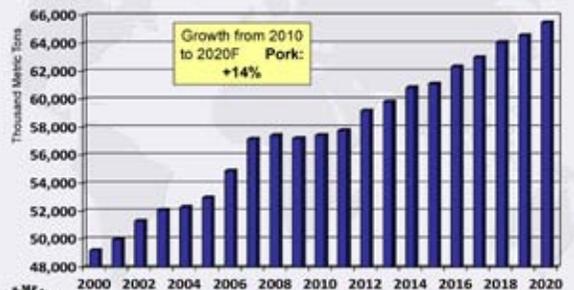


## World Pork Consumption



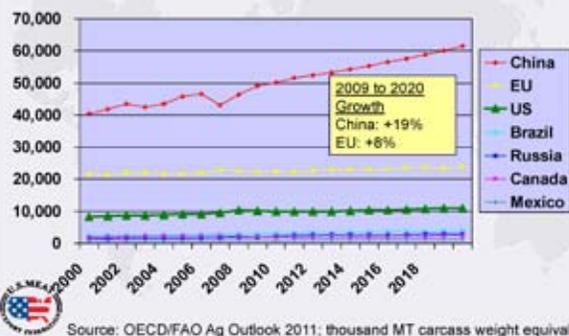
Source: OECD/FAO Agricultural Outlook June 2011, beef & pork in carcass wt equivalent, poultry in rc

## World Less China Pork Consumption

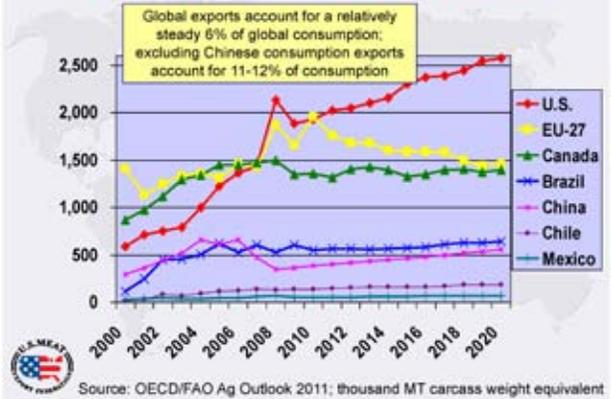


Source: OECD/FAO Agricultural Outlook June 2011, beef & pork in carcass wt equivalent, poultry in rc

### Pork Production Trends with China and the EU



### Longer Term Pork Export Trends



### Jan-July 2011 Pork Import Status

- Japan steady at 552,940 MT  
- U.S. market share 45%
- Russia up 8% to 404,389 MT  
- U.S. market share 7% (EU 49%, Brazil 28.5%, Canada 13%)
- Korea up 90% to 330,594 MT  
- U.S. market share 35%
- Hong Kong down 5% to 180,892 MT  
- U.S. market share 6% (EU 66%; Brazil 21%); *excludes imports from China*
- China up 51% to 155,772 MT  
- U.S. market share 49%
- Mexico down 4% to 232,147 MT  
- U.S. market share 92%



Source: GTA, excludes variety meats

### Pork Export Status, Jan-July 2011

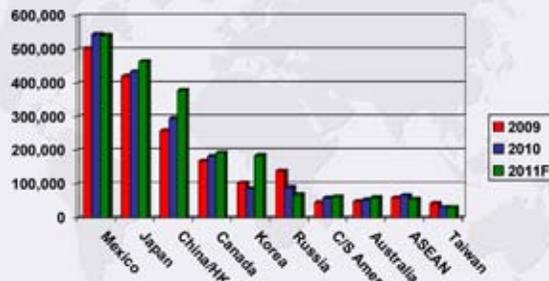
U.S. was the largest pork exporter in the world...

- U.S. up 15% to 962,575 MT led by strong growth to Korea, China, Japan, Australia, Canada
- EU up 23.6% to 924,897 MT; led by strong growth to Korea, China, Hong Kong, Belarus, Russia
- Canada steady at 513,926 MT down to U.S. and Japan; up to Russia, Korea and China
- Brazil down 4% to 265,731 MT down to Russia but up to Hong Kong, Argentina, Angola, and down to Singapore
- Chile up 6% to 60,460 MT mainly on growth to Japan; decrease to Korea



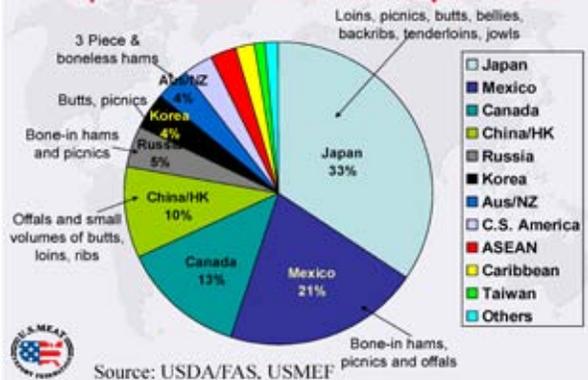
Source: GTA, excludes variety meats

### U.S. Pork & Variety Meat Exports by Market



Source: USDA and USMEF Forecast, metric tons

### 2010 U.S. Pork Exports Top Value Markets & Main Export Items

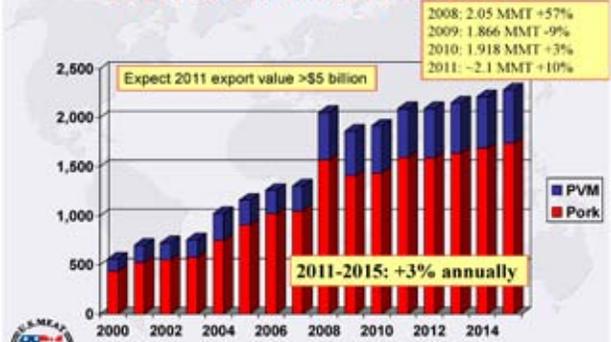


## US Pork Exports as Percent Production



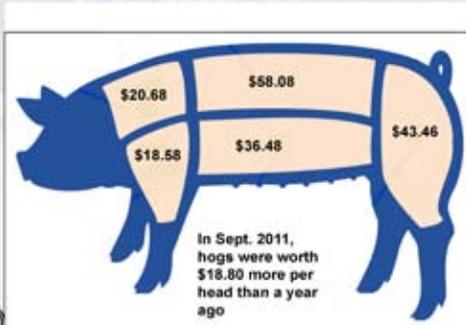
Source: USDA/USMEF, includes variety meats

## U.S. Pork Exports Historic & Forecast Volume



Source: USDA and USMEF preliminary fall 2011 forecasts  
PVM= Pork Variety Meats; thousand metric tons

## Exports Increase Pork Cutout Value



In Sept. 2011, hogs were worth \$18.80 more per head than a year ago

## Don't Forget Our Farmers

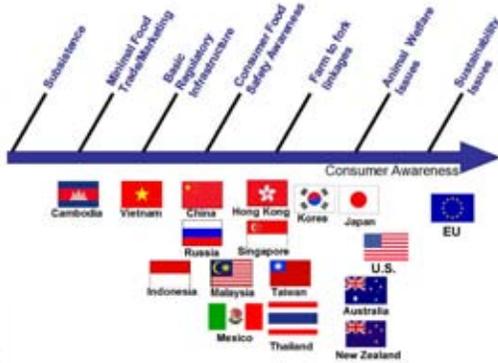
- More than 470 million bushels of corn exported through U.S. red meat in 2010
- Nearly 80 million bushels of soybeans...
- Direct corn exports up 15% since 1990
  - Indirect exports through red meat: up 340%

## And Don't Forget Jobs

- Every \$1 billion in agricultural exports supports an estimated 8,400 jobs
- Last year red meat exports alone supported about 74,000 jobs
  - Proposed Free Trade Agreements with South Korea, Colombia and Panama would add another 20,000 jobs

## The Global Export Environment

## USMEF Food "Awareness" Spectrum



## Critical Issues

- **Animal welfare**
  - Need for baseline for measurement
  - Lower priority in countries where hunger is an issue
- **Private standards**
  - Differing views in established vs. developing countries
  - Potential for trade problems
- **Sustainability**
  - Lacking consistent definition, measurement

## Green

A May 2012 Survey and the Environment

### McDonald's Board Opposes Cage-Free Eggs for U.S.

in certain regions starts

The board of directors of McDonald's has recommended that the company's shareholders vote against a proposal to require that a portion of the eggs purchased for the chain's restaurants in the United States be cage-free.

The proposal was advanced by the Executive Society of the United States.

Some major fast-food companies, including Burger King, Subway and Wendy's, and the chicken fast-food chain and retailer, have already made some level of commitment to providing or selling cage-free eggs.

But the McDonald's board has voted to oppose the proposal.

"We have been unable to reach an agreement between the shareholders and a group of directors."

McDonald's says that the decision is to support the shareholders' right to vote on the proposal.

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"There's a big disparity between what McDonald's is doing in Europe and in the United States," HSUS said.

## UK retailer leads the way

- **Morrisons becomes first top 4 UK retailer to use 100% British free-range eggs for its private label**
  - 9 months ahead of forecast
  - 2 years ahead of EU-wide ban on battery cages
- **Australian supermarket chain Coles**
  - Refused to buy pork after 2014 from farms that confine pregnant sows in stalls
  - Pork producers phasing out practice by 2017

## Korea Beef Traceability System

([www.mtrace.go.kr](http://www.mtrace.go.kr)): April 2009



## Japan: In-store Beef Traceability Kiosks



**イオンのトレーサビリティの仕組み**  
 トレーサビリティとは、英語の「トレース」(足跡を追う)と、「アビリティ」(できること)を合わせた言葉で、「追跡可能性」(追跡ができること)と訳されます。イオンで取り扱う国内産牛肉は、全て生産から店頭までの履歴を追跡可能な牛肉ばかり。「国内産牛肉の安心確認システム」では、お客さまのご自宅からお買い求めいただいた牛肉の生産履歴をインターネットで検索いただけるサービスへの取組みを行っています。

### Taiwan: Trial Traceability Coding

Traceability Agricultural Product logo

Product name — 上等高級油菜

Certification body — 崑崙橋牌 驗證 2007/05/13 包裝

Tracing code — 追蹤號碼: 68000-01110-44546

<http://taft.coa.gov.tw>

Information public way

### “Sustainability”

#### Global Conference on Sustainable Beef

November 1-3 (Conference - \$200), Nov. 4 (Optional All Day Tour - \$50), 2010, Denver, Colorado, USA

The Global Conference on Sustainable Beef is a unique forum for constructive dialogue to improve industry sustainability by exploring and clarifying the environmental, economic and social issues of a sustainable beef system. Through this approach, stakeholders will share better management practices to drive continuous improvement.

The conference program, designed to encourage dialogue and build partnerships, will include a series of panel discussions, plenary sessions and breakout meetings. Participants in the conference and be part of the discussion to build alignment around key issues of the beef system. Conference attendees are also provided the option for an additional fee to participate in a U.S. beef industry tour, which includes a start-to-finish view of the traditional U.S. beef industry. The tour stops at each sector of the beef supply system and provides an in-depth opportunity to witness the direct and complex nature of the U.S. beef supply chain.

Due to limited space availability and to ensure a balanced representation across all stakeholders, the conference is by invitation only. If you would like to request an invitation, please contact us.

**NEW!** Download Global Conference on Sustainable Beef documents [here](#).

Cargill | Intervet | McDonald's

**Strong exports have enabled agriculture to remain one of only a few sectors of the U.S. economy to enjoy a trade surplus. At the same time, farm exports will support more than one million jobs in America this year. ....The volume of beef exports is at a level not seen since 2003.**

Agriculture Secretary Tom Vilsack  
August 31, 2011

## THANK YOU!!

For more information:  
Greg Hanes  
[ghanes@usmef.org](mailto:ghanes@usmef.org)  
303-623-6328

“We must remember what we are here to accomplish. In time, agriculture will face the challenge of feeding an ignorant world, but it must first overcome the domestic war fought between its own producers.”

**KYLE THOMAN**  
University of Wyoming

# DON COLLINS

Western Research Institute

Science - Technology - Commercialization

## AgriEnergy-BioEnergy-BioProducts

**AGRI FUTURE**

October 13, 2011  
Laramie, WY  
Don Collins  
Chief Executive Officer  
Western Research Institute  
365 North 9th Street  
Laramie, WY 82070  
307-721-2208  
<http://www.westernresearch.org/>

**WesternResearch**  
INSTITUTE

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**Outline**

- Brief Introduction – Western Research Institute
- Energy Resource Picture
- Agriculture-Water-Energy Nexus
- U.S. Dept of Energy Biomass-Bioenergy Program
- Biomass Feedstock Inventory and Future Forecasts
- Biomass-to-Bioenergy Conversion Technologies
- Biomass Torrifaction R&D at WRI
- BioConversion of CO<sub>2</sub> into Biofuels and Bioproducts
- Wrap Up

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### Western Research Institute Introduction

- WRI is a \$15 million per year research and development 501(c)(3) non-profit institute with a multidisciplinary team of 76 highly skilled scientists, engineers and support personnel.
- Established as the University of Wyoming Research Corporation, d/b/a WRI in 1983 when the Laramie Energy Technology Center, a U.S. DOE laboratory, was de-Federalized.
- The State of Wyoming via UW retained WRI's expertise in WY with a charter to:
  - Further the educational, research, developmental and public service objectives of the University of Wyoming.
  - Carry out scientific research to aid Wyoming by attracting new industry, encouraging development of and retention of industries.

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### Energy Resource Picture Today

Resource	Percentage
Petroleum	37%
Natural gas	25%
Coal	21%
Nuclear	9%
Biomass	4.1%
Other	4%
Hydroelectric	2.8%
Wind	0.7%
Geothermal	0.4%
Solar	0.1%

Source: U.S. DOE, Energy Information Administration, Monthly Energy Review, July, 2010

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### Agriculture-Water-Energy Nexus and Circles of Life

**Agriculture**  
Consumes Energy  
Is an Energy Resource  
Consumes Water  
Delivers Water

**Energy**  
Consumes Water  
Produces Water  
Powers Ag Machinery  
Came from Ag

**Water**  
Consumes Energy  
Produces Energy  
Energy Biomass Source  
Ag Fertilizer Source

**AgriEnergy**

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### We are Just at the Beginning of Biorefinery Evolution

Technology Improvements & Product Diversity

Modern Fully Integrated Oil Refineries

Petroleum Refinery Technology Improvements

Biorefineries Projected Accelerated Improvements & Products

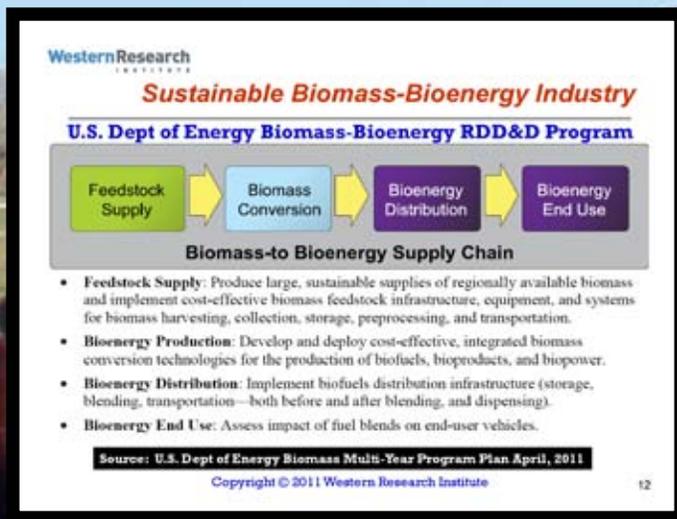
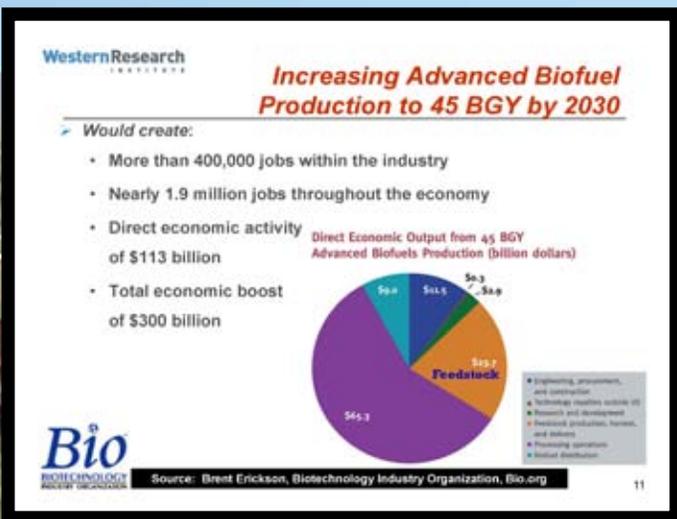
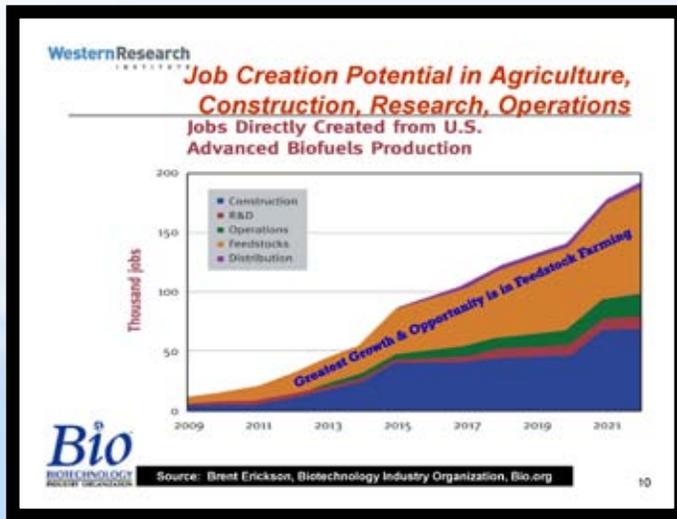
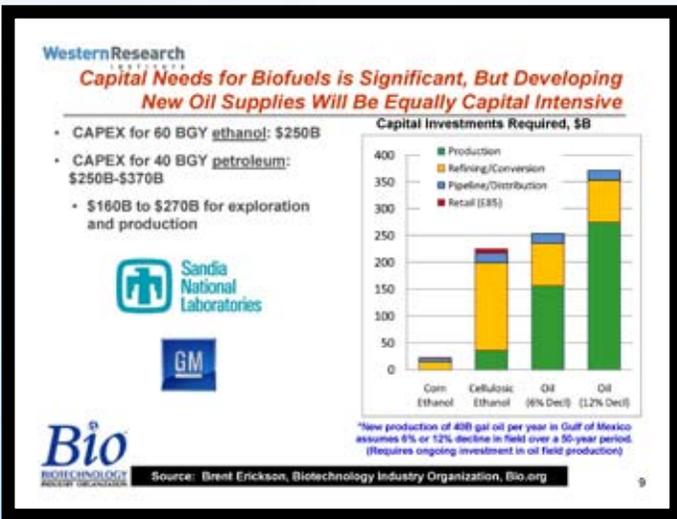
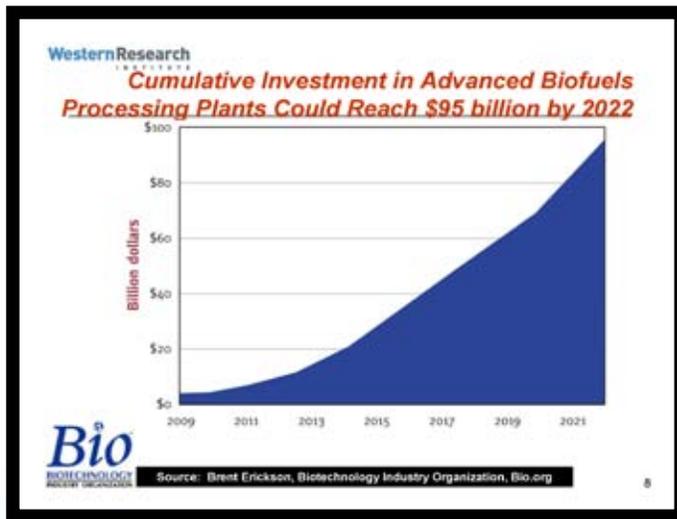
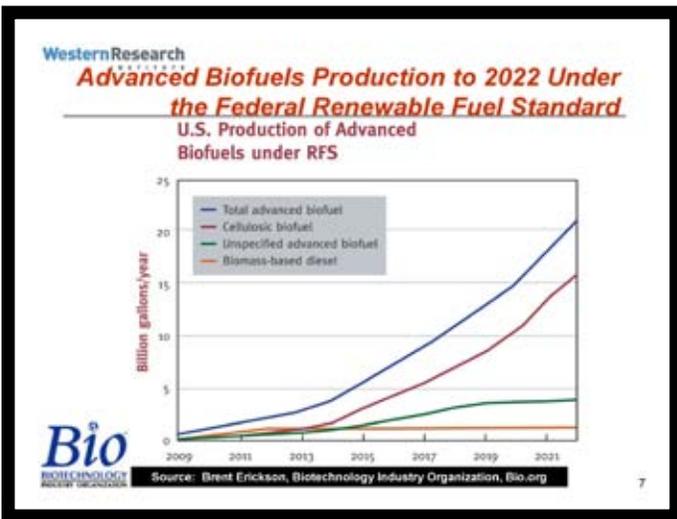
Kerosene begins to replace whale oil (1853)

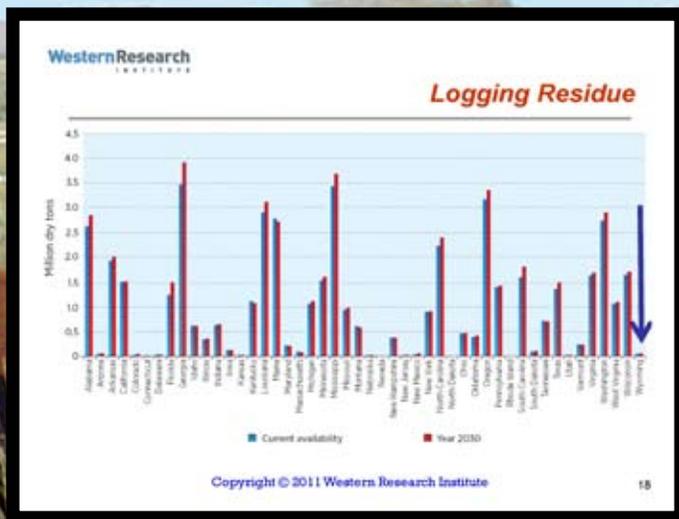
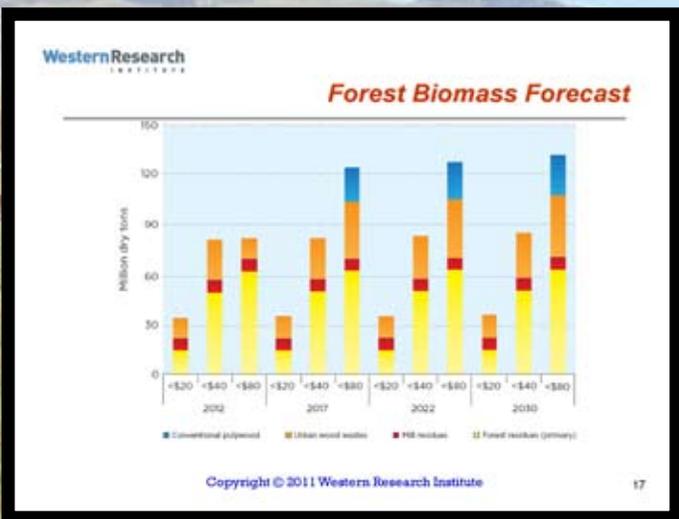
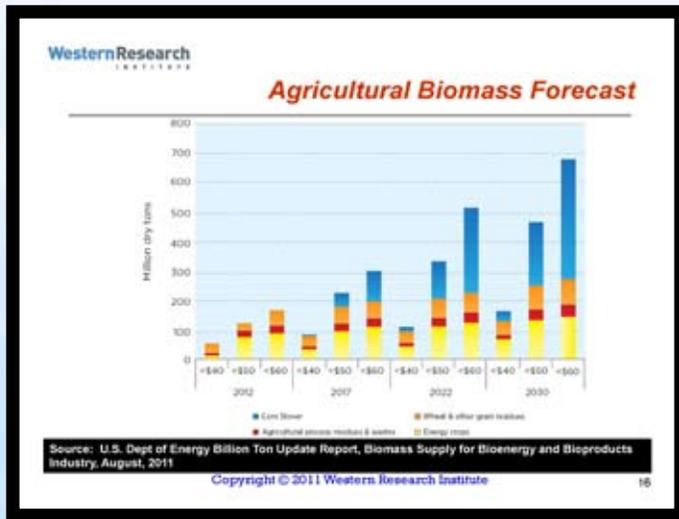
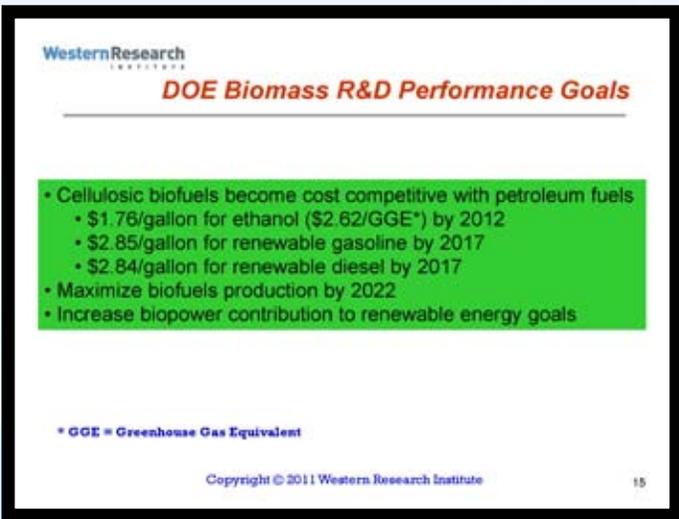
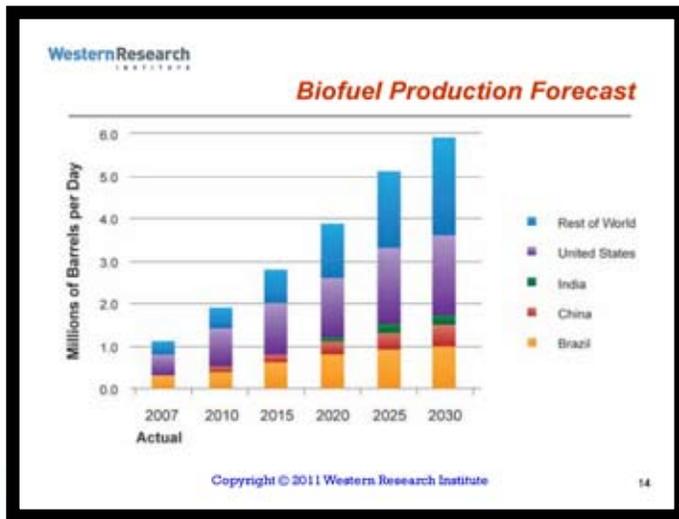
Ethanol begins to replace MTBE

Time

**Bio**  
BIOTECHNOLOGY  
INDUSTRY ORGANIZATION

Source: Brent Erickson, Biotechnology Industry Organization, Bio.org

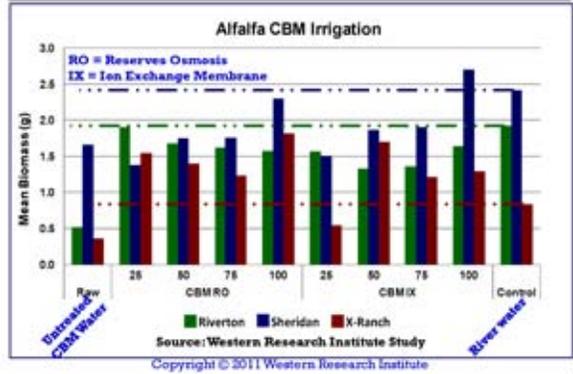




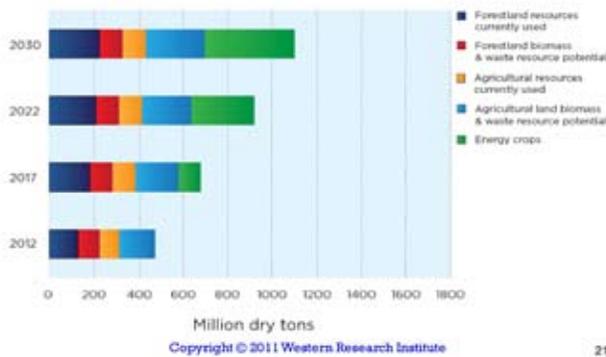
### Coal Bed Methane Produced Waters



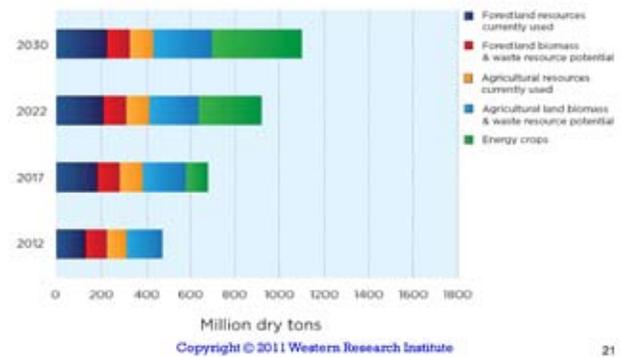
### Coal Bed Methane Produced Waters



### Present Potential @ ≥\$60/Dry Ton



### Present Potential @ ≥\$60/Dry Ton



### Biochemical Conversion Cost Est.

	2009 SOT	2010 SOT	2011 Projected	2012 Projected	2017 Projected
<b>Total Feedstock Logistics, \$/DT</b>	<b>\$46.15</b>	<b>\$37.80</b>	<b>\$6.10</b>	<b>\$35.00</b>	<b>\$35.00</b>
Harvest and Collection	\$13.30	\$13.80	\$13.80	\$13.15	\$13.15
Storage and Queuing	\$7.25	\$3.50	\$2.65	\$2.45	\$2.45
Preprocessing	\$14.15	\$11.45	\$10.65	\$11.50	\$11.50
Transportation and Handling	\$11.45	\$9.05	\$9.00	\$7.90	\$7.90
<b>Total Feedstocks Logistics, \$/gal Ethanol</b>	<b>\$0.63</b>	<b>\$0.50</b>	<b>\$0.46</b>	<b>\$0.44</b>	<b>\$0.44</b>
Harvest and Collection	\$0.18	\$0.18	\$0.18	\$0.17	\$0.17
Storage and Queuing	\$0.10	\$0.05	\$0.03	\$0.03	\$0.03
Preprocessing	\$0.19	\$0.15	\$0.14	\$0.14	\$0.14
Transportation and Handling	\$0.16	\$0.12	\$0.11	\$0.10	\$0.10
Gallons Ethanol/Dry Ton	73	75	78	79	79

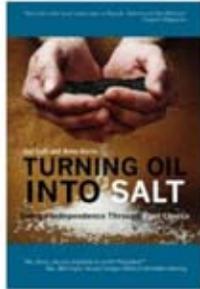
### Gasification Conversion Cost Est.

	2009 SOT	2010 SOT	2011 Projected	2012 Projected	2017 Projected
<b>Total Feedstock Logistics, \$/DT</b>	<b>\$71.05</b>	<b>\$67.50</b>	<b>\$56.40</b>	<b>\$48.37</b>	<b>\$48.37</b>
Harvest and Collection	\$22.30	\$21.30	\$19.40	\$18.75	\$18.75
Storage and Queuing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Landing Preprocessing	\$13.60	\$13.60	\$12.20	\$11.42	\$11.42
Transportation and Handling	\$12.50	\$12.00	\$10.50	\$8.95	\$8.95
Plant Receiving and In-Feed Preprocessing	\$22.65	\$20.60	\$14.30	\$7.25	\$7.25
<b>Total Feedstock Logistics, \$/gal Ethanol</b>	<b>\$1.02</b>	<b>\$0.85</b>	<b>\$0.71</b>	<b>\$0.58</b>	<b>\$0.55</b>
Harvest and Collection	\$0.32	\$0.27	\$0.24	\$0.22	\$0.22
Storage and Queuing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Landing Preprocessing	\$0.19	\$0.17	\$0.15	\$0.14	\$0.14
Transportation and Handling	\$0.18	\$0.15	\$0.13	\$0.11	\$0.11
In-Plant Receiving and Preprocessing	\$0.32	\$0.28	\$0.18	\$0.09	\$0.09
Gallons Ethanol/Dry Ton	70	79	80	84	84



### National Benefits

- **U.S. Economy is Bolstered from within**
  - Domestic jobs for greater BioFuel capacity
  - New domestic BioAsphalt industry
  - Enables more BioAsphalt products
  - Enables domestic BioPharmaceutical industry
  - Enables domestic BioFertilizer industry
  - Helps save high CO<sub>2</sub> emitter industries in U.S.
  - Adds to Federal revenue to lower U.S. debt
  - Applicable to all States
- **Foreign Trade Deficit is Lowered**
  - Substantially less foreign crude oil imported
  - Enables new domestic products for export
- **Foreign Policy Position/Options are Enhanced**
  - Lessens strength of oil as political weapon and foreign policy constraint
  - "Turning Oil into Salt - Energy Independence Through Fuel Choice" G. Luft, A. Korin



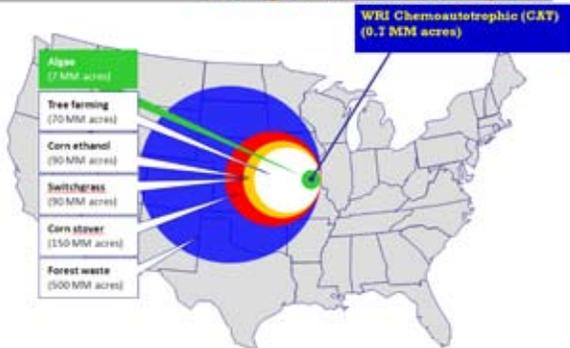
### Energy & Environmental Benefits

- **Energy Security is Enhanced**
  - Increases domestic energy resources
  - Enough BioFuel to saturate U.S. diesel market
  - Asphalt BioBinder supplied domestically
- **Environmental Concern Solved with Economy Benefit**
  - Makes CO<sub>2</sub> a beneficial resource to address climate change concerns
  - No longer a waste that costs the U.S. Economy
  - Enhances Fossil and BioEnergy value while lowering CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub> emissions
  - Use Carbon in fossil and bio-feedstocks at least twice
  - Locks 300MMTons of CO<sub>2</sub> annually in BioAsphalt long-term with asphalt recycling
  - Creates a constructive nexus between Energy Emissions and Highway Infrastructure

**WRI CAT Process**  
CO<sub>2</sub> to BioAsphalt and Fuels

Copyright © 2011 Western Research Institute

### Land Required for Biofuel = 15% of Transportation Consumption



### Wrap Up

- AgriEnergy-BioEnergy-BioProducts in AgriFuture
  - AgriEnergy enables Sustainable Economies
  - AgriEnergy enables local job growth
  - BioEnergy enhances Energy & Economic Security
  - Biomass-to-Bioenergy Conversion Technologies
  - Technologies are coming
  - BioConversion of CO<sub>2</sub> into Biofuels and Bioproducts
  - U.S. DOE and Bio.org are great resources
  - Agriculture-Water-Energy Nexus
- Copyright © 2011 Western Research Institute

“I enjoyed the opportunity to exchange views and learn from so many various representatives from agriculture. I have gained some ideas and financial opportunities to explore in my ag adventure. It was a great experience and I look forward to next years conference.”

**BREN LIESKE**

*Bren's Hens*

# MILTON GEIGER

Wyoming Cooperative Extension Service

## Agriculture and Energy – A consuming producer...

Milton Geiger  
Energy Extension Coordinator  
AgriFuture  
October 13, 2011

UNIVERSITY OF WYOMING  
Cooperative Extension Service

School of Energy Resources

## Outline

- Energy and agriculture – Context
- Agriculture as a user of energy
  - Efficiency first...
- Agriculture as a producer of energy
  - The renewables...



## Agriculture's energy use – National context

**14.4%**

Source: USDA 2007 Energy, Use in the U.S. Food System, 2006

## Agriculture's energy use – Declining energy intensity



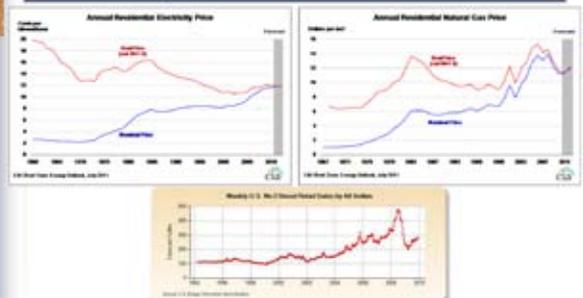
Source: USDA 2007 Food and Energy Report, Energy and Agriculture, August 2008

## Agriculture's energy use – Impact on expenses

**15%**

Source: USDA 2007 Food and Energy Report, Agriculture and Energy

## Agriculture's energy use – Volatility



## Agriculture's energy use – What you can do...



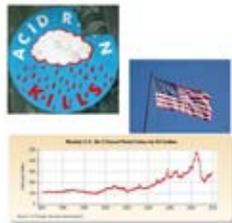
## Agriculture as a producer – Renewable energy (RE)

- **Biomass**
  - Heat, power, and transportation fuels
- **Geothermal**
  - Direct use and heat pumps
- **Hydroelectric**
  - Micro and small
- **Solar**
  - Thermal
  - Photovoltaic (PV)
- **Wind**
  - Small and utility-scale



## Agriculture as a producer – Why own a small RE system

- **Energy Independence**
  - Limited assistance to national independence
  - Important component of individual independence
- **Environmental concerns**
  - Air pollution
  - Climate change
  - Sustainability
- **Education/Community**
  - Technical fascination
- **Save money**
  - Know the cost of your energy into the future



## Agriculture as a producer – Why to not own a small RE system

- **Maintenance**
  - Responsible for energy production, not simply delivered as a service
- **Intermittent resource**
  - Sun and wind cannot economically be stored
- **Cost**
  - Can be more expensive than existing energy from grid or fossil fuel heating resources



## Agriculture as a producer – Responding to price signals



## Agriculture as a producer – Big and small renewable energy systems

- **"Small"**
  - Reduce costs to address that 15%
    - Electricity
    - Thermal
    - Transportation fuel
  - Includes: Biodiesel, geothermal heat pumps, hydropower (micro), solar thermal, solar electric, and wind (small)
- **"Big"**
  - Increase revenues
    - Sell electricity or biomass
  - Includes: Biofuels, hydropower (small or large), wind (large)

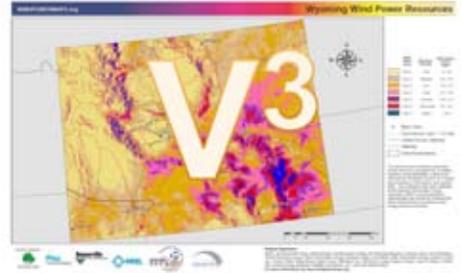


### Small RE – Generate electricity

- Micro-hydropower
- Solar electric (e.g. PV)
- Wind (small)



### Small RE – Why small wind



### Small RE – Why solar electric

Comparing Wyoming's Solar Resource



### Solar and wind – Why isn't it everywhere?

# Cost!

- **Solar produces electricity at 12-16+¢/kWh!**
  - US Department of Energy has goal of \$1/watt installed
- **Wind can cost can be 8-12+¢/kWh**
  - Location matters!

### Small RE – Heat and cool buildings

- Biomass
- Geothermal heat pumps
  - Heat and cool
- Solar thermal
  - Hot water and space heating



**Often cost effective!**

### Small RE – Incentives

- **30% federal tax credit**
  - For all except biomass and hydro
- **Accelerated depreciation**
  - MACRS
- **USDA Rural Development REAP**
  - 25% grant
- **Net metering**
  - Allows for retail rate for grid-tied electrical systems
- **Sales tax abatement**
  - All electrical RE systems

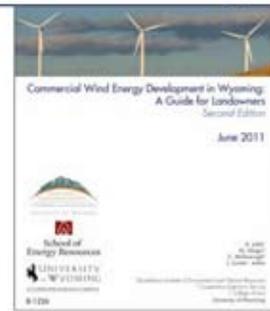


## Agriculture as a producer – Incentives

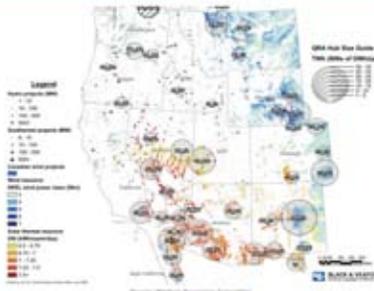
- University of Wyoming Cooperative Extension Service and the State Energy Office offer energy audits and renewable energy development assistance
- Federal funds pay for 75% of services
  - E.g. \$1000 assessment for \$250
- If act upon the assessment, the State Energy Office will refund your 25%!

<http://renewables.uwyo.edu>

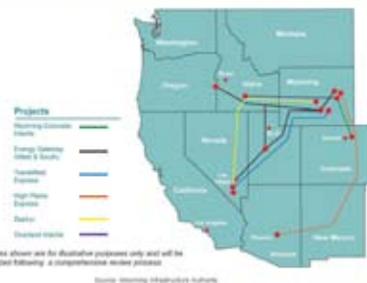
## Agriculture as a producer – Large scale renewable energy



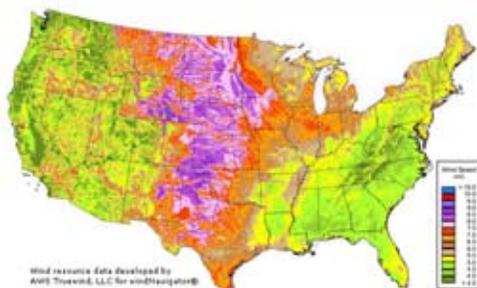
## Large-scale RE – Getting the Electricity to Market



## Large-scale RE – Getting the Electricity to Market

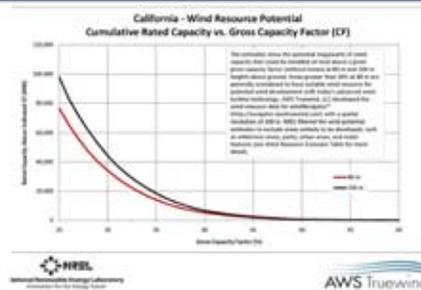


## Large-scale RE – The wind resource



Wind resource data developed by AWS Truewind, LLC for windNavigator®

## Large-scale RE – The wind resource





# MARGARET FOGARTY

## Farm Credit



### FARM CREDIT

#### Agriculture and the Media

Margaret Fogarty  
National Communications Director  
Denver, CO

AgriFuture  
October 13, 2011

### Agriculture and Media

- Why does the media matter?
- A new media model
- How to navigate this space effectively
- Measuring success



### Reputation Drives the Bottom Line



The diagram illustrates a flow from Reputation to Business Results. Reputation is defined by 'OUR CREDITS' (Business Practices, Employment Practices, Safety, Public Policy, Products & Services, Pricing & Sales) and 'OUR VISIONS' (Branding, Media Relations, Digital Communications, Internal Communications, Public Speaking, Crisis Response, Corporate Citizenship). Reputation leads to 'OUR CREDIBILITY' (Trustworthy, Dependable, Fair, Open, Responsible, Committed, Community-Focused, Regulators' Favorite, Customers' Choice, Industry Leader). This leads to 'PUBLIC PERCEPTION', which influences 'BEHAVIOR' (Monitoring from NGOs, Working for PCE, Managing PCE, Responding to PCE, Addressing PCE, Promoting with PCE, Acknowledging for PCE). Finally, Behavior leads to 'BUSINESS RESULTS' (Profitability, Competitive Ability, Supply, Retaining C&A Status, Mission Fulfillment).

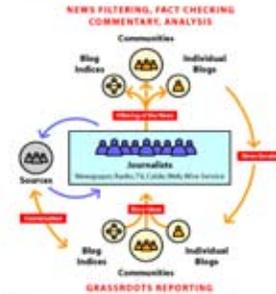


### What's at Stake?

Your reputation

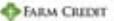


### A New Media Model

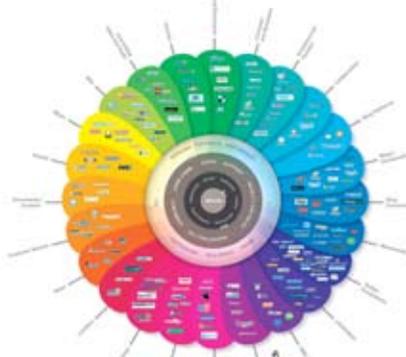


The diagram shows a central 'Media' hub. Above it is 'NEWS FILTERING, FACT CHECKING, COMMENTARY, ANALYSIS' involving 'Communities', 'Blog Indices', and 'Individual Blogs'. Below it is 'GRASSROOTS REPORTING' involving 'Sources', 'Blog Indices', 'Communities', and 'Individual Blogs'. A central box labeled 'Journalists' is connected to 'Newspapers, Public TV, Radio, Web Sites'. Arrows indicate a cycle of information flow between these elements.

Source: Reuters "Reigniting the emerging media ecosystem" by Jennifer M. Whalen



### Social Media Influence

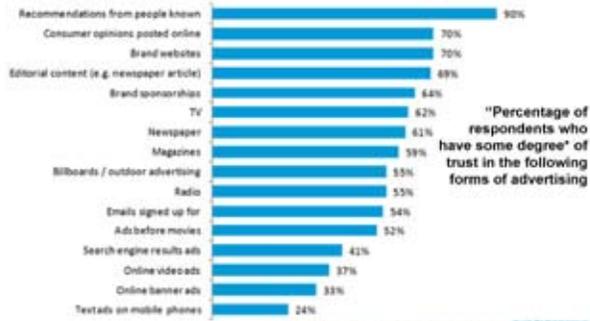


A circular infographic with a central hub and many spokes, each representing a different social media platform or concept. The spokes are color-coded and arranged in a ring around the center.



## Social Media Influence

"Consumers Trust Real Friends and Virtual Strangers the Most"



## Who is Online?

- Nearly 2.1 billion Internet users.
- 71% of the U.S. Web audience is on Facebook.
- 460,000 new Twitter accounts created in the average month.
- LinkedIn has more than 101 million members, and executives from all Fortune 500 companies are LinkedIn members.
- 35% of farmers and ranchers are using ag Internet sites at least monthly – up 53% from 2005 and the only medium in which use grew significantly in the past 5 years.
- Nearly two-thirds who use ag sites find digital media essential to running their farm or ranch.
- 61% of ag media use Facebook and 54% use Twitter "all the time" or "somewhat regularly."

Sources: Statista.com; @globeandmail.com; twitter.com; LinkedIn; Agri Council 2010 Media Channel Study; Traffic Media Networks Spring 2010 survey



8

## Media Relations

- Proactive
- Reactive
- How they work together



## What's Your Story?

- Weigh risks and benefits
- Create a plan
- Outline clear objectives
- Develop key messages
- Commit to a strategy
- Continually evaluate progress
- Measure your success



## What's Your Story?

- Great Messages:
  - Directed to a specific audience
  - Convey a benefit of relevant information to the target audience
  - Reinforce your brand



## What's Your Story?

- The Interview:
  - Not a conversation
  - Headline first
  - Keep it simple
  - Use examples
  - Repeat your key messages
  - Be brief



## Tips for Working with Media

- Schedule an interview for some point in the future
- Ask who else they are interviewing
- Find out the reporters deadline
- Provide your name, organization, title and background information in writing
- Ask to have the questions in advance



## Sample Objective

- Objective: Raise awareness of the Farm Credit System's 95<sup>th</sup> Anniversary through national media relations, social media and event outreach.



## Sample Plan

- Create multimedia program to celebrate Farm Credit's 95<sup>th</sup> Anniversary
- Publish interactive content on farmcredit.com and distribute across social media channels
- Distribute press release to launch program at industry event
- Conduct media outreach to secure media interviews
- Draft bylined articles and blogs to place in industry publications



## Sample Program

The screenshot shows the Farm Credit website with a banner for 'PRODUCING EXCELLENCE' celebrating 95 years. It includes navigation links like 'Home', 'About Farm Credit', 'Careers', 'Contributors', and 'Newsroom'. There are also buttons for 'Find a Location' and 'Daily Feed Login'. A search bar is visible. Below the banner, there are links for 'VIEW PROFILES', 'SUGGEST A PROFILE', and 'EXPLORE OUR HISTORY'. A large image shows a tractor in a field with people in the foreground. A '95' anniversary badge is on the right. At the bottom, there is a 'SHARE AND SUBSCRIBE' button.

## Sample Program

The screenshot shows a USDA Blog article. The header includes 'INDIA' and 'UNITED STATES DEPARTMENT OF AGRICULTURE'. The main title is 'Farm Credit: Celebrating Co-op Month and 95 Years of Service'. There is a photo of a group of people at a table. The article text discusses Farm Credit's history and its role in the agricultural community. The Farm Credit logo is at the bottom.

## Questions & Answers



# PATRICK ZIMMERER

## Table Mountain Vineyards

*The Last Frontier*  
*Wyoming Wine Country*



Patrick Zimmerer  
Table Mountain Vineyards

Grapes can be in  
Grown Wyoming?



Where is Huntley?????

- Elevation – 4,236 ft
- Growing Season
  - May?-Sept
- Spring Warm Up -

## Operation History

- 1926 Homestead, Currently 1600 Acres
- Crops Grown
  - Corn, Alfalfa, Beets
- Livestock
  - 150 Head, PB Cattle
  - Feedlot/Wintering Operation
    - Corn, Hay, Silage Mix

## How We Got Started

- Create a Value Added Ag Industry
- UWYO Thesis Project
- Education in Action
- 2001 Planted First Vines
- 2004 – Created Business Plan
- UWYO \$10K Competition Winners

## The Basics

- Small Amount of land needed-corners
- Long Term Investment
- Research/Trials show opportunity for profits and market success

## Variety Selection

- Cold Hardy
- Quality Wine vrs Survivability
  - Can't Make Wine from Grapes that Won't Grow
- Vines Ordered one Year in advance
  - 2 yr old Rootstock
  - Shipped from NY or MN Nurseries

## Taking the First Sip: Trial Planting

- Surveyed Sites
- Ordered 300 Vines
- May 2001 first planting
- Good Growth, Viability
- Potentially Climate for Growing

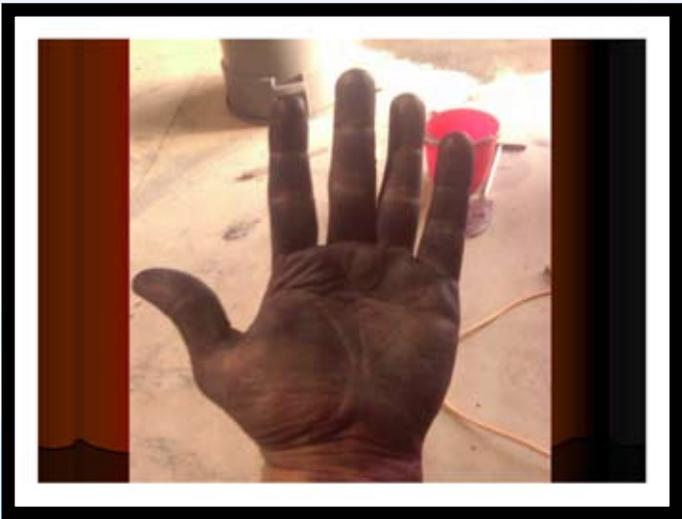














Support Wyo Wine!

Table 10a Winery  
Pure, Wyoming Wine

A New CSA –  
Comm. Supported Winery

“Vinetages” Wine Club –

- \* 10 Years of Wine
- \* Lifetime Membership Discount
- \* Wine Discounts
- \* Special Offers
- \* Custom Labels
- \* Special Invites to Events

## Our Wine Philosophy

- Utilize 100% Wyoming Products
  - Locally Grown Grapes, Fruit, Honey
  - Other Wyoming Products for Tasting
- Create and Capture Wyoming's Taste
  - "Wyoming Character"
  - Keeping the Grapes how Nature intended them

## Wine Making Process

- Pick-Proper Sugar Levels
- Crush-Stomp away
- Press-Red vrs. White
- Yeast-Sugar to Alcohol
- Age: Sweet 2-3 Months; Reds 4-6 Months

## Contact Info

- Patrick Zimmerer
  - [www.WyoWine.com](http://www.WyoWine.com)
  - 307.459.0233



# KIM CULLEN

## K2 Red Angus



An Ag degree does not limit you, it only gives you opportunities. What you make of those opportunities is up to you!

Some of the things I have done with mine:

- Federal Beef processors – Fargo, ND
- Cow Country Genetics – Cody, WY
- UW Co Extension – Douglas, WY
- K2 Genetics, Alta Genetics, Genex Beef - started in 1999
- K2 Red Angus - started in 1999
- South Street Rentals, LLC - 2008
- Espress...OH!, LLC – 2009
- Farming - started in 2011

### **1. Realize it is not just the degree but everything you do before and after that can be an asset to your future.**

An Ag degree is not the end point... but it could be seen as the end of the beginning. All your experiences up to this point add up to that beginning. Growing up, maybe working in Ag as a kid, your schooling and other activities will all be valuable to your future and what you can do with your degree

### **2. The best job is one with learning potential.**

I encourage you to look at what you can learn from a job, what you can gain from the experience. Your first job out of college will not be your end point... even if you stay at the same job your whole career... You will grow in it and change. When you are first getting out of college and receive the first paycheck after the lean college year, the dollar signs look pretty nice. But I would say the learning experience of these jobs is far more valuable and will ultimately lead you farther toward your goals in life.

### **3. Do something you are passionate about... or do many things you are passionate about!**

- When you choose to do something that you are passionate about, it will show in the quality of work, the sincere commitment, the ultimate success of your career or business.
- Do many things... Don't be afraid to try different things. Off the wall completely unrelated things. If you are passionate about it, that is the foundation that makes them all worthwhile.
- For example, cows are my first love and I have built two businesses that center on cattle. Espresso was another, so I built another business around that. The challenge of quality and customer service that will get a customer to pay \$4-5 for a cup of coffee... and smile about it!

### **4. Keep learning!!!**

This is the single most important thing you can do with your Ag degree and your future. When I was getting ready for college and filling out scholarship applications, one of my favorite phrases was that I wanted to gain from my education the ability to continue learning throughout my life. Little did I know, I was actually right! To tell you the truth, I didn't even take it that seriously. I just thought it fit well for my purpose. I thought I knew a lot... most of which turned out wrong. And the things I didn't even realize I knew turned out to be the most important.

Learn from work, people you encounter every day, experts in a field, customers, educators, seminars and continuing education, magazines, books, Audio books, etc... Basically if something interests you, find a way to learn about it. If you don't know the answers, look for them. If you are stuck in one place, find something new to learn about. If you think you know all you need to on a subject, challenge yourself to new levels and find a way to learn more. Because your Ag degree and all you have done leading up to it, does give you the ability to keep learning the rest of your life.

# TROY RANDALL

## TR Custom Wicking

### *The Catcher of the Rye*

by Matt Cox, Wyoming Business Council

Troy Randall has been fostering an entrepreneurial spirit since his junior high school days in Pine Bluffs, and now as a junior at the University of Wyoming, Randall is a journeyman in the ways of small business.

The 22 year-old is the proud principal of TR Custom Wicking, a rye wicking service operating in southeastern Wyoming and the Nebraska panhandle. Randall started his company in 2004 as a way to earn extra money in the summers, but seven years later, TR Custom Wicking is still going strong.

Although rye wicking is a longstanding, traditional and necessary part of agriculture, Randall's business model addresses a lack of the service in the southeastern prairie of Wyoming and the fields of the Nebraska panhandle.

Rye wicking is a very specific type of agricultural spraying that wheat growers implement to remove common rye plants from their wheat fields. The process includes wiping a mixture of chemicals and water over the wheat fields when the rye hits its bloom stage – when the rye has grown about a foot above the wheat – to make sure the chemical only is transferred to the taller rye, thus not affecting the wheat.

"I operate the entire business," said Randall. "From the actual wicking in the fields to marketing and finances, it's essentially a one-man show."

However, Randall employs a friend or two during the wicking season – beginning in late May and ending mid-July – if the workload calls for it, and as all young business people often do, Randall's dad Donn has supported him since the very beginning, helping anyway needed.

When Randall was in eighth grade, he bought his first wicker cart. His business quickly expanded so much that he purchased a second wicker cart and a second four-wheeler to handle the workload.

"I have always advertised in the local papers before the wicking season really gets going," he said. "But word-of-mouth has really helped build a strong customer base."

This growth stems from Randall's work ethic, reputation and integrity, and over the years he's honed his on-the-field and off-the-field skills to maximize his service while minimizing costs.

His business really took off once he started using a retro-fitted spray coupe to wick with, he said.

"I purchased a used spray coupe and then designed a system to convert it into a wicker by designing and building all the components myself," he said. "This has decreased my downtime and increased my productivity."

As far as future plans for his business, Randall says he'd love to grow it and continue working with it, but as it is strictly a summer activity, he can manage while he's still a college student.

"Wicking is not a full-time business," he said. "After I graduate from college, I would still like to do it when I can."

Randall's past is in agriculture, and as an Agriculture Business major at UW, his future is in agriculture, so when he offers advice to other young folks in Wyoming interested in agriculture, it would do those well to listen:

"I would say that today, more than ever, opportunities are out there to be successful in agriculture, so don't hold back and make the most of it," he said. "If you have an idea – go for it."

# AGRI FUTURE GROUP CHALLENGES

## Red Group Challenges

- Communication
  - getting the word out; workforce
- Energy Volatility
  - regulation and cost
- Regulations that producers face
  - Confined Animal Feeding Operations
  - Uncertainty of regulations
- Change to meet market
- Barriers to entry on production side
- Educating the uneducated about Ag
  - 2 generation interval
  - Where's the motivation
- Balance b/w Feeding People and Niche markets
  - Organic vs. conventional
  - Double production
- Food vs. fuel
  - Corn for ethanol vs. feed grain
- Perceptions
  - Make people fit perceptions
  - Produce for perceptions
- Balance is key
  - Technology, Food Safety
- Good press/ Negative press
- Animal health
- EPA
- Wolves & Grizzly Bears
- Wild horses
- Domestic horse slaughter
- Endangered Species Act
- Regulation
- Funding
- How do we prepare for changing technology? (Pay for it...?)
- How do we target each audience?
  - Elementary, Teens, College age, Dinks, Decisions makers, Families...





# Green Group Challenges

- Consumer/producer demands
- Education of animal care/rodeo
- Ag Advocacy
- Communication to the consumer
- Ecosystem service capture
- Environmental impact of agriculture
- Hands on agriculture
- Public relations
- Climate change
- Technology education
- Ability to get into Ag
- Sustainability
- Man power-value added
- Skilled labor
- Support on legal issues
- Future/current taxation
- Focus on vocational education
- Importance of agriculture career
- Attracting the best and brightest
- Business estate plans
- Producer/politician disconnect
- Connectivity-affordable
- Educating older people in the industry
- Urban/rural disconnect
- Laziness
- Work – pass it on
- Size of agriculture sector and policies
- Generational differences
- Be an advocate
- Rising costs – energy
- Need of management training
- How to self-regulate
- Reduction in funding and prices
- Network working resources
- Financial and business education
- Advocate to politicians
- Education of where food comes from
- Frame debate on food
- Urbanization

# Yellow Group Challenges

- Increase production w/o affecting resources
- Public education of agriculture
- Balancing policy and regulations
- Distribution of food “for the world”
- Making private sector jobs competitive with public options
- Cost of entry
- Flexibility of production systems
- “Taking back” the story of Ag
- Encouraging research and development both in private and government sectors
- Young agriculturists telling their story and educating the public (i.e. Stacy and Troy)
- Multi-use of public lands; influencing decision makers
- Global competition
- Balancing “ground level” needs with luxury dreamscapes
- Risk management; market volatility
- Age of producers
- Labor; knowledgeable labor
- Community colleges vs. universities; hands on” training vs. book learning
- Values of those raised urban vs. rural; exchanging information in “familiar”, “comfortable” methods; getting out of comfort zones
- Technology transfer
- Cooperators/partners vs. competitors balanced with standards
- Perceptions of international trade
- Transportation and subsidies
- Interstate Trade
- Ensuring safety of products with imports and exports
- GMO’s – education
- Educating those who don’t want to be educated
- Liability issues
- Utilizing and pooling “non-biased” sources of education and information
- Continuing education for those of all ages and experiences; and for policy makers
- Uniting within and throughout the whole ag industry
- Diversity of Ag – awareness
- Communicate with your specific audience in mind

“It was great to see so many college students and young people interested in agriculture and hopeful about the future of agriculture. The group identified a lot of challenges that agricultural producers face , but they also identified just as many opportunities to use new technology, social media and more to face those problems head-on.”

**LUCY PAULEY**

Wyoming Department of Agriculture

# Blue Group Challenges

- Getting the general public to understand agriculture
- Where to go with family farm/ranch
- Pursuing education in agriculture fields
- Embracing change
- Communication
- Education
- Embracing change
- Market diversity
- Ag succession
- Production curve
- Maintaining/developing/expanding exports
- Production technology
- Influencing public policy



# AGRI FUTURE GROUP SOLUTIONS

## Red Group Solutions

Advocacy - Education - Sustainability

### Advocacy

- Policy: be involved in associations that affect policy
- Promotions: People behind the product
- Know your facts, don't avoid key issues, and tell your story, training (historical seminars discussions)
- Plant to Plate
- Thank a Farmer
- Tourism
- Open houses
- Facebook/social media
- Ag in the Classroom
- Class to Ranch
- Education
- To consumer, you have consistent facts
- Advocate to policy makers

### Education in Ag

- Social media training
  - Local: ext. etc.

- Tech training
  - Simple and entertaining
- Affordable
- Finance/business "courses"
  - Excel, spreadsheets
  - Computer tech. training
  - Importance of technology for older producers

### Sustainability

- Energy
  - Energy audits thru University
  - Education of energy use and how to use your resources efficiently
- Value added products
- Generational differences/transfer
  - Estate planning
  - Taxation
  - Education & training opportunities
- Know where in Ag you can be most sustainable & profitable
  - Profitable audits
  - Outreach, be involved in organizations



# Green Group Solutions

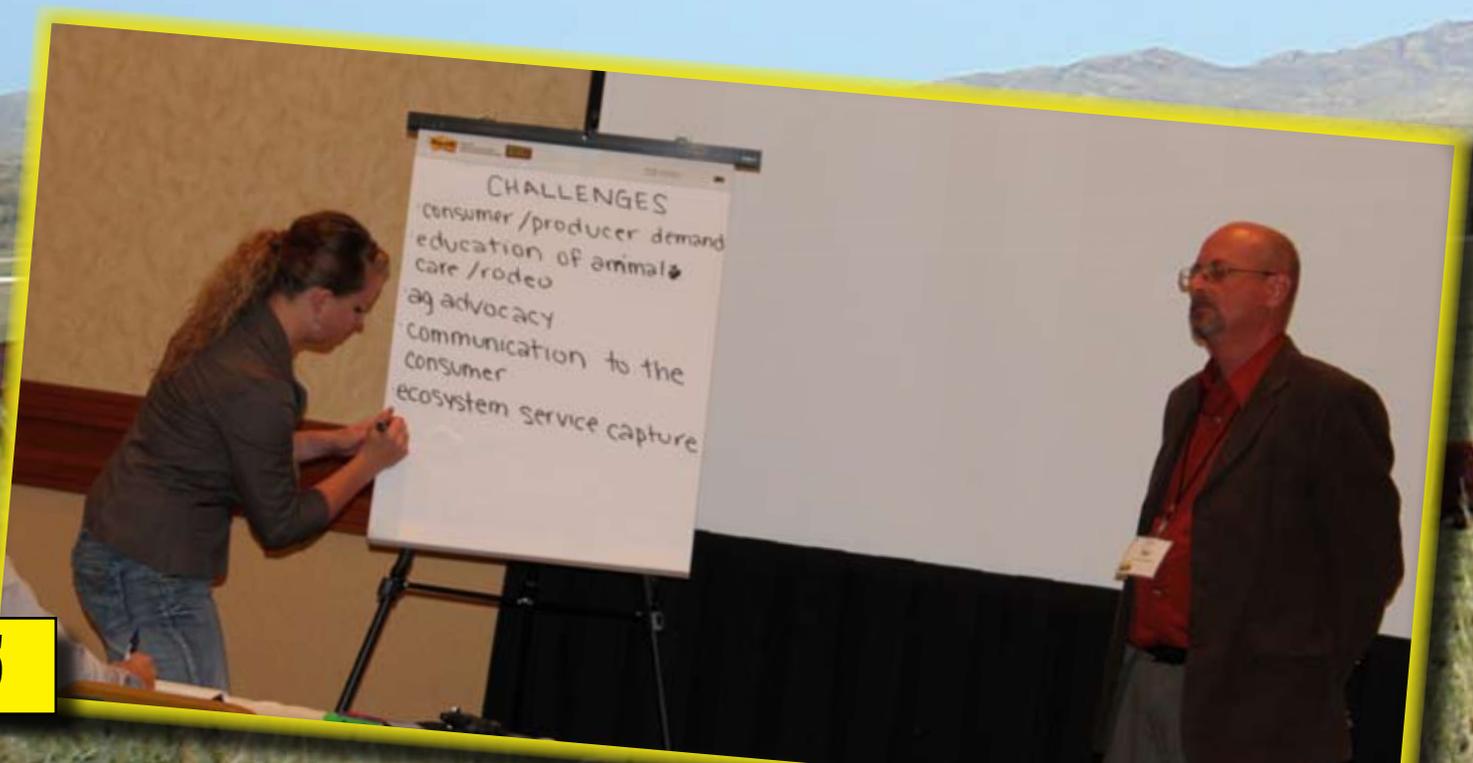
- Balance: have to have a balance between local, global - recognizing both markets and where you fit in
- Put together a list of resources for the niche market to WDA or other organizations that can broadcast it
- Training – in social media, what is effective?
- Listen to the to the other side
- Ask bloggers to present other side of the story (make sure perceptions not agendas are being pushed)
- WSGA conversation in Jackson, have a panel of the “other side” some in
- Have a booth at farmer markets
- Listen and be available for questions and answers
- Be on the offense not defensive. Instead of them coming after us, we go after them. Why should we feel guilty about feeding the world?
- Keep credible, ask the questions first
- Enable producers to speak out – training
- Fact sheet for producers
- Weekly tip in Roundup
- MBA (master in beef advocacy): David and Colleen are getting a MBA
- Technology training (communications tool) in rural areas
- Ag trade show
- Cell phone party – kids training adults, draw new people into ag

# Blue Group Solutions

- Take action with the tools we have
  - Face book, twitter, etc use them
- Sit back and listen to the other side
  - Need to understand each other (I.e. Peta – know their message)
- Make connections outside of agriculture
  - i.e. tourism in wy – let people know how everything connects to ag
- Connect to the passionate side of people
  - Why is a group like PETA so big? They tug on people’s heart strings (i.e. horse bulletin board)
  - Tug on their heartstrings
  - Fight fire with fire
- Feed and empower existing communications organizations
  - Use what we have and go for it
- Maintain integral communication
  - Utilize agency communication group to outside organizations – empower them to do more
  - Farmers and ranchers need to talk more to each other
- ‘Industry communicating with and compeering the next generation
  - Next generation needs to step up

# Yellow Group Solutions

- Colleges & Universities add a “experience”/hands on requirements for curriculums (industry drive)
- Continue to grow and promote Agrifuture conference – continue discussions throughout the year
- Education W/o “preaching to the choir” but also educating agriculture
- Updating ags sotry to the public..it’s not horses and plows anymore... GPS planting, etc.
- Request University begin/work to tie together the different aspects of ag (i.e. get the business college to use “ag” examples for case studies, not just Microsoft. (i.e. CSU multi-dsicplinary projects
- Involving other groups/disciplines i.e. FFA & FBLA: making agriculture a business not just serrated by itself
- Utilize farmer markets as an educational tools
- Each person pick 1 or 2 challenges they are going to personally work on them
- Education to change gap between Universities and Community Colleges – students are not prepared for what industry needs us to do. Students need more practical skills. Maybe universities can work closer with industry to see what they need. We need more balance between books and practical
- Making agriculture not so segregated – it involves all disciplines
- Broadening media contacts
- Local “Ag Coalition”
- Grass roots communication
- Continuing education credits for teachers during an “agriculture education” summer conference
- We become liaisons – the change we want to see



# VERBAL EVALUATIONS

- Thrilled to see growth from last year
- Planning group is diverse and bodes well for this conference
- Student involvement in planning would be great
- Programs are addressing concerns
- Communication is important – be a friend on Facebook.
- Important for all students to take the word back and encourage folks to attend next year
- Do mid-terms interfere with timing?
- Bring in more industry
- Excellent exchange of ideas
- How to keep people engaged and still more success next year
- Took an idea and made it successful – Focus on western agriculture.
- This is like speed mentoring with agriculture folks
- Have an evening function to keep folks together
- Great opportunity – got more out of this than I thought I would
- Breakout sessions are very good
- Expand to more agriculture organizations; business; more states; more students
- Participants this year need to spread the word
- Can't wait to back to school and share what I learned.
- Cross pollination – energy session built on that
- It was a diverse group and great to share values with each other
- I wanted to go to all the sessions
- Break out groups shrunk the 2nd day, but hope to have more next year
- Consider an educational workshop on Friday am.
- There was a variety of people
- Great speakers
- Try to get more folks here from SD next year
- Thanks for letting us be so vocal as students
- We had an opportunity to say what we thought
- So many new ideas to take home
- Scholarships are great and thanks so much
- Continue scholarships and get more!
- “Love cows, Love farming, Love to talk about cows and farming” Utah student – I got all 3
- Can't build a future without a strong foundation – this helps us get there
- Made many new contacts – great networking opportunity
- Spectacular conference
- Great opportunity for students to connect
- David Bell – great perspective
- Look forward to next year

# AgriFuture 2011

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“It has been a long time since I have left an agricultural conference with so many new ideas and so much excitement for the future of our great industry.”

**HEATHER DEPRA**

# CONFERENCE NOTES



A large, brown rectangular area with horizontal lines, serving as a space for conference notes. The lines are evenly spaced and cover the entire area. The background of the page is a photograph of a grassy field with a mountain in the distance under a blue sky.

# CONFERENCE NOTES

A large, brown, lined notepad area for taking conference notes. The notepad is rectangular and occupies most of the page. It has horizontal lines for writing. The background of the page is a photograph of a grassy field with horses grazing under a blue sky.

# SAVE THE DATE!



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**OCTOBER 16-18, 2012**

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