Simply Sustainable

working to sustain western agriculture

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WESTERN SARE Sustainable Agriculture Research & Education

Website Project Draws More Vacationers to Farms

A Western SARE Project Profile

Scottie Jones, owner of Leaping Lamb Farm in Alsea, Ore. and recipient of a 2010 Western SARE Producer Grant, discovered strong interest in agritourism by both producers and guests when she launched and promoted the website Farmstayus.com. With a 700 percent increase in website hits since launch, Farm Stay U.S. has contributed to an increase in the number of nights booked on farms by vacationers. With the heightened awareness of agritourism as a vacation option, Jones anticipates both producers and their communities benefitting from additional bookings and money flowing into local businesses.

Jones began her project *Development of a Northwest Farm Stay Website* (FW10-029) with the knowledge that farm stays (overnight lodging on a working farm) has been a successful model for income diversification for farmers and ranchers in Europe, and that here in the U.S. there is growing interest in farm stays by both producers and vacationers. Urbanites are looking to connect back to the land and producers are seeking alternative income streams; yet in the West there had not been a place that unifies farms interested in hosting farm stays. Through unification, those farms could benefit from the economies of scale for marketing and the shared knowledge and resources of those already involved in on-farm accommodations.

Development of a Northwest Farm Stay Website had three objectives: 1) develop a highly professional website resource

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Scottie Jones, *P.I.*

Camelina's Potential in the High Plains

A Western SARE Project Profile

When Dr. Bret Hess, University of Wyoming, and his partners began their research looking at camelina as an alternative seed crop for biofuels and as feedstock, producers were suffering from high fuel prices. As producers sought alternatives, biodiesel sales increased from 25 million gallons to nearly 75 million gallons from 2004 to 2005. Currently, fuel prices have become more affordable. Yet, the results from Hess' project will give producers the information and tools they will need to make decisions around adding camelina to their operation when fuel prices do rise again.

Hess began his Western SARE-funded project, *Evaluation of Camelina Sativa as an Alternative Seed Crop and Feedstock for Biofuel and Developing Replacement Heifers* (SW07-049), in response to an increased number of producers desiring personal energy independence and cleaner energy, and therefore considering oilseed crops as both a

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Valuing the Agricultural Infrastructure Beneath our Feet

by V. Philip Rasmussen, Coordinator Western SARE Program

We often take for granted the basic infrastructural elements of a sustainable agriculture system: soil, water and climate. We hear the term "eating our seed corn" in reference to the conversion of prime, unique or important agricultural lands into houses, subdivisions, highways, etc. Many of us have visually observed the continual encroachment of 21st century development on top of some of our most productive soils. This happens amidst unique microclimatic zones that favor sustainable, prolific and profitable production of food, feed, fuel and fiber.

This major element of truly sustainable agriculture systems is, literally, situated beneath our feet. Prime, unique and important (each have specific USDA definitions) farmlands are often too easily converted to other uses, with often too little thought given to the long-term consequences of such conversions. Many of us have observed prime farmland conversion firsthand. For example, analysis is underway at a site in our region regarding a freeway bypass needed to carry the increasing traffic load of the subregion. Nevertheless, it appears that planners and engineers value the avoidance of paving wetlands (due to onerous paperwork) over the irreversible cannibalization of some of our most productive soils in one of the most crop-friendly climate zones in the region. This situation illustrates one of the common impediments to sustainable agricultural systems—the choice of what is important versus what is *most* important. Such difficult decisions must consider the societal cost that comes with the destruction of prolific agricultural landscapes. This particular situation has indelibly written, in my mind, the long-term costs of losing irreplaceable prime agricultural lands within productive climatic regimes.

Western SARE Coordinator's Column

V. Philip Rasmussen, Ph.D.

At a time when we are facing difficult economic circumstances in every sector, it is easy to propose the destruction of a prime agricultural zone and say that such agriculture can simply move to another place. Yet, in the arid West the prime agricultural lands, comprising as little as 2 percent of the land mass in some western states, are rare and irreplaceable resources. As we talk about food sheds and regional distribution systems for a more sustainable agriculture, the decreasing amount of local prime agricultural lands is often overlooked.

We are truly in a time of economic uncertainty and, oftentimes, we are figuratively "eating our seed corn." If no productive agricultural lands remain to allow sustainable production in regional food sheds, then there is little that can be done to promote "buying local." Local soil and water conservation districts are some of the best "brain trusts" of those who know of the soils and agriculture in their local areas. We need to encourage key decision-makers to consider the value of the soil that is beneath our feet. The designation of a prime, unique or important agricultural soil is not only due to its chemical and physical properties, but it is coupled with a microclimate that is conducive to the sustainable production of the important local crops.

Western SARE has supported many projects (through competitively-awarded research and education proposals) targeted to the preservation of important agricultural lands. This, admittedly, is only one component of a sustainable agriculture system. Yet, it is often that part that is ignored by both the key government decision-makers and by society itself. Those of us who are aware of important regional production areas and their associated prime soils need to step forward and not hide our voice on these issues.

Prime, unique and important agricultural lands are only a piece of the total "infrastructure" puzzle. We need to find ways to explore the opportunities which strengthen ALL of our agricultural infrastructure – from the land itself to local processing, distribution channels, financing and sustainable mechanization options. Therefore, I am truly excited and proud to announce that the Western SARE Administrative Council has committed to strengthening the dialogue regarding research-based solutions to local and regional infrastructure options. Western SARE will be sponsoring a conference in December 2012 in Portland, Oregon (please see Save the Date on page 5). This conference will center upon some of the prominent concerns regarding sustainable agriculture systems that were voiced, repeatedly, in our Western SARE subregional conferences. These concerns focused upon strengthening the region's agricultural infrastructure, reducing barriers, adding value and increasing profits. This conference will examine the systemic intricacies of the region's agricultural production, processing and distribution systems...and uncover ways to improve those "systems." We invite you to join us at this singular event.

"Prime, unique and important agricultural lands are only a piece of the total 'infrastructure' puzzle. We need to find ways to explore the opportunities which strengthen all of our agricultural infrastructure..."

— V. Philip Rasmussen, Western SARE Coordinator

Project Leads to Early Formation of Tribal Farm

A Western SARE Project Profile

When Fara Ann Brummer of Warm Springs, Ore. began her SARE-funded project, *Cropland Planning Group*, her original intent was for the group to focus on one piece of tribal land and produce a well-thought out plan as an exercise. What happened in addition to this is that the group took on a life of its own through the middle phase of the project and gained immense tribal support to start a farm. The participants of the group viewed the creation of a Tribal Farm as a natural outcome of the project, and they founded the farm with support from Extension and their Tribal Council.

This Western SARE Professional Development Program (PDP) project coordinated the actions of five tribal members from land resource functions and four non-tribal members from the Tribal Natural Resource Department. Their planning efforts consisted of a review of the historic use of pieces of land, a determination of the best value crops to be grown under existing irrigation and the creation of a farming schedule. Brummer utilized Western SARE funding for such a group in order to develop a focused effort towards cropland re-development on the Warm Spring Reservation (as the land had been fallow for over 20 years), assemble individuals with an interest and skills in farming to initiate one farming project and develop a workable plan for a farming season.

As the group chose their one piece of prime tribal farmland as their focus, they heard five presentations by Oregon State University Extension specialists and industry representatives on crops that could potentially be grown at Warm Springs, including hay, canola, specialty seed, tree fruit and grapes. The nine members, who were later joined by three additional tribal members and two non-tribal members, also participated on field tours of hay and grapes. Crop budgets were provided as a teaching resource.

Cropland Planning Groups

With the crop education and budgeting resources as support, the entire group presented their project summary to Tribal Council May 26, 2010 as a foundation for the start of a Tribal Farm operation. The Tribal Council passed a resolution, with no opposition, to start the Tribal Farm operation under the Tribal branch of Natural Resources and also provided monetary support with their resolution.

A groundbreaking ceremony will occur in December, after which the prime farmland will be prepared for seeding. A hay crop is expected for harvest in 2012.

Brummer said: "This project had the type of results that we enjoy seeing as Extension. We provide the tools for learning, and the constituents use the information and make their own decisions about their resources. The tribal members involved in the Cropland Planning Group were the ones that initiated the Tribal Farm through their own decisions and actions."

Formal evaluations and observation by Brummer demonstrate that, in addition to increasing crop planning skills and agriculture knowledge, the participants developed facilitation and leadership skills, all of which led to the unanticipated outcome of a beginning Tribal Farm as quickly as it occurred.

"This project had the type of results that we enjoy seeing as Extension. We provide the tools for learning, and the constituents use the information and make their own decisions about their resources."

— Fara Ann Brummer, Warm Springs, Oregon

Website Project Draws More Vacationers to Farms *(continued)*

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directory of Northwest Territory farm and ranch stays in order to market them directly to the traveling public; 2) create a website that could scale for the entire United States and 3) introduce the farm stay concept as an added-value operation aimed at improving bottom line financials to farmers and ranchers unfamiliar with the model. Jones worked with a professional web design firm, ProWorks, to create the website that began with 64 regional farms and now includes over 950 farms nationwide, 197 of those in the Northwest.

Farmstayus.com provides farmers and ranchers information about starting a farm stay and, for those who do provide overnight accommodations, a place to market their business. The producers manage their own account by providing descriptions, photos, activities and animals in the operation, location and rates. Basic listings on the website are free for farms, or the farms can pay a small fee for more features such as photos. For the potential guest, the website provides background on what a farm stay is and why it is a viable vacation option. The site links the farm or ranch and guest through a powerful database and map. The guest can search for a farm stay by location, rates and capacity. Farm Stay U.S. also uses social media such as Flickr, Facebook, a blog and Twitter to market farm stays and the website.

Through the use of social media, mailings of brochures to extension, creation of promotional materials and numerous presentations at workshops and conferences, Jones not only created a one-stop shop for producers and guests interested in farm stays, she also increased media attention to the farm stay concept. Publications such as the *N.Y. Times*, *Country Living*, *Redbook*, *USA Today*, and many others highlighted vacationing on operating farms/ranches and provided a link to the website. (Links to all of the above articles are available on the Farm Stay U.S. website, http://www.farmstayus.com/about/news.

Farm Stay U.S. Website

The creation of the website and increased media attention may have contributed to more successful farm stays. In a survey sent to existing farm stays who participate in Farm Stay U.S., 50 percent reported an increase in requests for information and 60 percent reported an increase in number of nights booked – including 13 percent who saw an increase of 25 percent or greater.

While leading the project, Jones also identified barriers for other producers to launch a farm stay operation. Through an additional survey, she found the main reasons for the delay in start-up (multiple reasons could be checked) were: permitting and legal issues, time to give to the project, money to give to the project and not knowing if this was a good idea.

To continue heightening awareness of farm stays and to help interested producers overcome the challenges, Farm Stay U.S. will continue to market and promote the website to the travel industry, as well as place itself in front of as many farmers at agritourism conferences and workshops as possible. Additional materials useful for farm and ranch stay operators will be created so that the shared knowledge improves overall customer service and guest interest. Lastly, the website will continually be refined and improved, with additional functionality for guests on the front end and farm/ranch members on the back end. The end goal of the site is to optimize the match-making between the farmers and ranchers who want to host guests and the guests who would like to visit.

Annual and final reports from this project can be found by searching the database at sare.org/projects.

Happy Holidays

from the

Western SARE Program

Two Conferences Respond to Subregional Priorities

Water issues and gaps in agriculture infrastructure were ranked highly among participants at Western SARE's subregional conferences as priorities for the program to address. In response, Western SARE has launched plans for two conferences:

1. **Strengthening Agriculture's Infrastructure: Adding Value, Breaking Down Barriers, Increasing Profits** will be held in Portland, Ore., December 2012 (please see Save the Date on this page). This conference will prepare western region agriculture for sustainably processing, marketing and distributing high-quality food in systems that draw consumers closer to food producers; increase economic viability of food producers of all sizes; expand the marketplace for sustainably produced food; increase community food and security and assure abundance in the face of increasing fossil fuel costs.
2. **Water: The Foundation of Agricultural Sustainability** will be held in Santa Fe, N.M. August 2012. This water training will provide practical information to extension agents and other ag professionals that they can immediately share with their clientele. Topics under consideration include: water and agriculture in the Southwest; the acequia system; water for livestock and methods to improve water use efficiency of cropping systems.

Please contact Stacie Clary at stacie.wsare@charter.net for more information about the agriculture infrastructure conference or Jim Freeburn at freeburn@uwyo.edu for more information on the water conference.

Western SARE Invites You to Save the Date

Strengthening Agriculture's Infrastructure: Adding Value, Breaking Down Barriers, Increasing Profits

December 3 - 5, 2012 | Portland, Oregon

Topics to be included:

- Co-operatives and other producer partnerships
- Value-added food processing
- Local and regional marketing and distribution
- Barriers to regional supply chains
- Public sectors' response to infrastructure gaps
- More TBA

The conference will prepare western region agriculture for sustainably processing, marketing and distributing high quality food in systems that:

- draw consumers closer to food producers;
- increase economic viability of food producers of all sizes;
- expand the marketplace for sustainably produced food;
- increase community food and security; and
- assure abundance in the face of increasing fossil fuel costs.

The Western SARE Administrative Council is organizing this conference in response to the participants in our Subregional Conferences who listed gaps and barriers in agriculture infrastructure as a high priority to be addressed in our region for continued economic viability in the 21st century.

Western SARE will provide updates on the conference by email, on our website and in this newsletter. If you are not on the newsletter email list, please contact Stacie Clary at stacie.wsare@charter.net to ensure receiving regular updates.

Bruce Petersen, *newly appointed member of the Western SARE Administrative Council*

Administrative Council Changes

Bruce Petersen recently joined the Western SARE Administrative Council as the representative from NRCS.

Petersen has served as the Nevada state conservationist since January 2009. He started his career with the Soil Conservation Service (SCS) as a soil conservation technician in Minnesota, working his way up to soil conservationist and then district conservationist. He also worked for several years as a technician for conservation districts in Minnesota and Wisconsin. Petersen worked for the NRCS in Wyoming for 11 years, serving as assistant state conservationist for operations, programs, and partnership liaison, before coming to Nevada.

"I work every day with agriculture programs and producers and welcome the opportunity to help advance agriculture profitability, protect resources and improve the quality of life for rural land users by participating as a western region representative to SARE," stated Petersen.

Western SARE welcomes Bruce Petersen and looks forward to his participation.

One SARE Fellow's Experience

by Steve Van Vleet
Washington State University

Editor's Note:
The SARE Fellows program is a continuing education opportunity awarded annually to four extension educators from around the country to learn about examples and issues of sustainability in agriculture and food systems. Steve Van Vleet represented the western region. The program is a joint effort of the SARE Professional Development Program and the National Association of County Agricultural Agents.

Steve Van Vleet

"As a SARE Fellow, I had one of the best experiences and acquired the greatest knowledge of sustainable agriculture practices in all facets of agriculture."

— Steve Van Vleet, SARE Fellow

Agriculture has always been a part of my life, from growing up on a fruit farm in western Colorado to being taught by my father on the farm and in his science class. As a boy, I always had the advantage of having fresh fruits and vegetables throughout the growing season.

I never really thought about sustainable agriculture until I left the fruit farm for college. In college I started working in botany, entomology and chemistry and later transitioned into working on the biological control of invasive plants. During that time my parents leased out the fruit farm to some organic fruit producers. I began noticing changes in the diversity of beneficial organisms around the farm. I began to realize that there must be more effective ways to produce quality crops using practices that we hadn't used in the past and to think that practices used would have to take the environment into consideration, as well as the social perception from the public about the food that was produced. After undergraduate and graduate school, I worked for many different organizations, and I was always looking for the best fit for me in what I thought was a sustainable agriculture field.

Shortly after joining Washington State University, I became a member of the leadership team for the Center for Sustaining Agriculture and Natural Resources (CSANR) which focuses on sustainable agriculture. I began applying

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Montana State PDP Coordinator Changes

After four years as the Western SARE State PDP Coordinator for Montana, Dennis Cash is stepping down from this position due to his retirement from Montana State University. Steve Siegelin has been named interim coordinator.

Dennis Cash

Cash was the Extension Forage Crop Specialist with the Animal & Range Sciences Department at MSU. He grew up on a small irrigated farm in eastern New Mexico and had varied agricultural interests during his formative years. He received his B.S. and M.S. degrees at New Mexico State University. Following his interest in plant breeding, Dennis received his PhD at MSU, where he attempted to help overcome the mediocre nodulation and nitrogen fixation by sainfoin - a perennial forage legume. Cash was an alfalfa breeder for two companies where he developed and tested new alfalfa varieties within diverse and intensified cropping systems.

Steve Siegelin

In 1992, Cash returned to MSU to assume statewide duties for forage and feed crops to support the state's livestock industry. He has received SARE funding and coordinated several grant projects, including one project that resulted in the release of a new forage winter wheat variety.

Steve Siegelin is the Western Region Department Head with MSU Extension, where he serves as the unit leader for county based faculty in 17 counties. Siegelin found that helping people discover solutions to challenging issues was the natural outgrowth of his obtaining Horticulture and Weed Science degrees from Purdue University. Prior to his working at MSU, he worked in applied agriculture research and then as an extension educator in Indiana and Michigan.

Everyone at Western SARE appreciates all of Dennis Cash's hard work and dedication to program and welcomes Steve Siegelin to the program.

CAMELINA'S POTENTIAL *(continued)*

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source of biodiesel and feed. Camelina has potential as a biofuel crop for High Plains' producers with its relatively high oil content and possible adaptability to the region's semi-arid growing conditions. The biofuel industry has a limited supply and will need to be ramped up in order to meet increased demand. In addition, a biodiesel facility producing 1 million gallons of fuel per year is expected to generate 7,000 ton of meal and 100 tons of crude glycerin, creating a need to market these co-products. Hess believed that the beef cattle feeding industry is a reasonable marketplace for camelina meal and crude glycerin because the meal is a good source of protein, and the main compound in crude glycerin (glycerol) has an energy value similar to starch.

For this project, Hess and his colleagues evaluated:

- Field production of camelina in Montana and Wyoming,
- Camelina oil for production of biodiesel,
- Camelina co-products in diets of developing replacement beef heifers,
- The ecological impact and economic potential of replacing camelina for fallow, utilizing camelina as a feedstock for biodiesel and including camelina co-products in diets of developing replacement beef heifers.

This was accomplished through field trials, crop rotation studies, tests of camelina oil extracted from seeds grown in Wyoming and then used in equipment, a two-year randomized complete block study to evaluate the use of camelina co-products in diets of developing replacement beef heifers, a systems approach to try to understand how a biodiesel production scheme would fit into a dryland wheat farm using budget software, and an additional economical analysis using prices actually paid for supplemental ingredients in the beef heifer feeding experiment.

Hess found that camelina co-products were suitable replacements for conventional corn-soybean meal supplements for developing replacement beef heifers. Results compiled by project agronomists demonstrated that camelina is a marginal dryland crop for eastern Wyoming, both in terms of yield and economic feasibility. In contrast, the Montana location appeared to be a more suitable place to grow camelina because dryland yields were great enough to make growing the crop economically feasible. The co-products should be economically feasible supplemental ingredients for replacement heifers.

With the reduction in fuel prices, Hess and colleague Tom Foulke found that the economic arguments were not compelling – at this time. They predict a break-even point in the alternative system when petroleum diesel reaches approximately $5.92 per gallon. Should the price of petroleum diesel increase significantly, it is reasonable to expect that the cost of other inputs, especially fertilizer would increase as well, making profitability for this system a moving target.

Economic challenges include the small size of the press and the high amount of labor and time needed to run the press. In addition, farm bankers have stated that they would have challenges in financing such a press under traditional means, so sufficient funds need to be on hand to purchase the press. A possible solution is to achieve economies of scale through group ownership.

In addition to demonstrating where camelina can be grown feasibly and that it is an appropriate alternative feed, the results have paved the way for a future with higher fuel costs. Producers have become more aware of the possibilities with growing camelina. And, preliminary results of the feeding trial have been shared with FDA and a coalition of businesses that seek to have crude glycerin and camelina meal approved as feed ingredients for livestock. The FDA has now approved up to 10 percent camelina in the ration of ruminant livestock rations. It is therefore anticipated that feeding of camelina co-products will increase in areas where crop yields are sufficient to make camelina economically viable for producers.

Annual and final reports from this project can be found by searching the database at sare.org/projects and a poster about the project can be downloaded at western-sare.org/Learning-Center/Conference-Materials/Western-SARE-Subregional-Materials/Mountain-High-Plains-Conference/Mountain-High-Plains-Posters-and-Handouts.

Demo by Jerry Nachtman and Tom Foulke

The FDA has now approved up to 10 percent camelina in the ration of ruminant livestock rations. It is therefore anticipated that feeding of camelina co-products will increase in areas where crop yields are sufficient to make camelina economically viable for producers.

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One SARE Fellow's Experience *(continued)*

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for more Western SARE grants and working with other researchers on what were considered sustainable agriculture projects.

However, until I became a SARE Fellow, I didn't truly understand the entire concept of sustainable agriculture and its broad reaches. As a SARE Fellow, I had one of the best experiences and acquired the greatest knowledge of sustainable practices in all facets of agriculture. Although I worked in the sustainable agriculture field for those past eight years, my passion for agriculture sustainability was never as ignited and as focused as it is since being a SARE Fellow.

My understanding of sustainability, the challenges agriculture faces in working to become more sustainable while working to feed the world and the true diversity of agriculture have all improved. I have had the opportunity to discuss sustainability with those whom I consider to be some of the finest agriculture producers in different regions of the United States. In addition to acquiring a wealth of information and ideas to bolster my Extension programs from the SARE Fellows Program, I have made valuable connections with other Extension colleagues from different regions. Because of the knowledge I gained as a SARE Fellow, including how to truly identify what it takes to be sustainable (environmentally, economically and socially), I have been able to aid the producers to become more sustainable, not only in my small region of the United States but globally throughout Ukraine and Kurdistan, Iraq.

At the beginning of the fellows program, I was able to determine whether agriculture practices were sustainable based on my own knowledge and background. Later, I was then able to look at agriculture practices and determine if they were sustainable based on a defined matrix. Finally, I was able to evaluate agricultural practices as an entire system, using not only my knowledge but the knowledge of many Extension specialists in combination with a sustainable matrix (Reading the Farm Program).

The SARE Fellows program is of such importance to me that I have become the national vice-chair for sustainable agriculture in the National Association of County Agriculture Agents (NACAA). I will continue to support and promote the SARE Fellows program that has been so influential in my life. I will also continue in my career to improve agriculture sustainability not only throughout the U.S. but throughout the world.