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Inside:

Special Feature:

Advancing Diversity in the Northern Plains Area

VOICES

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November 2011

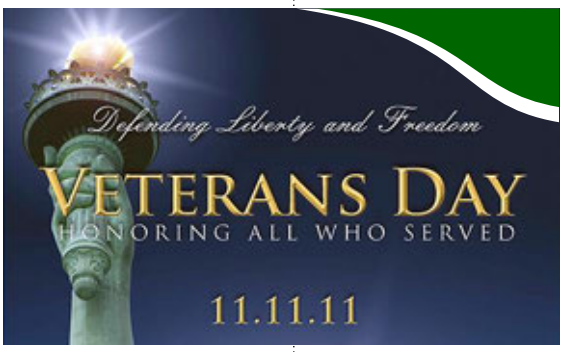
Double Duty – Honoring Our Veterans (Ongoing) Service

By V.L. Jin
Soil Scientist, Lincoln, NE

Each year on November 11, we honor the contributions and the sacrifices made by our Nation's living war veterans. Veterans Day began as a national holiday in 1938 as "Armistice Day" to celebrate the armistice between the Allied nations and Germany that went into effect on the eleventh hour of the eleventh day of the eleventh month in 1918. Armistice Day became Veterans Day when President Dwight D. Eisenhower signed it into legislation in 1954. At that time, there were 23 million veterans living in the United States, or 13% of the U.S. population [1]. Today, our Nation's population has doubled, and the number of veterans has dropped to 21.9 million, or 7% of the population [2, 3].

Of the 9.8 million veterans working in the national labor force today [3], over 542,000 continue to serve the Nation in the federal civil service [4]. In fact, over one-quarter of all federal employees are veterans. Veterans make up 10% of all current USDA employees [4] and 7% of employees in the NPA. Secretary Vilsack's ongoing initiative for USDA's Cultural Transformation targets 10% of all new hires to be veterans, and in the first quarter of FY2011, we exceeded that target with veterans making up 13.2% of new USDA hires [5].

This push for hiring veterans in the USDA, as well as in other public and private sectors, reflects the growing (and well-earned) recognition of the talents and leadership skills of our military personnel. Although only a small fraction of all veterans are women (1.5 million, or 7% of all veterans [2]), both servicemen and service-women bring their discipline, pragmatism, and problem-solving skills to bear on the challenges that the Nation faces on the home front. Whether it's economics, diplomacy, or agricultural research, veterans today continue to serve our country as both leaders and dedicated team players with a unique perspective. "I think it is called military service for a very good reason," writes Larry Renner (USAF, 1971-1975) from the Northern Great Plains Research Laboratory in Mandan, ND. "*It really is serving, and it really is a service. I felt I had a very important job, I felt I really was protecting the country. I learned discipline, I learned chain of command. I also learned some things are not worth worrying about. It was not that uncommon of an occurrence in the places I served that some person would die trying to get to a better place, a better land, a better government. It really puts the little things in perspective.*"



Over and over, the veterans of NPA responded in a recent questionnaire that military service has taught them self-discipline, commitment, and skills in planning and management. From key leadership positions to more supporting roles, the veterans of the NPA have continued their service to the Nation by bringing these assets to the ARS. With the Northern Plains Area being home to 42% of our Nation's range-land, one-third of its cropland, 13% of its surface water, and the largest wildlife habitat of any region in the lower 48 states, all of which contribute $34 billion annually to the Nation's economy [6], the contribution of NPA's veterans towards meeting our important research mission is not only beneficial to our Area, but to the Nation at large. We do not say it often enough, but let us say it here: Thank you, Veterans, and many thanks to your families for your military and civil service, your double duty, to our country.

References

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[3] *U.S. Census Bureau (2010) Retrieved from http://2010.census.gov/2010census/.*
[4] *U.S. Office of Personnel Management (2011) Employment of Veterans in the Federal Executive Branch, Fiscal Year 2010.*
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[6] *USDA (2011) Northern Plains Area.*

Our Veterans 'VOICES'

"ARS has generally rewarded me for being thorough and giving attention to detail in research, and the Army typically rewarded me more for being practical and to the point. There's a time and place for each of these qualities, and service in both ARS and the Army has helped me to develop a balance among them in the workplace."

Louis Hesler (US Army), *North Central Agricultural Research Laboratory; Brookings, SD*

Even though I never served in Viet Nam, I served during that conflict. It was difficult, while overseas to have people ask, 'How many babies have you killed today?' I worked in an office. I couldn't have gotten my hands on a weapon if I needed it. During the mid to late 70's, the military went through a very difficult transformation. Viet Nam had just ended, the military wasn't very well liked, and soldiers were held personally responsible for all the evils in the world. Since then times have changed. We seem to have come to grips with the fact that soldiers love this country, they serve, not as mercenaries, as some would have you believe, but as young men and women who truly believe that they are doing what needs to be done. No war is ever really popular while it is being fought, especially to the families back home. But the soldier does not pick his war. He goes, he serves, and sometimes he dies. And now, when he comes home, he comes home to a country that has finally come to terms with that. The country finally treats these people with a respect they have earned."

Larry Renner (USAF, 1971-1975), *Northern Great Plains Research Laboratory; Mandan, ND*

The most challenging aspects of military service were the constant training and preparedness for war at any moment 24/7, balancing family and professional responsibilities, and monitoring world-wide military communications. The most rewarding aspects of military service were the feeling of contribution to the security of our country and our people, belief that our accomplishments were significant, now being able to bore children and grandchildren with fascinating stories outside our current experience, seeing my uniform on a manikin on exhibit at the North Dakota Heritage Center."

Cal Thorson (USAF, 1978-1982), *Northern Great Plains Research Laboratory; Mandan, ND*"

Service In The 'Missile Fields' of ND

Cal Thorson's "office door"

Minuteman missile

During the "Cold War," USDA-ARS Technical Information Specialist Cal Thorson had a non-traditional office. As a U.S. Air Force Captain serving as a Nuclear Weapons Officer at Grand Forks AFB, his office door weighed 10 ½ tons and was over 60 feet under the plains of North Dakota. As a Minuteman Missile Combat Crew Commander, he supervised security, maintenance, and Emergency War Order Launch of a flight of ten missiles with thirty remotely retargetable warheads. He managed one of the thirty continually manned Launch Control Centers in the state for a 24 or 48 hour period (without coming up for air). As deputy commander of the unit's squadron command post, he also monitored the security and launch capability of up to 150 missiles in a 100 mile area.

Continual testing and training; and emergency procedure and launch scenario simulations maintained constant readiness to wage a world-wide, civilization-ending war which was ultimately prevented because use of the weapons was so horrific that both Cold War adversaries feared to use them. The doctrine of "Mutually Assured Destruction" lasted over 50 years with both the USA and USSR poised to launch at a moment's notice. There were close calls and emergency situations which yet today may not be discussed publicly, but the residents of the farms and rural communities in the 'missile fields' of the northern Great Plains were peacefully unaware due to the proficiency of these servicemen.

In 2008 Thorson and his brother, who served as a USAF KC-135 tanker pilot at Minot AFB in North Dakota, were honored by the North Dakota Historical Society as two North Dakota farm boys who became military officers defending citizens of their home state and then returned to civilian life, raising their families in North Dakota. Their uniforms and stories became a central part of the "Military History of North Dakota" on historical display for nearly two years.

Deputy Launch Council

Capt. Thorson

Commander's Launch Council

Northern Plains Notes

By Will Blackburn
NPA Area Director, Fort Collins, CO

This past year has been a roller-coaster of sorts with the budget and proposed business centers. Despite all the uncertainties, NPA employees have done a very good job of keeping focused on the mission and ensuring that science remains the top priority. Many thanks to all NPA employees who, together, help ensure that the mission of ARS remains ongoing despite these uncertain times.

BUDGET: As I write this, the Congressional Super Committee continues to meet with the goal of having recommendations for Congress to vote on by November 23rd. At the same time, Congress is working on finalizing the USDA budget for FY 12. There is a good chance we could actually have our budget before the continuing resolution expires on November 18. It is believed that the FY 12 budget will include the closure of 9 locations and 1 program in ARS. If the proposed closures are implemented, ARS will try to relocate impacted permanent employees by re-directing them to current vacancies throughout ARS. Two-hundred and eighty employees could be affected by these closures. Although NPA does not have any locations and/or units on this proposed closure list, we do have up to 35 vacancies that could be filled by employees who may be offered re-directed assignments.

Once a budget is passed, it is anticipated that the ARS budget will be cut, and ARS is preparing for a minimal reduction of $38.5 million, or 3.4%. Voluntary Early retirement Authority (VERAs, or "early outs") have been authorized, and up to 520 Voluntary Separation Incentive Payments (VSIPs, or "buy outs") have also been authorized. About 2000 employees are eligible for VERA. These may be very enticing to employees, although ARS/NPA stand to lose a good deal of institutional knowledge and expertise as employees at all levels take advantage of these programs.

AFM RESTRUCTURING: In anticipation of leaner budgets for the foreseeable future and the need to operate more efficiently, AFM functions have been restructured to 3 regional Business Service Centers (BSCs): Eastern, Western, and National Capitol (Beltsville). These BSCs will operate virtually indefinitely, which means that impacted NPA Area Office employees will continue to have their offices in Fort Collins. The BSCs will likely be fully operational in the near future. The following services previously housed within the NPA Area Office have been transferred to the Western BSC: Budget & Fiscal; Contracting/Acquisitions; Engineering; Grants & Agreements; Information Technology; Personnel; Personal Property; Real Property; Safety, Health, and Environmental Management; and Travel. All Area DADs (Deputy Area Directors) were reassigned to BSCs. Mike Wiggett is the Director of the National Capitol Region, and he will maintain offices in Fort Collins and Beltsville. The Office of Technology Transfer (OTT) coordinators and assistants have been reassigned permanently to Area Offices, and Bryan Kaphammer and Tara Marostica are now with the NPA Area Director's Office. All Area ODEO Program Managers were permanently reassigned to the ARS ODEO office. Barbara King will continue to work out of this office with the same responsibilities she had prior to this restructuring. Additionally, the **Fort Collins** units now have their own location support staff, and 7 Area employees were reassigned to that staff.

> "After almost 25 years with ARS I will be retiring Dec. 31, 2011. It has been an honor to have served as director of NPA for almost 20 years."

AWARDS: Dr. Ron Follett has been named to the ARS Hall of Fame for 2011 for his research contributions in the enhancement of soil, water, and air quality. Dr. Follett will be honored at a dinner and recognition ceremony on December 7, 2011. Dr. Kevin Jensen, Research Geneticist, (Logan), was selected as the NPA Senior Research Scientist of the Year "For sustained productivity in the development and release of forage cultivars and germplasms that are having major impacts in the western U.S." Dr. Daniel Cook, Plant Physiologist, (Logan), was named as the Early Career Scientist of the Year "For novel and rigorous scientific investigations of physiology and chemotaxonomy of toxic plants, and teamwork with other members of the research unit and with collaborators." Dr. Leah Whigham's (Grand Forks) proposal for a 2012 ARS-funded Post Doc received the Edminster Award for the best proposal.

Dr. Blackburn

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Notes...

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Additionally, Dr. Jon Lundgren (Brookings) received an Early Career Innovation Award by the Entomological Society of America and the Presidential Early Career Award for Scientists and Engineers (**PECASE** - *Read more at this link and check out the related story below*.)

Please join me in congratulating these NPA scientists for their outstanding contributions and well-deserved recognitions. Additionally, I want to acknowledge NPA locations for far surpassing all ARS Socio-Economic Goals for procurement in FY2011.

DIVERSITY TASK FORCE: The Diversity Task Force is working on three initiatives: Morale and Retention; SCEP; and Recruitment. The recruitment survey is currently being analyzed. The SCEP sub-committee is looking into ways to better leverage SCEP appointments. The morale and retention sub-committee is interested in learning how locations — management and individual employees—deal with morale and retention. Additionally, this issue of VOICES reflects a new look, thanks to the combined efforts of Barbara King, Beth Redlin, and Heather Gossel.

BALANCING WORK AND PERSONAL LIFE: Whenever feasible, supervisors are encouraged to abide by departmental and agency urgings to offer **flexible work schedules** (P&P 402.1). Although the final P&P for telecommuting has not yet been issued, employees who telecommute must have a VPN connection, which can only be installed on government-issued equipment.

RETIREMENT ANNOUNCEMENT: After almost 25 years with ARS I will be retiring December 31, 2011. It has been an honor to have served as director of NPA for almost 20 years. The most enjoyable part of my job has been the privilege I have had to work with excellent people, you are the greatest. I wish all NPA employees a restful Thanksgiving holiday. Despite the budget news, we in ARS and NPA have much to be thankful for. Any organization is only as good as its employees, and I am humbled by the work ethic of the NPA workforce. Thank you to everyone for what you do to help make NPA a great place to work.

From the Lion's Den to the White House

*Posted to the **USDA Blog** by **Sandy Miller Hays**, Public Affairs Specialist, USDA Agricultural Research Service Information Staff, on October 12, 2011 at 1:20 PM*

*Photos from the **White House Office of Science and Technology** and the **Obama Foodorama** blogsites.*

At left, President Obama greets the 94 recipients of the Presidential Early Career Awards for Scientists and Engineers on Sept. 26. At right, recipient Jon Lundgren, Brookings, SD.

When President Obama honored 94 researchers on Sept. 26 as recipients of the Presidential Early Career Awards for Scientists and Engineers, chances are there was only one former pet-shop-manager-turned-zookeeper-turned-scientist in the bunch: Jonathan Lundgren.

Lundgren works at the Agricultural Research Service (ARS) North Central Agricultural Research Laboratory at Brookings, S.D., and he's also the ARS Early Career Scientist of 2010. He calls himself a "predator ecologist," but he's also known within ARS as "the bug detective."

As Lundgren is quick to point out, some of the biggest pest threats to our nations' crops–and food supply–aren't hanging around on the tops of plants; they're lurking in the soil. The corn rootworm, perhaps the most important crop pest in the world, is a classic example. So Lundgren focuses on what's going on in that "black box" just beneath the surface of the soil: who's living there, and perhaps more importantly, how they're getting along. He says it's a "bug eat bug" world down there, but that's good news for American agriculture, because beneficial bugs can play a big role in wiping out or at least keeping at manageable levels the pests that attack our crops.

Lundgren's a big promoter of biodiversity in farm fields, and his ideas are spreading. He says that when he first started talking to farmers about the importance of protecting the biodiversity represented by insects in the soil, at the end of his 45-minute talk, the only ones still hanging around and listening were "the crickets at the back of the room."But these days, through his promotion of ag management practices that sort out the good from the bad and the ugly, his appreciative audience includes an increasing population of farmers who use his information on beneficial insects to boost their arsenal of weapons against crop pests and ensure maximum crop production with reduced reliance on chemicals.

The Presidential Awards honor the pursuit of innovative research at the frontiers of science and technology. Lundgren's work, which promotes the use of "nice bugs" ranging from lady beetles to pirate bugs and wolf spiders to combat crop pests, is entomological innovation at its finest. "Everybody is a little creeped out, but also a little fascinated, by insects," he says. "But insects are among our best tools for helping reduce our reliance on chemical controls in our crops."

ARS Internships - Building Scientists and Leaders

SPECIAL SECTION

Azure Is 4-time Fargo Intern

Alexa Azure is a North Dakota native who comes from the Standing Rock Sioux Tribe. Her parents reside in Bismarck. She received two AS degrees from United Tribes Technical College in 2007 (Environmental Science and Art/Art Marketing). Since then she has been pursuing a BS in Chemical Engineering at the University of North Dakota in Grand Forks. She recently added a minor in Mathematics. Her anticipated graduation date is May, 2012.

Alexa has worked five summers for the USDA ARS; initially for one summer at the USDA ARS lab in Mandan, ND followed by four summers at the Biosciences Research Laboratory in Fargo, ND. The first three summers were sponsored by the ARS Native American Intern Program. The past two summers have been directly supported by the Fargo location. While working at the lab in Mandan, ND, she was under the supervision of Dr. Scott Kronberg, an animal scientist who was doing research on the effects of tannin additions to the water of animals (specifically cattle) that free graze on alfalfa and the potential applications toward bloat prevention. When cattle eat new alfalfa plants, there is a possibility of bloating, which is costly and a hardship for the owner. While in Mandan, Alexa trained cattle, took daily measurements, and assisted other researchers in rumen evacuations among other activities concurrent with livestock care and research. Of that summer, her least favorite activity was the second round of rumen evacuations, where high temperatures, bad smells, and mucus caused her to get ill. Regardless, the summer was one she will definitely never forget!

The following four summers were spent at the BRL in Fargo, ND working with Dr. Rich Roehrdanz (insect geneticist) and Sheila Sears (technician). The first summer was a learning process when it comes to genetics and biochemistry. Alexa was taught how to run PCR reactions and how to decipher the results using agarose gels, how to process DNA, do vector cloning, restriction digests, and use sequence analysis software, among other things. She has contributed to projects dealing with leafy spurge flea beetles, tarnished plant bugs, and the blue orchard bee. The summers spent in Fargo provided Ms. Azure with a renewed interest in the biological sciences, and a new found interest in genetics, and the possibilities of combining the different disciplines.

"Working with the USDA-ARS through the Native American Internship Program has provided me with knowledge and experience from different scientific research fields." She credits the mentorship of the researchers and technicians for contributing greatly to her educational growth. She says the employees she encountered at both locations were welcoming and displayed a willingness to help out or answer questions whenever approached. This, coupled with the support she receives from her family has helped her gain confidence and be successful in her academic endeavors. She is eager to complete her chemical engineering education and begin a science based career.

Alexa Azure says her ARS mentors have greatly contributed to her educational growth.

Alexandra Idso shows preschool children how to plant a garden as part of a her NPA High School Student Apprenticeship.

High School Intern Digs Into Gardening Study At Grand Forks

Alexandra Idso, a high school student from East Grand Forks, participated in the NPA High School Student Apprenticeship program at the Grand Forks Human Nutrition Research Center under the direction of Dr. Leah Whigham. Alex's primary research project was the "Gardening with Children/Beans for Kids" study conducted this summer in collaboration with Julie Garden-Robinson from NDSU Extension in Fargo. Alex was put primarily in charge of the organizational components of the study and received first-hand experience with delivering nutrition interventions to and conducting sensory testing with preschool and elementary children. Her research experience also included human subjects/IRB training, recipe development and testing, data collection and entry, and direct communication and interaction with study volunteers (parents, children, and teachers).

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SPECIAL SECTION – INTERNSHIPS

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In addition to this project, Alex was trained to assist with data collection on two other projects. She learned to analyze breath using a cavity ring-down spectrometer and determine dermal carotenoid levels using resonance Raman spectroscopy. For the latter technique, she conducted a short experiment to determine the effect of different skin conditions on dermal carotenoid readings. This project allowed Alex direct experience with study design, additional data collection, statistical analyses, and scientific writing.Alex's final apprenticeship project was a power point presentation delivered during a regular seminar series at our research center.

Alex's summer experience was very positive and has supported an interest on her part in a career in science. Not only did she gain from the experience, but she contributed significantly to the success of the projects on which she participated.

Alexandra Idso with her mentor Leah Whigham.

Sara Jane Abatti weighing out manure to add to simulated bedded packs as part of her research internship. Not all internships were this "glamorous," her mentor Mindy Spiehs said.

(See related story, page 9.)

Clay Center Intern Tackles Greenhouse Gas Emissions in Beef Barn Bedding

Sara Jane Abatti worked with Dr. Mindy Spiehs in the Environmental Management Research Unit at the Meat Animal Research Center, Clay Center, NE. Sara Jane will be a junior this fall at Kansas State University. She is majoring in Animal Science with a Science option and minors in Agronomy and International Agriculture with an emphasis in Spanish. She is originally from a large farming community in southern California. At K-State, Sarah Jane serves as the President of the KSU Collegiate Farm Bureau Chapter, Ag Student Council Activities Director for Ag Fest, a College of Ag Ambassador, and is a member of Sigma Alpha Professional Agriculture Sorority. In the future, she hopes to attend Oklahoma State University for graduate school and work internationally as a ruminant nutritionist. While at USMARC, Sarah Jane worked with Mindy Spiehs to evaluate ammonia, hydrogen sulfide, and greenhouse gas emissions from various bedding materials used in beef monoslope barns.

Fort Collins Intern Discovers the True Nature of Agricultural Research

Omar Nuñez was a summer intern at the USDA-ARS Crops Research Laboratory working with the Sugar Beet Research Unit under the direction of Dr. Kimberly Webb. He followed the development of our field research program from the laboratory, to the greenhouse, to the field where he assisted with the creation of two disease nurseries, which screen sugarbeet for resistance to rhizoctonia root rot (caused by *Rhizoctonia solani*) and fusarium yellows (caused by *Fusarium oxysporum*).

In the laboratory he learned sterile technique to prepare *Rhizoctonia solani* inoculum for the *rhizoctonia* screening nursery. He cleaned seed from greenhouse increases to be used for planting in field experiments. In addition to learning about plant pathogenic fungi, he became familiar with the process of field research including field layout, plowing and creating seed beds, cultivation, planting individual small plots, thinning the seedlings to the right plant stand, counting the plants before inoculation, inoculation the plants, irrigation, and harvest and evaluation.

Omar is a communications major whose grandfather came to this country as a migrant laborer. He said that he has a much greater appreciation for the amount of hard work that his grandfather had done and that goes into field research. As he put it "USDA is deeper than just grading meat." Omar will continue working with SBRU this fall, for 8 hours a week. We are certain that wherever his communication degree takes him, he will have a greater appreciation for the ARS research behind agriculture.

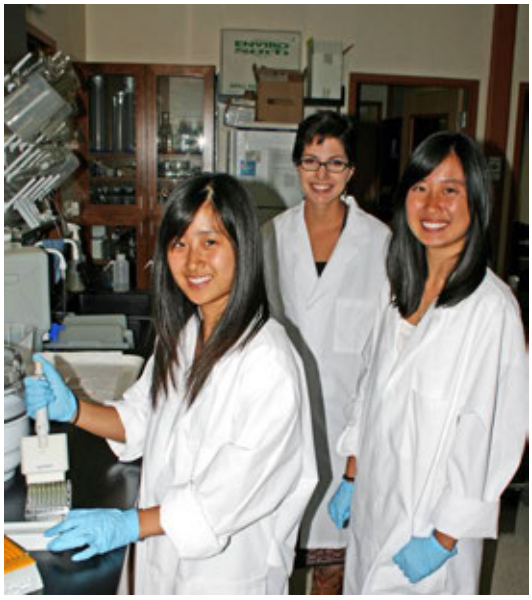
Omar Nuñez learned that "USDA is deeper than just grading meat" as part of his internship.

SPECIAL SECTION – INTERNSHIPS

As an intern, Brian Mills helped identify new stable fly attractant and repellant chemicals.

Lincoln Intern Helps ID Chemicals For Use in Stable Fly Management

Brian E. Mills from the University of Nebraska-Lincoln was awarded a USDA-ARS internship with the support of the NPA internship program. Mr. Mills started working in the Agroecosystem Research Unit in Lincoln under the supervision of Dr. Jerry Zhu on discovering novel stable fly management tools for protecting livestock animals. He has been trained with various advanced technologies in stable fly chemical ecology areas, which include gas chromatography combined with mass spectrum analysis, electroantennographic analysis, laboratory repellent assays, solid phase microextraction collecting methods, etc. He has successfully completed his internship. Mr. Mills is a very hard worker, and can always perform his assigned work above the expectational level (several times even beyond) with fully accomplished goals. With Mr. Mills' help, Dr. Zhu and his collaborators have successfully identified several new attractant and repellent chemicals that can be further developed for integrated fly management, several of them have already been used by industries for stable fly control product development. In addition, several papers related to his contribution will soon be published in scientific peer-reviewed journals, as well as some invited presentations by Dr. Zhu at International and national conferences.



Intern Megan Garrido at work in Dr. Ben Green's Logan, Utah lab (above) and with High School students, Doyoung and Daun Kwag (right) who she also helped mentor.

Logan Intern Is Mentee, Mentor

Intern Megan Garrido was successfully trained in cell culture and experimental techniques by ARS technician Anita McCollum, during her summer tenure with Dr. Ben Green in Logan, UT. Megan subsequently screened four alkaloids in bovine adrenal chromaffin cells and Rat PC-12 cells. The results from these experiments provide new knowledge about species differences in the response to piperidine and quinolizidine alkaloids. She also assisted in the collection of low larkspur which will be used in future experiments. In addition, her efforts helped free Anita to complete work on other ongoing projects in the laboratory. Megan's research work will be presented in poster form at the annual Utah State University Undergraduate Research Symposium.

Megan also helped mentor two high school students, sisters Doyoung and Daun Kwag during the summer. The students took first place in the Utah State University summer academy competition based on their presentation of work completed under the supervision of Megan and Anita.

SPECIAL SECTION – CONTRIBUTORS

Individuals providing articles, pictures and other information for this special section include:

Alexa Azure, Intern, Fargo, ND
Dr. Leah Whigham, Grand Forks, ND
Dr. Mindy Spiehs, Clay Center, NE
Dr. Kimberly Webb, Ft. Collins, CO
Dr. Jerry Zhu, Lincoln, NE
Dr. Ben Green, Logan UT
Hannah Worral, Intern, Fargo, ND
Dr. Erin Espeland, Sidney, MT

SPECIAL SECTION – INTERNSHIPS

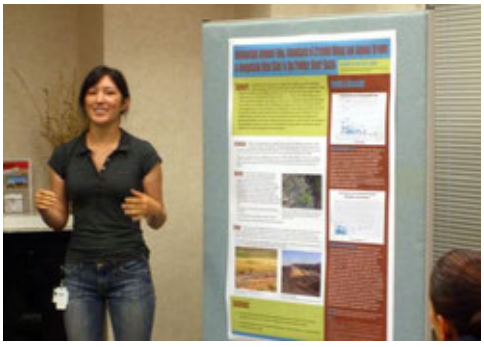
"What I Learned" from a Fargo Intern

My internship in Fargo, with Dr. Lili Qi, for the summer of 2011 provided me a better understanding of plant breeding and the development of a hybrid line. It increased my awareness of the time and effort invested in field work over a season, from planting to thinning, weeding, bagging heads, and collection of data including lodging, plant height, and branching notes in addition to fertility notes. I am now familiar with the A-line/B-line/R-line hybrid model, the B/H designation for determining the homogeneity/heterogeneity of an F_2 population by means of F_2-derived F_3 progeny test, and the importance of cytoplasmic male sterile (CMS) lines in the development of heterotic domestic lines. I also learned how to distinguish between male sterile and male fertile inflorescences in the field. In addition, I am now well-versed in the proper techniques for inoculating and scoring rust in the greenhouse. I have been able to apply my statistical knowledge to calculate of χ^2 values for phenotypic and genotypic data and determine the recombination frequency for two linked genes. I was also introduced to the Mapmaker V2.0 for Macintosh, which was utilized in the mapping of the two genes of interest for this project (*Rf5* and R_{11}). This experience has strengthened my note-taking abilities, given me an greater appreciation for literature review, and most importantly, reinforced my decision to pursue a graduate degree in the field of genetics by introducing me to concepts and techniques that I am bound to encounter in my future education and career.

Fargo, ND Intern Hannah Worral's decision to pursue a graduate degree in the genetics field was reinforced by her internship experience.

Sidney Intern Learns How To Make Collaborations Work In Research Effort

I (Erin Espeland, Sidney, MT) was able to use the NPA co-funded internship to attract an excellent student in Environmental Studies at UC Berkeley, Ming-Yu Stephens, to come work for me. Ming-Yu arrived with an excellent scholarly background and some research experience working in a laboratory. Working for me, she gained a great deal of experience in field ecology and was able to work with several different scientists on two of my research projects. The main research Ming-Yu was involved in was a collaboration I have with Dr. Matt Rinella (Miles City, MT) determining cultural practices and ecological factors that determine weed infestations in surface coal mine revegetation projects. Because Ming-Yu was able to start work prior to the beginning of the revegetation surveys, I sent her to California for a week to work with my collaborator Dr. Paul Aigner (UC Davis, McLaughlin Reserve) seed collecting for research on the influence of geographic proximity and local adaptation to success in restoration. In the coal mine revegetation work, Ming-Yu and her teammate (another intern, Bruce Moffatt) spent a great deal of time in Wyoming, attending safety trainings at each mine and performing field work in hot conditions wearing hard hats and steel toed boots. Bruce and Ming received training from both Matt and me on how to tell plants apart and how to conduct field sampling. Both interns dealt with adversity with patience and good humor and worked together well as a team. Ming-Yu took over the technological aspects of downloading and uploading GPS points and datasets simply due to her interest and ability in this area. She also spent her own time in the evenings constructing an informal herbarium. This herbarium included information about native range, identifying characteristics, and cultural uses of each plant species. The herbarium will be used next year to train interns on this project. Ming-Yu and I worked together on writing a poster describing some of the results attained from this year's sampling. We determined what hypotheses we could test using a limited dataset, and the resulting poster was entitled "Relationships between time, abundance of crested wheat and annual bromes at revegetated mine sites in the Powder River Basin". This poster was presented at NPARL to a group of interested scientists, technicians, and summer students. Ming-Yu gave an impromptu talk about the poster and her results, which went very well, and was able to answer questions thoughtfully. Working with Ming-Yu in the field, I was very impressed with her attention to detail, her willingness to work hard, her excellent attitude, and her ability to keep the research in mind while collecting the data. I trusted her to do independent work. Her thank you note to me at the end of the summer read: "… I couldn't have asked for a better mentor – you taught me so much, not only about sampling and plant ID, but also about the organization of labs, and how to make collaborations work." The Area co-funded internship award has helped me attract some of the very best interns, and I was delighted at the opportunity to help train a young woman who I think will make a very excellent scientist.



Ming-Yu Stephens gives an impromptu poster talk about her research experience to interested employees at the Sidney, MT lab.

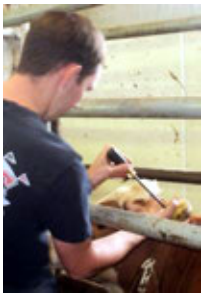
SPECIAL SECTION – INTERNSHIPS

Clay Center Initiates New Summer Internship Program

Editor's Note: *This article is reprinted in part from the June 11 USMARC newsletter.*

Thirteen University students have joined the new USMARC Summer Intern Program. The vision of the program includes generating student interest in careers in agriculture, and providing training to those interested in the science of the meat animal industry. The Summer Intern Program has both mentoring and educational components. Each student is paired with a scientist who serves as a mentor and the students are given a project in the laboratory. Students are also encouraged to participate in additional activities around the center. These activities are posted on the summer intern activity calendar by USMARC scientists and include, but are not limited to, heifer ovary ultrasounds, tissue culture, hematology analysis, and fly collection in the spinach plot. In addition, the students attend a brown bag lunch seminar once a week that is hosted by one of USMARC's six research units. Each mentoring scientist provides a brief presentation of the function and activities of their research unit. The students are then taken on a tour of the unit to interact and meet with the other scientists and see first-hand what types of research take place. The goal is to give the students a global view of the science that takes place within units and at USMARC. The year's students are enrolled in Universities and Colleges in Nebraska, South Dakota, Kansas, Missouri, Utah and Colorado, and they share a common interest in learning more about future careers in science and agriculture.

Intern Aly Perry




Hard at work are (from left) interns Brad Bennet, Jarrod Bumsted, Alyssa Rippe, and Bethany Boyer.

2011 Participating Students at USMARC

Brad Bennett
Kansas State University

Bethany Boyer
Kansas State University

Jarrod Bumsted
South Dakota State Univ.

Jenna Guthmiller
South Dakota State Univ.

Trent Jones
Hastings College

Judge Kelley
South Dakota State Univ.

Jere Noel
Kansas State University

Alexandra (Aly) Perry
Truman State University

Alyssa Rippe
Kansas State University

Jono Schwenka
Hastings College

Laura Steele
Colorado State University

Morgan Woodbury
Brigham Young University

Also ***Sara Jane Abatti,*** *Kansas State University, featured on page 6.*

When asked what interested these exceptional students in the opportunity to do a summer internship at USMARC, their responses echoed a similar theme, they were interested in gaining top-notch education in current scientific techniques relating to livestock.

"I am interested in seeing first-hand what takes place in large animal research and what takes place behind the scenes that ultimately results in the therapeutics/treatments/vaccines used in veterinary practice." -Bethany

"It is an opportunity to be on the leading edge of innovation. To see and be a part of ground-breaking research that truly has real world value to producers is an opportunity that can't be passed up." - Brad

"I'm very excited about the research that I am getting to do in the EMRU. The scientists and technicians here at MARC are great; they really want to help you succeed. I know that I wouldn't be getting this much hands on research experience anywhere else." - Sara Jane

"[I] learned of the opportunity to be a summer intern at USMARC at a job fair at CSU, and was interested in gaining additional relevantscientific experiences related to animal production and research." - Laura

"[I am] interested in the summer internship to expand my laboratory techniques and skills and gain more experience for future research opportunities. I feel the U.S. Meat Animal Research Center would provide the highest quality experience for undergraduates to develop such skills to utilize in the future." - Jarrod

Looking Back, Looking Forward

By Barbara King
ODEO, Ft. Collins, CO

The December 2006 edition of **VOICES** included two short essays on the changing dynamics of the workforce. One article "Diversity – What is it?" described diversity as a combination of each individual's unique background, experiences, and perspectives that each of us bring to our social, family, and work relationships. Perspectives are in large part developed as a result of our experiences (family, social, education, work, etc.), which are influenced by our backgrounds (race, ethnicity, gender, dis/abilities, religion, class, etc.). Differences in backgrounds, experiences, and perspectives do matter, and organizations that lack diversity risk becoming irrelevant in our increasingly diverse society.

Looking Back: In 2006, in terms of racial/ethnic and gender diversity, there were 816 permanent employees in the NPA, with 56 permanent employees from under-represented racial/ethnic groups. The workforce was 93% white and 60% male. The largest minority group was Asian (about 4%). By the end of FY 2011, there were 723 permanent employees, 62 from under-represented groups, and the workforce was 91% white, 59% male, and Asians were the largest minority group (about 5%).

The second article "Four Generations at Work: Which Are You?" dealt with the four generations found in most American workplaces today, and briefly described some of the features generally associated with each generation. The following is a snapshot of the NPA workforce in 2011 with 2006 in parenthesis: traditionalists: 2% (7%); baby boomers: 59% (64%); gen x: 30% (25%); and millennials: 9% (4%). Although the overall number of permanent employees has declined, the workforce has become somewhat more diverse in race/ethnicity and gender, and perhaps somewhat younger.

In looking at what has impacted today's workplace, four areas stand out: 1) the relative transience of younger workers; 2) career development; 3) technology; and 4) the desire to strike a balance between work and personal life. Traditionalists and boomers generally had one career with the same employer. That certainly rings true for many employees in NPA.

Looking Forward: It is predicted that younger workers will change jobs / employers throughout their careers. Whether younger workers use NPA as a career or "training ground" remains to be seen. Employees in jobs without promotion opportunity seek strategic job changes to gain specific experience. These sorts of moves resemble a "web" rather than a ladder, and moves may be upwards, sideways and even downwards to gain experience and skills. Today's marketplace requires employees to be creative and flexible, and constantly upgrade skills to stay current. At the same time, retirement planning, and especially funding, are largely the responsibility of employees.

Technology changes have impacted the what, how, and when of nearly every job. With many jobs tethered to computers, work can be done just about anywhere, any time. Letters, face to face meetings, and phone calls are quickly being replaced by emails, voice messages, texts, tweets, webinars, and video conferencing. While technology has helped in some ways, the constancy of being "on" and available 24/7, along with having rich and varied personal lives has made life for many employees crazy busy.

Accordingly, employees indicate a keen desire to have work:life balance, and NPA generally encourages **flexible work schedules** and is addressing telecommuting. How well employees are kept engaged and retained ultimately rests with the ability of individual managers to lead diverse groups of employees. At the same time, individual employees and managers must be able to shape workplace environments that enhance engagement, cooperation, and accomplishments to keep NPA moving forward.

WHERE IN THE NPA?

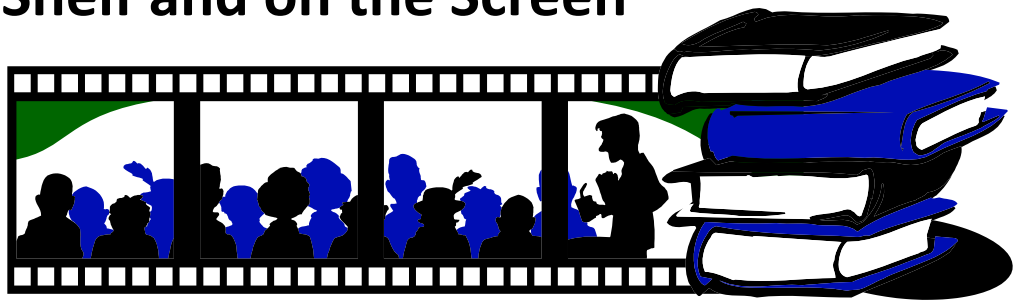
There's something fishy going on at this landlocked location. Can you identify "Where in the NPA" ARS researchers are pushing out fish food created with this extruder?

(Answer on page 15)

Show your own location pride! Share your pictures of scenic landmarks, fun festivities or occupational oddities that make your location uniquely you!

Please e-mail your pictures (with captions) to Beth Redlin at: Beth.Redlin@ars.usda.gov or to Barbara King at: Barbara.King@ars.usda.gov

Diversity - On the Shelf and on the Screen



Editor's note: *"On the Shelf and On the Screen" provides reviews of books and videos that deal with diversity as another means of learning about diversity. We invite you to contribute your recommendations for inclusion in future editions of "Voices" – simply email your recommendations with a short description to:*

NPA-DTF@ars.usda.gov

BOOK REVIEWS

The Immortal Life of Henrietta Lacks

by Rebecca Skloot

Review by Maureen O'Mara, Sidney, MT

The Immortal Life of Henrietta Lacks by Rebecca Skloot, through its human interest slant, opens our eyes as to how African Americans were treated by the medical field in the 1950s. It's also an eye-opening book addressing the question of who do your parts belong to! The medical field does not consider us a sum of our parts. Once a piece of us is surgically removed, pulled out, or scraped off it no longer belongs to us.

Hela cells, a well know line in any lab that studies human cell cultures, were the first cells to come along that could be cultured and grown in perpetuity. They are from an African American woman known as Henrietta Lacks (thus the name Hela – first two letters from the donor's first and last name). Prior to these cancerous cells, any cultures made from cells would eventually die out. Suffering from "woman troubles" she went in to the blacks only entrance of a medical facility to find out that she was actually suffering from cervical cancer. Her treatment, a barbaric (for this day and age) form of radiation, most likely is what she died from. But the issue raised by this book is who has the right to what becomes of the tissues removed from this young woman's body and the money ultimately made from this culture line. The initial surgeon's lab made no money from the distribution of the cell line, but a subsequent lab has made multi-millions. The family has received none of this money. They can't even afford health care.

Even though I was disappointed in the lack of scientific depth in this book I was drawn in to the personal side of Henrietta Lacks, her family, how blacks were treated, and what the harvesting of these cells has done to her family. Everyone that I have lent this book to has enjoyed reading it; appreciating a glimpse into what life was like for some African Americans, what present life is like for some, and learning about the beginning of a critical body of work with a human cell line.

FILM REVIEWS

"The Help"

Review by Theresa Pitts-Singer and Family, Logan, UT

I had read the book, *The Help*, with my book club. We loved it and were glad that the movie was a decent reflection of the book. The story is set in the 1960's in Mississippi and is about the building of an unlikely network of strong women. Skeeter, an educated, white, non-conformist and aspiring journalist, decides to write a book about what it is like to be the black "help" who care for white families. Everyone in your entire family should see this movie. I took my husband to see it, and not having read the book, he had no idea what to expect. The disgraceful treatment and consideration of blacks was very painful for him to witness. He had grown up in a small Tennessee town and had many black friends; his family may be politically conservative, but they are not racially prejudiced people. He was quite happy with the part of the story when the most distasteful woman got a big serving of a "just dessert!" However, I grew up knowing a black woman, Rose Catherine, who like in the movie, wore a white uniform when she cooked, cleaned, and did laundry at my grandparents' farm house in Tennessee. And, I also remember bringing food and clothing to "the projects" where Rose Catherine and her extended family lived. I recently asked my Mom about the relationship between Rose Catherine and my grandparents, and she told me it was very loving and not at all like the story in "The Help." Finally, I asked my 16-year-old, very privileged stepdaughter what she thought about the movie, which I insisted she and her older sister see. She found the prejudice to be unbelievable. She identified with Skeeter, and wants to be a person who is blind to race, creed, and sexual orientation. But it also made her reflect on her world today and to think about what her high school friends say about others. She admits that although the actions are not as outward or callus today as in the 1960's, she still sees that prejudice is strong and comes from all directions between blacks, whites, Hispanics, women, and men. This movie gives us all a chance to remember how far we have come with civil rights, and know that we may still have a long way to go.

"Milk"

Review by John Gaskin, Sidney, MT

Harvey Milk was the first openly gay man to be elected to a major public office in the USA. This movie, which won two Oscars and stars Sean Penn, is a view into his life as an activist and politician. Milk arrived from New York to the Castro District of San Francisco in 1972, and found a home in this famous gay neighborhood. But even in a supportive enclave, anti-gay police violence shook the community during the early 1970s. Sparked by the tragic relationships between gays and police and the public in general, Harvey Milk turned from camera store owner to activist, then to elected city supervisor.

Continued next page →

Screen...

Continued from page 3

All of this occurred at a time when states that had anti-gay discrimination laws were repealing them under a movement led by singer Anita Bryant. In 1978 California's Proposition 6 sought to fire gay teachers from public schools. Milk was instrumental in fighting the measure, and unexpectedly winning the day. Soon after, Milk and San Francisco's Mayor George Moscone were assassinated by another city supervisor, Dan White.

This movie is interesting for two reasons. If you have never known a gay person, the mix of drama and actual footage will bring you into that world for a while. And who can accurately judge a culture without having ever known or interacted with its people? Maybe the movie goes too far into that world for some, as it is rated R, but it is generally a safe journey without graphic sex.

Secondly, there is insight into the gay rights movement, and the level of bigotry gays endured during that time period. Times have changed in parts of the world, but their struggle for equal treatment in employment, parenting, marriage, and housing rights continues, and many gays are still justifiably afraid to leave the closet lest they meet ostracism and violence, even in the USA.

Connect...

with your fellow employees!

R3 - ARS Cultural Transformation (CT) Website:
http://www.ars.usda.gov/YourTwoCents/ctblog/index.html

CT Blog:
http://www.ars.usda.gov/YourTwoCents/ctblog/Blog.html

Y2C:
http://www.ars.usda.gov/yourtwocents/

Administrative Transformation (USDA Connect Website - use e-Auth):
https://connections.usda.gov/communities/service/html/communityview?communityUuid=d8f08ee1-a34a-4f66-ac0c-f6483b4acd97

U.S. MARC Celebrates Heritage Day

By Carol Chitko-Mckown
Clay Center, NE

On June 24, 2011, employees at the U.S. Meat Animal Research Center were invited to celebrate food, friendship, and ethnic diversity by partaking in Heritage Day. A pot-luck luncheon was organized, and individuals encouraged to share their favorite dishes from "The Old Country" or their own back yard. Tables were decorated in red, white, and blue to represent our common home, the great U.S.A. A map of the world was located just inside the doorway to the feast, and everyone was provided with a push-pin (or more if needed) to place in the country of their family's origin. Food items ranged from meat and veggie dishes to home-baked pastries, and no one went back to work hungry. Diversity benefits us all in many ways, and one of the most enjoyable is in a great variety of tasty food!!!

Photo Legends: *(from top down)*

- *Scientist Larry Kuehn observes while Post-Doc Tony McNeel locates his family's country of origin on a map of the world.*
- *A tasty selection from around the world.*
- *Center Director Dr. John Pollak welcomes USMARC employees to Heritage Day.*
- *No empty bellies here ...sure sign of a successful pot-luck!*

A Taste of the NPA

Skillet Millet - Applied Research

By Francisco Calderón
Akron, CO

Proso millet is an old crop that has been cultivated by humans for thousands of years. Proso is one of the most nutritious cereals, with good amounts of fiber, riboflavin, niacin, folic acid, B-6, B-12, iron, phosphorus, magnesium, and protein. All this while being gluten-free and safe for people that don't tolerate wheat. Colorado is the biggest millet exporter in the US, bringing millions of dollars to the local economy. Proso, with its short season, is very well adapted to the dry climate of the High Central Plains, requires no irrigation, helps to control weeds, and rotates well with wheat, our main dryland crop in north east Colorado. One major drawback is that the markets for Proso have traditionally been limited mostly to bird seed and livestock feed, which leads to widely fluctuating prices from year to year. This makes it a risky proposition for our farmers who can not count on selling their harvest at a price that will keep them above the red line.

Recently, other markets are getting started such as malted proso for the brewing industry, as well as very limited human consumption locally. It would be a very positive thing if the markets for proso expanded enough so that our farmers could include it more frequently in dryland wheat-based rotations. Merle Vigil and the employees at the Central Great Plains Research Station in Akron, being aware of this opportunity, took the initiative to do a proso millet cookout. Our aim was to find good ways to prepare proso using different kinds of recipes. The recipes included dishes where proso was used as the only cereal grain, and also recipes that combined proso with other cereals in different proportions. There were soups, stews, fried food, muffins, casseroles, cakes, and rice-type dishes.

Here I am going to show you one of my favorite recipes. It is simple and it is delicious to prepare. It was brought by Linda Hardesty, one of our technicians and it is called “Skillet Millet”. This recipe can be used as a delicious side dish, much in the way that brown rice or couscous is used.

Proso millet

Ingredients:

1 cup proso millet, dehulled
3 cups water
¼ cup butter
1 large onion, chopped
Salt to taste.

Directions:

First, cook the millet by lightly toasting the dry grains in a pan on medium heat. The idea is to give it a nice toasty, nutty aroma. Add the water and salt and cook the same way you would make whole grain rice. Just boil and cover, reduce heat until the proso is done and the water is absorbed.

The second stage of the process is to sauté the onion in the melted butter until the onion is tender and lightly brown. To this, add ¾ cups of the cooked millet and stir with a fork. Lower the heat and let simmer for 15 min. Simple. Enjoy!

Kohlrabi - An Old Vegetable, Newly Rediscovered

John Johnson, Administrative Officer at the Fargo, ND, location recently introduced his coworkers to kohlrabi, a vegetable with a distinct German heritage. He also provided the following recipe – passed on to VOICES by Bill Kemp – for others in the NPA who may be interested in trying this unusual Sputnik-shaped vegetable.

Bill also provided a link for everyone to learn more about the heritage of this newly rediscovered vegetable treat:

http:// wikipedia.org/wiki/Kohlrabi

Ingredients:

Kohlrabi - 3, diced along with the greens
Onion - 1 medium, diced
Garlic - 1 clove, minced
Tomatoes - 2 medium, chopped
Green chilies - 2, chopped
Tamarind paste - 1 tbsp
Jaggery (or raw sugar) - 1 tsp (or to taste)
Red Chili powder - 1 tsp
Mustard seeds - ½ tsp
Cumin seeds - ½ tsp
Salt - to taste

Directions:

Microwave chopped kohlrabi for 5 minutes or until tender. (Pressure cooking works fine too)

Heat 1 tbsp oil in a pan, add the seeds and after they pop, saute onions till translucent.

Add tomatoes and green chilies; cover and cook till tender.

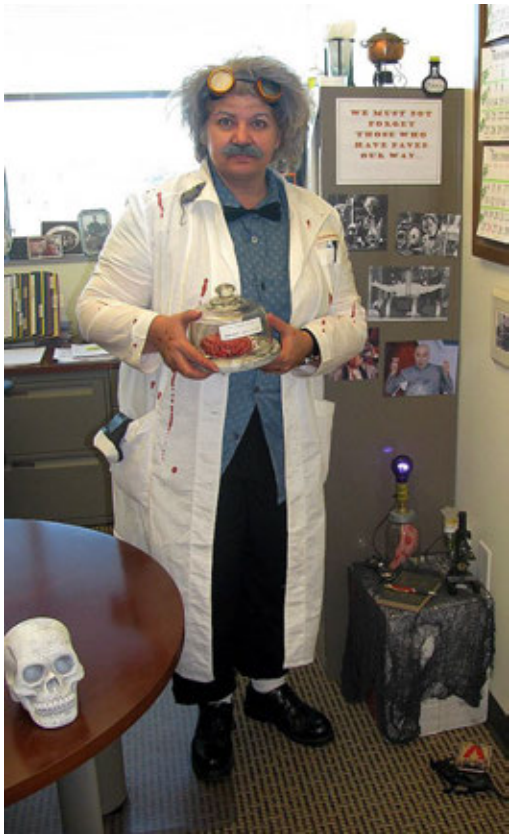
Add boiled kohlrabi along with the greens, red chili powder, tamarind paste, jaggery, salt and 1/2 cup of water. Cover and simmer for about 10 minutes or till the gravy thickens.

LIGHTEN UP! fashion show

This issue's "Lighten Up" section takes a peek at NPA employee apparel on display during the last day of October!

Mary Mayer
Sidney, MT

Shanna Henk
Area Office



Kathi White
Area Office

Melanie Okeke
Area Office

At left, Robert Srygley and daughter Eva dig in at the Halloween potluck held at Sidney, MT. Above, left to right, Sherry Kluver and Joan Rosch, and Keri Norman and "Maiden" Sandy Fryda-Bradley enjoy the annual MARC Chili Cookoff / Halloween party at Clay Center. Table decorations pictured at top were made by Jeannie Lassey for the Sidney, MT celebration.

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Where in the NPA? - *Answer key*

Dr. Kurt Rosentrater from the North Central Agricultural Research Lab in Brookings, SD was the lead scientist on this unusual project.

Share Your Favorite Pictures!

E-mail your photos and captions to Barbara King or Beth Redlin (addresses on this page).

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