

2020 NTW Poster Descriptions

AgrAbility- An Attempt to Help with Alaska's Food Insecurity with Its Residents with Disabilities! by Art Nash, Deshana York- UAF Cooperative Extension and AK AgrAbility

Alaska imports 95% of its consumed food, and have vulnerabilities in getting food transported such distances. On the other hand, there is plenty of land as well as water and biomass for a domestic agricultural industry. However, the current small generation of farmers by and large are retiring, and not always with a succession plan. Alaska also has more vets per capita than any other state, and many are disabled and several grew up on farms. It also has the highest growth rate per capita of folks in the segment of 65+ compared to its overall population.....This poster shows how the new AgrAbility program is attempting to help such potential farmers through assessment, adaptation of tools/growing venues and technical assistance/referral to Ag and disability services!

ATV Aware Pilot Project by Susan Harris Broomfield- UNL Extension and NE AgrAbility

Feedback from the pilot project was crucial in determining changes to curriculum, and materials were developed for ongoing ATV Aware education in other venues. Through June 30, 2019, the program and simulator traveled to 86 events in four states, achieving over 12,500 face-to-face contacts. Events included data gathering and education with 11 FFA chapters, then education at agriculture safety days, health fairs, school visits, employee education, conferences, outdoor sporting expos, farm expos, FFA state and national conventions, county fairs, and 4-H camps.

Farmers' Perceptions of Wearable and Affordable Flexible Robotics: Assistive Technology Solutions for Mobility Limitations by Robert Franco and Kim Niewolny-VA Tech and VA AgrAbility, Satyajit Upasani,, Alexander Leonessa, and Divya Srinivasan- VA Tech

Featuring AgrAbility Virginia, this poster will highlight the purpose, aims, findings, and implications of the second phase of the National Science Foundation (NSF) grant titled, "Affordable Flexible Robotics to Aid Farmers with Mobility Limitations." Through this project, the AgrAbility Virginia team is collaborating with Virginia Tech engineers and physical therapists to create affordable, wearable assistive technology in the form of exoskeletons to help farmers with mobility limitations to continue to work safely and productively.

The second phase objective is to understand farmers' perceptions of the possibilities and challenges of exoskeleton assistive technology to aid mobility limitations on farm. This builds off of survey research previously conducted with AgrAbility practitioners and professionals nationally. Using an Institutional Research Board (IRB) approved protocol, our qualitative methods for phase two included focus groups or group interviews with farmers in Virginia who have received services from or who were familiar with the services provided by AgrAbility Virginia. Each focus group (n=3 farmers) or group interview (n=7 farmers) was 90 minutes long using a semi-structured script. Focus group and interviews were audio-recorded, transcribed, and analyzed for themes. In short, farmers saw this wearable technology as a promising tool to assist them with their farm work. They also stated that exoskeleton feedback (i.e. battery status alarm) and group training would help them to learn how to better use the technology.

Farmers believed that this wearable technology should be easy to maintain, fix, and troubleshoot. Furthermore, it should be non-obstructive, weatherproof, and easy to clean or disinfect. However, there were concerns about the exoskeleton's adjustability to various body types as well as its cost. Farmers' perceptions and additional

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participation will guide the final stage of the project to help create prototypes of flexible low-cost robotic technology for applications to the back, hand, and knee.

Work Smarter... Not Harder; Ergonomics for Women in Agriculture Resources through eXtension and AgrAbility by Karen Funkenbusch- MO AgrAbility and University of Missouri and Linda Fetzer- AgrAbility PA and Penn State University

The Ag Safety and Health Community of Practice (CoP) and Women in Ag Learning Network's Enhancing Educational Programming for Beginning Farm and Ranch Women worked with Missouri and Pennsylvania AgrAbility Projects to develop and provide agricultural safety, health, ergonomics, and mechanization resources specifically geared to women in agriculture. The aim of eXtension is to provide resources for extension educators. Resources are recent, relevant and summarize agricultural safety and health information. The overall goal is to put resources in one handy location where people can easily find them.

New materials, resources and links specific to women in agriculture are available at:

https://articles.extension.org/farm_safety_and_health. The Ag Safety CoP obtains its content from the Cooperative Extension system based at land-grant universities, the National Institute for Occupational Safety and Health (NIOSH) agricultural centers and research-based credible sources.

Women in Ag: Safe Animal Handling Resources through AgrAbility and eXtension by Karen Funkenbusch- MO AgrAbility and University of Missouri and Linda Fetzer- AgrAbility PA and Penn State University

Missouri and Pennsylvania AgrAbility Projects worked with the Ag Safety and Health Community of Practice (CoP) and the Women in Ag Learning Network's Enhancing Educational Programming for Beginning Farm and Ranch Women to develop safe animal handling resources for women in agriculture. The vision of AgrAbility is to enhance the quality of life for agricultural producers with disabilities, so that they, their families, and their communities continue to succeed. For this target audience of women in agriculture, "success" may be defined by their ability to access appropriate assistive technologies, ergonomic equipment and relevant resources needed for them to safely handle livestock and prevent secondary injuries. Additionally, the aim of eXtension is to provide resources for extension educators.

New resources for women in agriculture can be found at https://articles.extension.org/farm_safety_and_health. The eXtension Ag Safety CoP obtains its content from the Cooperative Extension system based at land-grant universities, the National Institute for Occupational Safety and Health (NIOSH) agricultural centers and research-based credible sources.

Missouri and Pennsylvania AgrAbility Assist Diverse Farm & Ranch Populations to Promote Self-Employment Opportunities in Agriculture by Karen Funkenbusch- MO AgrAbility and University of Missouri and Linda Fetzer and Abbie Spackman- AgrAbility PA and Penn State University

Anabaptist, beginning farmers, non-traditional minorities, veterans, and women in agriculture. There are only a few occupations which offer individuals the opportunity to live, work, and play on the same piece of land. AgrAbility customers face many self-employment challenges after a recently acquired disability, chronic health condition or disorder. Due to similar diverse populations, Missouri and Pennsylvania

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AgrAbility and Ag Safety and Health programs collaboratively share and produce culturally appropriate for the Anabaptist community related to health, safety and wellness resources to meet the individualized needs of their agricultural operations. These specialized and tailored resources are critical for self-employment in production agriculture if the intended outcome is to assist farmers and ranchers with disabilities remain healthy and prevent secondary injuries. AgrAbility is a program designed to assist farmers, ranchers and other agricultural workers with disabilities or health conditions by providing resources and support they need to live independently and to continue working in or return to production agriculture. Materials which are culturally appropriate and content suitable for Ag Safety and Health Community of Practice through eXtension will be posted.

New Mexico AgrAbility Apprenticeship Program by April Cox- Mandy's Farm and NM AgrAbility

Our poster presentation shows the New Mexico AgrAbility Project apprentices at work at Mandy's Farm. Through AgrAbility, unused farmland can become fruitful again and provide meaningful work that benefits new farmers with intellectual and developmental disabilities, as well as their families and communities. Poster visuals will show the progression and transformation of the land as our apprentices complete their first year of training.

Agricultural Producers with Parkinson's Disease: A Disease Registry Approach by Bethany Lowndes, Aaron Yoder, Danish Bhatti, John Bertoni, and Matthew Rizzo- University of Nebraska Medical Center

Data were prepared through the Department of Health and Human Services (DHHS) to provide information on occupation for individuals included in the state Parkinson's disease registry in order to determine what proportion of individuals included in the registry report an agricultural occupation. Death Certificates have been reviewed for 5,819 individuals with Parkinson's disease revealing 97.8% live in rural areas. This novel method to link occupation with disease can help guide research and outreach questions. Nationally, statistics on Parkinson's disease are limited to prevalence. Expansion of this work would be dependent on other independent registries. Prediction of incidence could inform organizations such as AgrAbility on population needs and expected case volumes in order to support the occupational safety and health needs of agricultural producers with Parkinson's disease.

NC Therapeutic Ability Gardens: An Overview of Purpose by Alexea Davis and Dr. Crystal Kyle- NC AgrAbility at NC A&T State University

Across NC, there are a number of therapeutic gardens. Each have very different locations, purposes, and audiences that they serve. Understanding these unique features allows for NC AgrAbility to collaborate with each and find ways to assist those who may encounter barriers in gardening and farming. This presentation will summarize the purpose of such gardens and then discuss some beneficial aspects of each. It will engage the audience by asking questions about their own experiences. Taking the discussion from therapeutic garden to therapeutic ability garden.