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| template_logo | DRAFT - 2015 Waste to Worth Conference Agenda | Waste to Worth

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| Track 1 | Ground Ballroom I |
| Track 2 | Room 2 |
| Track 3 | Room 3 |
| Track 4 | Room 4 |
| Track 5 | Room 5 |

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## Monday, March 30, 2015

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| 3:00 pm – 6:00 pm | Registration |
| 3:00 pm – 6:00 pm | **NRCS Meeting** |  |  |  |  |

## Tuesday, March 31, 2015

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| 7:00 am – 5:00 pm | Registration |
| 8:15 am – 9:10 am | **Welcome – Joseph Harrison and Mark Risse****Keynote – Dr. George R. Pess, USGS Northern Rockies Science Center*****Removal of the Elwha Dam – The Return of the Salmon*****(Grand Ballroom)** |
| 9:20 am – 10:40 am | Western Dairy Air Quality Symposium (*Leytem – Mod.*)9:20 am - vacant9:40 am – *Richard Todd, Open lot dairy ammonia losses and nitrogen balance: A New Mexico study*10:10 am - *Alan Rotz,* *Ammonia and nitrous oxide model for open lot cattle production systems* | Innovations in Anaerobic Digestion – Design and Operation (*Larson – Mod.*)9:20 am – *Douglas Hamilton, Technologies for anaerobic digestion of flushed swine manure*9:40 am – *Lucas Loetscher, A novel multiple staged leachbed digestion system for the treatment of dry-lot feedlot and dairy manures*10:00 am – *Craig Frear, Poultry digestion—emerging farm-based opportunity*10:20 am – *Curt Gooch, Evaluation of a continuously-mixed farm-based anaerobic co-digestion system following the U.S. protocol for quantifying and reporting on the performance of anaerobic digestion systems for livestock manures – final project results* | AACC Western Region Meeting (*Whitefield – Mod.*)9:20 am – *Lara Whitely Binder, Western regional Ag outlook: Impacts of changing climate*9:40 am – *Justin Derner, Livestock grazing in a changing climate: Implications for adaptive management*10:20 am – *Bea Van Horne, USDA Climate Hub update* | VACANT9:20 am – vacant9:40 am – vacant 10:00 am – vacant 10:20 am – vacant  | Measurement and Fate of Nitrogen from Manure Application (*Rahman – Mod.*)9:20 am – *Robert Meinen, Soil nitrate testing protocol development for lands receiving injected manure* 9:40 am – *Paulo J. Flores, Economics of nitrogen sources and rates in a long-term cropping system*10:00 am – *Martin Chantigny, Overwinter transformation and fate of fall-applied manure nitrogen*10:20 am – *Joe Harrison, Fate of manure nitrogen applied for grass silage production* |
| 10:40 am – 11:10 am | Morning Break |
| 11:10 am – 12:10 pm | Western Dairy Air Quality Symposium (*Leytem – Mod.*) 11:10 am – *Sally Shaver, Regulating ammonia emissions from agriculture: potential pitfalls and limitations*11:40 am – *Errol Villegas, Scientific evidence indicates that reducing NOx emissions is the most effective strategy to reduce concentrations of ammonium nitrate, a significant contributor to PM2.5 concentrations in California’s San Joaquin Valley* | Innovations in Anaerobic Digestion – Design and Operation (*Larson – Mod.*)11:10 am – *Osman Arikan, Effect of temperature on methane production from field-scale anaerobic digesters treating dairy manure*11:30 am – *Hui Wang, Effects of mixing duration on biogas production and methanogen distribution in dairy manure anaerobic digesters*11:50 am – *William “Gus” Simmons, Jr., Money to burn: How to capitalize on BioCNG at your wastewater plant* | AACC Western Region Meeting (*Liz Whitefield – Mod.*)11:10 am – *Megan Rolf, Beef cattle selection and management for adaptation to drought*11:30 am – *Susan Capalbo, Adopting policies and priorities to encourage climate-smart agriculture* | Sources and Solutions for Impaired Watersheds (*Harrison – Mod.*)11:10 am – *Kevin Wagner, What’re the sources of bacteria in your watershed? They may not be what you expect.*11:30 am *Jay Lazarus, Preliminary technical evaluation of three reports by U.S. Environmental Protection Agency Region 10 on nitrate in water wells, Yakima River Basin, Yakima County, Washington*11:50 am –  | Measurement and Fate of Nitrogen from Manure Application (*Rahman – Mod.*)11:10 am – *Mark Powell, How much of the nitrogen contained in dairy ration components is partitioned into milk, manure, crops and environmental N loss?*11:30 am – *John Lory, Variation in state-based manure nitrogen availability approaches*11:50 am – *John Chastain,* *Fertilizer value of swine manure: A comparison of a lagoon and a deep pit slurry system* |
| 12:10 pm – 1:30 pm | Keynote – Governor Jay Inslee*A Governor’s Perspective on Climate Change*(Lunch Provided) |
| 1:30 pm – 3:10 pm | Western Dairy Air Quality (*Leytem – Mod.*)1:30 pm – *Brent Auvermann, Particulate matter from open lot dairies and cattle feeding: recent developments*2:00 pm – *Robert Dungan, Estimation of infectious risks in residential populations near a center pivot spraying dairy wastewater*2:30 pm – *Steve Reynolds, Impact of aerosols on respiratory health of dairy workers and residents living near dairies – Discussion and implications of recent research* | Innovations in Anaerobic Digestion – System Evaluation/Case Studies (*Ogejo – Mod.*)1:30 pm – *Georgine Yorgey, The dairy bio-refinery*1:50 pm – *Gleyn Bledsoe, Low tech waste to energy applications in developing countries*2:10 pm – *Matthew Germane, Economical anaerobic digestion of CAFO animal waste*2:30 pm – *Nadeem Afghan, Small to mid-sized diaries: Making compact anaerobic digestion feasible*2:50 pm – *James Wallace Discharge quality water from dairy manure: A summary of the McLanahan Nutrient Separation System* | Producer Perspectives on a Changing Climate (*Powers – Mod.*)1:30 pm – 3:10 pm*Farmers and ranchers are taking steps to make their operations more resilient. Come learn how they are adapting to local weather extremes to prepare for success in a changing climate.**Producer Panel:**Keith Berns, Cover Crops, Nebraska**Sandra Matheson, Beef Rancher, Washington state**Mike DeSmet, Dairy Farmer, New Mexico**Phil Le Dorze, Equine, Washington* | Pathogens and Pharmaceuticals I (*Cook – Mod.*)1:30 pm – *Andy Bary, Antibiotic losses during thermophilic composting*1:50 pm – *John Brooks, The effect of broiler litter, swine effluent, and municipal biosolids land application on small plot pathogen, antibiotic resistance, and nutrient levels*2:10 pm – *Lisa Durso, Abundance and fate of fecal indicators, pathogens and antibiotic resistant bacteria in a vegetative treatment system receiving cattle feedlot runoff*2:30 pm – *Rebecca Larson, Manure irrigation: Airborne pathogen transport and assessment of technology use in Wisconsin*2:50 pm – *Joshua Payne, Surface runoff transport of Escherichia coli after poultry litter application on pastureland* | Value-added Products from Agricultural & Food Processing Waste I (*Bogardus – Mod.*)1:30 pm – *William “Gus” Simmons, Jr., The great biogas gusher*1:50 pm – *Craig Frear, Co-digestion: A primer on substrate utilization and project considerations*2:10 pm – *Jim Jensen, Digested solids—forms, markets and trends*2:30 pm – *Nicholas Kennedy, Renewable natural gas—biogas cleaning and upgrading 101*2:50 pm – *Chad Kruger, Renewable natural gas—economics*3:10 pm – *Syu-Ruei Jhang, Food waste and food processing waste for renewable energy production*  |
| 3:30pm – 4:30 pm | Transportation to Blake Island |
| 4:30 pm – 8:30 pm | Tillicum Village Salmon Bake & Show |

## Wednesday, April 01, 2015

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| 7:00 am – 5:00 pm | Registration |
| 7:00 am – 8:15 am | **NRCS Meeting** |  |  |  |  |
| 8:15 am – 10:00 am | **Changes, Challenges, and Opportunities for Animal Agriculture****Grand Ballroom I & II*** *Richard Stowell, Welcome*
* *David Smith (moderator), Introductions*
* *Beverley Henry, Challenges and opportunities for animal agriculture in a dynamic water-energy-food-land nexus – some international perspectives*
* *Mike Hayes, Droughts and climate extremes: Lessons for the future*

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| 10: 00 am – 10:15 am | Morning Break |
| 10:15 am – 12:00 pm | **Changes, Challenges, and Opportunities for Animal Agriculture****Grand Ballroom I & II*** *Alan Rotz, Measuring the Environmental Hoofprint of Dairy and Beef Production Systems (submitted abstract titled: Environmental footprints of beef production in the Kansas, Oklahoma and Texas region)*
* *Karl Czymak, How climate change impacts manure management systems*
* *Marty Matlock, Adapting agriculture to sustainably feed the world*
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| 12:00 pm – 12:30 pm | Box Lunch Provided – Board Tour Busses |
| 12:30 pm – 6:30 pm | Tour 1 – Anaerobic Digester Tour (Whatcom County, WA) | Tour 2 – Clean Samish Bay Initiative: Watershed Farm Tour (Skagit County, WA) | Tour 3 – Bainbridge Island: Equine and Small Farms Tour, IOS Ranch, HeyDay Farm, Islandwood Educational/Event Center (Bainbridge Island, WA) | Tour 4 – Composting Tour: Lenz Enterprises, Brightwater Treatment Facility, Cedar Grove Composting (King County, WA) |
| 7:00 pm – 8:30 pm | Reception and Poster PresentationsRon Sheffield Memorial Student Poster Competition (Fifth Avenue Room) |

**Thursday, April 02, 2015**

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| 7:00 am – 5:00 pm | Registration |
| 9:00 am – 10:20 am | Environmental Management of Equine Operations (*Williams – Mod.*)9:00 am – *Paul Siciliano, Equine pasture management introduction*9:20 am – *Paul Siciliano, Measuring pasture dry matter intake of horses*9:40 am – *Krishona Martinson, Improving pasture utilization by optimizing horse preference*10:00 am – *Bridgett McIntosh, Rotational grazing effects on pasture nutrient content*  | Methods for Reducing Nutrient Load in Manure Leachate and Animal Feeding Areas (*Douridas – Mod.*) 9:00 am – *Tom Basden, Wood chip pad winter feeding area as a new livestock manure management system*9:20 am – *Rebecca Larson, Evaluation of feed storage runoff water quality and recommendations on collection system design*9:40 am – *Nichole Embertson, Implementation of a progressive manure Application Risk Management (ARM) system to protect watersheds from agricultural runoff and leaching events*10:00 am – *Daren Harmel, Initial evaluation of vegetated treatment areas for treating runoff from small swine operations in Central Texas* | Measurement and Mitigation of GHGs (*Ogejo – Mod.*)9:00 am – *Horacio Aguirre-Villegas, Life cycle greenhouse gas emissions of dairy and bioenergy systems*9:20 am – *Jackie Ebner, Lifecycle greenhouse gas (GHG) analysis of an anaerobic co-digestion facility processing dairy manure and industrial food waste in NY State*9:40 am – *Zifei Liu, Improving estimation of enteric methane emissions from dairy and beef cattle: A meta-analysis*10:00 am – *Andy Cole, Effect of protein supplementation on low-quality forage diets on enteric methane production of beef steers* | National Air Quality Site Assessment Tool (NAQSAT) (*Stowell – Mod.*)9:00 am – 10:20 am – *Tool demonstration and case studies* | Working together to Improve the Effectiveness of P Indices – Progress Report (*Lory – Mod.*)9:00 am – *Andrew Sharpley, Identify and synthesize methods to refine phosphorus indices from three regional indexing efforts*9:20 am – *Peter Kleinman, Modeling phosphorus runoff in the Chesapeake Bay region to test the phosphorus index*9:40 am – *Deanna Osmond, Estimation of phosphorus loss from agricultural land in the Southern region of the USA using the APEX, TBET, and APLE models*10:00 am – *John Lory, Estimation of phosphorus loss from agricultural land in the Heartland region using the APEX model: a first step to evaluating phosphorus indices* |
| 10:20 am – 10:50 am | Morning Break |
| 10:50 am – 12:10 pm | Environmental Management of Equine Operations (*Williams – Mod.*)10:50 am – *Ann Swinker, Existing equine pasture best management survey findings from NE-1441 states* 11:10 am – *John Chastain, Plant nutrient and carbon content of equine manure as influenced by stall management and implications for nutrient management*11:30 am – *Producer Panel, Focus Group, NRCS Participation* | Methods for Reducing Nutrient Load in Manure Leachate and Feeding Area Runoff (*Douridas – Mod.*)10:50 am – *Alysa Bradley, Effect of wood biochar amendment to sand on leachate water quality with repeated dairy manure application: A soil column study*11:10 am – *Philip Moore, Development of a new manure amendment for reducing ammonia volatilization and phosphorus runoff from poultry litter*11:30 am – *Tiffany Galloway, The importance of nitrogen stabilization*11:50 am – *Shafiqur Rahman, Electrolysis of swine manure effluents using three different electrodes Fe-Fe, Al-Al, and Fe-Al* | Measurement and Mitigation of GHGs (*Ogejo – Mod.*)10:50 am – *Jasmina Burek, Feeding strategies to mitigate cost and environmental footprint of pig production in the US*11:10 am – *Kenneth Casey, Measuring nitrous oxide and methane emissions from feedyard pen surfaces; experience with NFT-NSS chamber technique*11:30 am – *Michael Holly, Gas reduction benefits from storage to application of anaerobic digestion and solid-liquid separation of dairy manure*11:50 am – *David Smith, Factors affecting nitrous oxide emissions following subsurface manure application* | National Air Quality Site Assessment Tool (NAQSAT) (*Stowell – Mod.*)10:50 am – 12:10 pm – *Hands-on training (laptops required)*  | Working together to Improve the Effectiveness of P Indices – Challenges and Opportunities (*Sharpley – Mod.*)10:50 am – *Deanna Osmond, Phosphorus indices: What is the water quality goal?*11:10 am – *Peter Kleinman, Nutrient management planners’ feedback on New York and Pennsylvania phosphorus indices*11:30 am – *John Lory, User capabilities and next generation phosphorus (P) indices*11:50 am – *Peter Kleinman, John Lory, & Deanna Osmond, Panel Discussion: Limits and opportunities using models to improve phosphorus indices* |
| 12:10 pm – 1:40 pm | Lunch Provided –Student Poster Awards |
| 1:40 pm – 3:00 pm | Environmental Management of Equine Operations (*Westendorf – Mod.*)1:40 pm – *Michael Westendorf, Environmental management on equine farms, or the good, the bad, and the ugly*2:10 pm – *Jean Bonhotal, Horse manure composting: facilities and methods* 2:40 pm – *Masoud Hashemi, Low cost aerated static composting systems for small acreage equine operations* | Nutrient Recovery and Utilization Technologies - General (*Porter – Mod.*)1:40 pm – *Andrew Lenkaitis, Manure separation: bedding and nutrient recovery*2:00 pm – *Jactone Ogejo, Enhancing phosphorus recovery from scraped liquid dairy manure using process effluent*2:20 pm – *Matias Vanotti, Improved recovery of ammonia from swine manure using gas-permeable membrane technology and aeration*2:40 pm – *Philip Moore, Utilizing acid-tolerant nitrifying bacteria to generate the acidity needed to operate ammonia scrubbers on poultry and swine facilities* | Measurement and Mitigation of GHGs (*Smith – Mod.*)1:40 pm – *Martin Chantigny, Nitrous oxide emissions in snow-covered agricultural soils – manure-induced fluxes*2:00 pm – *Rhonda Miller, Impact of manure management on greenhouse gas emissions in semi-arid regions*2:20 pm – *Claudia Dunkley, Practical use and application of the poultry carbon footprint calculation tool*2:40 pm - *Stephen Bolu, Effects of treated poultry litter on potential greenhouse gas emission and field application* | Pathogens and Pharmaceuticals II (*Cook – Mod.*)1:40 pm – *Daniel Miller, Abundance and fate of antibiotics and hormones in a vegetative treatment system receiving cattle feedlot runoff*2:00 pm – *Shannon Mitchell, Antibiotic degradation during anaerobic digestion and effects of antibiotics on biogas production*2:20 pm – *Zong Liu, Dairy Cationic polymer and high-speed centrifugation effects on pathogen reduction during manure solid/liquid separation*2:40 pm – *Marilyn Roberts, Environmental antibiotic resistance bacteria and genes: A link to public health?* | Working together to Improve the Effectiveness of P Indices – Challenges and Opportunities (*Kleinman – Mod.*)1:40 pm - *Peter Kleinman, Checking ambition with reality - Pros and cons of different approaches to site assessment*2:00 pm – *Open discussion: What is your idea on how to improve the effectiveness of the P Index concept?*Conclude at 2:40 pm |
| 3:00 pm – 3:30 pm | Afternoon Break |
| 3:30 pm – 5:10 pm | Environmental Management of Equine Operations (*Westendorf – Mod.*)3:30 pm – *Mollie Bogardus, Markets for composted agricultural waste*3:50 pm – *Jean Bonhotal, Composting horse mortality and mortality disposal alternatives*4:10 pm – *Betsy Greene, Case study of contaminated compost: collaborations between Vermont Extension and the Agency of Agriculture to mitigate damage due to persistent herbicide residues*4:30 pm – *Caitlin Youngquist, Composted horse manure and stall bedding pilot project*4:50 pm – *Krishona Martinson, Reducing hay waste associated with outdoor feeding of adult horses* | Value-added Products from Agricultural & Food Processing Waste II (*Lim – Mod.*)3:30 pm – *Laura McCann, Factors affecting household use of organic fertilizer*3:50 pm – *Curt Gooch, Coupling anaerobic digesters with greenhouses*4:10 pm – *Tom Herlihy, Large scale vermicomposting of dairy manures*4:30 pm – *Matt Freund, Making dairy manure more valuable than milk*4:50 pm – *Mahmoudreza Ovissipour, Industrial scale production of amino acid fertilizer from fish waste and under-utilized fish* | Odor and Gaseous Measurement and Mitigation Methods (*Whitehead – Mod.*)3:30 pm – *Eileen Fabian, Swine manure odor reduction using a humic amendment: On-farm demonstration*3:50 pm – *Michael Hile, Effects of subsurface litter application technology on odor*4:10 pm – *Bryan Woodbury, Use of zilpaterol hydrocholride to reduce odors and gas production from beef feedlot cattle fed diets with or without ethanol byproducts*4:30 pm – *Pius Ndegwa, Manure management practices for mitigation of gaseous emissions from naturally ventilated dairy barns*4:50 pm – *Bryan Woodbury, Volatile Organic Compound (VOC) emissions from beef feedlot pen surface as affected by within pen location, moisture, and temperature* | EPA Session (*Subramanian – Mod.*)3:30 pm – *Panel Discussion - Expanding markets for manure treatment technologies: Making innovations economically viable and reaching underserved users*4:30 pm – *2014-2015* *Nutrient recovery technology challenge* | Identifying and Managing Sources of Legacy Phosphorus (*Sharpley – Mod.*)3:30 pm – *Andrew Sharpley, How legacy nutrients affect farm conservation measures*3:50 pm – *Heidi Waldrip, Legacy phosphorus in calcareous soils: Effects of long-term poultry litter application on phosphorus distribution in Texas Blackland Vertisol*4:10 pm – *Joshua Payne, Removing phosphorus from drainage water: the phosphorus removal structure*4:30 pm – *Candiss Williams, Relationship between surface waters and underlying stream ditch sediment in selected Eagle Creek tributaries*4:50 pm – |
| 5:10 pm  | Dinner on Your Own |
| 5:10 pm – 7:00 pm | **NRCS Meeting** | **AACC Project Team Meeting** |  |  |  |

**Friday, April 03, 2015**

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| 7:00 am – 8:40 am | Registration |
| 8:40 am – 10:00 am | Success, Tools, and Skills in Outreach to Producers (*Cortus – Mod.*)8:40 am – *Richard Halopka, Wisconsin professional manure application education*9:00 am – *Kevan Klingberg, Using whole farm walkovers to prioritize soil and water management with farmers and evaluate watershed resource condition*9:20 am – *Laura McCann, Effects of observability and complexity on farmers’ adoption of environmental practices*9:40 am – *Erin Cortus, The Pathways Project* | Nutrient Recovery and Utilization Technologies – Manure to Energy (*Bredeweg – Mod.*)8:40 am – *Jingwei Ma, Nutrient recovery technologies—A primer on available and emerging nitrogen, phosphorus, and salt recovery approaches, their performance and cost*9:00 am – *Dennis Burke, Economic recovery of nitrogen and phosphorus from anaerobic digestate as concentrated ammonium hydroxide and hydroxyapatite* 9:20 am – *William “Gus” Simmons, Jr., Above the dirt: A look into North Carolina’s clean energy future through waste-carbon harvesting*9:40 am – *Jeff Porter, Thermal-chemical conversion of animal manures – another tool for the toolbox* | Climate Impacts and Adaptation (*Knox – Mod.*)8:40 am – *William “Gus” Simmons, Jr., Farms of the future: seeking agriculture energy independence*9:00 am – *Greg Astill, Anaerobic digestion projects: environmental credits 101*9:20 am – *Alan Rotz, Adapting dairy farms to climate change*9:40 am – *Joseph Lally, Farming Systems – A look at an integrated livestock and crop farm* | VACANT8:40 am – vacant9:00 am – vacant9:20 am – vacant 9:40 am – vacant | Feed Nutrient Management – Planning Software (*Harrison – Mod.*)8:40 am – *Software training*9:00 am – *Software training*9:20 am – *Software training*9:40 am - *Software training* |
| 10:00 am – 10:30 am | Morning Break |
| 10:30 am – 12:10 pm | Success, Tools, and Skills in Outreach to Producers (*Cortus – Mod.*)10:30 am – *Jim Jensen, Anaerobic digestion—highlights of successful project feasibility studies*10:50 am – *Shannon Mitchell, University and anaerobic digestion industry partnerships—laboratory testing*11:10 am – *Georgine Yorgey, Farm-based anaerobic digestion projects – wastewater disposal and nutrient considerations*11:30 am – *Gary Hawkins, Using solar power to provide animals with water while protecting water quality*11:50 am – *Donald Hanson, Evaporation ponds - waste storage facility design spreadsheet* | Nutrient Recovery and Utilization Technologies – Manure Treatment and Land Application (*Porter – Mod.*)10:30 am – *Dennis Haak, Field scale management of separated dairy manure fractions*10:50 am – *Steve Melvin, Low-power aerators combined with center pivot manure application at a Northeast Nebraska hog finishing facility created an easy to manage, turn-key system*11:10 am – *Joseph Taraba, Sustainable dairy production housing/manure system: compost bedded loose housing dairy barn*11:30 am – vacant11:50 am – vacant | Animal Agriculture and Climate Change Research Panel (*Stowell – Mod.*)10:30 am – 12:10 pm - *This panel will discuss research in the Animal Agriculture and Climate Change field that attendees can take home for their clients, or find out where to look for more research coming out in the future. Each panelist will present a short introduction to their research program and highlight extension applicat8ions.* Panel:*Kristy Borrelli, REACCH Project, University of Idaho**Peter Tomlinson, Great Plains Grazing, Kansas State University**Mark Powell, Global Research Alliance, USDA**Bradley Boyd, Beef GHG, University of Nebraska – Lincoln**Greg Thoma, Pork Carbon Footprint, University of Arkansas**Rebecca Larson, Dairy CAP, University of Wisconsin* | Animal Mortality Management and Composting (*Mukhtar – Mod.*)10:30 am – *Amy Millmier-Schmidt, Time-temperature combinations for destruction of PEDV during composting*10:50 am – *Amy Millmier-Schmidt, PEDV survivability in swine mortality compost piles*11:10 am – *Jim Hicks, Multi-Specie mortality composting demonstrations and outreach in SW Nebraska*11:30 am – *Kimberly Cook, Composting swine slurry to reduce indicators and antibiotic resistance genes* | VACANT10:30 am – vacant10:50 am – vacant11:10 am – vacant11:30 am – vacant11:50 am – vacant |
| 12:10 pm  | Adjourn |