

Name (Affiliation)	Systems	Scope of Work
Pat Carr (North Dakota State University)	<ul style="list-style-type: none"> - Conservation tillage in organic agronomic systems, cover crops, alternative residue management (rolling, etc.), cropping systems incorporating cover crops. 	<p>Working with Montana State on conservation tillage, Iowa State on cover crops and roller crimper. Cropping systems research incorporating winter wheat into hairy vetch. New project looking at animal integration into no-till as a way to control weeds in no-till organic utilizing sheep and other livestock.</p>
Jennifer Reeve (Utah State University)	<ul style="list-style-type: none"> - Quinoa - Orchard systems (peaches) - Soil fertility/quality in dryland organic systems - Organic irrigated rotations + fertility/quality 	<p>Soil P and N cycling, specifically examining the legacy effects of compost addition. Cover crops, rotations and organic inputs on fertility/quality in irrigated and dryland systems. OREI with organic peaches (including a food quality component), also legume-based fertility including growing legumes in the alleyways. New quinoa project that just got funded.</p>
Kathleen Delate (Iowa State University)	<ul style="list-style-type: none"> - Iowa LTAR - Water quality and drainage project - Cover crops and residue management in organic farming systems (agronomic and horticultural) - Kathleen – I missed one – can you help and fill in here? 	<p>See Cindy's description.</p>
Craig Cogger (Washington State University)	<ul style="list-style-type: none"> - Long term cropping systems experiment - Food safety and pathogen persistence in composts and compost-based farming systems - Reduced tillage cover crop work - Organic wheat in the Palouse region 	<p>Long term experiment includes 3 cover crop systems (traditional rye/vetch, one interseeded, and a low-input pasture system – 2 years pasture, 1 year crop), a fertility component (broiler litter and on-farm compost) and a tillage component (spader tillage vs. conventional tillage). Getting into event-based GH gas sampling, paired with soil biology work. OREI funded this previous work. Also doing some reduced tillage work (rolled vs. flail mowed). Food safety – involved with school of food science microbiologists to examine the decline of pathogens through the composting process. Organic wheat project out in the Palouse. Steve Jones is a wheat breeder</p>

		working in W part of state now. Incorporating some small grains (wheat) work in the long term systems now. Additional work includes some variety trials and weeds work (mulches, etc.)
Joseph Heckman (Rutgers)	<ul style="list-style-type: none"> - Organic lawn care - Soil quality in urban agriculture - Issues with organic farmers dropping certification 	Organic lawn care work includes creating organic guidelines (working with NOFA-CN), working with silicon for suppression of powdery mildew and associated silicon cycling work. Also working on copper accumulation and lead arsenate contamination on organic soils. Working with NOFA-NJ to look at why some farmers are dropping out of certification.
Urszula Norton (University of Wyoming)	<ul style="list-style-type: none"> - Organic conservation tillage in dryland wheat (Organic Transitions) - Conservation agriculture in Africa (Kenya and Tanzania) - Student farms with high tunnels 	OT wheat grant is finishing, examines organic vs conventional no-till, with focus on linkages of soil process and trace gas (N ₂ O) emissions on sites in WY and additional sites in wetter climates in Sydney, NE. Work in Africa is focused on soil fertility. Supervises the student farm (includes 5 high tunnels).
Jay Norton (University of Wyoming)	<ul style="list-style-type: none"> - Organic transitions work on dryland wheat - Agricultural prosperity for small and medium-sized farms 	Work focuses on SOM cycling and processes in organic, dryland and irrigated wheat on small and medium-sized farming systems. Includes organic, conventional, and reduced input (tillage) cash crop and livestock systems. Included a heavy marketing component with Eric Arnold. The project is currently in wrap up, phase, and led to an OREI. Organic transitions grant – added a dryland wheat-fallow component. A lot of interest in organic wheat production in SE Wyoming.
Charles Shapiro (Univ. of NE-Wayne)	<ul style="list-style-type: none"> - Increasing protein quality in organic wheat and wheat breeding for organic systems - Cover crop and residue management in organic systems 	Wheat breeding work includes wheat quality test work, looking at increasing wheat protein in organic systems using organic nitrogen products to enhance quality (not yield enhancements). Also interest in nutrient cycling, including N synchrony issues using low input sources (manure). Newly funded CERES grant incorporating a

		<p>crimper led to a design/build on a new crimper. Some work in cropping systems, including new work on pea-triticale rotations. Also some weed management including propane flaming.</p>
<p>Cindy Cambardella (USDA-ARS Ames)</p>	<ul style="list-style-type: none"> - Iowa LTAR - Water quality and drainage project - Cover crops and residue management in organic farming systems (agronomic and horticultural) 	<p>LTAR examines soil quality and yields in various rotations. New water quality and drainage project builds upon LTAR using “best” rotations (corn-oat/soybean –alfalfa – alfalfa, organic forage pasture system). The water quality work is 2 years in and examines soil C and N cycling and organic matter turnover and storage and how modified by structure, water quality with lysimeters under the plots, and CO2 flux. Cover crop and residue management work focuses on PMN and microbial biomass at sites in PA, WI, IA, ND (saw increases in PMN and microbial biomass in first few years). Seeing decreased leaching under cover crops and some conservation tillage. Next steps include examining soil function and ecosystem services such as minimizing leaching, and linking microbial community structure (FAME, metagenomics) and function (enzymes, BIOLOG plates).</p>
<p>Larry Phelan (Ohio State Univ)</p>	<ul style="list-style-type: none"> - Soil biology, nutrient cycling, and food quality linkages in tomato and spelt systems 	<p>Spelt work includes the effects of organic management on spelt yield and quality from field to loaf (protein and antioxidant, loaf volume, color, etc.), with treatments including amendment C/N ratio, time of application (at planting or in spring). Cropping systems work includes rotational grazing with poultry (1/3 field in clover (with birds), 1/3 field naked oats (high protein, high quality amino acid balance), 1/3 field in spelt.) Working with poultry nutritionist – protein quality, color, etc. potentially looking at spelt as feed for birds (RE: wheat has high phytase content, inhibits digestion). Soil quality/tomato work includes potted work with organic and conventional soils, potted in greenhouse using soil samples from 75</p>

		<p>farms, screening for insect and disease resistance.</p> <p>Developing a high throughput analysis similar to Cornell's soil quality assessment for organic systems, with focus on what microbial markers are correlated with above ground plant health.</p>
<p>Krista Jacobsen (Univ of Kentucky)</p>	<ul style="list-style-type: none"> - Nutrient cycling (N, C) in high tunnels - Conservation tillage and living mulch systems for small farms - Plant quality (nitrate content, secondary compounds in medicinal plants) in organic systems, and linkages to N availability and microbial community structure and function. 	<p>High tunnel work includes movable and stationary high tunnels, including soil quality and N losses in tomatoes and other crops (greens, root vegetables, and legumes). Plant quality work includes nitrate content in leafy greens as related to organic fertility regimes, and relationships to rhizosphere community structure (PLFA) and function (N- and C-cycling enzymes). Medicinal work in calendula examining relationships between N availability in organic systems, drought, and essential oil quality and quantity. New AFRI project looking at C and N cycling across an intensification gradient of 5 horticulture-based farms. Includes work on 6 crops, including modifying existing nutrient cycling models for organic horticultural systems (RZWQM). Some trace gas work in organic systems, some N leaching work.</p>
<p>Mary Barbercheck (Penn State University)</p>	<ul style="list-style-type: none"> - Organic agronomic cropping systems (corn, wheat, soybean, cover crops) - reduced-tillage organic cropping systems 	<p>Research and extension on effects of organic cover crop and soil management on soil-dwelling insect pathogens (nematodes and fungi), epigeal arthropod predators, soil arthropod biodiversity and ecosystems services, biological control by generalist arthropod predators.</p>