

Colorado Agricultural Experiment Station

Active Research Projects

Project Number	Multi State No.	Principal Investigator	Department Name	Acct. Dept.	CRIS Number	Budget Source	Begin Date	Term. Date	Note
1170 Soil and Crop Sciences									
COL00201C	Maximizing Conservation and Utilization of Plant Genetic Resources and their Information W6	Morris, G	Soil and Crop Sciences	1170	7000953	MS Hatch	10/1/2021	9/30/2026	
COL00292D	Beneficial Use of Residuals to Improve Soil Health and Protect Public, and Ecosystem Health W4170	Borch, T	Soil and Crop Sciences	1170	1020695	MS Hatch	10/1/2019	9/30/2024	To be term/replaced
COL00292E	Beneficial Use of Residuals to Improve Soil Health and Protect Public and Ecosystem Health W5170	Borch, T	Soil and Crop Sciences	1170	7008468	MS Hatch	10/1/2024	9/30/2029	New-Pending NIFA
COL00443	Sustainable Intensification of Western Colorado Crop and Livestock Systems Pinnamaneni, S		Soil and Crop Sciences	1170	7004905	Hatch	7/11/2023	6/30/2028	
COL00612B	Determining the consumptive water use of crops in Colorado for efficient irrigation Andales, AA		Soil and Crop Sciences	1170	1019719	Hatch	7/1/2019	6/30/2024	Terminated
COL00612C	Impacts of soil water deficits and salinity on consumptive water use of crops in Colorado Andales, A		Soil and Crop Sciences	1170	7007579	Hatch	7/1/2024	6/30/2029	New
COL00728A	Improving Cropping System Resilience through Diversification and Soil Conservation Schipanski, M		Soil and Crop Sciences	1170	1019781	Hatch	7/1/2019	6/30/2024	Terminated
COL00728B	Improving Cropping System Resilience through Diversification and Soil Conservation Schipanski, M		Soil and Crop Sciences	1170	7007509	Hatch	7/1/2024	6/30/2029	New
COL00738A	Managing Soils and Agroecosystems for Long-Term Functioning and Multiple Ecosystem Services Fonte, S		Soil and Crop Sciences	1170	1026632	Hatch	7/1/2021	6/30/2026	
COL00792	Sustainability Metrics and Tools for Promoting Climate Mitigation and Healthy Soils Paustian, KH		Soil and Crop Sciences	1170	1020064	Hatch	7/1/2019	6/30/2024	Terminated
COL00792A	Sustainability metrics and tools for promoting climate mitigation and healthy soils Paustian, K		Soil and Crop Sciences	1170	7007801	Hatch	7/11/2024	6/30/2029	New
COL00795B	Development of Winter Wheat Cultivars Adapted to Colorado Mason, E		Soil and Crop Sciences	1170	1026631	Hatch	7/1/2021	6/30/2026	

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1171 Animal Science

COL00216C	Enhancing Microbial Food Safety by Risk Analysis S1077	Martin, J	Animal Science	1171	7006474	MS Hatch	12/6/2023	9/30/2028	
COL00241A	Optimizing and Characterizing Sustainable Beef Cattle Production in Forage Based Systems on Western W3012	Ahola, J	Animal Science	1171	1023073	MS Hatch	7/31/2020	9/30/2024	

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COL00276B	Enhancing the Competitiveness and Value of U.S. Beef W5177	Narayanan Nair,	Animal Science	1171	7003980	MS Hatch	11/16/2022	9/30/2027	
COL00294D	Impacts of Stress on Performance, Health, and Well-Being of Animals W4173	Engle, T	Animal Science	1171	7008141	MS Hatch	8/28/2024	9/30/2026	New
COL00431	AgNext - sustainable solutions for animal agriculture Stackhouse-Lawt		Animal Science	1171	7004720	Hatch	7/1/2023	6/30/2028	
COL00607B	Genetic Improvement in Beef Management Systems Enns, RM		Animal Science	1171	1022682	Hatch	7/1/2020	6/30/2025	
COL00670B	Sustainable U.S. beef production Archibeque, S		Animal Science	1171	1020229	Hatch	7/1/2019	6/30/2024	Terminated
COL00670C	Sustainable U.S. Beef Production Archibeque, S		Animal Science	1171	7007229	Hatch	7/1/2024	6/30/2029	New
COL00681B	National Genetic Evaluation of Beef Cattle Speidel, S		Animal Science	1171	1026628	Hatch	7/1/2021	6/30/2026	

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1172 Agricultural and Resource Economics

COL00205B	Specialty Crops and Food Systems: Exploring Markets, Supply Chains and Policy Dimensions S1088	Thilmany, D	Agricultural and Resource Economics	1172	1024827	MS Hatch	10/30/2020	9/30/2025	
COL00211D	Management and Policy Challenges in a Water-Scare World W4190	Goemans, C	Agricultural and Resource Economics	1172	1021600	MS Hatch	12/5/2019	9/30/2024	To be term/replaced
COL00211E	Management and Policy Challenges in a Water-Uncertain World W5190	Goemans, C	Agricultural and Resource Economics	1172	7008594	MS Hatch	10/1/2024	9/30/2029	New
COL00215E	Sustainable and Inclusive Rural Economic Development to Enhance Housing, Health, Entrepreneurship, and Equity NE2249	Thilmany, D	Agricultural and Resource Economics	1172	7003788	MS Hatch	10/1/2022	9/30/2027	
COL00217A	Multistate Agricultural Literacy Research W3006	Enns, K	Agricultural and Resource Economics	1172	1021128	MS Hatch	12/5/2019	9/30/2024	To be term/replaced
COL00217B	CAM's Agriculture Academy Ag Literacy Project W4006	Enns, K	Agricultural and Resource Economics	1172	7008596	MS Hatch	10/1/2024	9/30/2029	New
COL00232B	U.S. Agricultural Trade and Policy in An Uncertain Global Market Environment S1072	Countryman, A	Agricultural and Resource Economics	1172	7006333	MS Hatch	12/5/2023	9/30/2028	
COL00233B	Enhancing the Resilience of Agriculture and Food of the Middle: Building for the Future NC1198	Jablonski, B	Agricultural and Resource Economics	1172	7003707	MS Hatch	10/1/2022	9/30/2027	
COL00245	A regional network of social, behavioral, and economic food systems research NE2204	Cleary, R	Agricultural and Resource Economics	1172	7006479	MS Hatch	12/6/2023	9/30/2027	

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1173 Horticulture and Landscape Architecture

COL00218B	Water Management and Quality for Specialty Crop Production and Health NC1186	Bauerle, W	Horticulture and Landscape Architecture	1173	1024826	MS Hatch	10/30/2020	9/30/2025	
COL00280B	Multi-state Coordinated Evaluation of Grape Cultivars and Clones - Evaluate grape cultivars and clones better adapted to local climatic conditons NE2220	Caspari, H	Horticulture and Landscape Architecture	1173	7003838	MS Hatch	10/26/2022	9/30/2027	
COL00405	Metabolism and Exudation of Cover Crops and Effects on Soil Health	Prenni, J	Horticulture and Landscape Architecture	1173	1023072	Hatch	7/1/2020	6/30/2025	
COL00658B	Water Reuse, Organic Matter Recycle, Saltgrass Selection, and Carbon Footprint of Urban Turfgrass Systems	Qian, Y	Horticulture and Landscape Architecture	1173	1026633	Hatch	7/1/2021	6/30/2026	
COL00711B	Development of Cultivar Specific Management Guidelines for New and Existing Potato Cultivars	Essah, S	Horticulture and Landscape Architecture	1173	1019850	Hatch	7/1/2019	6/30/2024	Terminated
COL00711C	Development of cultivar specific management guidelines for new and existing potato cultivars	Essah, S	Horticulture and Landscape Architecture	1173	7007266	Hatch	7/1/2024	6/30/2029	New
COL00712B	Development of Potato Cultivars for Colorado Via Germplasm Enhancement and Evaluation	Chitwood-Brown,	Horticulture and Landscape Architecture	1173	7000395	Hatch	7/1/2021	12/31/2023	Terminated
COL00716B	Postharvest Studies in Potatoes, Peppers, and Melons to Enhance Quality and Marketability	Jayanty, S	Horticulture and Landscape Architecture	1173	1019849	Hatch	7/1/2019	6/30/2024	Terminated
COL00716C		Jayanty, S	Horticulture and Landscape Architecture	1173		Hatch			2bRev-waiting on PD
COL00762A	Certification of Potato Seed for the Improvement of the Potato Industry in Colorado	Houser, A	Horticulture and Landscape Architecture	1173	7002671	Hatch	7/21/2022	6/30/2027	
COL00764A	Specialty Crops Production Research, Technical Support, and Coordination for Colorado Growers	Uchanski, M	Horticulture and Landscape Architecture	1173	7003012	Hatch	11/21/2022	6/30/2027	
COL00793	Carbon dioxide enrichment in controlled environments: Overcoming acclimation responses for enhanced	Craver, J	Horticulture and Landscape Architecture	1173	1022681	Hatch	4/17/2020	6/30/2024	Terminated
COL00793A	Carbon dioxide enrichment in controlled environments: Overcoming acclimation responses for enhanced production	Craver, J	Horticulture and Landscape Architecture	1173	7007234	Hatch	7/1/2024	6/30/2026	New

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1177 Agricultural Biology

COL00222D	Biological Control in Pest management Systems of Plants W5185	Hufbauer, R	Agricultural Biology	1177	7003695	MS Hatch	10/1/2022	9/30/2027	
COL00240A	Industrial Hemp Production, Processing, and Marketing in the U.S. S1084	Nachappa, P	Agricultural Biology	1177	7006762	MS Hatch	3/5/2024	9/30/2028	New

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COL00406A		Exploring the Hemp Virome for Monitoring Insect Vector-Borne Viruses and Viroids Nachappa, P	Agricultural Biology	1177	7005094	Hatch	7/1/2023	6/30/2026	
COL00410		Investigating the genes and molecular mechanisms involved in resistance and susceptibility to Wheat streak Roberts, R	Agricultural Biology	1177	1026269	Hatch	7/1/2021	6/30/2025	
COL00411		Integrated Pest Management of Arthropods Associated with Specialty, Alternative, and Niche Crops in Colorado Szczepanec, A	Agricultural Biology	1177	7001931	Hatch	7/1/2022	6/30/2027	
COL00430		Improving Canada Thistle Biological Control Norton, AP	Agricultural Biology	1177	7003034	Hatch	7/26/2022	6/30/2027	
COL00432		Advancing Insect Systematics Using Bioinformatics and Machine Learning Borowiec, M	Agricultural Biology	1177	7005007	Hatch	7/1/2023	6/30/2026	
COL00433		Multimodal hyperspectral remote sensing and machine learning for integrated crop disease management Dao, P	Agricultural Biology	1177	7007223	Hatch	7/1/2024	6/30/2029	New
COL00444		Hello, Darkness My Old Friend: Do aphids use nighttime feeding to overcome plant defenses? Nalam, V	Agricultural Biology	1177	7005018	Hatch	7/1/2023	6/30/2026	
COL00445		Biological Control of Russian Knapweed Ode, P	Agricultural Biology	1177	7005107	Hatch	7/1/2023	6/30/2028	
COL00450		Exploiting regulation of stress response genes for crop resiliency Leach, J	Agricultural Biology	1177	7007262	Hatch	7/10/2024	6/30/2029	New
COL00680C		Arthropod biology, evolutionary ecology and management Hufbauer, R	Agricultural Biology	1177	7003033	Hatch	7/1/2022	6/30/2027	
COL00732A		Harnessing Ecology to Improve Management of Invasive Plants Brown, C	Agricultural Biology	1177	1026320	Hatch	7/1/2021	6/30/2024	Terminated
COL00732B		Harnessing Ecology to Improve Management of Invasive Plants Brown, C	Agricultural Biology	1177	7007261	Hatch	7/1/2024	6/30/2027	New
COL00734A		Understanding combined biotic and abiotic stress responses in plants Leach, JE	Agricultural Biology	1177	1026318	Hatch	7/1/2021	6/30/2024	Terminated
COL00735A		Identification of metabolic, morphological, and physiological factors that influence sorghum whole?plant preflowering Jahn, C	Agricultural Biology	1177	1026319	Hatch	7/1/2021	6/30/2022	Terminated
COL00736B		Characterizing and developing molecular tools to rapidly identify fungal pathogens within conifers in nurseries to reduce invasion during outplantings Stewart, J	Agricultural Biology	1177	7003065	Hatch	9/19/2022	6/30/2025	
COL00743B		Combining High Throughput Phenotyping in the field and Genome-wide analysis to discover beneficial alleles McKay, J	Agricultural Biology	1177	1023353	Hatch	7/1/2020	6/30/2025	
COL00760A		Exploring linkages between above and belowground diversity to maximize soil functional capacity in Dryland agricultural system Trivedi, P	Agricultural Biology	1177	7003011	Hatch	9/7/2022	6/30/2027	

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COL00781A		Molecular Mechanisms of Chemical Priming of Plant Defenses for Increased Crop Protection Argueso, C	Agricultural Biology	1177	7005085	Hatch	7/1/2023	6/30/2026	
COL00783A		Understanding and Diagnosing Herbicide Resistance in Weeds Gaines, T	Agricultural Biology	1177	7004906	Hatch	7/1/2023	6/30/2028	
COL00785A		Metabolic fate of herbicides in crops and weeds Dayan, F	Agricultural Biology	1177	7005022	Hatch	7/1/2023	6/30/2028	

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1371 Atmospheric Science

COL00699B		Ammonia concentrations in agricultural and urban regions of NE Colorado Collett, JL	Atmospheric Science	1371	1022587	Hatch	7/1/2020	6/30/2025	
COL00703C		Climate Monitoring, Climate Research, and Climate Services for Colorado's Agriculture and Natural Resources Schumacher, R	Atmospheric Science	1371	7001967	Hatch	7/1/2022	6/30/2027	

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1372 Civil and Environmental Engineering

COL00421		Optimization of Soil Water Content and Deficit Products from Soil Water Sensor Data Jia, G	Civil and Environmental Engineering	1372	7002934	Hatch	9/6/2022	6/30/2025	Extended
COL00422		Experimental investigation of post-fire mulching impacts on runoff, erosion, and water quality Nelson, P	Civil and Environmental Engineering	1372	7001975	Hatch	7/1/2022	6/30/2025	
COL00423		Characterization Agro-Environmental Threats from Salinity in the South Platte River Basin Gates, T	Civil and Environmental Engineering	1372	7002935	Hatch	8/25/2022	6/30/2025	
COL00424		Addressing the Flow Measurement Conundrum to Enhance Agricultural Water Management Venayagamooth	Civil and Environmental Engineering	1372	7002936	Hatch	8/26/2022	6/30/2025	
COL00425		Linking Floodplain Processes and Hydrologic Modeling to Improve Management of Irrigated Stream-Aquifer Systems Morrison, R	Civil and Environmental Engineering	1372	7002851	Hatch	7/25/2022	6/30/2025	
COL00434		Assessment of the Effects of Irrigation Water Management on Nutrient and Salinity Loads from Agricultural Fields to River Basin Scales Bailey, R	Civil and Environmental Engineering	1372	7005096	Hatch	7/1/2023	6/30/2026	
COL00435		Assessing Strategies to Increase Efficiency of Renewable Gas Production from Feedlot Collected Manure Sharvelle, S	Civil and Environmental Engineering	1372	7004599	Hatch	7/1/2023	6/30/2025	
COL00436		Towards sustainable agriculture in the San Luis Valley, Colorado: improved estimates of recharge and water budgets with remote sensing and in-situ data Smith, R	Civil and Environmental Engineering	1372	7004883	Hatch	7/1/2023	6/30/2026	
COL00446		In-Field Temperature Profile-based Crop Water Use and Stress Determination Chavez, J	Civil and Environmental Engineering	1372	7007222	Hatch	7/1/2024	6/30/2027	New

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Project Number	Multi State No.	Principal Investigator	Department Name	Acct. Dept.	CRIS Number	Budget Source	Begin Date	Term. Date	Note
1472 Forest and Rangeland Stewardship									
COL00437		Understanding the adoption of conservation easement program by rangelands of Colorado and associated ecosystem services Baral, S	Forest and Rangeland Stewardship	1472	7004797	Hatch	7/1/2023	6/30/2026	
COL00520		Leveraging tree-ring and geospatial data to understand the effects of multiscale climate variability on western spruce budworm outbreaks and manage for healthy Hart, S	Forest and Rangeland Stewardship	1472	7002894	McStennis	7/1/2022	6/30/2024	Terminated
COL00521		Improving wildland fire hazard and risk assessment across scales through the development of next generation fuel mapping products here Hoffman, C	Forest and Rangeland Stewardship	1472	7002629	McStennis	7/1/2022	8/31/2024	Terminated
COL00524		Transitions of semi-arid forests and woodlands in the face of wildfires and climate change Stevens-Rumann	Forest and Rangeland Stewardship	1472	7007510	McStennis	7/1/2024	6/30/2026	New
COL00525		Impacts of forest market on hazardous fuel reduction activities in federal forestlands of Colorado Baral, S	Forest and Rangeland Stewardship	1472	7007230	McStennis	7/1/2024	6/30/2026	New
# of projects: 5									
1476 Ecosystem Science and Sustainability									
COL00523		Toward justice in wildfire restoration: Stakeholder perceptions of post-fire restoration project effectiveness in Colorado Albrecht, T	Ecosystem Science and Sustainability	1476	7007317	McStennis	7/1/2024	6/30/2026	New
# of projects: 1									
1480 Human Dimensions of Natural Resources									
COL00438		Impacts of Livestock-Carnivore Conflict Mitigation Tools on Rangeland Ecology and Management Yovovich, V	Human Dimensions of Natural Resource	1480	7005005	Hatch	7/11/2023	6/30/2026	
COL00522		Drivers of inequity in community wildfire risk mitigation capacity across Colorado forest landscapes Salerno, J	Human Dimensions of Natural Resource	1480	7002716	McStennis	7/1/2022	6/30/2024	Terminated
# of projects: 2									
1499 Natural Resource Ecology Lab									
COL00439		Optimizing Livestock Forage Acquisition using Evolutionary Programming Boone, R	Natural Resource Ecology Lab	1499	7005093	Hatch	7/12/2023	6/30/2026	
# of projects: 1									
1570 Human Development and Family Studies									
COL00440		Preventing Unhealthy Eating and Excess Weight Gain For High-Risk Adolescents Across the State by Incorporating Mindfulness Training into Multiple Sites of a Graham, R	Human Development and Family Studies	1570	7004882	Hatch	7/1/2023	6/30/2025	
COL00449		Growing an Extension Network for Multisite Dissemination and Implementation of Intensive Health Behavior and Lifestyle Treatment Shomaker, L	Human Development and Family Studies	1570	7007909	Hatch	8/1/2024	6/30/2026	New
# of projects: 2									
1571 Food Science and Human Nutrition									

Project Number	Multi State No.	Principal Investigator	Department Name	Acct. Dept.	CRIS Number	Budget Source	Begin Date	Term. Date	Note
COL00229C	EFNEP Related Research, Program Evaluation and Outreach NC3169	Baker, S	Food Science and Human Nutrition	1571	7006176	MS Hatch	7/3/2024	9/30/2028	New
COL00271E	Beneficial and Adverse Effects of Natural Chemicals on Human Health and Food Safety W5122	Weir, T	Food Science and Human Nutrition	1571	7003802	MS Hatch	11/8/2022	9/30/2027	
COL00415	Advancing Microgreens Research from Plants to Health: Optimizing Nutritional Quality and Bioavailability of Red Cabbage Microgreens	Johnson, S	Food Science and Human Nutrition	1571	7002928	Hatch	8/29/2022	6/30/2024	Terminated
COL00416	Determining differences in experiences coping with food insecurity among households above and below the federal poverty threshold	Mueller, M	Food Science and Human Nutrition	1571	7002845	Hatch	8/17/2022	6/30/2024	Terminated
COL00441	Advancing Targeted Fermentation Approaches for Food Production: Nutritional and Functional Characterization of Sourdough Breads	Van Buiten, C	Food Science and Human Nutrition	1571	7004809	Hatch	7/1/2023	6/30/2025	
COL00447	Diet and microbiome interactions: application in posttraumatic stress disorder (D-MAPS)	Weir, T	Food Science and Human Nutrition	1571	7007243	Hatch	7/1/2024	6/30/2026	New

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1574 Design and Merchandising

COL00414	Visioning a Sustainable Colorado Fiber Systems Collaborative – Implications for Colorado Fiber Producers and Small Businesses Economic Vitality	Diddi, S	Design and Merchandising	1574	7002843	Hatch	7/25/2022	6/30/2024	Terminated
COL00448	Sustainable Design of Footwear by Utilizing Mycelium-based Biomaterials and 3D Printing Technology	Li, V	Design and Merchandising	1574	7007380	Hatch	7/1/2024	6/30/2026	New

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1680 Biomedical Sciences

COL00220D	W4112: Reproductive Performance in Domestic Ruminants W4112	Hansen, T	Biomedical Sciences	1680	7004367	MS Hatch	2/13/2023	9/30/2026	
COL00293D	Germ Cell and Embryo Development and Manipulation for the Improvement of Livestock W4171	Winger, Q	Biomedical Sciences	1680	1021217	MS Hatch	1/1/2020	9/30/2024	To be term/replaced
COL00293E	Germ Cell and Embryo Development and Manipulation for the Improvement of Livestock W5171	Winger, Q	Biomedical Sciences	1680	7008469	MS Hatch	10/1/2024	9/30/2029	Rev-Pending RICRO

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3001 AES Director's Office

COL00299	Regional Research Coordination, Western Region W106	Kelly, E	AES Director's Office	3001	0024381	MS Hatch	10/1/1999	9/30/2029	
COL00426	Management of potato diseases in the San Luis Valley, Colorado	Chikh-Ali, M	AES Director's Office	3001	7002820	Hatch	7/7/2022	6/30/2027	

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COL00427	The Potential of Using Cowpea as the New Crop for Arkansas Valley	Davidson, J	AES Director's Office	3001	7002937	Hatch	8/26/2022	6/30/2027	
COL00428	Continuing Sustainable Organic Farming in the Face of Climate Change in Western Colorado	Tonnessen, B	AES Director's Office	3001	7002998	Hatch	7/1/2022	6/30/2025	
COL00615B	Adapting to Challenges to Improve the Resilience of Farming in Southwestern Colorado	Russell, K	AES Director's Office	3001	1022867	Hatch	7/1/2020	6/30/2025	
COL00654B	Sustainable Farming Practices, Crop Management and Sorghum Improvement	Jenkins, ZJ	AES Director's Office	3001	1022585	Hatch	7/1/2020	6/30/2025	

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3046 Western Colorado Research Center

COL00442	Equipment to Support Artificial Intelligence for Sustainable Water, Nutrient, Salinity, and Pest Management in the Western U.S.	Cabot, P	Western Colorado Research Center	3046	7005030	Hatch	7/1/2023	6/30/2028	
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