

**Agriculture  
February 2013  
Proposal Submissions**

<b>Principal Investigator</b>	<b>Department</b>	<b>Sponsor</b>	<b>Title</b>	<b>Total Amount Requested</b>
Barrett, Michael	Plant & Soil Sciences	Mycosynthetix Incorporated	Further Development of the Organic Herbicide, Mevalocidin	\$98,901
Barton, Christopher	Forestry	Steele Reese Foundation	Restoring a native hardwood forest on lands affected by surface mining in eastern Kentucky	\$32,778
Bertsch, Paul	Plant & Soil Sciences	National Science Foundation	The Influence of Land Use and Climate on Coupled Hydrobiogeochemical Processes in Karst Systems: A Proposal to Establish a Karst Critical Zone Observatory	\$4,999,996
Bertsch, Paul	Plant & Soil Sciences	National Science Foundation	Engineered nanomaterial (ENM) interactions with terrestrial fungi: Understanding the roles of particle and receptor surface chemistry and ENM toxicity	\$309,580
Bewley, Jeffrey	Animal and Food Sciences	National Institute of Food and Agriculture	Monitoring sleep in dairy cattle with a non-invasive monitoring system toward evaluation of housing system impact on immune function and general health	\$497,542
D'Angelo, Elisa	RCTF-1-Plant Sciences-Agronomy	National Science Foundation	Wetland Processes Regulating the Fate of Contaminants in Appalachian Coal Slurry Impoundments	\$380,244
Davis, Alison	Agr Economics	Foundation for a Healthy KY	Evaluating Foundation Initiatives Foundation for a Healthy Kentucky	\$112,645
Dvorak, Joseph	Biosystems & Ag Eng	National Institute of Food and Agriculture	Electric-Hybrid Platform And Control Framework For Collaborative Field Work With Human Workers	\$500,000
Epps, Rebekah	Community & Leadership Devel	KY Department of Education	Greenhouse Management for the Agricultural Educator	\$2,824
Goff, Ben	Plant & Soil Sciences	Koch Agronomic Services LLC	The Effects of Slow-Release Nitrogen Fertilizers on White Clover Persistence in Bermudagrass Pastures	\$14,878
Goff, Ben	Plant & Soil Sciences	Auburn University	Resurrecting Perennial Legumes as a Livestock Feeding Strategy: An Improved High-Tannin Birdsfoot Trefoil Cultivar with Trans-Regional Potential	\$32,817
Grove, John	Plant & Soil Sciences	West Virginia University	Multispecies grazing as a strategy to adapt animal production to climate change: Soil-forage-animal interactions to sustain ecosystem services	\$60,550
Grove, John	Plant & Soil Sciences	Koch Agronomic Services LLC	Nitrification Inhibition for Winter Wheat: Temporal and Vertical Persistence	\$15,000
Grove, John	Plant & Soil Sciences	Kentucky Soybean Promotion Board	Raising Soybean Yield Potential in Dry Seasons: Increased Rooting Depth and Greater Soil Water Extraction with Deeper Depth to the Fragipan	\$105,000

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Halich, Gregory	Agr Economics	University of Arkansas	Transitioning to a Forage-Finished Beef Enterprise: Upper South and Beyond	\$36,117
Hildebrand, David	Plant & Soil Sciences	National Institute of Food and Agriculture	Regulation Of The Gene Network Governing Storage Product Accumulation During Soybean Embryo Development	\$489,233
Hunt, Arthur	Plant & Soil Sciences	National Institute of Food and Agriculture	Contributions of alternative polyadenylation to the responses of soybean to stress	\$494,694
Hunt, Arthur	Plant & Soil Sciences	National Science Foundation	RET Supplement for IOS-0817818	\$11,661
Hunt, Arthur	Plant & Soil Sciences	National Science Foundation	REU Supplement to IOS-0817818	\$6,000
Hunt, Arthur	Plant & Soil Sciences	KY Science and Technology Co Inc	Posttranscriptional Control of Responses of Plants to Elevated Temperatures	\$29,964
Jacobsen, Krista	Horticulture	National Institute of Food and Agriculture	Sustainable Nutrient Cycling on Diversified Farms Serving Community Food Systems	\$495,005
Jacobsen, Krista	Horticulture	North Carolina State University	Establishing a Network for International Education in Sustainable Agriculture and Food Security	\$3,606
Kachroo,	Plant Pathology	National Institute of Food and Agriculture	Understanding the role of RNA silencing components in resistance-mediated signaling	\$498,935
Kachroo, Aardra	Plant Pathology	Clemson University	Building a permanent feeding site: reniform nematode co-option of host plant genes	\$54,871
Kachroo, Aardra	Plant Pathology	National Institute of Food and Agriculture	Understanding the role of potyviral P3 in inducing extreme resistance mediated by soybean Rsv1	\$498,457
Kachroo, Pradeep	Plant Pathology	National Science Foundation	REU:Molecular and biochemical analysis of a hemibiotrophic interaction	\$6,000
Kurzynske, Janet	Nutrition and Food Science	National Institute of Food and Agriculture	2013 Children, Youth, and Families at Risk Sustainable Community	\$574,000
Lacki, Michael	Forestry	Arkansas Game and Fish Commission	Home range and habitat use of foraging gray bats in northern Arkansas	\$128,977
Lawrence, Laurie	Animal and Food Sciences	Prairie Oat Growers Association	Oats-preventing equine disease:role of starch source in large intestinal microbial disturbances	\$122,598

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Lee, Chad	Plant & Soil Sciences	Kentucky Soybean Promotion Board	Stressing Soybeans to Increase Yield	\$48,407
Lehmkuhler, Jeffrey	Animal and Food Sciences	KY Beef Network	Kentucky Beef Network	\$485,247
Lehmkuhler, Jeffrey	Animal and Food Sciences	University of Arkansas	Bull Selection and Management to Reduce the Risk of Production and Financial Losses	\$47,278
Lensing, Janet	Entomology	Animal and Plant Health Inspection Service	Asian Longhorned Beetle (ALB) Outreach	\$27,481
Lensing, Janet	Entomology	Animal and Plant Health Inspection Service	Phytophthora ramorum Farm Bill National Nursery Survey	\$22,500
Lensing, Janet	Entomology	Animal and Plant Health Inspection Service	Thousand Cankers Disease (TCD) Survey	\$14,740
Lensing, Janet	Entomology	Animal and Plant Health Inspection Service	Orchard Survey	\$15,035
Lensing, Janet	Entomology	Animal and Plant Health Inspection Service	Grape Survey	\$12,613
Martin, James	Plant & Soil Sciences	Kentucky Soybean Promotion Board	Developing Control Strategies for Glyphosate - Resistant Weeds in Kentucky	\$15,770
McCulley, Rebecca	Plant & Soil Sciences	National Institute of Food and Agriculture	Controls on the Plant-Soil Stoichiometry of Dryland Agroecosystems: A Sabbatical Strengthening Grant	\$180,572
Moe, Luke	Plant & Soil Sciences	National Institute of Food and Agriculture	Amino acids as a driver of rhizosphere microbial community structure and function	\$500,000
Montross, Michael	Biosystems & Ag Eng	National Institute of Food and Agriculture	Determining Baled Biomass Dry-Matter Content Using Neutron Thermalization	\$499,554
Mueller, Thomas	RCTF-1-Plant Sciences-Agronomy	Forest Service	Methods for Designing Filter Strips Using GIS and Terrain Analysis	\$25,000
Mueller, Thomas	RCTF-1-Plant Sciences-Agronomy	Purdue University	Integrating Spatial Educational Experiences (Isee) # Mapping a New Approach to Teaching and Learning Soil Science	\$112,500
Mueller, Thomas	RCTF-1-Plant Sciences-Agronomy	Kentucky Soybean Promotion Board	Variable Width Buffer Tool for Kentucky	\$25,328

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Murdock, Lloyd	Plant & Soil Sciences	Kentucky Soybean Promotion Board	Fragipan Remediation	\$35,000
Nagy, Peter	RCTF-1-Plant Sciences-PlantPath	National Institute of Allergy and Infectious Diseases	Mechanism of inhibition of RNA virus replication by host WW-domain proteins	\$382,250
Nagy, Peter	RCTF-1-Plant Sciences-PlantPath	National Institute of Allergy and Infectious Diseases	Interviral recombination and host factors	\$382,250
Nagy, Peter	RCTF-1-Plant Sciences-PlantPath	National Institute of Allergy and Infectious Diseases	Antagonistic effect of RNA viruses on prion propagation during infections	\$382,250
Nagy, Peter	RCTF-1-Plant Sciences-PlantPath	National Institute of Allergy and Infectious Diseases	Cofilin actin depolymerization factor is a major restriction protein for virus replication	\$382,250
Palli, Subba	Entomology	Agricultural Research Service	P450 inhibition assays	\$25,918
Palli, Subba	Entomology	National Institute of Food and Agriculture	Molecular mechanisms of spider mite-plant interactions	\$499,818
Perry, Sharyn	RCTF-1-Plant Sciences-Agronomy	National Institute of Food and Agriculture	Gene regulation controlled by the MADS-factor GmAGL15 during Glycine max embryogenesis.	\$499,984
Phillips, Timothy	Plant & Soil Sciences	National Institute of Food and Agriculture	Breeding and Developing Salvia hispanica as a Viable New US Crop	\$373,357
Schardl, Christopher	Plant Pathology	National Institute of Food and Agriculture	Gene expression studies of symbiosis between tall fescue and the fungus Neotyphodium coenophialum	\$500,000
Smalle, Jan	Plant & Soil Sciences	Kentucky Soybean Promotion Board	Engineering Soybean with Constitutive Cytokinin Responses to Increase Yield	\$100,000
Suman, Surendranath	Animal and Food Sciences	National Institute of Food and Agriculture	Proteome changes in American dry-cured hams	\$149,999
Suman, Surendranath	Animal and Food Sciences	Mississippi State University	Proteome basis of pale, soft, and exudative condition in broiler meat	\$50,000
Timoney, John	Veterinary Science	KY Horse Racing Commission	Potency and Efficacy of a Novel Leptospira Vaccine in Pregnant Mares	\$85,218
Vaillancourt, Lisa	Plant Pathology	National Institute of Food and Agriculture	Mechanisms of Infection of Maize by Stenocarpella maydis	\$499,218

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Vaillancourt, Lisa	Plant Pathology	Texas A&M Research Foundation	Roles of homologous putative effectors unique to Magnaporthe and Colletotrichum species infecting monocots	\$202,801
Van Sanford, David	Plant & Soil Sciences	National Institute of Food and Agriculture	Increasing Nitrogen Use Efficiency In Barley By Optimizing Mycorrhizal Symbiosis	\$150,000
Vincent, Stacy	Community & Leadership Devel	KY Department of Education	Turf Management/Agricultural Education Professional Development	\$4,389
Walters, Cory	Agr Economics	University of Arkansas	Revenue Risk, Forward Contracting and Crop Insurance	\$44,884
Wendroth, Ole	Plant & Soil Sciences	National Institute of Food and Agriculture	Nitrogen, Carbon and Soilwater Dynamics in Grazed Pasture Systems # Small-Scale Heterogeneity Protects Water Quality and Reduces Nitrogen Losses	\$499,579
White, Jennifery	Entomology	National Institute of Food and Agriculture	Toxic aphids: how bacterial symbionts influence coccinellid defense and biological control of Aphis craccivora	\$498,132
Xiong, Youling	Animal and Food Sciences	National Institute of Food and Agriculture	Technology and mechanism of pH-shifting to enhance legume protein functionality and oxidative stability	\$498,945
Zhou, Xuguo	Entomology	National Institute of Food and Agriculture	RNAi-mediated genetic manipulation: colony collapse in termites	\$500,000
Zhu,Hongyan	Plant & Soil Sciences	National Institute of Food and Agriculture	Host genetic control of strain-specific nitrogen fixation in the legume-rhizobial symbiosis	\$500,000
Zhu,Hongyan	Plant & Soil Sciences	National Institute of Food and Agriculture	Cloning of the Rj4 gene that regulates strain-specific nodule development in soybean	\$150,000
Zhu,Hongyan	Plant & Soil Sciences	National Institute of Food and Agriculture	Genetic control of pod shattering in soybeans and comparative genetic analysis with other legumes	\$500,000