

NIFA CRITICAL ISSUES – NCA&T RESEARCH PRIORITIES

Beginning in 2019, CAES is placing a strong emphasis on supporting research projects that address one of the following “Cluster” areas. These Clusters align with NIFA 2020’s Critical Issues and Science Emphasis Areas.

1. Improving Plant and Animal Agricultural Systems

There is a critical need to increase agricultural food, fiber, and fuel productivity and to increase the profitability of both large scale and small scale farms and agribusinesses while providing safe and nutritious food for a growing population and being good stewards of our natural resources. Plant system programs address plant production, protection, the development of new plant varieties and plant products, organic farming, landscaping, gardening, and discovering and disseminating solutions to production issues including weeds, pests and diseases. Animal system programs focus on developing and disseminating knowledge and methods for animal breeding, reproduction, nutrition, genetics and genomics, physiology, environmental stress, product quality, health, wellbeing and biosecurity.

2. Protecting Environmental and Natural Resources

There is a critical need to proactively and comprehensively promote environmental stewardship and to protect the natural environment through conservation and sustainable agriculture and timber production and to subsequently address the critical issues impacting the quality of our soil, water, and air. Our work includes providing scientific solutions for animal waste management, wastewater treatment, composting, nutrient management, septic systems, wetland management, soil properties, and fishery and pond management. Programs support the expansion of production systems for biofuels and bio-based products including non-petroleum-based fuels, power sources, and chemicals. We also provide extensive support for three of the state’s top five industries: forestry, wood products and tourism.

3. Enriching Youth, Family & Community Well-Being

There is a critical need for youth to develop skills necessary for future success. Our work provides opportunities for youth to participate in 4-H clubs, camps, school enrichment, afterschool and special interest programs. There is also a critical need to address the challenges affecting consumer and family well-being. Our research and outreach focus on areas such as parenting, child care, family relationships, financial resource management, aging, healthy homes, and disaster readiness, response, and recovery. Finally, critical issues facing communities include quality of life and economic, social and environmental resiliency. Our programs focus on leadership, workforce development, entrepreneurship, civic engagement, volunteerism, community planning, and disaster preparedness.

4. Enhancing Food Safety, Nutrition and Health

There is a critical need to ensure we have a safe and nutritious food supply. Our efforts help protect the safety of the food supply through research and extension efforts focused on all levels along the food supply chain, from production to consumption. To meet the growing need for healthy food, our work includes development and production of new food products that promote health and

prevent disease. There is also a critical need to ensure that individuals, families, and communities have the knowledge to make choices about selecting nutritious food and living healthy lifestyles that reduce their risk of chronic disease and that they have access to safe, high-quality food at reasonable prices.

Principal investigators (PIs) are encouraged to consider cross-cutting areas such as big data, microbiome, and genomics, and nanotechnologies as they relate to these cluster areas.

