

Virginia Agricultural Experiment Station (VAES)/Virginia Cooperative Extension (VCE)

Planning and Budget - 2007-2013

Operations and Equipment Initiative (2007-2008) - \$11.0 million Total (\$8.0 million Operations and \$3.0 million Equipment)

VAES/VCE, an agency of the land-grant university system, develops and delivers research-based technology, education, and services not provided by any other state agency. The proposed operations and equipment initiative will enable existing research and extension programs at Virginia Tech to better support, and thus build stronger and more economically viable agriculture, and natural resource based industries while addressing critical economic and societal issues affecting families and communities throughout the Commonwealth. Because of escalating operation costs (in particular energy) and equipment replacement needs system-wide, there is increasing need for operations and equipment funds if we are to be fully successful as an engine of economic development. The initiative will address critical issues and needs associated with the following four research and extension areas of emphasis identified through the listening sessions and situational analyses:

1. Agriculture Profitability and Environmental Sustainability
2. Families and Youth
3. Developing Our Communities
4. Growing the Green Industry/Specialty Agriculture

Outcomes and results will be evaluated to determine enhanced program efficiencies and delivery of research-based technology to agriculture and natural resource based industries; efforts to sustain homeland security, including agricultural biosecurity, animal identification and health, value-added product development, food safety and public health; improvements in rural economic development through agricultural and forestry competitiveness, ecotourism, leadership development for local government and communities, and home-based business enterprises; and improved environmental stewardship to preserve our land, promote biodiversity and protect water resources.

Commonwealth Research/Extension Faculty Initiative (2009-2013) – 30 Research/Extension Faculty Lines, \$3.0 million

The frontier of agriculture and natural resources research exist at the molecular scale. Increasingly, research in genomics, proteomics and metabolomics, microbiology, and immunology are driving the development of new approaches to solving problems that impact agricultural production, animal and human health, natural resource utilization, and the environment. State and societal demands for cutting-edge research and services in agriculture, animal science and health, biodesign and bioprocessing, functional foods, animal and human nutrition, and infectious diseases in general are essential to provide innovative approaches, technologies, and products and economic viable agricultural and natural resources industries. Virginia Tech and VAES/VCE have existing strengths in the life sciences and have five focus areas for biomedical research:

1. Molecular and cellular regulation
2. Genomics science
3. Infectious diseases and immunology
4. Neuroscience
5. Public health sciences and nutrition

Significant research and discovery in these five focus areas will lead to advances in medical treatments, pharmaceuticals, control of infectious diseases across the globe, and impact the quality of life for people in developed and developing nations.

Equally important from an economic development perspective, VAES/VCE has existing strengths in biodesign and bioprocessing that add value to commodity crops, develops new products from apparent wastes (e.g., manure and wood), and develops new products from agricultural and wood materials. Bioprocessing coupled with a broad range of new technologies from information advances to nanotechnology could fundamentally alter the production of food and fiber and minimize environmental impacts.

This initiative will significantly enhance our interdisciplinary research teams in the biodesign and bioprocessing, medical, biomedical, and public health sciences at Virginia Tech. This increased stature will allow the University to become a major force in economic development as well as an important contributor to strengthening and enriching the social fabric of the Commonwealth.