**Strategic Planning**

**Alson H. Smith Jr. Agricultural Research and Extension Center**

**October 2020**

**Introduction**

The Alson H. Smith Jr. Agricultural Research and Extension Center (AHS Jr. AREC) is one of the stars that comprise the AREC constellation of the College of Agriculture and Life Sciences at Virginia Tech. Faculty, students and staff conduct programs that ultimately serve the tree fruit and wine grape industries of Virginia, the region and nation. We are located in the northern Shenandoah Valley, within a 2.5-hour drive of much of the tree fruit and wine grape production of the Commonwealth. We are part of the Virginia Agricultural Experiment Station (VAES) and all of our faculty and full-time staff have joint responsibilities and salaries from the VAES and from Virginia Cooperative Extension.

From our inception 100 years ago (1921), today’s AHS Jr. AREC continues to address pest management, disease, and horticultural issues and opportunities that impact fruit producers. Research needs are stakeholder-driven; some are long-standing issues such as fungal pathogens that require constant attention, whereas others, such as invasive pests, are episodic. We have helped develop predictive tools that assist in vineyard site evaluation and make more efficient use of orchard and vineyard inputs. We study the biology of pests and disease pathogens and discover effective management tools to mitigate their impact. Longer term trials have led to adoption of new fruit cultivars to the palette of those being grown, and current research efforts may lead to uniquely adapted cultivars for the region.

We partner with local Cooperative Extension units and grower associations to conduct educational programs. Partnerships with industry support field trials of agrichemical products, including novel products for non-conventional pest management. Complementing the tripartite land-grant model, we train graduate students and post-doctoral research associates and provide teaching via guest lectures and on-line coursework.

This strategic plan’s genesis comes at a period of personnel change, as several faculty have either retired, or are nearing retirement, and recruitment for additional faculty is occurring. This provides opportunity to revisit college and stakeholder needs and to refill positions in thoughtful ways that not only serve today’s producers, but their needs in 20 or more years from now. It also allows us an opportunity to align our research programs with current college and VAES initiatives and to foster greater inter-disciplinary research funding initiatives.

**Strategic Planning Process (*based on work-in-progress*)**

Although we recently (2018) updated our strategic plan, we began a process of aligning our own strategic vision with current college and university strategic plans in the summer of 2020. Our own strategic plans are fairly detailed in terms of the horticultural crops that we work with, whereas the college plan is more conceptual with broad goals. Our basic task was to harmonize the two approaches. Faculty met in October and were asked to draft new goals and sub-goals aligned with the college goals, while the director assumed responsibility for drafting the preamble sections of our new plan. Our intention is to share the draft document at the AREC fall meeting, incorporate feedback in a second version, and then share the second version with full-time staff, external industry and VCE stakeholders, and department heads of the faculty represented at the AHS Jr. AREC. In sharing the plan, we would ask our stakeholders if it is inclusive of their needs, is forward-looking, and where strategic priorities should be focused to make most efficient use of human and fiscal resources.

**VISION**

We will address current and emerging issues in fruit production by using the full resources of the land-grant system to develop research-based solutions, train new leaders, and share our discoveries with stakeholders.

**MISSION**

The AHS Jr. AREC serves Virginia’s horticultural fruit industries through research, educational programs, student training, and development of tools and technologies that increase sustainability and resiliency of commercial producers.

**VALUES**

* *Ut Prosim* (we are responsive to, and serve the needs of, industry partners, students, the university and the public)
* *Professional integrity* (the scientific process and scholarship are used to formulate evidence-based recommendations)
* *Lifelong learning* (we accept that both we and our stakeholders have a need for new knowledge, as change is inevitable even if knowledge foundations remain stable)
* *Mutual respect* (we value cultural and intellectual diversity and respect the rights and welfare of our fellow employees, colleagues, and our stakeholders)
* *Freedom of inquiry* (we recognize that conventional disease and pest management strategies, use of GMOs, partnerships with corporate industry stakeholders, and other features of modern agriculture can be sensitive topics; however, we value the opportunity to pursue research in these areas if they are consistent with our other core values and strategic goals)
* *Integrated scholarship across the land-grant missions* (research endeavors and extension programming, in particular, are integrated missions)
* *Interdisciplinary collaboration* (intellectual synergies and useful deliverables result from team efforts)
* Global engagement in teaching, research and outreach (while focused on the needs of the Commonwealth, our impacts can reverberate regionally, nationally and internationally.

**Alson H. Smith Jr. AREC Strengths and Pursuit of Grand Challenges**

* Heighten environmental stewardship through sustainable management practices
* Adapt to and mitigate the impacts of climate change on fruit production systems
* Sustainability, competitiveness, and profitability of fruit production
* Share knowledge and provide experiential learning with students and industry practitioners

**Strategic Priority 1**

**Advance excellence in research, graduate student mentoring, and extension associated with the production of tree fruits, wine grapes, and other horticultural crops in the Commonwealth and beyond**

ASPIRATIONAL VISION

The AHS Jr AREC will be recognized nationally and internationally as a center of excellence for research, graduate education, and extension programs that support and enhance the production of horticultural fruit crops.

GOALS

* Advance excellence in horticultural crop research and discovery
* Advance excellence in graduate and undergraduate student mentoring
* Advance excellence in extension and outreach programming for producers of horticultural crops, Virginia Cooperative Extension agents, and other relevant stakeholders in the Commonwealth and beyond

MILESTONES (by 2024 unless otherwise specified)

* Recruit and mentor a Tree Fruit/Specialty Crop Pathologist to fill current vacancy by 2021
* Recruit a Fruit Entomologist in 2022
* Redefine pending vacant positions to meet industry needs (e.g., entomology position to serve the tree fruit and wine grape industries)
* Provide necessary support and mentoring for pre-tenure faculty members to ensure their successful promotion and tenure
* Increase extramural expenditures by 10%
* Promote and facilitate intra- and intercollegiate collaborations in support of the Smart Farm Innovation Network
* Maintain a baseline of one graduate student per 0.25 research faculty FTE
* Ensure that all graduate students publish >= 1 peer-reviewed manuscript
* Ensure all graduate students acquire experiential learning through participation in extension and outreach activities
* Maintain a baseline of one peer-reviewed publication (refereed journal or numbered Extension bulletin) annually per 0.25 faculty FTE
* Increase undergraduate summer internships/work experience by 20%

**Strategic Priority 2**

**Exemplify *Ut Prosim* (That I May Serve)**

ASPIRATIONAL VISION

The AHS Jr. AREC is an integral component of Virginia Tech’s College of Agriculture and Life Sciences’ mission to serve humanity. The AHS Jr. AREC will build and support programs of discovery and learning that address critical, extant and emerging challenges for producers of horticultural crops in the Commonwealth and beyond.

GOALS

* Address critical challenges related to the environment and to the production, sustainability, best practices, and competitiveness of horticultural crops
* Increase adoption of sustainable management practices of horticultural crops
* Develop and extend practical knowledge of horticultural crop production through extension programs for agents, growers, and other stakeholders

MILESTONES

* Assess feasibility of biological and alternative plant disease management tools, e.g., validate the efficacy of a new biological control agent for grapevine crown gall by 2022. Explore use of physical barriers to reduce disease risk by 2023. Examine disease susceptibility of new wine grape and eastern table grape cultivars by 2025.
* Develop and validate advanced methods for grape pathogen diagnostics, e.g., release a new membrane-based grapevine virus sampling kit to growers by 2022. Investigate an on-site metagenomics sequencing technology for Pierce’s disease pathogen by 2024.
* Develop, release, and provide training for an online decision support system for grape disease management (grapeIPM.org)
* Explore and validate strategies to address the negative impacts of global climate warming on the production and sustainability of fruit trees by 2023. (e.g. increased occurrence of devastating spring freezes)
* Employ DNA-informed breeding technologies and advanced biotechnological approaches to develop apple germplasm with enhanced fruit quality by 2025.
* Document the establishment of *Trissolcus japonicus*, a non-native natural enemy of brown marmorated stink bug, following its release at strategic locations throughout the tree fruit production regions of Virginia by 2021
* Continue to refine surveillance methods and protocols to track the establishment and spread of *Trissolcus japonicus* in Virginia and elsewhere in the USA
* Maintain professional competency and visibility through active participation in professional societies, editorial service, consultancy, and other forms of professional service.
* Increase the AREC engagement with the agrichemical industry by 10% as measured by number of chemicals or technologies and models tested for commercial and start-up enterprises.
* Consistently offer on-site and virtual learning opportunities for producers of horticultural crops, Virginia Cooperative Extension agents, and the general public
* Provide in-service training opportunities in fruit production for Cooperative Extension agents in Virginia and regionally every 5 years

**Strategic Priority 3**

**Ensure Institutional Excellence in Research and Extension**

ASPIRATIONAL VISION

The AHS Jr AREC will, through continuous strategic planning informed by stakeholder input, create an environment of learning, discovery, and innovation that will support the excellence of its faculty, students, and staff, and thereby of the unit.

GOALS

* Ensure Research and Extension programs at the AHS Jr AREC align with the needs of our primary stakeholders in the Commonwealth and beyond, and with the priorities and goals of CALS.
* Continually enhance the AHS Jr. AREC infrastructure and human capital to nurture robust, inter-disciplinary research and extension programs
* Continually revise extension programs to provide coordinated, timely, and relevant information to horticultural crop stakeholders.
* Develop and foster mutually beneficial relationships with external stakeholders
* Develop and foster mutually beneficial collaborations with colleagues at Virginia Tech and other institutions in the USA and abroad
* Develop and launch an adaptive and inclusive process for continuous strategic planning
* Develop a sustainable financial model to meet the human and physical aspirations of the AHS Jr AREC

MILESTONES

* Survey industry stakeholders to determine research and extension needs and assess research impacts, every 2 – 3 years or more often with new faculty hires
* Renovate laboratories to establish shared bench space and equipment to capitalize on major equipment purchases and accommodate a new faculty hires in 2021 and 2022.
* Seek additional faculty lines within the next 5 years (e.g., post-doctoral research associates)
* Explore practical means of expanding small fruit research at the AREC in concert with small fruit program at Hampton Roads AREC. Possible joint funding of a research associate based at the AHS Jr. AREC, but co-mentored by faculty at both ARECs. Explore industry support for small fruit as well as vegetable field trials using the same model.
* Seek financial means to upgrade the field and lab equipment at the AREC to meet current and future needs via communication with CALS and others
* Solicit industry stakeholder donations/contributions to critical equipment/machinery needs for applied research programs that benefit such industry sectors (e.g., farm tractors for vineyard spraying)
* Collaborate with VCE agents to develop educational meetings and materials that foster learning experiences for our stakeholders
* Develop a 3-year strategic facilities plan identifying programmatic space needs for renovation, major maintenance, major equipment, and new construction at the AHS Jr AREC
* By 2021, develop a process for annually updating the college on progress and accomplishments related to the goals and milestones of the AHS Jr. AREC strategic plan