Teaser

As one of two land grants universities in the state of Virginia, Virginia State University (VSU) holds a heavy responsibility to the Commonwealth to support its growing aquaculture industry. After 30 successful years as a program, the team thought it was time to reassess the program to make sure it was meeting the needs of its community. With the addition of Dr. Nicholas Romero to round out the team, Chris Mullins and James Hill got to work on blueprinting their vision for the future.

VSU works closely with the Virginia Cooperative Extension (VCE) who often get questions from citizens about various aspects of the aquaculture, but lately there have been an influx of questions surrounding pond management and indoor culture systems. Coincidentally, Dr. Romero has extensive knowledge and experience with indoor systems and was already in the planning stages of upgrading some features of the university's farm, Randolph Farm, to both experiment and aid in the creation of educational material to answer the curiosity of the public.

Pond management and indoor culture systems are not the only plans slated for the extension and expansion of the program. Bioflac technology and the use of black soldier fly larvae are also focal points for the team that they believe, with additional educational resources, can change the landscape of aquaculture in Virginia.

Virginia's Aquaculture Scene Growing with VSU at the Helm

Virginia State University (VSU) is one of two land grant universities in the state of Virginia with a focal point for aquaculture research in concert with the Virginia Cooperative Extension outreach (VCE). With a hatchery and over 50 research and instruction ponds all located on the university's Randolph Farm, the 30 year-old program is looking towards the future of aquaculture.

Spearheaded by Chris Mullins and James Hill, VSU's Aquaculture program has hopes of expanding beyond traditional facets of aquaculture with a focus on reassessing the program to include the entire lifecycle of aquaculture—from farm management to production management onto business development.

Although still in the assessment phase, Mullins and Hill do have a solid starter vision of how they want to go about expanding and extending the program, and that came with the addition of Dr. Nicholas Romero. Stepping in for retired Aquaculture Specialist, Dr. Brian Neary, Dr. Romero has been teaching and researching various types of sustainable aquaculture practices for over 15 years, including pond and indoor culture—the latter being part of VSU's new expanded aquaculture vision.

Through constant communication with VCE, the team has found that most farmers in the area have an increased interest in farm pond management and indoor aquaculture systems, and to

keep up with the foreseen demand, they want to make sure they support VCE and the public by providing as much information and education as possible.

“We’re supporting small limited resource producers. Typically, underserved growers are out here in the state of Virginia,” Mullins explains. “We look at systems…that might be more applicable to the small grower. Like a DIY type hydroponic system or aquaponics system, maybe indoors, or maybe how to put cages together in an inexpensive manner. We have a focus area on smaller producers and growers here at VSU. That’s what makes us unique.”

According to Romero, the aquaculture industry is relatively smaller in the US, with small-scale entrepreneurs being eclipsed by larger industries, but there are a few ways to combat this growing disadvantage—biofloc technology.

Biofloc technology is a process where an organic carbon source is added to water, i.e. sugar. The waste that is excreted from the organisms in that water is transformed into nutritional biomass that can also be consumed by those same organisms be it fish, shrimp, or the like. The end result? No water exchanges, which means that anyone with reliable electricity and the necessary education and equipment can produce and provide high quality, fresh product to any dealer of their choosing.

Another avenue is black soldier fly larvae farming. In this process, two products are created from unwanted, organic waste—the larvae and frass that can be used as an organic fertilizer.

“[Black fly larvae farming] provides many opportunities for small scale farmers, such as obtaining carbon credits to take away organic waste from certain industries and then to transform this waste into two value added products (larvae and the frass),” Dr. Romero explains. He goes on to say, ”Biofloc technology is not well known to farmers because it’s relatively new, so I’m developing a fact sheet to provide to stakeholders at [a future] workshop. Moreover, I have created a draft of a fact sheet on black soldier fly larvae farming and plan on creating more educational literature for the public.”

With the growing demand and interest for indoor aquaculture, the education aspect of this industry is crucial for the community and VSU, with the help of the VCE, is stepping up to meet that need with new partnerships, ideas of new workshops, and much more.

“Recently, I became involved with the Sustainable Urban Agriculture Certificate Program in which I will provide internship opportunities and will be teaching and providing demonstrations next year. I will also provide a workshop on pond management and biofloc technology for stakeholders in the summer and fall.” Dr. Romero boasts.

Mullins adds, “We work with growers, from an education standpoint, to figure out what they need to do [for specific environment and setup] and how they can move forward, but we can also put them in touch with potential financial resources, when they become available.”

Planning has only just begun for this program, but the team has so much more it wants to include in its future plans. Romero, for one, is ecstatic to lend his talents to such an ambitious project. He says, “I am extremely excited to join the VSU-VCE team to help build an innovative aquaculture program in order to serve existing farmers but also to provide economically feasible opportunities for others to enter the industry. We will offer a range of trainings that will focus on cost-effective and sustainable systems for farmers to produce high quality and marketable products. We will also conduct applied research to help solve problems the farmers face as well as to develop ways to optimize production and resource management. I am confident that the aquaculture program at VSU-VCE will become nationally recognized as one of the leading institutions and look forward to seeing the aquaculture industry in Virginia grow.”

When asked what else the public needed to know about the efforts being made within the program, Mullins had this to say: “I would like them to know that when you think about aquaculture in Virginia…Virginia State is moving in a great direction. We’re putting the infrastructure and Human Resources in place to really be a great resource for citizens of the Commonwealth of Virginia.”