

Mesa CC Urban Agribusiness Program Awarded EPA Education Grant *Partnership formed with RighTrac, Inc. and Roosevelt School District*

Edited by AZI Staff

MESA - The Urban Horticulture and Agribusiness program at Mesa Community College (MCC), in partnership with the Roosevelt School District and RighTrac, Inc., recently received a two-year \$108,000 Environmental Protection Agency Environmental Education grant to establish a Center for Urban Agriculture (CUA). The Center will serve as a hub for the development and dissemination of educational programs focused on sustainable agriculture and community enhancement.

One new course to arise from this program is Aquaponics AGS166. "Aquaponics is an advanced method of aquaculture where fish provide nutrients to grow plants which in turn filter water to sustain fish," said Peter Conden, Director of MCC's Urban Horticulture Program. "This course is our petri dish. Whatever comes out of this we will propagate."

The Roosevelt School District will be the first to benefit from the outputs of the grant. Using its greenhouse classroom and gardens MCC, along with RighTrac, Inc., will develop an aquaponics-based STEM (science, technology, engineering and math) curriculum for K-8 students and train educators and volunteers to deliver the new curriculum.

"This cutting-edge technology, this potent form of STEM education, is an exciting way to bring math and science into our classrooms," said Lawrence Robinson, Roosevelt School District Governing Board Member. More than 1,000 Roosevelt District students will benefit from hands-on learning from on-site aquaponic systems made possible through subgrants to four of the District's schools."

Project partner and aquacultural/STEM education specialists, RighTrac, Inc., will facilitate monthly community education workshops at Brooks Community



George B. Brooks, Jr. (left) and James T. Hicks, founded RighTrac Inc., a Phoenix based aquaponic-consulting firm that will facilitate monthly community education workshops at Brooks Community School throughout the duration of the two year grant.

School throughout the duration of the grant. "We're glad to have the opportunity to share our knowledge and experience of this fairly new concept with our community," stated James Hicks, CEO, RighTrac, Inc.

The grant also provides funds to develop a Sustainable Agriculture degree program at MCC. "We are grateful to the EPA for the infusion of funds to develop new curriculum and raise awareness of the importance of ecosystem stewardship, civic responsibility and early STEM education," said Bob Bonura, Chair of MCC's Applied Sciences & Technology Department.

The Urban Horticulture program at MCC prepares students for a variety of careers as technicians, supervisors, managers, or owners in wholesale or retail nurseries, landscape design and construction operations, or landscape management companies. In addition, the program prepares students for careers with local, state, and federal government agencies involved with the technical phases of the Urban Horticulture industry. The program, a member of the American Community Garden Association (ACGA),

operates MCC Farmer's Market in conjunction with the *Mesa Legend* newspaper and the Mesa Community College American Marketing Association clubs, and the MCC Garden Project.

George Brooks and James Hicks are moving urban Arizona towards a more sustainable, energy efficient food production future through the growth of aquaponics.

At the same time, they see aquaponics as a tool for STEM education and as a way to lift families out of poverty.

"The best way of looking at it was not how to be sustainable, but what problems we can solve through sustainability," says Brooks. "How can we use these great tools that we have to solve contemporary problems?"

"We partnered with a middle school where we do field aquaculture and in-class aquaponics as a way of teaching children science, technology, engineering, and math," says Brooks. "It's amazing how much science you can learn from growing a tomato or growing a tilapia."

One group of students that implemented Brooks' aquaponics teaching system won the local and state science fairs, then ranked fourth at an international science fair, ultimately earning scholarships for college.

Brooks has examined the City of Phoenix's sustainability capabilities and believes that aquaponics presents an opportunity for this desert urban heat island to cool down and become a leader in sustainable farming.

"We see that urban agriculture is part of the opportunity to reverse the heat island effect," explains Brooks. "When you add more green space, things cool down. We are hoping that aquaponics will be part of that fix."

RighTrac Inc.'s research has shown over 76 species or varieties of food can be produced in Phoenix using aquaponics.

"It's not a panacea, but it can be part of that fix as far as individual families using this methodology that we're working on to improve the amount of food they produce at a lower cost that it would take to go buy it at the store," says Brooks. "We can help them to reduce the cost of living and improve their quality of life."

STORY AND PHOTOS COURTESY MESA COMMUNITY COLLEGE AND RIGHTRAC, INC.



The 13,000 square foot greenhouse at the Rev. Dr. G. Benjamin Brooks Sr. Community School, part of the Roosevelt School District.