Hard work earns VNLA Award for Saunders Bros.

By JANE W. GRAHAM

Saunders Brothers Inc. of Piney River, Va., won the 2013 Virginia Nursery and Landscape Association Environmental Stewardship Award for its work in water conservation. The road to winning award was a long, continuous one filled with plenty of hard work and meticulous scientific investigation.

The award was presented at the VNLA meeting held in conjunction with the MANTS show earlier this year. The operation’s water conservation efforts made it possible to cut water usage by more than 50 percent. The business was begun in 1915 by five brothers and continues today under the leadership of third generation brothers, Tom, Bennett, Jim and Robert. With their dad, Paul, the four operate the wholesale nursery, orchard and farm market. The wholesale nursery operation now consists of approximately 75 acres of container production and 75 acres of field production.

The company ships more than 1,000 products to garden centers, landscapers and re-wholesalers throughout the Mid-Atlantic region. The 125-acre orchard provides fresh fruit for the farm market as well as other wholesale and retail markets.

Tom Saunders, nursery manager, said in a telephone conversation that the water conservation project has been under way for two years and his family’s business is committed to three more years of weather system research.

“Saunders Brothers started doing Evapotranspiration-based irrigation during the summer of 2011,” Tom Thompson, VNLA environmental affairs director, explained in a written description of the project. “The goal of ET-based irrigation is to determine the amount of water lost from a containerized plant during one day and to replace exactly that amount through irrigation.”

Base numbers for irrigation were determined through testing that was coordinated by two University of Florida’s researchers, Tom Yeager and Jeff Million, Thompson reported.

A Virginia Tech student, working as a summer intern, collected ET data from a range of plants to establish the base figures for irrigation.

“Using these figures as a guideline, irrigation in 2012 was monitored using Leachate Fraction (LF) testing,” Saunders said. “Leachate Fraction is the ratio of the excess water lost out the bottom of a container during an irrigation cycle to the total irrigation applied.”

Testing also was done on Electrical Conductivity (EC) values to make sure fertility levels were in the desired range.

“Keeping leachate fractions at a low level meant keeping nutrients in the media and not leaching them out,” according to Saunders. “LF goals were established for plants during the growing season and monitored on a regular basis. Formulas allowed irrigation times to be adjusted to meet desired LF goals.”

The Saunders’ testing in 2011 showed them that equal or better quality plants could be grown using less water and less fertilizer. It was determined that fertility levels could be dropped on some crops from 30 to 40 percent.

The family reports that in 2012 when local rainfall levels were 25 percent below average, overall water use dropped by more than 50 percent when compared to the previous five-year average.

Thompson reported that starting in the fall of 2012; Saunders Brothers installed its first wireless irrigation controllers on a third of the nursery.

“Designed by Fralo Control Systems, irrigation run times are entered on PC’s and wirelessly transmitted to irrigation control panels,” he said. “Sensors monitor pump pressure and flow to maximize the efficiency of the irrigation system. Through the new system, crops can be grouped based on their individual needs to water at any time of the night or day.”

Saunders continued, “Part of the wireless system in 2013 will be controlled by a computer program that automatically adjusts irrigation amounts dependent upon crop stage, container size, plant spacing and daily weather data from a weather station on-site. Continued trialing of plants using lower rates of fertilizer will take place.”

By the fall of 2013 the company intends to irrigate all of its woody plants using the wireless system while continuing to monitor the LF of the crops. LF testing will expand in 2013 to include herbaceous crops as well.