With farmland becoming more scarce, giving way to residential housing and urban development, scientists are looking at ways to make farming more efficient. One of the methods which actually dates back to the 1920â€™s, but is becoming more popular these days is hydroponics and aeroponics. It is a method of greenhouse farming which doesnâ€™t use soil and uses very little water, comparatively speaking. At Scissortail Farms, 8451 W. 51st St. in West Tulsa, they grow more than 40 varieties of lettuces, leafy greens and herbs, using a technologically advanced farming method known as aeroponics. Aeroponics is a growing method by which plants are grown in a tightly controlled environment without soil and with very little water required. These methods eliminate the use of traditional fertilizers such as animal manure, which has been identified as a source of E. coli and other diseases. In addition, the water is tightly controlled and monitored to provide the best and most essential nutrients to the plants in the safest and most efficient manner. â€œWith this foot print, we need one-tenth of the land to grow to grow ten times as much in the same type of space,â€• said Rob Walenta, Chief Operating Officer. The controlled environment of the greenhouse protects plants from outside elements such as adverse weather conditions and insects, helping to greatly minimize the need for pesticides and herbicides. Only organic pesticides and herbicides are used when needed. As a result, the produce is fresh, safe, nutritious and available throughout the year. Business partners Walenta and John Sulton opened the farm three months ago. They sell wholesale to several restaurants and Reasorâ€™s Foods and retail to individuals who make their purchase at the farm. The high school friends graduated from Cascia Hall and after college decided to go into business together. Theyâ€™ve been doing research and laying the groundwork for the project since 2010. They purchased the seven and a half acre farmland a little more than a year ago. The greenhouse is 28,000 square feet and they have an adjoining metal building that is approximately 10,000 square feet. Walenta explained the growing process this way. â€œWe get water from the Sapulpa Rural Water District. It

is cleaned and monitored on their end and we run it through a carbon filter to remove the chlorine,â€• he said. â€œFrom that point, we add in the nutrients which come in a two-part mixture and then we add them together and store them in gravity tanks. From here, we can determine which section of the green house to send it to. If we want to vary the strength or pH level, whatever we want to do. Then, this runs through the irrigation lines in the greenhouse.â€• The name Scissortail Farms is in honor of the state bird and was their way of paying homage to the state. Currently, they have 12 employees and expect to need more in the not too distant future. Between the lights and CO2 generators, the greenhouse stays at basically the same temperature year-round. Neither Walenta nor Sulton have backgrounds in farming. One graduated from the University of Kansas with a degree in construction science and the other graduated from the University of Oklahoma with degrees in mechanical engineering and business. They say the idea for the farm came from a friend of a friend who knew of someone doing this same type of farming overseas. â€œFrom there, we just kept getting information,â€• Sulton said. They continued doing research on the farming capabilities at Walt Disney Worldâ€™s Epcot Center, Living with the Land attraction. Scientists at the park are leading the world in research in sustainable living methods. More than the idea of becoming farmers, Walenta and Sulton say they were looking for a business that would benefit everyone involved with it. â€œIt made sense to us and it was something that could grow with us,â€• Sulton said. For a year and a half, they grew crops in a smaller version of the system on a back porch, giving them time to see what worked well in the system. â€œWeâ€™ve had quite a bit to learn and we are still learning as we go,â€• Walenta said. From seeds, each plant is started in rock wool, which is spun volcanic ash. It is an inert medium that allows the roots to start growing with space to grow. â€œWe start with

rock wool and the seeds and apply a nutrient solution,â€• Sulton said. â€œAfter a few days they start growing. Having the controlled environment is huge. Weâ€™ve had a blade of grass or two pop up in the summer, but otherwise no weeds.â€•

Sulton and Walenta plan to expand by adding two additional greenhouses growing flowering plants, tomatoes and peppers. Yield time from seeds to harvest depend upon the plants. From the time the greens are picked, they can be at the restaurant or store within 24 hours. Also with this type of growing, the farmers can easily change crops depending on demand. â€œFrom every angle we looked at, it seemed to be a better deal for everyone involved,â€• Walenta said. â€œI think people are more aware now more than ever of where their food is coming from. What processes has it been through? How old is it?â€• These are important questions as to food safety. â€œInstead of being some faceless company in Mexico or the Southwest, you know where it is coming from,â€• Sulton said. â€œWe track everything from the whole system and know who touched it. Food safety is easily tracked. The food is produced in a much cleaner process.â€• Though they wonâ€™t say what they paid in startup costs, they did admit it was rather pricey. However, they say they hope to be profitable by next year. Â«