

### **Investigation of Cumin as a New Oklahoma Specialty Spice Crop - \$97,183.00**

Scientists at Oklahoma State University will assess the potential for production of cumin (*Cuminum cyminum* L.) as a new spice crop in Oklahoma. Various aspects of production and handling to be addressed include germplasm performance, crop establishment, nutrient and water requirements, integrated pest management strategies, and harvesting and handling technologies. Crop yield, seed quality and spice potency will be documented to objectively measure quality and estimate a fair market value for this new Oklahoma crop.

### **Evaluation of Ground Covers upon Soil Health and Young Pecan Tree Performance - \$49,710.00**

The Choctaw Nation of Oklahoma will conduct cover crop research and evaluate its effect upon soil health and tree performance in a non-producing pecan orchard located in Garvin, Oklahoma and a young, producing pecan orchard located at the Noble Foundation in Ardmore, Oklahoma. Five cover crop treatments will be established and replicated three times for a total of 15 sample blocks at each site. Initial recordings of tree trunk diameter and soil samples will be collected at the center of each block to establish a baseline for research. Cover crops will be planted between November and December of 2016, and if necessary, reseeded the following year. Soil and leaf samples will be collected each July, and tree shoot and trunk growth will be assessed during dormancy. Additionally, soil moisture will be measured through ground sensors to determine which cover crops provide the least amount of orchard floor water competition.

### **Food Safety Modernization Act Training and Technical Support for Oklahoma Agricultural Producers - \$50,310.00**

Oklahoma State University's goal is to build a collaborative infrastructure in Oklahoma to support Food Safety Modernization Act (FSMA) training and technical assistance as it relates to the produce industry. The project team will lead, manage and coordinate programs to provide training, education and technical assistance to owners and operators of small and medium-sized farms, beginning farmers and socially disadvantaged farmers. In addition to the Oklahoma State University project team, established partnerships with stakeholder groups will be leveraged to maximize training effectiveness and delivery opportunities.

### **Whole-chain traceability to improve food safety: melons - \$82,777.00**

Oklahoma State University will improve food safety in melon supply chains by making whole-chain traceability accessible for small- and mid-size producers, combined with intensive food safety training programs for food handlers. Whole-chain traceability systems provide a vital key for timely withdrawal of product from the market after a problem is discovered. Recently developed traceability technology that overcomes obstacles to adoption and also provides value-added opportunities will be adapted for melons, and a pilot system will be deployed in Oklahoma melon supply chains. Because most foodborne illness outbreaks involve mistakes by people, combining rapid recall traceability with intensive food safety and traceability training can greatly enhance food safety as well as value-added opportunities for producers.

### **Zoysiagrass Sod Promotes Sustainability of Shaded Landscapes and Creates Novel Markets for Producers - \$59,267.00**

Oklahoma State University researchers in the Dept. of Horticulture and LA will develop best management practices for zoysiagrass management and sod production in Oklahoma for promotion of drought tolerant alternatives to tall fescue in shaded landscapes. Stakeholder discussion groups will be utilized to identify hurdles to adoption of zoysiagrasses in regards to production and consumer preference.

### **Identifying Risk of Damage and Depredation of Pecans by Feral Swine - \$45,000.00**

Oklahoma State University and The Samuel Roberts Noble Foundation will partner to identify and prioritize areas in pecan orchards that are likely to receive damage from feral swine (*Sus scrofa*). In addition to assessing damage, potential for depredation of pecans or loss of pecans during harvest, because of damage from feral swine, will be studied. Global positioning system technology and geographic information systems (GIS) will be used to assess where (spatial) and when (temporal) feral swine use pecan orchards. Risk maps will be developed to identify the likelihood of the species' use of the orchards. From these risk maps, areas can be prioritized for management intervention to reduce depredation or damage. The loss of pecans during harvest will be quantified as a result of feral swine rooting activity, which can result if harvesting equipment is less efficient at collecting pecans in damaged areas.

### **Evaluation of Strawberry Production in Oklahoma Utilizing Plasticulture - \$10,730.21**

The Oklahoma Department of Agriculture will set up 1/10 acre test plots on ten (10) farms across the state to determine varieties of strawberries that flourish on plastic in Oklahoma soils and growing conditions. The trial will demonstrate how to prepare the field, utilize cover crops and look at 5 different varieties of strawberries (Flavorfest, Florida Strawberry Festival, Stella, Carmine and Chandler) to ascertain how they will thrive in Oklahoma's unique growing conditions.

### **U-Pick Education Booklet - \$35,743.00**

The Oklahoma Agritourism program will undertake a project to help producers educate consumers about proper u-pick practices, food safety and handling, nutrition value and value-added possibilities of specialty crops. These goals will be accomplished by creating and distributing an interactive booklet targeting consumers and creating the awareness of these educational opportunities. This booklet will encourage adult and child interaction by educating on access of the crops, production, preparation of value added products and perseverance of the specialty crops for future use.

