Integrated Cucurbit crop scheduling and pest and pollinator management - $36,708.00

Oklahoma Cooperative Extension will develop cucurbit crop production scheduling methods and techniques that integrate insect pest and pollinator management, information that will be disseminated to the public through field demonstrations, grower outreach events and through County Extension Centers.

Evaluation of Pecan Root Systems to Increase Performance and Profitability of Pecans - $65,000.00

The Samuel Roberts Noble Foundation will conduct research on pecan trees to gain a better understanding of root development. We will examine different strategies of modifying pecan tree root system development to improve tree growth and performance. With the interest in planting new trees and the cost of investment establishing pecan trees there is a desire to improve the growth and performance of young trees to increase early production. Therefore, decreasing the number of years it takes to pay off the investment of establishment. Research has been conducted to look at different methods of planting trees and pruning methods that can increase tree growth, along with fertilization and irrigation regimens. However, the evaluation of the root systems of pecan trees are very limited and little is known about root development and methods to modify root systems of pecan trees to increase performance.

Improving Pepper Establishment and Production Systems - $55,000.00

Oklahoma State University will examine the potential of direct seeding for establishing commercial pepper crops for the state of Oklahoma and improving weed management strategies for this crop group. This will include investigations into seeding rates and timing for both non-pungent and pungent peppers, soil improvements through cover cropping, and managing weedy species that compete with these crops.

Evaluation and Production Potential for Elderberry as a Potential Native Economic Crop in Eastern Oklahoma - $40,000.00

The Kerr Center for Sustainable Agriculture will evaluate Elderberries as a potential crop for Oklahoma producers. Elderberries are a native, perennial specialty crop with great potential in Oklahoma. Most of the elderberry market demand in the United States is met with European produced fruit. There is a need for additional small fruit crops among small scale and new farmers who currently rely on annual vegetable crops. We will evaluate a number of different Elderberry varieties to determine yields, survivability, ease of management as well as potential market economics. Investigations and demonstrations will be conducted at the Kerr Center's Cannon Horticulture Farm.

Evaluation of fruits, vegetables, Herbs, and Ornamentals in Hydroponic Systems for Local Fresh Market Production - $73,000.00

Research at Oklahoma State University will look at alternative use of greenhouse space to produce high value fruits, vegetables, herbs, and cut flowers using hydroponic technology and match these systems to appropriate postharvest handling technologies to support local market production. As interest in local year round fresh market crops continues to increase, other alternative crops need to be investigated and improved upon to allow growers to diversify and expand into new markets. Hydroponics improves yields and nutritional quality with less inputs compared to field production and growing in the greenhouse allows growers to avoid Oklahoma's unpredictable weather. This research will evaluate at least two cultivars of 10 different fruits, vegetables, herbs, or cut flower crops including blackberries, blueberries, strawberries, raspberry, celery, lettuce, collards, cilantro, oregano, and ornamental grass. For commonly grown crops, objective testing procedures will be established to determine quality characteristics.

Development of Cold Hardy Bermudagrasses for Specialty Sod Production in Oklahoma - $55,000.00

Oklahoma State University will evaluate and select improved experimental bermudagrass (Cynodon spp.) genotypes for adaptability for golf course putting greens and specialty sod production in Oklahoma. There are over 200 golf courses in Oklahoma and the majority of these courses utilize creeping bentgrass (Agrostis stolonifera) for putting greens. Recently, many of these courses have considered switching to bermudagrass putting surfaces. However, Oklahoma's climate frequently experiences freezing winter temperatures which cause devastating winter kill of commercially available bermudagrass putting greens. Therefore, we plan to produce a bermudagrass that will withstand freezing temperatures in Oklahoma. The bermudagrass genotype must be an excellent sod producer and sprig producer so that Oklahoma sod growers can be profitable. In this project, we plan to evaluate sod quality and sprig harvest characteristics of these genotypes to determine which selection will perform the best for Oklahoma specialty sod and sprig producers. We also plan to evaluate the aesthetic quality parameters and utility ratings at demonstration sites on golf courses across Oklahoma, under intensive golf course putting green management practices.

Development of shade tolerant turf-type Bermudagrasses - $30,000.00

Oklahoma State University researchers will develop new turf-type bermudagrasses having improved shade tolerance through traditional plant breeding and recurrent selection methods. Potentially shade tolerant African bermudagrass plants will be selected after two years under heavy shade. These plants will be used for interspecific hybrid crosses and continued selection for enhanced shade tolerance. .

Electronic Diagnostic Nucleic acid Analysis (EDNA) for accurate detection and discrimination of rose viruses - $53,000.00

Oklahoma State University will conduct research to mitigate the spreading of viruses infecting roses by developing a method that combines Next Generation Sequencing and bioinformatics for screening all viruses infecting roses at once in a single rose sample. This technology is required for implementing virus-free propagation of roses from virus-free plant stocks. Communication and transferring of results to rose-ornamentals nursery stakeholders will be through workshops and plant diagnostic clinics. The validation, development and implementation of this technology will make the rose industry more competitive by offering long lasting rose products currently affected by mix infections of rose viruses.

Oklahoma Farmers' Market Annual Conference - $30,000.00

The University of Oklahoma Health Sciences Center on behalf of the Oklahoma Nutrition Information and Education Project (ONIE) will organize, implement, and evaluate an annual Oklahoma Farmers' Market Conference in 2018. The conference will provide education and outreach opportunities to specialty crop growers, farmers' market managers, community supporters, and Agritourism sites from across the state. The conference will offer presentations on a variety of topics including marketing and social media, accepting SNAP and Senior Farmers' Market Nutrition Program (SFMNP) benefits, growing season planning, how to establish or expand a farmers' market, comply with health regulations, build stronger collaborative networks among specialty crop producers, and improve local economies. The conference will offer a comprehensive approach to the marketing of specialty crops. Each conference topic directly supports the enhancement of the retail sale of specialty crops in Oklahoma. Overall, the conference will improve specialty crop retail sales, expand the number and quality of access points to purchase specialty crops, and improve the local economy throughout the state.

U-Pick Education Website Integration - $16,791.26

The Oklahoma Agritourism program will undertake a project to help producers educate consumers about proper u-pick practices, food safety and handling, nutritional value and value-added possibilities of specialty crops. These goals will be accomplished by adding web content to the program's existing site and social media components that include picking tips, handling and storing guidelines, nutrition facts and recipes. This project will also provide producers with tools to inform consumers about the existence of the web content.

Specialty Cropopoly Junior Board game - $32,000.00

Oklahoma Ag in the Classroom will create a "Specialty Cropopoly Junior Board Game" for students in prekindergarten-third grade to educate them about specialty crops grown in Oklahoma (fruits, vegetables, and pecans) and the nutritional benefits to eating these foods.