tunnel culture utilizes unheated, greenhouse-like structures to protect plants from cold weather. This system lengthens the growing season by three to four weeks in the fall, and allows farmers to increase profits by extending their presence in the marketplace.

This demonstration uses the unheated tunnel structure with seven varieties of summer squash that are grown organically. The varieties are:

- **Tigress** - regular green zucchini type; very common in Asian cuisine.
- **Cash flow** - regular green zucchini type; very common in Asian cuisine.
- **Zephyr** - characteristically yellow, green-tip straight neck; easy recognition; harvested young for unusually nutty taste and firm texture.
- **Magda** - also has a sweet, nutty flavor; pale green and tapered; usually picked small and used for stuffing, stir-frying and pickling; high yielding over a long season.
- **Sunray** - a yellow hybrid; excellent yield potential; resistant to powdery mildew, which is one of the most common diseases of squash.
- **Gentry** - a new variety specifically bred for the southeastern United States.
- **Multipik yellow straight** - has rich, yellow fruits with a medium bulb; high yield potential and long harvest period.

**Integrating Natural Poultry and Vegetable Production**

This fall demonstration focuses on integrating natural poultry and vegetable production on a non-chemical plot of land. Collards, cabbage, turnips and mustard greens have been planted on raised beds, using drip irrigation. Commercial broiler varieties were used to fertilize the plot area, a method allowing farmers to save money on fertilizer costs.
Fall Vegetable Demonstrations/Tours

Fall Vegetables Intercropped with Paulownia Trees

Now that Paulownia trees have been introduced to the United States and other parts of the western hemisphere, their marketability continues to expand. Their production and use as ornamentals and for shade are making them popular options for gardeners and landscapers. But because it takes eight to 10 years for the trees to mature, we will demonstrate ways of intercropping vegetables so that farmers can make short-term investments as they wait for the trees to grow. Cabbage and collards grow compatibly with Paulownia. This demonstration will also explore the difference between planting Paulownia trees organically and conventionally.

N.C. A&T and Johnny's Selected Seed Field Trials

A&T has cooperated this fall with Johnny’s Selected Seeds of Albion, Maine, in field trials of cool-season vegetables. Johnny’s is a seed company that makes every effort to provide vegetable cultivars that are productive and profitable for small-scale growers, no matter what part of the country the farms are located in and no matter the environmental conditions they experience. This demonstration focuses on varieties and species with the potential to increase sales at tailgate markets, roadside stands and other direct-marketing opportunities. Growers who are transitioning from field crops and tobacco are encouraged to maximize their profitability by extending their production cycles and to seize direct marketing opportunities. Several cool-season species with new varieties, include Asian greens, brussels sprouts, cauliflower, broccoli and lettuce. These crops are being grown organically. The organic fertilizers used in these plots include cover crops (~80 lb N/acre), feather meal (12:0-0), Sul-Po-Mag (0-16-0), fish meal (5-1-1), and seaweed extract (0-0-6). Unfortunately, our soil in this organically certified field has a very low P-index (<15), so we are adding rock phosphate (0-2-0) every year to build the soil concentration of this nutrient.

Season Extended Tomato Field Trial

Tomatoes can be planted in July and harvested in September until frost. Having tomatoes for sale in the fall, when spring-planted tomatoes have played out and supply in the marketplace is limited, is a recipe for increasing sales and making money. Typically, though, extreme summer heat and humidity, along with insects and disease, limit production of spring-planted tomatoes to June, July, and August. A sequential planting strategy is only somewhat effective in extending harvest beyond the summer production window because of the fruiting characteristics of tomatoes and their relationship to temperature. However, there are tomato varieties that are heat tolerant. These cultivars will continue to set fruit despite of extreme summer temperatures. Planting heat-tolerant cultivars in July for fall harvest provides an opportunity to bring tomatoes to market when few other local growers have tomatoes available for sale.

This demonstration compares organic production practices to conventional ones, on the heat set tomato cultivars: Florida 47R, Sunsation, Talladega, Phoenix, BHN 665, Sunbeam, Sebring and BHN 189.

Season Extended Summer Squash

Growers are increasingly using season extension techniques to produce vegetables when they would not normally be available. High

Presenters
Dr. Keith Baldwin, extension specialist, horticulture; DeShon Cromartie, extension associate; Rick Holmes, extension associate; Anthony Hooks, poultry unit manager; Dr. Willie Willis, associate professor of animal science