

Special Article for Salisbury Post-Tunnel Strawberry

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Andy Myers called me a week ago and wanted me to come look at the strawberries at the Research Station. I immediately thought about field grown berries with excessive growth due to the unseasonably warm weather. When I arrived I found beautiful red jewels of strawberries growing in tunnel houses. Dr. Jim Ballington, horticultural professor and researcher from NC State University is experimenting with producing strawberries in tunnel houses at the Piedmont Research Station located on Sherrills Ford Road. Dr. Ballington, along with other researchers at NC State University will be experimenting with strawberry, blackberry, raspberry and tomato production in tunnel houses at the Station.

A production method developed in Europe, tunnel houses are sort of modified greenhouses without heat. Crops are planted directly into the earth just as they would be outdoors, or sometimes in containers. The current strawberry crop was planted in soil on plastic mulch with drip irrigation providing necessary nutrients and moisture.

During extremely cold weather experienced a few weeks ago, strawberries were also protected with row covers inside the tunnels. A row cover is a blanket of spun fabric that insulates and protects the plant. Temperatures dipped to 14 degrees inside the experimental tunnel house, but row covers kept the plants, flowers and fruit safe at 31 degrees without any significant damage.

Dr. Ballington is working with several different varieties of strawberries to determine which ones do well in our soils and climate. The plants were planted on September 19, 2006 with harvest beginning approximately two months after planting. He has already determined that this planting date was too late because significant ripe fruit production did not occur until mid December. The plastic covering over the tunnel will be removed at the end of January and row covers placed over the plants to harden them off and force them into dormancy. The plastic covering will be put back in place over the tunnel in early March to induce the plants to produce a second crop from early April through May.

Strawberries harvested in December and January were attractive and large with very good flavor. The advantages of tunnel houses other than extension of the growing season are crops are much easier to grow because of the controlled

environment. Excessive rain, hail, high winds, along with many diseases and insects are eliminated or minimized under this controlled environment.

Production of strawberries in tunnels has revived the strawberry industry in England in recent years. In addition, essentially all 10,000 hectares of strawberries grown in Spain are produced in tunnels. Strawberries are not the only crop grown under plastic tunnels in other parts of the world, and to some extent in the US. Tomatoes and other vegetables have been grown successfully under tunnel houses. Tunnel houses may be the future for some vegetable crops, especially for organic production. These structures eliminate dew and excessive moisture lessening the incidence of fungal disease producing better crops with little or no pesticide sprays.

At this moment, tunnel houses show promise, however they are not a panacea for commercial growers. Economically viable yield thresholds, optimum planting dates and types of planting stocks, optimum nutrient requirements, variety adaptation, optimum and appropriate methods of pest and disease management, and marketing are factors that must be considered, as well as the cost and maintenance of the structure. Tunnel houses are expensive and may not be practical for some growers. However, Dr. Ballington and others are excited and see promise with this new idea. More research is scheduled for years into the future at the Station. A few Rowan County growers are toying with the idea of utilizing tunnel houses this spring. Let's hope for a crop of local strawberries to go with our poinsettias for the 2007 Christmas Holidays.

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