

Potential for high tunnel blackberry, and raspberry production for season extension.

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High tunnel production can enhance the sustainability of organic farming and local food systems by 1) increasing farm productivity and potential for profits by extending the harvest of high value crops, 2) modifying environmental conditions and increasing fruit quality, 3) reducing pest pressure and the need for pesticide application, and 4) reducing crop loss due to inclement weather. In the southern U.S., the traditional blackberry production season is limited to a few weeks and raspberry production is limited by high temperatures. The University of Arkansas conducted a study to overcome these limitations and develop management practices and economic analyses using high tunnels to extend the harvest season for organic blackberry and raspberry production. The study consisted of three experiments; 1) advancing summer production of traditional floricanes blackberries and raspberries, 2) primocane, autumn-fruiting blackberries and raspberries, and 3) a double-cropping system of late-autumn and spring production of primocane blackberries and raspberries.

High tunnels were shown to advance spring floricanes production and increase yield, produce larger berries and had a higher percentage of marketable fruit, especially in years of heavy or persistent rain and late season frosts.

For autumnal, primocane production, high tunnels extended the autumn harvest season 4 to 6 weeks beyond field production, however not all cultivars performed well in tunnels.

In the double cropping system, blackberries and raspberries both produced a significant floricanes yield with smaller autumn primocane yield. Average berry size of both spring and autumn tunnel crops were larger than corresponding field crops.

Results from these studies indicated that cultivar selection has a significant influence on adaptability to HT systems; Tunnels may be further modified to advance and/or extend the season even more; Pests must be managed differently in HT compared to FD. Future high tunnel research at UA will address these issues to maximize the opportunity for season extension as well as investigate the potential for other fruit crops under high tunnel production in the South such as strawberries, blueberries, cherries and peaches.