

An overview of high tunnel research and outreach in central Mississippi.

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The Mississippi State University Truck Crops Branch at Crystal Springs now has seven high tunnels, four managed with IPM-based non-organic practices, and three certified as USDA Organic. The team has four areas of research focus: techniques for twelve month production in high tunnels, cover crops in tunnels, soil amendment and organic fertilizer studies, and crop and cultivar selection studies. We are testing various row covers inside tunnels for their ability to protect warm season crops from cold damage. We are using the tunnel's relative winter warmth to grow short-term winter cover crops preceding spring vegetables. We intend to show that we can improve soil health without compromising profitability by minimizing the time the tunnels are not producing cash crops. Our amendment and fertilizer studies are aimed at maximizing the efficiency of locally-available inputs in vegetable and cut flower systems. We are testing pre-plant rates based on soil testing and regional recommendation, combined with frequent side dressings to furnish additional nutrients as the crops grow. Among the many crops tested, we have shown very high productivity of certain Asian greens including pac choi, red and green leaf lettuces, collards, eggplant, some cucurbits, and zinnias for cut flowers. We have been disappointed in the productivity and potential profitability of strawberries, yard long beans, amaranth for leaves, and some cucurbits. Demand of information from our work and about high tunnels in general is quite high in the state. Our team hosted a high tunnel workshop in March 2010 that was one of the largest commercial horticulture field days in the state in the last ten years.