

Public Abstract**First Name:Robert****Middle Name:Andrew****Last Name:Read****Adviser's First Name:David****Adviser's Last Name:Trinklein****Co-Adviser's First Name:Christopher****Co-Adviser's Last Name:Starbuck****Graduation Term:WS 2007****Department:Horticulture****Degree:MS****Title:Effects of Plastic Mulch, Row Cover, and Cultivar Selection on Growth of Tomatoes (*Lycopersicon esculentum* Mill) in High Tunnels**

Tomato plants (*Lycopersicon esculentum* Mill.) were grown to: 1) evaluate their early season yield characteristics when grown using different mulch types with and without row cover; and 2) evaluate yield potential among different cultivars when grown in high tunnels. Row covers did not significantly increase total, or US number 1 yield of high tunnel tomatoes. Clear plastic mulch significantly increases early yield of grade 1 fruit over all other treatments. Total early yields from BHN 543, and Merced were significantly greater than all other cultivars. Due to early fruit ripening characteristics, BHN 543 could fit into a double cropping system for growers wanting to replant their high tunnels with a fall crop. Full season yield of grade 1 and 2 fruit combined was significantly greater for Merced than any other cultivar. The heirloom tomato cultivar Brandywine produced significantly less early total and grade 1 fruit per plant than Merced or BHN 543.