

Tart Cherry Over The Row Harvest

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Oxley Farms and NWMHRC

On Tuesday, July 14 we harvested tart cherries planted in a High Density block (6 X 19 feet) near Marcellus, south of Lawton. Oxley Farms established this orchard of 20 acres in spring 2011 interplanted with trees established in 2008 (33%). We will tested the use of 2 harvesters with one being used to harvest our treatment plots associated with limiting canopy vigor. Harvest began at 10:30 and was completed at 1 PM for 250 trees.

Since 2012, Oxley Farms have cooperated with us in a project to study horticultural approaches to restricting and maintaining a compact canopy, small enough to allow a berry harvester to successfully remove fruit. Oxley Farms allowed us to establish treatments in two rows amounting to over 300 trees. The company purchased a used Korvan 9000, Twin-Tower Rotating-Tine harvester (Oxbo 9000) in 2012 with intent to harvest the planting. We successfully harvested fruit from the planting in 2013. The crop was severely reduced due to spring frosts in 2014. We used the machine to harvest the two rows of trees in 2014. We were successful in developing a protocol for harvesting each group of trees with the machine within treatment parameters while retaining treatment integrity.



Figure. 1. Korvan 9000 Oxley Farms harvester on the left and the Littau ORXL on the left.

On July 2014 we harvested our treatment plot of trees planted in 2008 and interplants in 2011. Oxley Farms allowed us to apply canopy vigor reducing treatments in 250 trees. Treatments included Control, Winter Hedge, Summer Hedge (45 days post bloom), Root Prune, Drop Crotch (lowered height of trees), and Selective Recycle of strong branches . A Littau ORXL (2013 model) harvester was used to berry harvest the fruit (www.littauhvester.com/products.php). Pull force for this fruit averaged between 650-750 grams. Even with a high pull force, fruit removal was close to 99% for all trees with minimal numbers of fruit dropping between the catch pan.

Yield 2015 Oxley Farms

We collected fruit as demonstrated in Figure 2, with treatments averaging 12 lbs per tree in the highest treatment (Summer Hedge) and 3.7 lbs for the lowest (Winter Hedge).

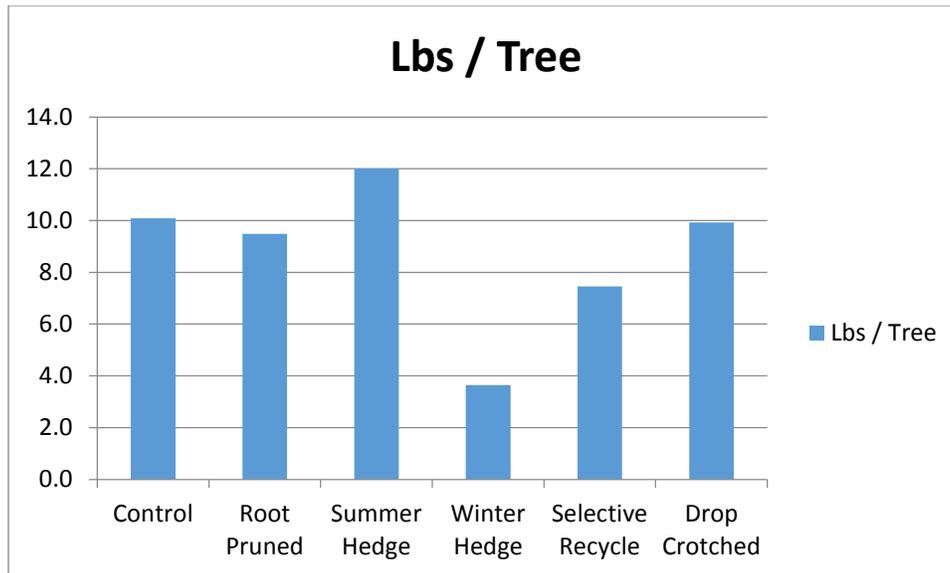


Figure. 2 Average yield 2015 in HD Oxley Farms Orchard

If we extrapolate the data to a per acre yield planted at 725 trees / acre (5 X 12 ft), we can potentially see cropping at over the state average for a mature orchard (Fig. 3).

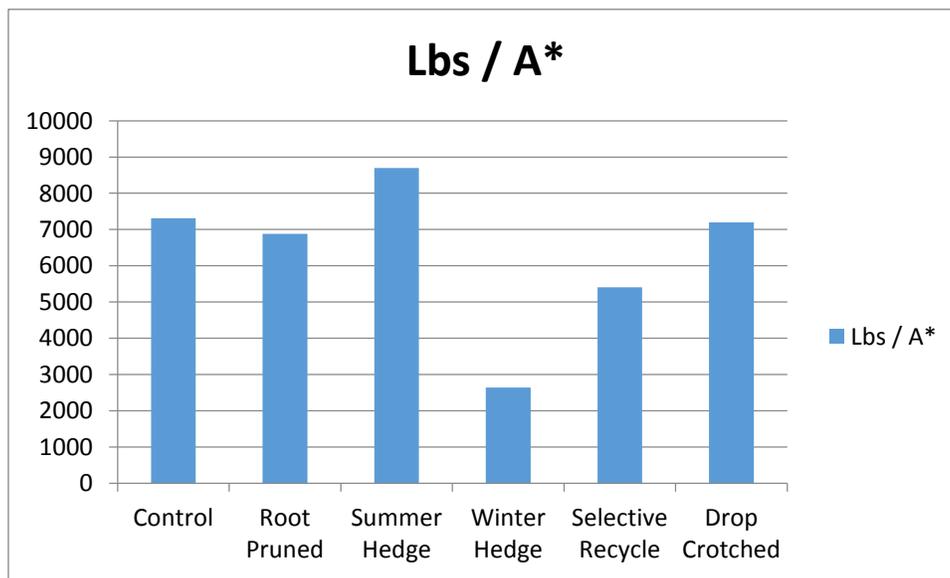


Figure 3. Extrapolated yield per acre 2015.

Thanks to The Michigan Cherry Producers, Michigan State Horticultural Society, Michigan Tree Fruit Commission and International Tree Fruit Association for funding this study.

NWMHRC.... July 29, 2015. Treatments include 5 tart cherry varieties including Montmorency, with canopy vigor control treatments, Control, Winter Hedge, Summer Hedge (45 d PB) & Root Prune (Blm). Mont, Carmine Jewel, Crimson Passion, MSU selection 27 12 (2) and Nana. Yield in 2014 for Montmorency, 18.7 pounds per tree (control) and 12 lbs for summer Hedge. Team members on this project include Dan Guyer, Nikki Rothwell, Amy Iezzoni, Greg Lang and Jim Flore. Thanks to Luis Hull for assistant in collecting data and operating Littau Harvester.