High tunnel increase berry yields in a cool climate

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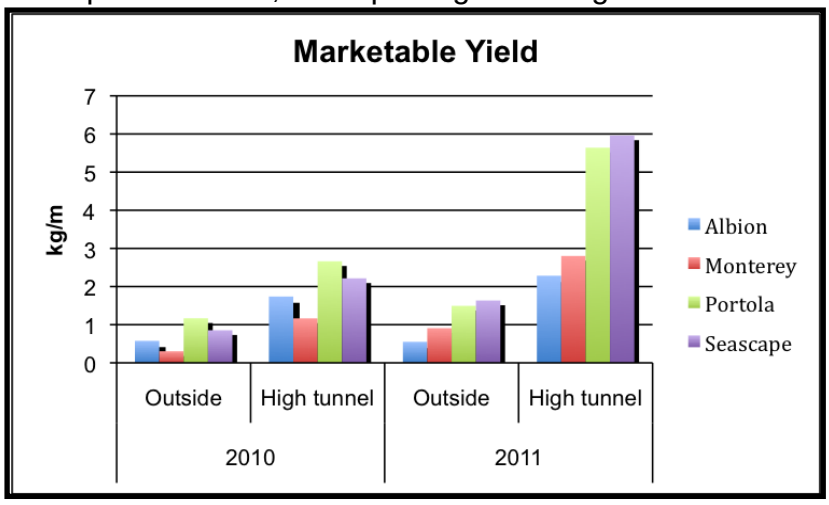
High tunnels are greenhouse-like structures that modify the climate on a field scale. There are many types of high tunnels used around the world to extend the growing season, and increase soil and air temperatures enhancing the production of some vegetable and fruit crops. These structures are low-cost versions of a greenhouse using the sun to provide heat and passive ventilation for cooling.

A 3-bay high tunnel was installed at the New Liskeard Agricultural Research Station with funding from the Agricultural Research Institute of Ontario and the NOHFC Public Sector Emerging Technology Program. The 26 x 30 m structure was erected over a planting of dayneutral strawberries and fall-bearing raspberries in August 2010.

One of the trials already established when the high tunnel was covered compared four dayneutral strawberry cultivars. Harvesting began in early July of 2010. Even though the high tunnel was not covered until mid-August that year, marketable yields were two to four times greater in the high tunnel. This was due to a longer harvest season and fewer unmarketable berries in the high tunnel. Picking outside ended in early October with lots of un-marketable berries due to repeated frosts, while picking in the high tunnel continued until October 26th with no supplemental heat.



This trial was also harvested in 2011 with picking starting in mid-June in the high tunnel and a week later outside. Marketable yields in the high tunnel were three to four times that outside. Picking continued throughout the summer ending in late September in the field and in the third week of October in the high tunnel.

We have seen similar results with fall-bearing raspberries in the high tunnel in New Liskeard. With raspberries one of the benefits of a high tunnel or other protective structures is protection from rainfall which improves berry quality. Yields and berry size of three fall-bearing cultivars were significantly increased in

the high tunnel compared to outside and the percent marketable increased from 67 to 85%.

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