

Study shows potential for sweetpotato production in Pacific Northwest

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Sweetpotato, a warm-season root crop grown across the world, needs heat and humidity to flourish. In the United States, commercial sweetpotato production occurs predominantly in the southeastern states and California, while production farther north is limited. Recently, Oregon State University researchers discovered cultural practices that could help to increase sweetpotato production in the semiarid Pacific Northwest.

According to the authors of a study published in *HortScience*, growing requirements for sweetpotato crops in California closely match the weather conditions in the Treasure Valley of eastern Oregon and southwestern Idaho, where the growing season is characterized by high evapotranspiration and low precipitation. "Growing conditions suggest that there are more than 120 days of favorable weather for sweetpotato growth in the Treasure Valley," they noted. "Newly developed commercial sweetpotato cultivars will produce mature roots in 80-90 days, suggesting that sweetpotato transplanted in late May or early June could produce mature roots for harvest by the end of September or early October, around the time of the first killing frost in the region."

In experiments at Oregon State University's Malheur Experiment Station, the scientists subjected four sweetpotato cultivars (Covington, Beauregard, Diane, and Evangeline) to four soil water tension (SWT) regimes using an automated irrigation system. They then evaluated each variety for the percentage of early groundcover, number of [vines](#) per hill, vine length, and yield.

Results showed that total applied water decreased with an increase in the targeted soil water tension. "In general, sweetpotato yield decreased with the increase in SWT, with the highest yield attained at the lowest SWT tested," the authors explained.

Other outcomes showed that average vine length increased with the decrease in SWT criteria during both years of the study. Yield was determined to be influenced by cultivars and varied among irrigation criteria and years. Cultivars varied in the average number of vines per hill, with Covington having the fewest (6 vines per hill); Beauregard and Evangeline averaged 10 vines and Diane averaged 11 vines per hill.

The researchers said the experiment suggests that sweetpotato could be grown in eastern Oregon and would be capable of producing yields comparable to those obtained in California. They noted that yearly weather variations could delay transplanting and early harvest could be necessary to avoid frost damage.

More information: The complete study and abstract are available on the ASHS HortScience electronic journal web site:
hortsci.ashspublications.org/content/50/7/1011.abstract

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