

Irrigation Management Practices for Better Root and Fruit Rot Control in Red Raspberry

David R. Bryla, Diane Kaufmann, and Bernadine C. Strik

Project Summary

Root and fruit rots are major disease problems for red raspberry production in Oregon. Plants infected by root rot lack vigor and often collapse and die in warmer weather. The disease is most prevalent in poorly drained areas or in heavy soils, though the problem is not limited to such conditions. Fruit rot leads to serious reductions in crop yield, especially under wet canopy conditions. The objective of the proposed research is to develop irrigation management practices that reduce root and fruit rot in red raspberry. A two-part study was initiated in April 2005 consisting of nearly 2-acres of red raspberry cultivars planted on raised beds. In one part, we are examining the effects of irrigation by overhead sprinklers and subsurface drip on root and fruit rot in 'Meeker' and 'Coho'. Water is applied at optimum, excessive, or inadequate amounts to determine the consequences of over- or under-irrigating the crop. In the second part, we are evaluating various drip configurations on incidence and spread of root rot in six cultivars including 'Meeker', 'Cascade Delight', 'Cowichan', 'Tulameen', 'Caroline', and 'Heritage'. Thus far, no evidence of root rot was found in any treatment during the first year after planting. Plant growth was also comparable among irrigation treatments within cultivars. Yield and fruit quality measurements will begin in 2006 (year 2) and continue for at least 2 years. Results will identify irrigation strategies to help control root and fruit disease in red raspberry.