



Survey of Plant Diseases and Pests in Utah Raspberries

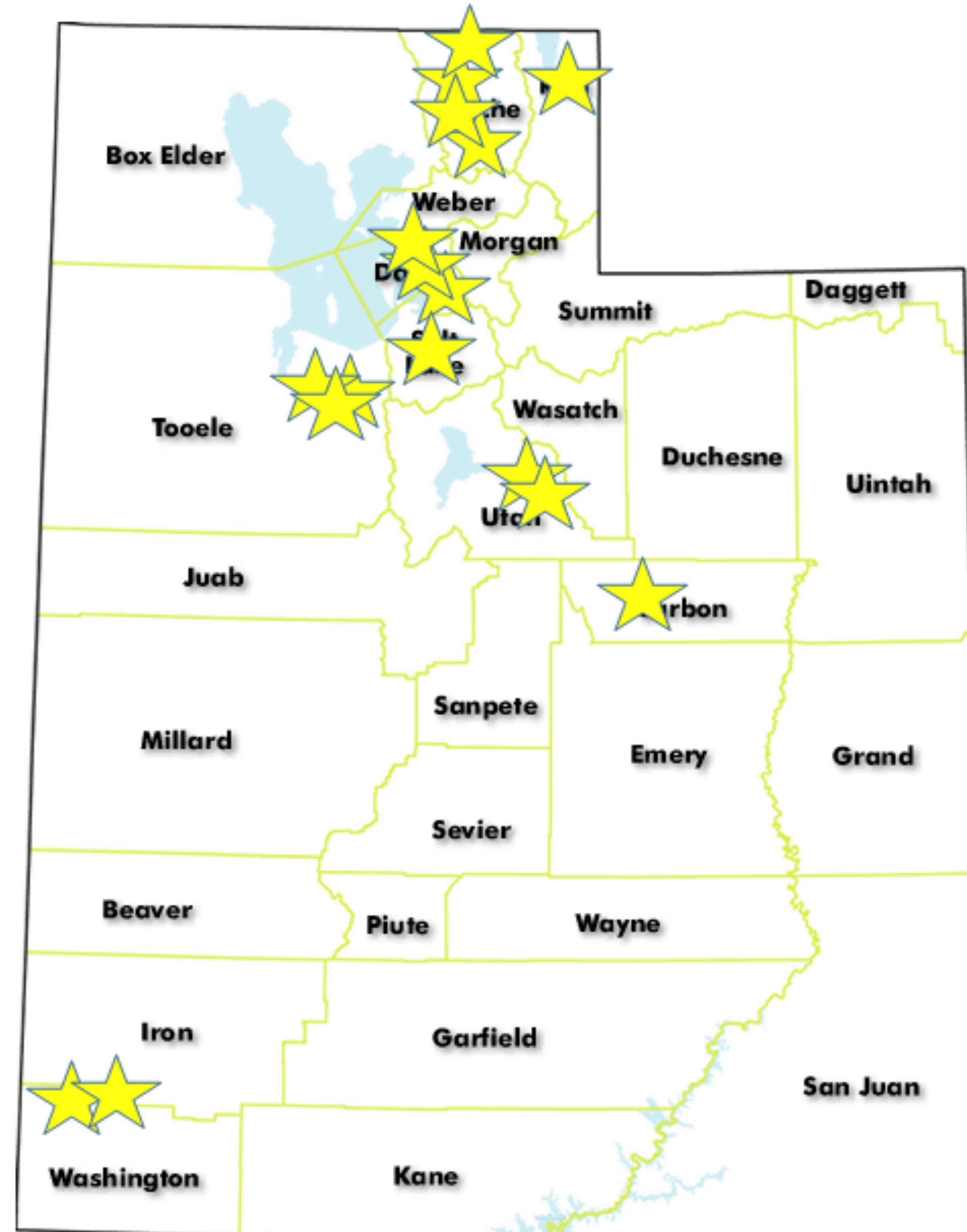
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I. Introduction

Very little information exists on pathogens and pests that affect Utah raspberry production. In fact a survey of Utah raspberry growers at the 2015 USU Urban and Small Farms conference showed that 72% said the largest problem they had was with diseases and pests, and 71% of those did not know what the diseases actually were. Several viruses, bacteria, pests, and nutrient deficiencies can have a large influence on raspberry yield. This survey was designed to raise awareness among Utah raspberry growers, help them to better prepare for, and manage these possible disease problems. This will be increasingly more important as time goes on because raspberry production in Utah is consistently growing.



From: <http://www.davis.k12.ut.us/Page/68720>



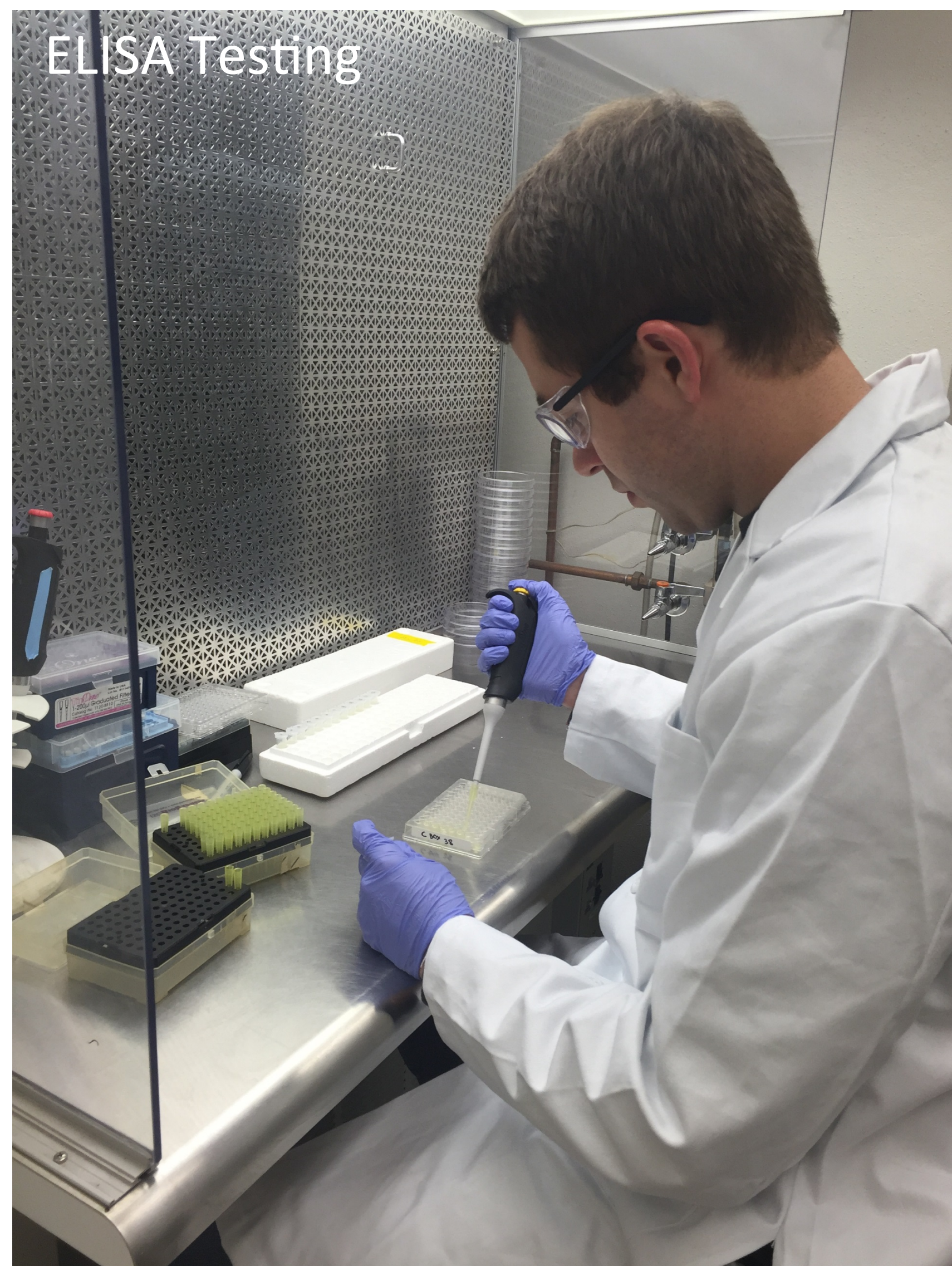
Raspberry Horntail

Whitney Cranshaw, CSU



Iron or Manganese Deficiency

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ELISA Testing

III. Results and Discussion

RBDV was found in 76% of the fields visited. This pollen spread virus makes the fruit very crumbly. Unfortunately there is not much you can do about it. Once the plant has it, it will stay there. The plant will need to be replaced. Dagger nematodes (*Xiphinema americanum*) which transmit the TRSV, were present in 24% of the fields. Crown borer, spider mites and horntail were each observed in 53% of the fields. Different insecticides can be used to prevent their damage. Nutrient analysis revealed that the most common nutrient deficiency in raspberries in Utah was manganese. Also frequent was a deficiency in zinc, phosphorus, and potassium. High levels of nitrogen and iron were also found.

IV. Conclusions

This information is important to Utah raspberry growers and can be used by our farmers to improve and maximize their raspberry production. The results have already aided the fields surveyed in allowing them to add nutrients to the soil where needed, protect against certain pests and remove plants where needed in order to prevent future virus outbreak.



Raspberry Crown Borer

<http://www2.ca.uky.edu/entomology/entfacts/ef226.asp>



Normal Fruit Crumbly Fruit

<http://www.berriesnw.com/DisordersDetail.asp?id=73>

II. Materials and Methods

Seventeen fields were surveyed. Ten randomly selected leaves from each sampled raspberry field were tested for Raspberry Bushy Dwarf Virus (RBDV) and Tomato Ringspot Virus (TRSV) using Enzyme-linked Immunosorbent Assay (ELISA). Soil sampling from each of the fields was conducted to find plant parasitic nematodes. Raspberry plants were inspected for crown borer, horntail, spider mites, and other insects. Leaf tissue from each field was also tested for nutrient deficiencies.



RBDV Symptoms

Oregon State University Extension

V. References

Ellis, M.A, R.H Converse, R.N Williams, and B. Williamson. *Compendium of Raspberry and Blackberry Diseases and Insects*. St. Paul, MA: APS, 1991. Print.

