

Vineyard Pest Management News

An OSU Newsletter about Vineyard Arthropods

Oregon State University Extension Service

Oregon State UNIVERSITY Extension Service

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Vaughn Walton, Horticultural Entomologist; Amy J. Dreves, Extension Entomologist, Patty Skinkis Extension Viticulturist and Mike Reitmajer, Research Assistant

Vaughn Walton
Department of Horticulture
4127 ALS
Oregon State University
Corvallis 97330
Oregon

e-mail: waltonv@hort.oregonstate.edu

URL: <http://hort.oregonstate.edu/faculty-staff/walton>

Tel. 541 737 3485

Fax. 541 737 3464



Act now: Manage mite associated Short Shoot Syndrome (SSS)

This time of the year is extremely important for vineyard growers who have had previous bouts with SSS. Find a full description and pictures of SSS at: <http://extension.oregonstate.edu/catalog/pdf/em/em8944-e.pdf>

Many growers are currently pruning providing an ideal time to collect shoots from areas in your vineyard to see if buds and other vine tissue have eriophyid mites infestations. Research over the past two years at OSU has found a link between SSS and eriophyid mite infestations.

Data during 2007 showed that treatments during the woolly bud stage have resulted in decreased SSS symptoms. We encourage growers who have had SSS during previous seasons to take shoot samples now, while the vines are dormant, determine infestation and plan for action during the woolly bud stage this spring

How to take vineyard samples

Bud and rust mites are microscopic. Infestations can be verified by sampling during the late dormant period during pruning. Recommendations regarding control options can be made only after infestations have been verified. Collect samples from previously affected vineyards as described below. Sampling areas can be between 1 and 4 acres.

1. Collect one basal section of a shoot from each of 40 evenly spaced vines in the affected vineyard area, Figs 1 & 2. Discard the distal section..
2. Place shoots inside clearly marked plastic bags (Fig. 3). Be sure to include the following details: date, cultivar, year planted, location in field, contact name and address, and other pertinent information that might help researchers understand the problem.
3. Refrigerate samples and keep out of direct sunlight. You can hold samples for as long as 2 weeks before submitting them for analysis.

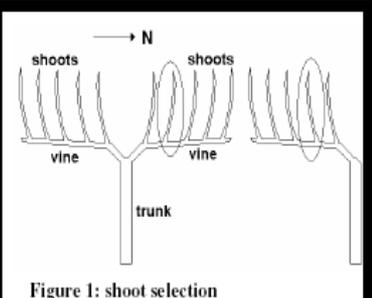


Figure 1: shoot selection

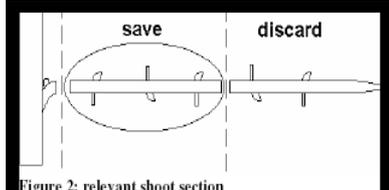


Figure 2: relevant shoot section

Fig. 3. Ideal shoot sample size to be analyzed for bud mite infestation.



Send samples to the address above

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If you plan to do it yourself:

If you decide to do the bud analysis yourself you would need:

1. A dissecting microscope (50-100 magnification).
2. A set of fine tweezers and
3. Sharp scalpel blade

Bud selection: For each shoot to be examined, choose the lowest bud (i.e., was closest to the vine) that is intact, well-developed, not missing the outermost scale, and living (Fig. 4a). Note: dead buds separate easily from the shoot and appear brown in cross section. Disregard buds that appear poorly-developed or that have suffered mechanical damage.

Cutting the bud a) Locate the outermost scale of the bud to be examined - it is delta-shaped, thicker at the base, and usually occurs on the side of the bud (Fig. 4b). Make a cut with a scalpel where indicated by the dotted line and flip the scale over. Examine the underside of the scale for eriophyid mites. Carefully examine the region of hair-like growth that was concealed by the scale (Fig. 4c) for mites. If several mites appear buried in the hair, gently move it aside with a the tweezer. Sometimes a second cut (Fig. 4d) is needed to find mites at the base of the outer bud scale. Eriophyids are microscopically small, see Fig. 5 for a size reference

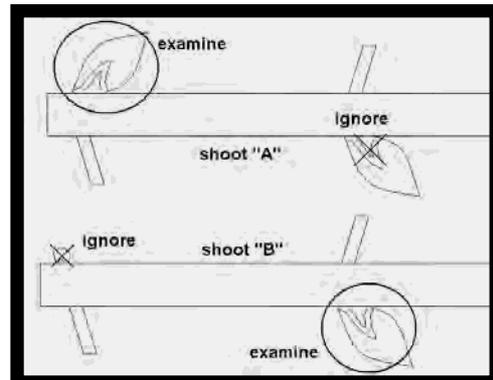


Fig. 4a

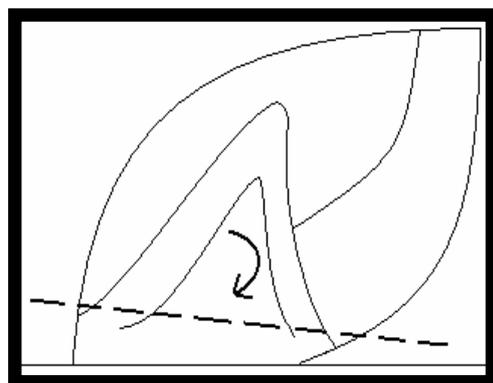


Fig. 4b

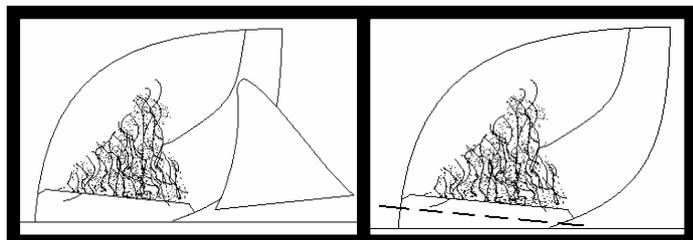


Fig. 4c

Fig. 4d

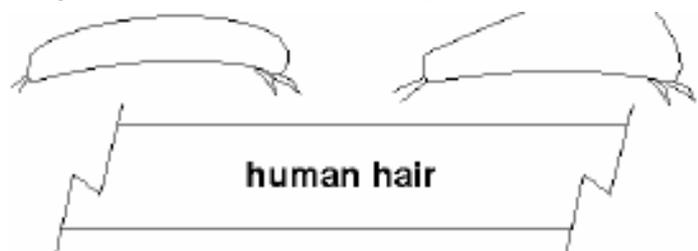


Fig. 5 Size reference

Making a decision:

There are currently no action thresholds. However work during the past two seasons have shown that low levels of mite infestation do result in crop damage. Growers are therefore encouraged to act if mites were found during bud analysis, especially if vine or shoot damage has been observed previously.

Online Survey for SSS:

If you have experienced SSS during the past, it will be much appreciated if you would fill out the online web survey to help us focus our research. The survey link can be found at

<http://wine.oregonstate.edu>