

## Haanchen Barley Mealybug



**Common Name:** Haanchen Barley Mealybug

**Scientific Name:** *Trionymus haancheni* McKenzie

The Haanchen barley mealybug (*Trionymus haancheni* McKenzie) has recently been detected in the Northern Plains and Pacific Northwest barley production areas. The mealybug was first detected in northern California as a pest of cv. Haanchen barley in the 1950s. It did not occur in pest populations since that time, until recently in Idaho (2003), Montana (2006) and Alberta (2006). The mealybug outbreak in Idaho in 2003, caused millions of dollars in damage to barley. This insect has been detected in wheat, but its primary damage is to barley.

### Identification (and life cycle/seasonal history)

Mealybugs are named for the waxy secretions that cover the soft bodies of these insects. Pink, oval-shaped females reach a length of 1/5 inch (5 mm). They have well-developed legs and are covered with a distinctive white, waxy secretion. Egg masses are laid in a sac under a leaf sheath at the base of the plant and covered with cottony wax. Idaho studies have found that a single female can lay up to 256 eggs (J. Alvarez, University of Idaho). Both immatures and females damage crops. Although winged males form, they are rarely detected and do not appear to feed or damage plants. The number of generations is not known, but all stages have been found coexisting on infested plants. After hatching, the immature crawlers disperse to protected feeding sites under the leaf sheath. Crawlers molt into successive instars, each resembling small adults, becoming less mobile with each instar. All insect stages can be found protected by the plant; on upper portions of the root system, in the crown of the plant, under leaf sheaths or near the base of tillers. Later in the season, mealybugs can be found under leaf sheaths on the upper portions of the plant. The Haanchen mealybug is apparently able to survive winter where it is protected by soil and plant material.

### Plant Response and Damage

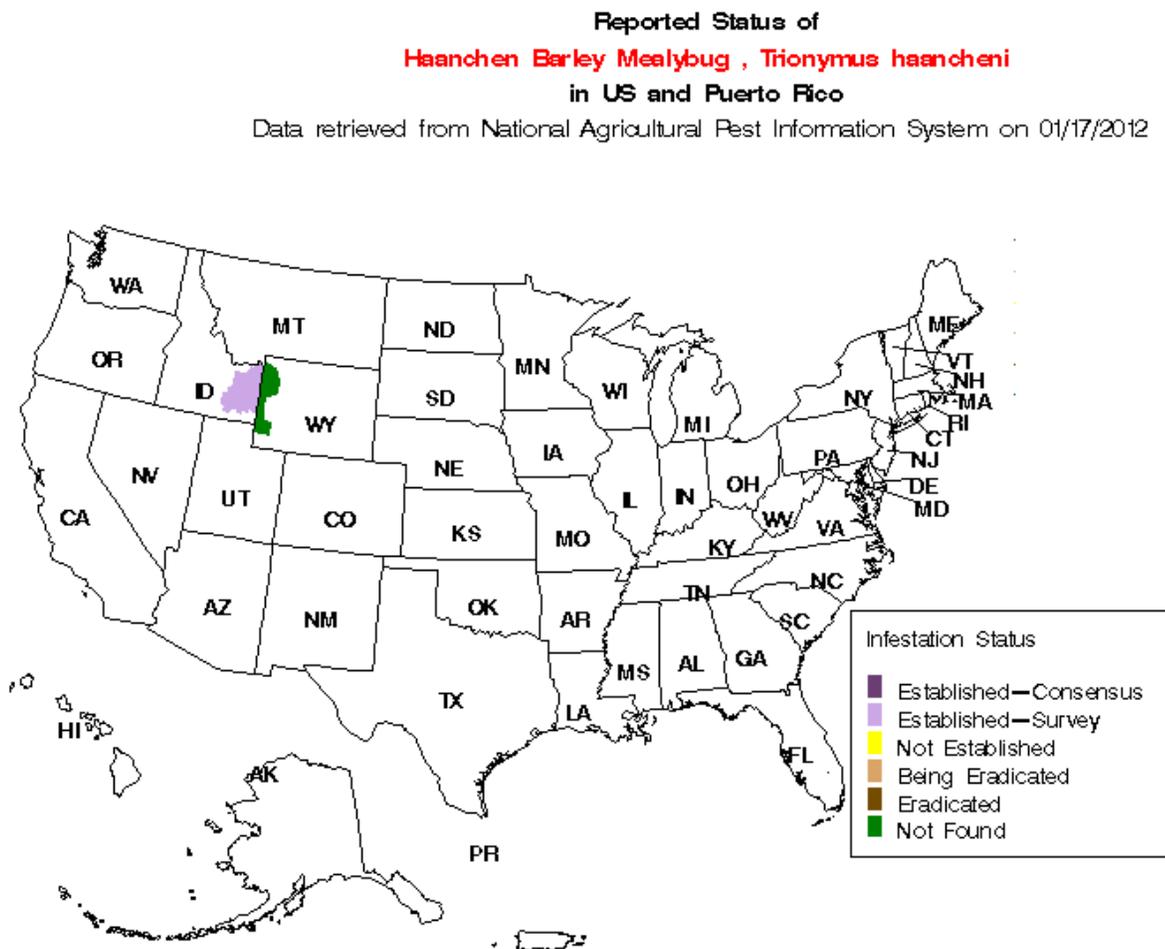
In general, mealybug infestations cause yellowing of the foliage, reduced vigor and root damage. Early signs of Haanchen mealybug infestation include cottony-like wax secretions at the plant base, often accompanied by extensive honeydew deposits and black sooty mold. Abundant, sticky honeydew can cause plugging of the combine at harvest and was the first sign of mealybug infestation when detected in Idaho (2003) and California (1950).

Both nymphs and adults have piercing/sucking mouthparts, damaging the plant by removing the plant's sap. The plant stress and damage caused by the removal of plant sap has been observed to be more severe under dryland conditions when moisture is limiting. Observational studies in the lab with field-collected adult females, showed that 10 mealybugs per plant caused leaf-yellowing symptoms within a week (J. Alvarez, University of Idaho). When high populations of mealybugs are present, extensive root damage to the plants is evident, which may be caused by the injection of toxic saliva during feeding.

## Other Resources

<http://www.plantmanagementnetwork.com/pub/php/management/2004/barley/>

<http://ipm.montana.edu/Training/PMT/2006/Blodget%20-%20HaanchenMealybug.pdf>



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