

Are You Eating My Crops? 7: Small brown planthopper

The small brown planthopper (*Laodelphax striatellus*) is a carrier of several viruses that are detrimental to crops. We have passed the halfway mark and are now looking at the seventh headliner in our 12-month series called 'Are you eating my crops?' Individual pests chosen for this series have not yet been reported in Texas, but are on the 'Watch List' due to their high level of pest importance or risk due to host availability. During this series, we will cover several different crop pests, what to look for, and what they look like.

The small brown planthopper is a major pest to rice, wheat, and corn. Most damage to the host plant is caused by viruses transmitted by the planthopper rather than the pest itself. However, *L. striatellus* nymphs and adults suck the sap from the phloem of the plant. Phloem feeding can cause 'hopperburn', the wilting and yellowing of the plant, or 'sooty mold'. Viruses transmitted by this planthopper includes: rice stripe virus (most common), rice black-streaked dwarf virus, barley yellow striate mosaic virus, maize rough dwarf virus, and northern cereal mosaic virus. General symptoms of infection of viruses include stem and/or leaf discoloration, wilting, stunted growth, and honeydew or sooty mold.

The average life span, number of eggs laid, and number of generations is directly affected by temperature and growing season. On average, the *L. striatellus* lifespan is 18-30 days. In that time, an adult female will lay 70-146 eggs. Adult coloration can range from milky-white to black, but color can vary by season. Adults are most notably identified by the distinct black color of the areas between the carinae of the frons, seen when examining the ventral side of the head (see image to the right). Nymphs undergo four molts, with the development of the fifth instar stage lasting the longest. The nymphal periods can also be affected by temperature. Nymphs are light to dark brown. The fifth instar has extended mesonotal wing pads and dark brown marking on the clypeus, which are distinct from other delphacid species.

Laodelphax striatellus has been intercepted at the U.S. port of entry three times on general cargo. The most likely pathway of entry is on contaminated plant material or by movement of the small brown planthopper specimens in cargo containers. The small brown planthopper is present in numerous countries with a wide variety of climate zones. Corn is commercially grown in every state in the contiguous U.S., wheat in 42 states, and rice in several southern states. Based on climate suitability and host availability, *L. striatellus* would be able to establish in most of the contiguous U.S.

If you have question or concerns regarding the headliners, OR you believe you have identified a small brown planthopper infestation, contact invasives@shsu.edu for further instructions.



Top: Small brown planthopper (*Laodelphax striatellus*) male. Bottom: Ventral view of frons. Credit: Glenn Bellis, Department of Agriculture and Water Resources, Canberra, Australia.



Rice stripe virus. Credit: William M. Brown Jr.