

Reference Guide for Common Insect Associated with Vectors of Viruses and Toxins.

Insect	Appearance	Damage	Action
Green Peach Aphid	<p>Winged adult: tear-drop body shape, bright green with a dark head and thorax, and green abdomen with dark patches. [For true identification, observe head under 10X magnification and look at the shape and length of the converging tubercles or projections at the base of the antennae as viewed from above. Nymph (wingless female adults): tear-drop shape, tenth inch long, (early season) light yellow-green to pink, (later) pink to pale orange, move around and colonize.</p>	<p>Sap is ingested from leaf veins causing a wilt. They are vectors for viruses most notably potato leaf roll virus (PLRV) which is carried persistently from plant to plant. PLRV causes a severe rolling of leaves. Leaves become hard and brittle, and give a rattle sound when shaken. The virus moves to the tuber and causes net necrosis which appears brown during frying.</p>	<p>The aphid usually is not a major problem unless plants with viruses are around. Plant certified seed tubers. Eliminate cull piles. Control volunteer potato. Practice good weed control, especially of nightshades. Rogue infected plants. Avoid fields near Prunus trees. Beneficial insects can predate nymphs. Systemic, broad-spectrum, soil-applied insecticides are effective. Methamidophos is commonly used for late season aphid control. Other foliar material also may be used.</p>
Potato Psyllid	<p>Adult (“jumping plant lice”): not damaging, tiny cicada-like, tenth inch long with wings held roof-like over the body, light green turning black with white markings, usually stripes, bulging eyes, developed legs. Nymph: tiny (pin-head), flat, overlapping scales ringed with tiny hairs, tan turning pale green, excrete a waxy white granule. Nymphs are found in the upper canopy on the underside of leaves; they are quiescent and do not move around.</p>	<p>Nymphs attach to the underside of leaves, sucking sap, injecting a toxin. The toxin drastically reduces or even stops all plant growth from that point. The degree depends on the amount of toxin and the plant’s growth stage. Typical foliar symptoms (psyllid yellow) are stunting, leaf yellowing and leaf roll. Tubers may be smaller, fewer and deformed. Dormancy may not be imposed and hair sprouting occur.</p>	<p>There are many natural predators but their effect on populations is modest. Weather plays the key roll on occurrence of psyllids. Many insecticides will affect potato psyllids. A systemic is best since the nymphs do not move around and reside on the leaf underside. Foliar insecticides may control adults but application timing is critical. Monitor population in more southern states, northerly wind currents, and night coolness.</p>
Leaf Hoppers (Aster & Potato)	<p>Adult: wedge or spindle-shaped bodies, C inch long, bright lime-green to yellow green with white markings, transparent green wings, variable number of white spots on top of head and along thorax. Nymph: similar to adults but smaller and wingless.</p>	<p>Feeding is on the underside of leaflets. Injury starts with a yellowing along leaflet margins with a slight rolling followed by a gradual browning starting at the leaflet’s tip and margin (hopperburn), and extending basipetally until the leaflet is all dead and desiccated. Defoliation will occur. Leafhoppers transmit a phytoplasma causing aster yellow. Symptoms vary and include rosette, leaf roll, and leaf discolor. Aerial tubers may form. Tubers may be affected.</p>	<p>Monitoring and correctly identifying leafhoppers are essential as many do not damage potato. The economic threshold for potato leafhopper is one nymph per 10 leaves. Many insecticides are effective against leafhoppers. They may be applied to seed-pieces, in-furrow, or to foliage.</p>