

Labops, a Plant Bug, on Oregon Rangeland

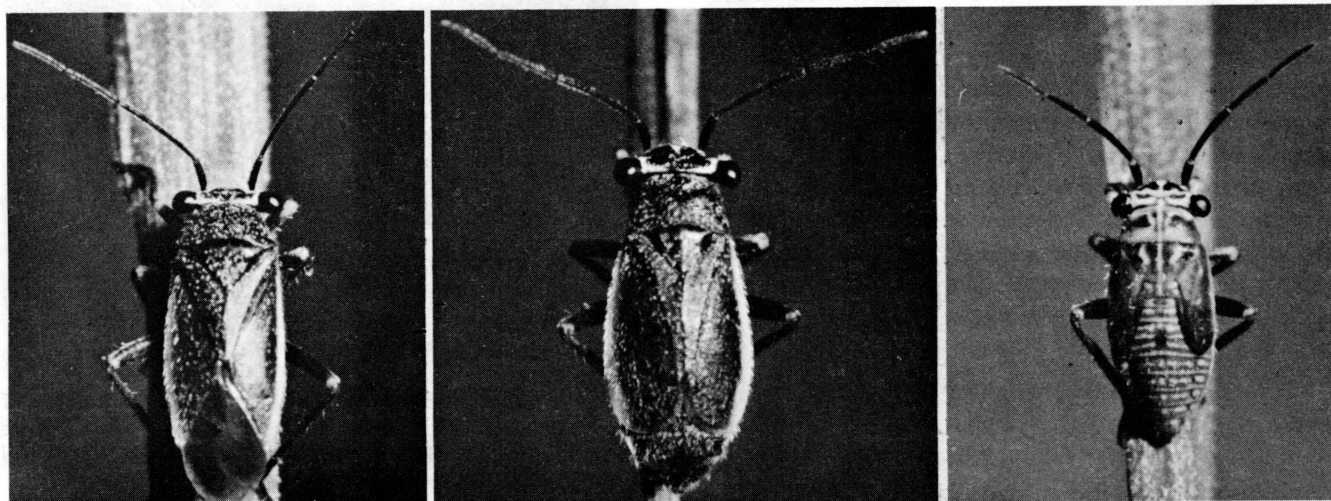
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Dense populations of a plant bug, *Labops hesperius* (referred to as *Labops* since the bug has no common name) are presenting problems on native rangeland seeded with introduced wheatgrasses. In Oregon, *Labops* range from native sagebrush-grass situations of the high desert to mountain parks near the timberline. The bugs are relatively sparse on native vegetation but have been observed feeding on the following grasses: Crested, intermediate, bluebunch, and pubescent wheatgrasses; bulbous, Sandberg, and Kentucky bluegrasses; and quackgrass, California brome, orchardgrass, Idaho fescue, barley, rye, Junegrass,

The impact of feeding injury varies with pasture utilization and annual rainfall. In years of scant rainfall little or no growth occurs after the bugs die. In most situations, forage losses caused by *Labops* do not justify chemical treatments. Tests indicate that grazing as a cultural or management practice can reduce the abundance of preferred straws for egg laying.

Life History

Labops pass the winter as eggs in straws, and the hatching time in spring depends on tempera-



Labops adults are predominantly black, with a white stripe along the outer wing margins. Heads are short but broad, with widely spaced stalk eyes. Males (left) always have long wings that completely cover the abdomen. Females (center) may have either long or short wings that do not reach the tip of the abdomen. Nymphs (right) are immature wingless bugs, light gray with mottled brown and black markings on the legs, head, and the area directly behind the head.

cheatgrass, and Lemmon's needlegrass. This list probably is incomplete, but it indicates that many grasses can satisfy the nutritional requirements of *Labops* in at least the early season. Late maturing grasses are essential, however, for meeting food requirements of adult bugs.

In 1972, at an elevation of 3,200 feet, eggs started hatching March 22. The nymphs started turning into adults April 26. At 4,200 feet, hatching and presence of adults were delayed one week.

Young nymphs remain on the ground beneath straw and litter during the day, then crawl up on



Nymphs and adults suck plant juices from leaves and thereby produce irregular white spots on the foliage. Leaves gradually turn yellow, and then white as a result of abnormal translocation of plant sap.

the leaves and feed primarily at night. Larger nymphs and adults feed during both day and night.

Eggs become fully developed in females and mating starts two weeks after bugs reach adulthood. The majority of eggs were laid the first three weeks of June at both elevations. Eggs must be laid in mature grass stems, so any deposited prior to maturation of the current crop have to be in straws that are one or more years old. Most eggs are laid in the uppermost joint of the stem. None are laid in green stems and very few are laid in stubble. The newly laid eggs have to be exposed to winter temperatures before they will hatch. There is only one generation per year.

Damage

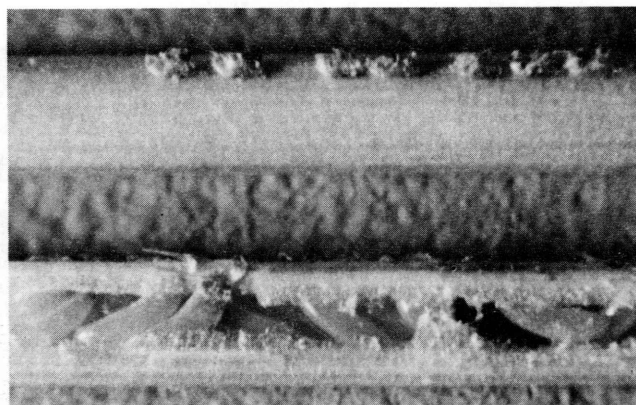
The combined effects of feeding injury on yield, crude protein, cell wall constituents, acid-detergent fiber, and ash content can represent a substantial loss of forage value midway in the growing season. However, after the adults have laid eggs and died, summer rainfall can produce a lush growth of grass and the earlier forage loss can be offset. In 1972 tests, 120 bugs per square foot reduced the nutritive value of intermediate wheatgrass 18 percent midway in the growing season. But by the time the grass matured and dried, the loss decreased to 2 percent when reserved for fall pasture. If rains do not come, though, the damage caused by *Labops* feeding can be substantial, as-

suming utilization as spring pasture. The impact of *Labops* feeding injury on rangeland productivity depends on the time of pasturing and the amount of rainfall. Greatest losses occur during severe summer drought.

Control

Cultural or management practices may be utilized to reduce straws used for egg laying in the following years. As mentioned earlier, *Labops* prefer to lay eggs in the upper portions of stems and very few are laid in stubble or broken straws of wheatgrass. Either grazing or making hay in the spring can be effective in removing preferred stems before maturation of adults.

Rangeland with bulbous or Sandberg bluegrass may hamper an effective management program since they mature during the bug season and are available for egg laying. Fortunately, those grasses are not present in all wheatgrass seedings.



Evidence of deposited eggs can be seen on the outside of the straws as plugs covering the holes where eggs were deposited. Inside the straws are the eggs, white when laid and later turning to light orange-brown.

The practice of rotation grazing, in which a pasture is grazed one year and then rested the next, may increase the bug population since straws suitable for egg laying would be present. Spring grazing not only reduces the supply of food for bugs but is an excellent way to remove straws used later for egg laying.

Chemical

At this time there are no legally registered chemicals for use on *Labops*.