



Animal and Plant Health Inspection Service  
U.S. DEPARTMENT OF AGRICULTURE

## *Heliococcus summervillei* Datasheet



Pasture mealybug with associated reddening of host grass. Photo by Stephen Biles, Texas A&M AgriLife Extension Service. Used with permission.

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## *Heliococcus summervillei*

### Scientific Name

*Heliococcus summervillei* Brookes

### Synonym:

*Novonilacoccus oryzae* Ghosh & Ghose

### Common Name

Pasture mealybug

### Type of Pest

Scale insect

### Taxonomic Position

**Class:** Insecta, **Order:** Hemiptera, **Family:** Pseudococcidae

### Pest Description



**Figure 1.** Mealybugs on grass blades. Photo: Stephen Biles, Texas A&M AgriLife Extension Service. Used with permission.



**Figure 2.** Mealybugs on grass blades. Photo: Stephen Biles, Texas A&M AgriLife Extension Service. Used with permission.



**Figure 3.** Adult female mealybug surrounded by nymphs. Photo: Stephen Biles, Texas A&M AgriLife Extension Service. Used with permission.

### **Nymphs**

- Mealybugs are white and covered with white wax.
- Nymphs are much smaller than females and are found on the leaves and roots of host plants (Aca-Martinez et al., 2025) (**Figures 1 & 2**). Nymphs are as small as 0.2 mm long, and difficult to see without a hand lens (Boschma et al., 2024).

### **Adult females**

- Most visible life stage. Mealybugs are white and covered in white wax with filaments (Aca-Martinez et al., 2025; Baker et al., 2024) (**Figure 3**). They turn pink when mature and mated (Biles et al., 2025).
- Female adults reach 5 mm long and can be seen with the naked eye (Boschma et al., 2024).
- Older mealybugs may have fine hair as long as their body width, extending in all directions (Biles et al., 2025).

### **Adult males**

- Male adults are <1 mm long, winged, and present in the summer (Aca-Martinez et al., 2025), sometimes in swarms. They are difficult to see without a hand lens (Baker et al., 2024; Boschma et al., 2024).

### **Pupal males**

- Only males pupate (Hauxwell, 2022b). Pupae are small, elongate, pink, and found in the crown of the plant (Hauxwell, 2022b).

The pasture mealybug can be found on leaves, under debris or dried cow patties, the soil surface, and roots (Aca-Martinez et al., 2025; Baker et al., 2024; Biles et al., 2025). Both nymphs and adults possess legs and are mobile (Biles et al., 2025).

On sugarcane, pasture mealybug is primarily found on the underside of leaves (Aca-Martinez et al., 2025).

## **Symptoms and Signs**

Infestation by the pasture mealybug results in pasture dieback (Aca-Martinez et al., 2025; Baker et al., 2024). Pasture dieback begins with grass blades becoming discolored, turning purple, red, or yellow depending on grass species (**Figure 4**) (Baker et al., 2024). Next, grass growth is stunted, followed by death (Baker et al., 2024). Affected areas begin as small patches but expand and merge to larger areas (**Figure 5**) (Baker et al., 2024; NSW Government, 2024). Broadleaf species and weeds invade patches (Baker et al., 2024). Symptoms of dieback may stop at a fence line where pasture management or species composition changes (Baker et al., 2024).

On sugarcane, a yellowing canopy and yield losses may be observed (**Figure 6**) (Biles et al., 2025), although the role that pasture mealybug plays in symptomatic sugarcane or yield loss is not known (Xu et al., 2024).



**Figure 4.** Discolored (yellow, red, or purple) grass after becoming infested with pasture mealybug. Photo: Stephen Biles, Texas A&M AgriLife Extension Service. Used with permission.



**Figure 5.** Symptoms of pasture dieback, such as yellowing, stunted growth, and plant death. Photo: Stephen Biles, Texas A&M AgriLife Extension Service. Used with permission.



**Figure 6.** Symptoms of yellowing canopy in sugarcane. Photo: Blake Wilson, LSU AgCenter. Used with permission.

Symptoms and signs that are similar to damage associated with pasture mealybug may also be caused by a wide variety of biotic and abiotic factors including:

- Pasture rundown/nitrogen deficiency or other nutrient and soil constraints
- Cold temperatures, frost
- Drought
- Herbicide damage
- Other pests (e.g., diseases, ground pearls, fall armyworm, aphids, leafhoppers, thrips, spider mites, and nematodes)

### **Easily Mistaken Species**

*Antonina graminis* (rhodesgrass mealybug) (Pseudococcidae) affects pasture and turf grasses in the United States (Baxendale and Shetlar, 2012; Wolverton and Joseph, 2025), and its damage can be confused with pasture mealybug (Biles et al., 2025; Hauxwell and McNicholl, 2018). Hand lens inspection may be able to differentiate rhodesgrass mealybugs from pasture mealybugs. The rhodesgrass mealybug has a dark, round body covered with a white waxy secretion that appears cotton-like (**Figure 7**) (Dale, 2023). A key difference between the pasture mealybug and rhodesgrass mealybug is that the pasture mealybug has short anal waxy filaments while the rhodesgrass mealybug has long anal waxy filaments (**Figure 8**) (Biles and Kerns, 2026). On closer examination, pasture mealybug bodies are more elongated and adults have legs, but rhodesgrass mealybug bodies are more rounded and adults do not have legs (Biles and Kerns, 2026).



**Figure 7.** Rhodesgrass mealybug adult females with round, cotton-like bodies. Photo: Lyle Buss in Dale (2023). Used with permission.



**Figure 8.** Rhodesgrass mealybug with spindly wax fibers. Photo: Lyle Buss in Dale (2023). Used with permission.

Other scale insects that infest turf and pasture grasses in the United States include the following:

**Diaspididae – armored scales**

- *Duplachionaspis divergens* (bunchgrass scale) (Baxendale and Shetlar, 2012; Dale, 2023)
- *Odonaspis ruthae* (bermuda grass scale) (Baxendale and Shetlar, 2012; Dale, 2023)

**Margarodidae - ground pearls**

- *Dimargarodes meridionalis* (centipede grass ground pearl) (Dale, 2023; Hertl, 2012)
- *Eumargarodes laingi* (pink ground pearl) (Hertl, 2012)

### **Pseudococcidae - mealybugs**

- *Brevennia pulveraria* (bluegrass mealybug) (Baxendale and Shetlar, 2012)
- *Brevennia rehi* (Tuttle mealybug) (Dale, 2023)
- *Chorizococcus rostellum* (bermudagrass mealybug) (Baxendale and Shetlar, 2012)
- *Dysmicoccus* spp. - Broadly present across the southern and temperate U.S., some species occur in grassy habitats and can resemble pasture mealybugs depending on wax coverage and body shape.
- *Phenacoccus graminicola* (ryegrass mealybug) (Baxendale and Shetlar, 2012)
- *Pseudococcus* spp. - Not all are grass specialists, but some occur on monocots.
- *Rhizoecus* spp. - Root mealybugs are widespread across the U.S., including northern states. They occur in soil, so a surveyor could confuse species of this genus with pasture mealybug if they are sampling turf or pasture grass roots.
- *Tridiscus sporoboli* (buffalograss mealybug) (Baxendale and Shetlar, 2012)
- *Trionymus* sp. (buffalograss mealybug) (Baxendale and Shetlar, 2012)
- *Trionymus* spp. - Widely distributed across the U.S. and very common on grasses, often found at the base of stems and roots.

On sugarcane, *Saccharicoccus sacchari* (sugarcane mealybug) (Pseudococcidae) may be found (Hauxwell, 2022a; Xu et al., 2024). Above-ground, sugarcane mealybug feeds exclusively on stems, often beneath the leaf sheath (**Figure 9**); however, pasture mealybug feeds exclusively on leaves, typically on the back of the leaf blade (Xu et al., 2024). Identification requires slide mounting and the use of identification keys.



**Figure 9.** Sugarcane mealybugs on sugarcane stalks, behind sheaths. Photo: Blake Wilson, LSU AgCenter. Used with permission.

## Biology and Ecology

Pasture mealybugs are active during warmer, humid months, especially following rainfall (Boschma et al., 2024). Around three generations occur per year, with populations peaking during late summer to fall (Boschma et al., 2024). Females have, on average, 250 offspring (Summerville, 1928). Pasture mealybugs will be present on leaves as well as along the soil surface and among plant roots (Boschma et al., 2024). During cooler or drier periods, pasture mealybugs will be below-ground or underneath objects such as logs, cow patties, or dense grass thatch (Boschma et al., 2024). During these periods, pasture mealybug nymphs suck sap from grass roots, and may be as much as 3 ft underground (Boschma et al., 2024). Adults do not feed (Biles et al., 2025). Mealybugs will re-emerge when environmental conditions are favorable and susceptible grass leaves are actively growing (Boschma et al., 2024). In warmer areas with high rainfall, mealybug populations can be detected on or near the soil surface year-round (Baker et al., 2024; Boschma et al., 2024). Both sexual and asexual reproduction have been reported, but it is hypothesized that asexual reproduction typically only occurs when females overwinter (Hauxwell, 2022b).

## Pathogens or Associated Organisms Vectored

This species is not known to transmit any pathogens or associated organisms.

## Known Hosts

The host range for pasture mealybugs is variable, both in the grass species affected and the susceptibility of hosts in space and time. Some grasses are reported to be more tolerant of mealybug infestations, and susceptibility varies significantly among species, varieties, and cultivars (Hauxwell, 2022a; Hauxwell, 2022b; MLA, 2023). We do not have enough information to conclude the susceptibility of summer grasses to infestation

of pasture mealybug in the United States, and the host range is likely wider than what is documented. Texas researchers report “damage” in both pastures and turf grasses such as Bermudagrass, Bahia grass, Johnsongrass, hay grazer (sorghum-sudangrass), several bluestem species, and St. Augustine turfgrass (Biles et al., 2025), but we do not have information on these species nor the extent of their damage. The host status and potential impacts in rice are unknown, despite older reports of occurrence on rice in India (as junior synonym, *Novonilacoccus oryzae*) (Ghosh and Ghose, 1987; Ghosh, 1979; Williams, 2004).

**Preferred hosts (Poaceae):**

- Warm-season tropical and sub-tropical pasture, turf, and ornamental grasses
- Sugarcane (*Saccharum officinarum*)

**Known Distribution**

Pasture mealybug was first described in Oceania in Queensland, Australia (Summerville, 1928). It has also been reported from Asia for decades (Brookes, 1978). Recently, pasture mealybug was introduced into the Caribbean (Gibbs, 2020) and North America (Aca-Martinez et al., 2025; Biles et al., 2025; Blanchard, 2026). **Table 1** lists all countries where pasture mealybug is known to occur.

**Table 1.** Countries where *Heliococcus summervillei* is known to occur.

Continent	Country	References
Asia	India	(Mani et al., 2018)
Asia	Pakistan (Province: Khyber Pakhtunkhwa)	(Brookes, 1978)
Caribbean	Barbados	(Gibbs, 2020)
North America	Mexico (State: Quintana Roo)	(Aca-Martinez et al., 2025)
North America	United States (States: Louisiana and Texas)	(Biles et al., 2025; Blanchard, 2026)
Oceania	Australia (States: Queensland and New South Wales)	(Baker et al., 2024; Brookes, 1978)
Oceania	New Caledonia (Provinces: North and South)	(Brinon et al., 2004)

**Status of infestation in the United States (March 2026)**

In 2025, pasture mealybug was reported causing widespread damage in grasses in southeast Texas, where it may have been present for several years (Biles et al., 2025). Also in 2025, pasture mealybug was detected in sugarcane in Louisiana that exhibited yellowing symptoms, though the significance of pasture mealybug in the observed damage is not known (Blanchard, 2026). It was reported in Puerto Rico in 2019 (Powell and Hauxwell, 2026), but details of this record are unavailable so it is unclear if it is established.

**Pest Importance**

Pasture mealybug causes pasture dieback, including unhealthy growth and death of grasses (Hauxwell, 2022b). But host susceptibility, environmental conditions and pasture management practices affect the prevalence and severity of impacts (Boschma

et al., 2024). Details on the specific parameters that are likely to result in population outbreaks of pasture mealybug are unknown.

Pasture mealybug may have some association with yellow canopy syndrome in sugarcane, but the biotic and abiotic dynamics are not understood (Blanchard, 2026; Xu et al., 2024). The role that pasture mealybug may play in sugarcane losses is unknown.

Most of the available literature focuses on impacts and associated losses in Australia, where it was introduced and first reported on *Paspalum* in 1926 (Brookes, 1978). In Queensland, Australia, a loss of \$2 billion Australian dollars in earnings for livestock farmers is estimated due to the mealybug (AgForce, 2021; Halter, 2023).

## Pathway

Pasture mealybugs are naturally dispersed by wind (Baker et al., 2024; Boschma et al., 2024; Brinon et al., 2004). But they may also spread through water run-off (Boschma et al., 2024), on equipment (**Figure 10**), vehicles, animals (livestock and wild), clothing (**Figure 11**), or with infested host materials such as potted grasses, sod (Hauxwell and McNicholl, 2018), or hay. When mowed over, pasture mealybug infestations leave a smoke-like cloud trailing lawn mowers (**Figure 12**) (Biles and Kerns, 2026).



**Figure 10.** Pasture mealybug adhered to farming equipment. Photo: Corrie Bowen, Texas A&M AgriLife Extension Service. Used with permission.



**Figure 11.** Pasture mealybug adhered to pants. Photo: Danielle Sekula, Texas A&M AgriLife Extension Service. Used with permission.



**Figure 12.** Mowing over a pasture mealybug infestation leaves a smoke-like cloud trailing the mower. Photo: Shannon Deforest, Texas A&M AgriLife Extension Service. Used with permission.

## Potential Distribution Within the United States

*Heliococcus summervillei* is present in Plant Hardiness Zones 9 to 14 (Takeuchi et al., 2018). In the United States, these Zones correspond to the southernmost regions of the United States, parts of California and the Pacific Northwest, and Hawaii and Puerto Rico. Host plants are widely distributed throughout these areas of the United States (NRCS, 2026).

## Sanitary Measures

Reduce spread of pasture mealybugs by managing presence on machinery or clothing. Pressure wash farm equipment used in infested fields before use in other fields (Biles et al., 2025). Sweeping farm equipment with a broom may also reduce spread (Biles et al., 2025). Ensure clothing and other materials moving out of infested fields are cleaned (Biles et al., 2025), either by using rubbing alcohol sprays, washing clothing, steam treatment or hot water immersion (Middleton and Diepenbrock, 2022), brushing or lint rolling clothing, or by using disposable clothing.

## Visual Surveys

Conduct a visual survey by searching for plants with symptoms of infestation ([see Symptoms and Signs](#) and [MLA 2023](#) or [FutureBeef AU](#)). Surveys should take place when pasture mealybugs are active in the warmer months (spring through fall), especially following rainfall. In Texas, juveniles may begin emerging in early April and their damage may be observed beginning in June (Biles, 2026).

Surveyors can observe pasture mealybugs in or on the soil, leaf litter and debris, and roots or leaves of host plants (Hauxwell and McNicholl, 2018). Adult females are visible with the naked eye, but very careful examination with a hand lens (20 or 30 times magnification) is required for detection of juveniles (Hauxwell and McNicholl, 2018). They may be found either in large groups or individually on leaves (Biles et al., 2025). Swarms of winged males may be observed in early summer (Boschma et al., 2024).

Pasture mealybugs will not be present on dead grasses or those that are not actively growing, but may be found in nearby grasses that appear healthy (Hauxwell and McNicholl, 2018). Grasses that are turning red or yellow, but not yet dead, are most likely to have larger active populations of pasture mealybug feeding on them (as described within [FutureBeef AU](#)). They may also concentrate in areas with long, thick grass such as ungrazed areas along roadsides or fenced areas, or underneath fence lines or trees, where grasses can build up over time (MLA, 2021). Gently push affected grasses over to expose the undersides of the leaves and examine for mealybugs (as described within [FutureBeef AU](#)).

For surveys on sugarcane, visually examine and collect leaves with visible mealybugs to detect pasture mealybug (Xu et al., 2024).

Prioritize collecting medium- and large-sized adult specimens, preferably multiple adults, along with portions of the host plant on which they are found. To avoid damaging

specimens, carefully place infested plant pieces into a vial with alcohol ensuring plant fragments are not bent or forced. Field samples may be screened for suspected pasture mealybugs prior to submission.

Identification requires slide mounting of young adult females to examine morphology using identification keys. As with other mealybug species, accurate identification requires a professional entomologist, and field observations alone are unlikely to be conclusive. Below is literature available to identify pasture mealybug:

- Description of *Heliococcus summervillei*, Key to species of *Heliococcus* in southern Asia, and Key to genera of mealybugs (Pseudococcidae) in southern Asia: (Williams, 2004)
- Description of *Heliococcus summervillei*: (Brookes, 1978)

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