

PEST ALERT

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Pasture mealybug, *Heliococcus summervillei* Brookes (Hemiptera: Coccothraupidae: Pseudococcidae), an invasive pest of pasture grass, turf grass, and sugarcane has been detected in Florida, USA

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INTRODUCTION

The pasture mealybug, *Heliococcus summervillei* Brookes (Hemiptera: Coccothraupidae: Pseudococcidae), is a pest of pasture and turf grass, implicated as the primary cause of “pasture dieback.” First described from Australia, its native origin is unclear but may be Pakistan (Brookes, 1978). In 2019 and 2020, this mealybug was reported in the Caribbean in Puerto Rico (G. Evans, pers. comm.) and Barbados (Gibbs, 2020), marking a new Western Hemisphere record, and in Mexico in July 2025 (Aca-Martinez et al., 2025). In October 2025, *H. summervillei* was first reported in the continental United States causing pasture dieback in Texas, though researchers suspect it may have arrived before 2022 (Biles et al., 2025). Pasture mealybug has continued to spread through eastern Texas pastureland and turf and is now in Louisiana sugarcane (Wilson and Baca, 2026). In May 2026, the mealybug was detected in Florida for the first time infesting fields of limpograss, *Hemarthria altissima* (Poaceae) (Poir.) Stapf & C.E. Hubb, in St. Lucie County (LIST- 05272026-04518). Initial surveys found this species infesting various grasses, including commercial sugarcane, in the following nine counties: Brevard, Glades, Highlands, Indian River, Martin, Okeechobee, Osceola, Palm Beach, and St. Lucie counties. This pest poses a serious risk to Florida pasture grass, turf grass and sugarcane industries.

Pasture mealybug feeds exclusively on grasses (Poaceae) (reviewed by García Morales et al., 2016). In heavily infested areas, it may stray onto non-grass hosts where it is unlikely to reproduce (Aca-Martinez et al., 2025). In addition to Australia, the Caribbean region, Mexico and now the USA (FL, LA, TX), this species is also recorded from India, Pakistan and New Caledonia (reviewed by García Morales et al., 2016). Although this species was not formally described until 1978, reports of its damage have been published since as early as 1928 in Australia (Summerville, 1928), and there has been a recent resurgence of major damage over the past decade (Hauxwell, 2018; Hauxwell et al., 2022a, b; Hernandez-Europa, 2023). In Australia (Hauxwell et al., 2022b), Mexico (Aca-Martinez et al., 2025) and Pakistan (Brookes, 1978), it is regarded as a pest of sugarcane. In Louisiana, it is currently causing serious damage to sugarcane (Wilson and Baca, 2026). In Texas, it is currently noted to damage Bermuda grass, bahiagrass, Johnsongrass, haygrazer (sorghum-sudangrass), several bluestem species and St. Augustine turf grass (Biles et al., 2025). In Florida, it has been found on various grasses, with limpograss ‘Gibbuck’ and sugarcane experiencing the most severe damage.

SURVEY AND IDENTIFICATION

The pasture mealybug is an oval mealybug that projects two types of fine wax from the body: a fluffy, wool-like wax and long, straight rods of iridescent opaque wax (Figs. 1–3). Adult females of *H. summervillei* are about 2–4 mm in body length, while the tiny crawlers (the first-instar nymph mobile dispersal stage) are less than 0.5 mm in length. Immature (nymph) and unmated female mealybugs are a creamy-white color (Figs. 1–3), with adult females turning pink after mating (Fig. 3c) (Hauxwell, 2018; Hauxwell et al., 2022a). Males turn pink ahead of pupation and are pink in their winged adult form (Fig. 2b). This species can be found exposed on blades of grass, most commonly feeding on the abaxial surface (i.e., the underside of the leaves). Females can overwinter in the soil and have been found at depths of over 30 inches (Hauxwell, 2018). After mating, females go towards the ground to reproduce and can be found at the base of grasses, in and under the thatch layer, and under cow patties with first-instar nymphs.



Florida Department of Agriculture and Consumer Services

While the wax produced by *H. summervillei* is quite distinctive, Florida is home to at least 12 genera of mealybugs (family Pseudococcidae) with species that specialize exclusively on grasses. Moreover, there are many other genera encompassing highly polyphagous species that will also feed on grasses. This diversity emphasizes the importance of slide-mounting specimens for proper identification. A particularly common pest species in Florida turfgrass that may be confused with pasture mealybug is the tuttle mealybug, *Brevinnia rehi* (Lindinger). On sugarcane, the pink sugarcane mealybug, *Saccharicoccus sacchari* (Cockerell), may be mistaken for pasture mealybug. Both species can be pink-bodied, but the wax of *H. summervillei* is characteristically different (Figs. 1–3).

Once slide-mounted, *Heliococcus* Šulc has a unique type of crateriform tubular duct that makes it difficult to confuse with any other genus of mealybug (Fig. 4). Slide-mounted characters and illustrations of *H. summervillei* are given in detail by Brookes (1978). Research is ongoing to explore the morphological variation between the variants responsible for the early Australian outbreaks (“old variant”) and the current highly virulent outbreak in Australia (“new variant”) (Schutze et al., 2019). In the United States (FL, LA, TX), specimens most closely match the “new variant” from Australia. These specimens differ from *H. summervillei* as described by Brookes (1978) in having only two conical setae in the anal-lobe cerarius, two sizes of quinquelocular pores, and poorly developed translucent pores on the hind tibiae, among other differences.

DAMAGE

Symptoms may appear within a week of infestation, presenting first as yellowing that then turns to purple or red in most grass species. (Fig. 3b) (Biles et al., 2025). Grasses exhibit overall stunting, symptoms that appear as drought stress even after a rain, poor root systems, and eventually death. The outbreak on sugarcane in Louisiana is causing severe yellowing and significant yield loss (Wilson and Baca, 2026) and in Florida, yellow damage has been observed. Mealybug feeding not only depletes phloem from the plant, but it also renders the host grass susceptible to secondary pathogens such as *Fusarium* Link fungus (Hauxwell et al., 2022a). Even low numbers of mealybugs are reported to cause dieback (Hauxwell et al., 2022a). The first and second instars are primarily responsible for feeding damage. Once adult females begin to reproduce, they stop feeding and increase dispersal behavior (Hauxwell et al., 2022a). Higher humidity, temperature and rainfall may contribute to increased population size and potential for damage (Biles et al., 2025).

NATURAL ENEMIES

Summerville (1928) reported the parasitoid wasp, *Callipteroma sexguttata* Motschulsky (Hymenoptera: Encyrtidae) and the mealybug destroyer beetle, *Cryptolaemus montrouzieri* Mulsant (Coleoptera: Coccinellidae), attacking *H. summervillei*. In recent surveys in Australia, the parasitoid wasps *Yasumatsuia orientalis* Trjapitzin (Hymenoptera: Encyrtidae) and an undescribed species of *Parectromoidella* Girault (Hymenoptera: Encyrtidae) have been identified parasitizing pasture mealybug. However, natural enemies are currently ineffective at controlling pasture mealybug in Australia (Hauxwell et al., 2022a).

BIOLOGY

A generation can be completed in 37–45 days in Australia (Hauxwell et al., 2022a) and 45–47 days in Texas (Biles et al., 2025), respectively. Adult males emerge in the summer (Hauxwell et al., 2022a). Once mated, a single female produces over 100 offspring within the first 24-hour period (Hauxwell et al., 2022a) and up to 250 offspring over the entire reproduction time (Summerville, 1978). There is potentially a parthenogenetic life stage under winter field conditions in Australia, with some white (apparently unmated) females found surrounded by first-instar crawlers (Hauxwell et al., 2022a). Summerville (1928) observed similar findings in the laboratory where adult females produced a second generation via parthenogenesis. Most females die within 10 days of reproducing, but some live much longer, with reports of 88–100 days in laboratory assays (Hauxwell et al., 2022a).

If pasture mealybug is suspected, specimens should be sent immediately to DPI’s Entomology section for positive identification. Forms and instructions for sample submission can be found at www.FDACS.gov/DPIsamples.

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Figure 1. Adult female *Heliococcus summervillei* Brookes from Fort Pierce, St. Lucie County, Florida on *Hemarthria altissima* (Poaceae). Two types of wax are produced: a fluffy, wool-like wax and long, straight rods of iridescent wax.
Photos by Erin C. Powell, FDACS-DPI.



Figure 2. *Heliococcus summervillei* Brookes (a) high density infestation with several adult females and nymphs and (b) an adult female and adult male. Photos by Queensland Department of Primary Industries.



Figure 3. *Heliococcus summervillei* Brookes (a) adult females and nymphs, (b) symptoms of mealybug infestation on a *Digitaria* sp. grass with characteristic reddening of the leaves, and (c) pink reproductive females at the base of grass.
Photos by Queensland Department of Primary Industries.



Figure 4. Slide-mounted adult female of *Heliococcus summervillei* Brookes collected from Fort Pierce, St. Lucie County, Florida on *Hemarthria altissima* (Poaceae). Some of the recognition characters include (a) venter with quinquelocular pores, oral-collar tubular ducts, flagellate setae, and claw with denticle; (b) dorsum with crateriform oral-rim tubular ducts with associated slender spermatozoid ducts, free spermatozoid ducts, quinquelocular pores, and lanceolate setae; and (c) 9-segmented antennae, circulus with intersegmental line, and crateriform oral-rim ducts scattered across the entire body. Photos by Erin C. Powell, FDACS-DPI.