

Notes and Comments

***Nezara viridula* (Hemiptera: Pentatomidae): first record and characterization of damage to sesame plants in northeastern Brazil**

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The stink bug *Nezara viridula* (Linnaeus, 1758) (Hemiptera: Pentatomidae), widely distributed across the American continent, sucks grain seeds and reproduces, preferentially, in leguminous plants of the Fabaceae family (Drake, 1920), but it can feed and develop in a wide variety of those cultivated (Esquivel et al., 2019; Panizzi and Lucini, 2022).

Nezara viridula is a pest of sesame (*Sesamum indicum* L.) in several countries, but information about severe infestations by this bug in sesame crops in Brazil is scarce (Perioto et al., 2004; Tanaka et al., 2021). Sesame seeds are rich in oil (50–62%), with high and low levels of unsaturated and saturated essential fatty acids, respectively, in addition to proteins (18–25%), carbohydrates (13.4–25.0%) and digestible fibers (9.8%) (Couch et al., 2017), making this plant attractive and vulnerable to seed-sucking bugs (Silva et al., 2021; Panizzi and Lucini, 2016).

The planting of sesame, variety BRS Anahí, was carried out in October 2, 2023 in a consortium with cotton

(*Gossypium hirsutum* L.) and cowpea (*Vigna unguiculata* L.) in a spacing of 0.70 × 0.20 m in an area of 2500 m² at the Embrapa Algodão Experimental Station in Campina Grande, State of Paraíba, Brazil (latitude 7°13'50"S and longitude 35°52'52"W) and irrigated by drip. *Nezara viridula*, sixty days after planting, infested 10% of sesame plants and, in three weeks, this percentage increased to 37%. This reflects the biotic potential of *N. viridula* with several annual generations in sequence in cultivated plants and additional generations in wild plants (Panizzi and Lucini, 2016).

Nezara viridula begins its attack after the vegetative stage or during flowering, causing greater losses when the green capsules sprout and the sesame plant grains expand (Figure 1A and 1B) (Gore et al., 2006; Olson et al., 2011). This insect, to feed, inserts its stylet into the plant tissue of green and/or mature seeds, introducing salivary enzymes that deteriorate and dissolve the macromolecules

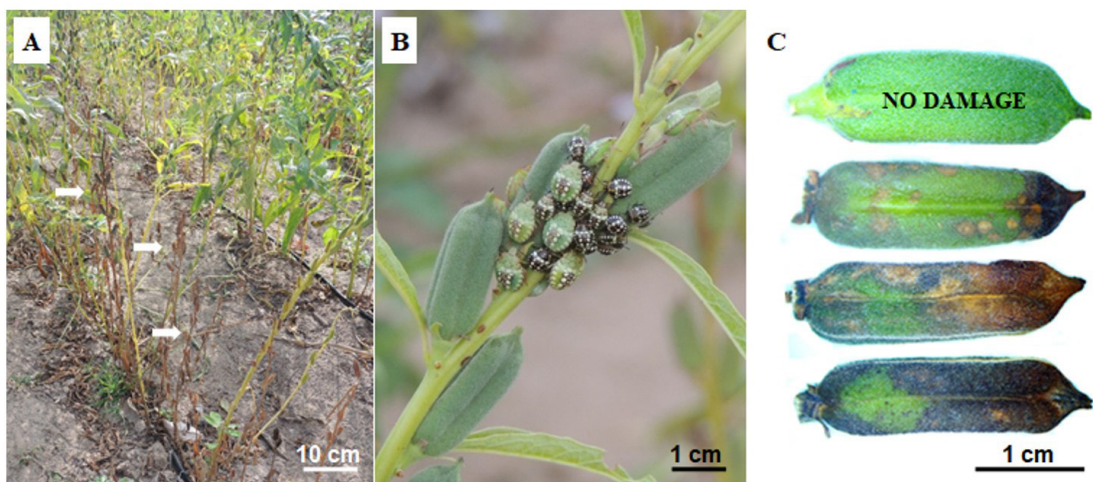


Figure 1. Damaged plants (A), nymphs of *Nezara viridula* (Heteroptera: Pentatomidae) sucking the green capsules (B) and injuries caused to these reproductive structures (C).

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of these tissues, consuming only micromolecules rich in oil (Esquivel et al., 2019). Feeding by *N. viridula* causes losses of vigor and rotting of the seeds by opportunistic microorganisms that enter their interior through openings left by the stylet of this insect. This stink bug, when sucking the sap, reduces its oil and fat content, damaging the capsules of this plant in the initial stage of maturation, inhibiting grain growth and causing seed sterility (Tanaka et al., 2021). Initial damage from feeding on sesame capsules is visible, with leathery brownish spots, evolving to black (Figure 1C), which generally wither or, in extreme cases, die and fall off the plant.

Nezara viridula goes through five instars (Panizzi and Lucini, 2016) and, with increasing temperature; the emerged adults disperse searching for food and mating (Panizzi and Lucini, 2016). Damage is more severe by fifth-instar nymphs and adults of *N. viridula* and that caused by early instars is less significant (Panizzi and Lucini, 2016).

Sesame is rarely reported as a host plant for *N. viridula* (Panizzi and Hirose, 1995; Perioto et al., 2004), probably because this plant is traditionally cultivated in small areas, reducing its availability for this insect (Euba Neto et al., 2016). However, the recent expansion of the area cultivated with sesame in intercrop with cowpea in the semi-arid Northeast and in extensive areas of the Brazilian Cerrado, close to soybean crops, increases the potential for *N. viridula* to become a pest in this crop.

This is the first report of *N. viridula* infesting sesame plants in northeastern Brazil and the population observed in this plant must have originated from those of this insect infesting bean plants in intercropping.

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