Oviposition and Larval Behavior of Soybean Looper, *Pseudoplusia includens* (Lepidoptera: Noctuidae), on Soybean with Different Row Spacings and Plant Growth Stages[1]

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ABSTRACT Soybean looper, *Pseudoplusia includens* (Walker), annually causes economic damage to soybeans in the southern United States. With acreage in narrow-row soybean plantings increasing, the behavior of this defoliator needs to be investigated in this cropping system. We studied the effects of soybean row spacing and growth stage on soybean looper oviposition and larval behavior in Mississippi in 1990 and 1991. Equal numbers of moths were released into cages enclosing soybean plants in four contiguous wide rows (96.5 cm) and an equal area of narrow rows (17.8 cm) at late vegetative, full bloom, and full pod-plant growth stages in 1990 and late vegetative and full-bloom growth in 1991. The location of eggs and larvae on plant structures within three canopy levels (upper, middle, and lower) and larval weight in each row-spacing system were determined. The number of eggs and larvae m^{-2} were higher in narrow-row than wide-row plantings. More eggs were laid on plants in the full-bloom growth stage than other growth stages in 1990 whereas no preferences were observed in 1991. Leaves were preferred oviposition and larval feeding sites, with most eggs and larvae located on the abaxial surface of the leaves. Moths did not discriminate among soybean canopy levels for oviposition, nor were larvae found in differing numbers in any canopy level during their initial establishment. Larval weight was similar between row-spacing systems. Information on spatial properties of soybean plantings can influence sampling procedures for pest and beneficial insects and can be useful in making decisions on planting strategies and timing of insecticide applications to obtain effective insect pest management.

KEY WORDS soybean looper, soybean, row-spacing, oviposition, larval behavior

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