

INSECT PEST DIVERSITY DURING THE ‘YALA’ SEASON IN A PESTICIDE-FREE RICE FIELD AND FARMERS’ KNOWLEDGE, ATTITUDES, AND PRACTICES IN PEST MANAGEMENT IN HOMAGAMA, SRI LANKA

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Pest attacks are a major issue in Sri Lankan rice fields, with species composition and abundance varying across the plant’s growth stages. This study aimed to document insect pest diversity across different rice growth stages: vegetative, reproductive, and ripening, in a pesticide-free rice field. Additionally, the study evaluated the knowledge, attitudes, and practices (KAP) of 25 farmers related to pest management using a structured questionnaire. Biweekly pest sampling was conducted in the field during the ‘Yala’ season (April to September 2024) in Homagama. All life cycle stages of the pests present in five systematically placed quadrats (50 cm × 50 cm), during a 10-min sampling effort, were reared in the laboratory and identified. A total of 32 insect pest species were identified during the survey, representing five insect orders: Coleoptera, Hemiptera, Homoptera, Lepidoptera, and Orthoptera, with Lepidoptera being the dominant group. Pest diversity peaked during the reproductive period (30 species, Shannon diversity index ($H = 2.53$), Pielou's Evenness Index ($J = 0.75$), followed by the ripening period ($H = 1.95$, $J = 0.72$). The rice caseworm, *Nymphula depunctalis*, unique to the vegetative stage, recorded the highest mean density (35.20 ± 9.39). Among the 10 species found across all three plant growth stages, six species; *Euscyrthus* sp., *Eysarcoris* sp., *Oxya* sp., *Pelopidas mathias*, *Scotinophara coarctata*, and *Sphrageidus xanthorrhoea*, showed significant variation in abundance between rice growth periods ($p < 0.05$). All respondents were male, mostly over 55 years, with 88% having G.C.E. O/L or lower education. Although 80% farmers of the Homagama area showed good overall knowledge, only 24% farmers followed good pest control practices, with 96% relying on synthetic insecticides as the primary pest control method. While 68% farmers were aware about predators, none were familiar with parasitoids or pathogens. The study revealed a gap between farmers’ knowledge and practice in pest management, highlighting the need for education on stage-specific control, as pest diversity and abundance varied across rice growth stages.

Keywords: Growth stages, Pest diversity, Pest management, Rice insect pests, Sustainable agriculture