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Observational monitoring of leaf-eating caterpillars and ants in oil palm plantations

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document .

weaver ants



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the protocol to conduct for monitoring LEC and ants in oil palm plantations

A D Advento 2021. Observational monitoring of leaf-eating caterpillars and ants in oil palm plantations. **protocols.io**

<https://protocols.io/view/observational-monitoring-of-leaf-eating-caterpilla-b2vkqe4w>



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the protocol to conduct for monitoring LEC and ants in oil palm plantations

The objective

to investigate the relationship between the population of weaver ants and leaf-eating caterpillars in outbreak season and across the age of palm using herbivory census.

Preliminary survey and factors:

- Observation palm ages. There are 9 different palm ages in the surveyed area.
- Grouping area status. There is two groups area related to leaf-eating caterpillars (LEC) infestation in the year 2020; outbreak or incidence and no-infestation.
- History insecticide intervention for controlling leaf-eating caterpillar in outbreak and incidence status.

Leaf eating caterpillar monitoring

Using modified LEC-monitoring protocol, activity will be situated in all randomly planting blocks across 9 different palm ages. If a group of palm age has two status LEC presences; the observational census will be done in the different status areas (outbreak/incidence and non-infested). Based on GAR estate pest-monitoring record in Siak Region, there is only the planting year 2010 and 2011 that have no infestation for LEC along until September 2020. Using combination palm age and outbreak status area, there are 3 replicates with 5 palms sampling each planting block. Sample palms are selected with systematic lines (palm 3, 17, 31 in one row and 10, 24 in other rows) with 10 palm planting row spacing. It was consistent sampling that started in the North or South direction of each planting block. Sample palm is represented one palm/ ha as stated in standard monitoring systems protocol. The details protocol is referred appendix 1.

Asian weaver ant-nest abundance

Census of weaver ants nests will be conducted in the same area where LEC monitoring is conducted (point a). Nest census will be covered 5 ha. The presence of an active and non-active nest in the palm canopy is recorded as a palm basis. Weaver ant nest is constructed with fresh palm leaflets. An active nest is signed by the presence of ants with fresh palm leaflets. No ants and dry palm leaflets are recorded as non-active. Binocular is used as necessary.