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### CACAO POD BORER

Scientific name: Conopomorpha cramerella Snellen

Order: Lepidoptera

Family: Gracillariidae

English name: Cocoa pod borer

- One of the most important insect pests of cacao in the Philippines, with infestation reaching 60-80% and an annual loss of up to 50% without proper management (Amalin et al., 2023).
- Spread of the cacao pod borers occur through movement of the pods, leaves, and other vegetation to which the pupae are attached.





# CACAO POD BORER LIFE CYCLE



Eggs are laid on the surface of the pods and will hatch in about 3 days, and then the tunneling begins.



The larvae go through the husk into the pulp around the beans and exit the pod through holes after 14-18 days and 3-5 molts.



Adult moth emerges after 6-8 days. Life cycle ranges from 27-33 days.



Upon exiting, the larvae pupate on dried leaves on the ground or weeds.



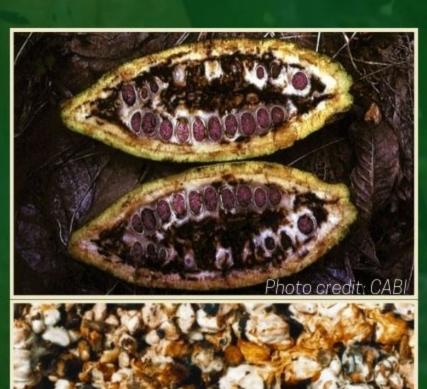


## CACAO POD BORER DAMAGE

- External damage of *C. cramerella* is evidenced by entry and exit holes on the husk created by tunneling larvae.
- Overall premature or uneven ripening (yellowing) of pods caused by internal feeding activity can be observed on the extremity of the pods.







- Characteristic tunnels and wounding as a result of feeding commonly cause beans to stick together.
- Harvested beans clump together in severe infestations, and may be impossible to extract from damaged pods.





# PEST MANAGEMENT RECOMMENDATIONS

#### **Preventive and Cultural Control**

- Harvest pods regularly (weekly harvesting of all ripe pods) in order to break the life cycle of the pest.
- Maintain field sanitation by removing the diseased pods, black pods, infested fruit, and disposing properly by burying under at least 2 feet of soil
- Collect the cacao pods before the adults emerge in order to disrupt its life cycle
- Practice canopy pruning and height reduction for better aeration
- Bagging of young pods with newspaper or plastic bag.
- Fertilizer application to improve the general health of the tree.
- Use of sex pheromone lure for mass trapping and mating disruption.
- Strict implementation of quarantine measures.





#### References/Photo credits

- CABI Digital Library
- Pacific Pests, Pathogens & Weeds
- Bureau of Plant Industry Crop Pest Management Division
- Amalin DM, Arcelo M, Almarinez BJM, Castillo RC, Legaspi JC, Santos KLT, Tavera MAA, Janairo JIB and Zhang A (2023) Field evaluation of the sex pheromone of the cacao pod borer (Conopomorpha cramerella Snellen) in the Philippines. Front. Agron. 5:1165299. doi: 10.3389/fagro.2023.1165299
- https://car.da.gov.ph/wp-content/uploads/2023/05/Peast-and-Diseases-of-Cacaco.pdf

