

Artificial Diet Composition of Pollinator Weevil In Palm Oil Industries

PATENT NO. PI2022006695



FIG. 1 illustrates a perspective view of a diet tube used for the rearing of larvae *E. kamerunicus*,



FIG. 2 illustrates a perspective view of meridic artificial diet

BRIEF TECHNOLOGY

The present invention generally relates to a **meridic artificial diet composition**, in particular to a meridic artificial diet composition for pollinator weevil. The meridic artificial diet composition is used for rearing *Elaeidobius kamerunicus*.

CURRENT ISSUES

- Difficulty of rearing the weevils within a closed facility such as laboratory due to the need for anthesis male inflorescence (AMI) as the only feed to support the life development, breeding, and feeding of the whole stage of *E. kamerunicus*.
- The scarcity to obtain the AMI routinely is one of the research limitations which led to the potential development of an artificial diet to support weevil population survival during the research period.
- Thus, this specification recognizes that there is a need for an effective and efficient artificial diet composition and a method of using the artificial diet composition that does not incorporate natural food sources inside the artificial diet composition.

INVENTIVENESS & NOVELTY

- The meridic artificial diet composition does not incorporate one or more natural food sources inside the artificial diet.
- The meridic artificial diet composition shows successful rearing of larvae *E. kamerunicus*.
- The meridic artificial diet composition shows successful rearing of larvae *E. kamerunicus* without the incorporation of natural food sources male spikelet of oil palm.

USEFULNESS & APPLICATION

- Laboratory rearing of larvae *E. kamerunicus* in closed facility for instance biological study and pesticide testing toward the weevil.
- Can be incorporated for study such as hatch and carry application and technique to boost the population in field.
- Can be an alternative feed for rearing of the weevil pollinator compare to the normal practice of rearing in natural feed.

IMPACT OF THE PRODUCT

- The larvae reared on the meridic artificial diet was showing similar survivability with reared on natural feed.
- The pupation of the larvae reared on the meridic artificial diet was also similar as reared on natural feed.
- Higher number of pupae emerged into adult on the meridic artificial diet compare to the natural feed.
- Similar life development of the larvae on meridic artificial diet and natural feed.
- The meridic artificial diet was better for rearing of the weevil larvae compare to another reported artificial diet.

MARKET POTENTIAL

- **Oil palm plantation** country – in Malaysia and South East Asia (SAE) market

Technology Readiness Level (TRL)

4-Lab validation



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