

Bonginkhosi Edward Dlamini 2014: Effect of Host Age on Progeny
Production of *Theocolax elegans* (Westwood) (Hymenoptera: Pteromalidae)
Reared on *Sitophilus zeamais* (Motschulsky) (Coleoptera: Curculionidae).
Master of Science (Tropical Agriculture), Major Field: Tropical Agriculture,
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Amornsark, Ph.D. 80 pages.

Five host ages of Maize weevil, *Sitophilus zeamais* (Motschulsky) (Coleoptera: Curculionidae) reared on brown rice were examined for progeny production of *Theocolax elegans* (Westwood) (Hymenoptera: Pteromalidae). Brown rice kernels infested with *S. zeamais* were exposed to a mated female of *T. elegans* after 13, 15, 17, 19 and 21 days following *S. zeamais* introduction. Host stages were determined by measuring head capsule widths from all the host ages.

There was a significant difference ($P < 0.05$) in *T. elegans* progeny production among the different host ages. Total progeny, total female progeny and total male progeny produced by 19-day-old *S. zeamais* larvae were significantly higher ($P < 0.05$) compared to the other host ages. Progeny of *T. elegans* raised on 19-day-old *S. zeamais* larvae had a higher female: male ratio compared to the other host ages. *Sitophilus zeamais* larvae after 13, 15-17 and 19-21 days were found to be second, third and fourth instars, respectively.

I concluded that *T. elegans* can develop on second, third and fourth instar larvae of *S. zeamais*. However, 19-day-old (fourth instar) *S. zeamais* larvae produced more *T. elegans* progeny with a high female: male ratio.

Student's signature

Thesis Advisor's signature