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## Cricket Farming, Reproduction and Economic Potential for Small Farmers

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Cricket (*Gryllus*) is widely recognised as a very potential insect, commonly kept by village farmers for food and according to Nakagi (1987) cricket can be used as animal feed. In general, crickets has very short life cycle (60-70 days) with 3 weeks of eggs laying period and egg production within the range of 200-1500 eggs/female. The famale have capability to multiple mating with different male so the eggs can be more fertile (Gregory and Howard, 1996). Serial studies including experiments on laboratory and field observation on farming practices of local crickets have been conducted to evaluate farming practices and reproductive performance of 3 local species (*G. mitratus, G. testacius* and *G.sp*) given local feeds (*Manihot esculenta* and *Carica papaya* leaves). Simple analysis was used to assess the economic feasibility for bussines development. Randomized Block Design was used, species as block, feeds as treatment with 10 replications; each replication consisted 1 male and 5 females. Data were analized using Analysis of variance. Variables measured including feed consumption, feed conversion, egg production, hatchability, hatching period and mortality rates. Data of income and expenses were analysed using R/C ratio and demand trend analysis with time series model.

The results revealed that feeds did not significantly affect feed consumption (0.46/g/cricket/day), feed convertion (0.04), dayly egg production (17.87 egg/female), hatching periode (15.14 days), hatchability (80.48%), and mortality (2.97%) in *G. testacius*. *G. mitratus* fed on *M. esculenta* leaf had lower feed conversion (0.03 vs 0.04) but higher dayly egg production (36.08 vs 27.15 egg/female). Conversely, Gryllus sp. had on C. papaya had higher feed consumtion than *M. esculenta* (1.60 vs 1.56 g/cricket/day). The R/C ratio of was 1.4, indicating a significance provit received by farmers from the small scale cricket enterprises. Market demand for crickets as animal feed increased monthly, this result was supported by Widyaningrum (2001), therefore, it could be as alternative for farmers to improve their income regularly.

Gregory, P G and Howard D J. 1996. Multiple mating in natural populations of ground cricketss. J. Entomologia Experimentalis et Applicata. 78 : 353-356.

Nakagi, B J., Sunde M L and Defliart G R. 1987. Protein quality of the house criket, *Acheta domesticus*, when fed to broiler chiks. J. Poultry Sci. 66 : 1376-1371.

Widyaningrum, P., Fuah A M, Sihombing D T H. 2000. Productivity of the two types of local cricket *Gryllus testaceus Walk* and *Gryllus miratus Burn* (*Orthopetera: Gryllidae)* are cultivated. J. Biology News 5 (2): 169-175.

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