

Growth performance of nestling barn owls, *Tyto Alba javanica* in rat baiting area in Malaysia.

ABSTRACT

The growth of nestling barn owls, *Tyto Alba javanica* in immature oil palm in Malaysia was investigated under rat baiting with three different rodenticides. Four treatment plots were established with three plots baited each with warfarin, brodifacoum and a protozoan based biorodenticide, *Sarcocystis singaporensis* plus a fourth non-baited control plot. Three rat baiting campaign were carried out during the study, the first rat baiting campaign was conducted in October 2008, the second was in March 2009 (except for biorodenticide baiting was conducted a month earlier), and the last third baiting campaign in October 2009. The baiting campaigns coincided with the breeding season of barn owl. Nestlings body measurements namely: body mass, culmen length, tarsus length, wing length and tail length were taken after the third baiting campaign, from September 2009 to January 2010. Measurements were recorded every three days from hatching up until 49 days old, i.e., several days before fledging. Nestlings in control plot showed superior for all parameter taken compared to rodenticides treated plots. Body mass of nestlings in control plot were heavier by 8.17%, 13.04%, and 6.88% compared to warfarin, brodifacoum and biorodenticide treated plots respectively. The culmen and tarsus length of nestling barn owls reached the adult size during the growth period; while culmen length in control plot was longer by 3.07%, 5.28%, and 1.41% compared to warfarin, brodifacoum and biorodenticide treated plots respectively. The tarsus length of nestlings in control plot was also longer by 2.40%, 3.08% and 3.36% compared to warfarin, brodifacoum and biorodenticide treated plots respectively. In contrast with culmen and tarsus length, wing and tail length still grew until day 49 i.e., several days before fledging. The wing and tail length in control plot was shorter by 15.77% and 13.73% compared to adult size. Teratogenic sign was shown by one nestling in brodifacoum treated plot, where its primary feathers were malformed rendering it flightless besides tail length that were very short if compared to nestlings in control plot. Wing and tail length in brodifacoum treated plot was shorter by 15.26% and 18.24%, respectively compared to control plot.

Keyword: *Tyto Alba javanica*; Growth performance; Nestling; Warfarin; Brodifacoum; *Sarcocystis singaporensis*; Teratogenic sign.