Assessment of temperament in Rusa timorensis and its relationship to stress

ABSTRACT

The delayed domestication of Rusa timorensis may be associated with their poor temperament and to date there is no published information on the temperament of the farmed R. timorensis. Understanding of the R. timorensis temperament and selection program for its evaluation in a breeding herd is important not only for R. timorensis farming but also to other types of animal production. We investigated the temperament of R. timorensis (n = 17) raised in the tropics and determined its relationship with stress. A distance of 13.2 m was fixed for the measurement of flight times. Rusa timorensis hinds with rapid speed are considered temperamental. Each R. timorensis hind was earmarked for a crush test score between 1 and 5; 1 represents calm and 5 represents highly agitated R timorensis. Stress was determined by measuring plasma cortisol using a cortisol RIA kit and live weight gain was determined by weighing the animals weekly. The hinds were aged using their date of birth records. We found a strong negative correlation between flight time, crush score, and plasma cortisol concentration ($P < 0.05$). Animals with very poor temperament have elevated plasma cortisol level and lower weight gain ($P < 0.05$). It was concluded that flight time, crush score, and plasma cortisol concentration could be used for selecting R. timorensis hinds based on temperament for the breeding herd. This method is quick and easy to implement on a farm; therefore, it remains the test choice for selecting animals based on temperament for the breeding herd.

Keyword: Deer farming; Domestication; Rusa timorensis; Stress; Temperament