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Body Condition and Body Weight in Northern Thai Dairy Cattle

NATTAPHON CHONGKASIKIT¹, S. AUSSAWIN¹, THERDCHAI VEARASILP¹, H.-J. LANGHOLZ²

¹*Chiang Mai University, Department of Animal Science, Thailand*

²*Georg-August-Universität Göttingen, Institute of Animal Breeding, Germany*

Abstract

Body condition and body weight are reliable indicators for the adaptive performance of dairy cattle to the unfavourable climatic and feeding environment of the tropics. Beyond of this body condition scoring is a valuable tool for controlling the efficiency of dairy cattle feeding. Out of a total sample of 2764 lactating dairy cows of Holstein upgrades kept on 252 private dairy farms in the Northern Thai provinces Chiang Mai, Chiangrai and Lamphun 1672 were condition scored and their condition status assorted to 10 classes according to the time span after calving up to 500 days. In addition body measurements (height, heart girth, length) of these cows were taken on the basis of which the body weight was estimated. The employed regression coefficients were derived from a direct weight control of 234 randomly selected cows.

In general the body condition turned out to be fairly good averaging at 3.32 scores with a not too extreme variation of SD 0.77 (CV = 23%). Contrary to the changes in body condition in high yielding Holstein cows in Thai dairy cows body condition is gradually increasing after parturition from 3.06 scores straight after calving to 3.43 scores at about 305 days in lactation and remaining about constant from that period on. This obviously has to be seen on the background of the low performance level in Thai dairy farming based on fibre rich feed sources.

Obviously resulting from insufficient rearing conditions the cows in Northern Thailand obtain only 90% of the size and with an average of 415 kg only 70% of the body weight of cows raised under temperate conditions. There are distinct differences to be observed between farms and between farming regions. Also between different sire progeny groups clear weight differences up to above 80 kg occur, leading to a pronounced heritability for body weight ($h^2 = 0.46$). Unexpectedly only a very small relation of body weight to the milk performance could be observed, however the relation to the fertility performance turned out to be more consistent in favour of the heavier cows.

Keywords: Fertility performance, heritability, Thai dairy cattle