***Characteristic of Indonesian cattle breed based on Body Size and Shapes using Principal Component Analysis***

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***ABSTRACT***

Bos Indicus (zebu) and Bos javanicus (banteng) are supposed to contribute of Indonesian cattle breed such as local breed (Madura, Peranakan Ongole, Pasundan) and Bali cattle. Those cattle have the power of adaptation to marginal environments, resistant to tropical diseases and conditions that limited and low quality of feed. Characterization is the first step for the development of cattle. One effort characterization can be done through the identification of characteristic size and shapes. Pasundan cattle are considered to be mixed of both. However, this has not been documented and is so far only supported by preliminary phenotipic characteristic. The aims of this study was to identify the body size and shapes among Bali, Madura, Peranakan Ongole and Pasundan cattles. The total number of cattle used in this study were 491 consisting 162 bulls and 329 cows. The body parts will be measured are withers heigth, rumpt height, body length, chest width, chest depth, hearth girth, crotch width, hip width and crotch length. Analysis of all those sizes were based on principal component analysis (PCA) then visualized into the group of crowded diagram. Results of T2-Hottelings statistics test demonstrate the differents in body linear measurements for each local cattles (P<0,05). The results of this study showed that the variables of body size and shapes among Madura, Pasundan and Peranakan Ongole cattles were diverse. Wither height was the most discriminant variables had impact to the difference score between Bali, Madura, Peranakan Ongole and Pasundan cattle. However, the chest dept and body lenght were variables had impact to differences score shape. The crowed diagram showed the Pasundan cattle had smaller body size and shapes compared to Bali, Madura and Peranakan ongole.

Key Words : Indonesian cattle, Principal Component Analysis (PCA), Body Size, Body Shapes