ABSTRACT

Baskworo Yoga Indra Exshadi, 2013: The Decision Supporting System for The Determination of the Reliability of Broiler Seed Deployment at Breed Pen using AHP and TOPSIS Methods. Final Paper, Study Program of Information Technique / Computer Science, Program of Information Technology and Computer Science, University of Brawijaya. Advisors: Arief Andy S., ST., M.Kom, and Rekyan Regasari M.P., ST., MT.

Broiler breeding is one of the most potential businesses to develop. Core-plasma partnership pattern is used by the breeder to develop their broiler growing-up business. The partner company monitors the reliability of breeder pen to be deployed with broiler seed. Broiler pen reliability is determined with criteria such as breeder history, pen height, pen interval, humidity, strength and security. Analytical Hierarchy Process (AHP) and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) are used to determine the reliability of pen to be deployed with broiler seed. AHP method is applied to weight the criteria and to do consistency test against matched comparison matrix. TOPSIS method is used to determine whether the broiler pen is reliable or not to be deployed with the broiler seed based on criteria weighting value from AHP. If the result of AHP and TOPSIS show > 0.5, then the pen is reliable to be deployed with broiler seed. Other tests are also used in this paper such as accuracy and sensitivity tests. Accuracy test is aimed to align the result of recommendation from the system with the field-based recommendation in determining the reliability of pen to be deployed with broiler seed. Sensitivity test is implemented to understand the criteria influencing the reliability of broiler pen by operating addition and subtraction of 10 %, 20%, 30%, and 40 %. Result of research indicates that accuracy test is obtaining 62.5 % for accuracy, while sensitivity test shows that the criteria of pen has almost similar differential of sensitivity in average.

Keywords: Reliability, AHP, TOPSIS, Decision Supporting System