

ABSTRACT

Cattle is a livestock that frequently used by human. One of the utilization is for human food. The consumption of beef cattle meat increased every years. That is why beef cattle agribusiness will be a promising business. A success measure of raising a beef cattle is from the cattle productivity , which is getting the healthy cattle with a heavy weight of carcass. So that is why, the process of deciding a cattle body weight is one of the important part in beef cattle agribusiness. A cattle body weight could be get from measuring the chest width, body length, and weighing. but those methods aren't simple, not so efficient and still have a few obstacles.

Image Processing could be used to measured the weight of beef cattle carcass more simple and efficently. To get estimated weight of beef cattle carcass , there's some steps that must be done : pre-processing, image segmentation, feature extraction and classification. Segmentation method that's applied is Region Growing to separate the cattle image with a background. With segmentation could obtained the chest width and body length size that has been used in calculating beef cattle carcass and classification process. Classification that's applied is the K-Nearest Neighbor(K-NN) that works by classifying an object based on a study data of a closer range with the object.

The result from the process series before is a Matlab Application which could estimate a weight of beef cattle carcass from a digital picture and do a classification of beef cattle into a large and moderate size. In this final project , the best accuracy achieved by the system is 88.2% with average computation time required for 61.2 seconds. With K-NN best accuracy achived is 75%, better than previous research with Graph Partitioning and K-NN wich has 64.7%.

Keywords : Beef Cattle Carcass Weight , Region Growing, K-Nearest Neighbor.