**Sistem Klasifikasi Kerusakan Mutu Tanaman Tomat (*Lycopersicon esculentum* L.) Menggunakan *Neural Network***

*Classification System of Damage Quality Tomato Plant (Lycopersicon esculentum L.) Using a Neural Network*

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## *ABSTRACT*

*Tomato is one of horticulture crops that has high economic value in Indonesia. However, tomato production in Indonesia is still much lower when compared to other countries. Government efforts in improving the quality of tomato plants with counseling are still not effective in providing explanations to farmers. So that farmers have difficulty in recognizing the causes of damage to the quality of tomato plants. Handling done is not on target. Efforts to improve the quality of tomatoes for the better. Researchers are trying to create a system that can classify the deterioration in the quality of tomato plants using neural networks to improve government efforts through counseling to make it easier for farmers to recognize damage to the quality of tomato plants and reduce the risk of crop failure. The method used in this research is the back propagation algorithm with four input parameters GLCM features: contrast* ($0^o$, $45^o$, $90^o$, $135^o$), 3 *parameter input from the extraction of morphological features, namely: perimeter, area and shape factor. The result of the classification system of quality damage on tomato plants using neural networks found the highest accuracy for the training was* 89,04% *and* 81,11% *for accuracy testing.*

***Key words****: Tomatoes, Morphological features, GLCM, Artificial Neural Network, Backpropagation.*