

## **Abstract**

Indonesia is known for its tropical fruits that is exported around the world. One of the variety of fruits that is exported is Mango Gedong. Mango gedong has a high export value because its tastes was liken by the western countries that are the main destination countries for Indonesian products. The criteria for mango is it has to be sweet with a taste of sour or what we call it sweet sour. In order for Indonesian's mango gedong to be accepted by the international countries, a system was needed that can guarantee that the fruit has the sweet sour taste. The system must be able to sort the mango that has the sweet sour taste and the one that only has the taste of sweet or sour without damaging the fruit. One of the ways to achieve that objective was by exposing the mango to a NIR (Near Infrared Reflectance) light and recording its reflectance value and determine the value of sugar and acid concentration by means of HPLC (High Performance Liquid Chromatography) from the NIR value. The value of HPLC were determined by using the value of NIR in a sorting system that uses artificial intelligence. The Artificial intelligence uses artificial neural networks (ANN) with a back propagation algorithm. This technique was used because it could match a complicated data which make it harder to classify the data, and back propagation algorithm was used because it could determine the value of HPLC from the value of NIR.

Keywords : Mango gedong, NIR, HPLC, sweet sour, artificial intelligent, Artificial Neural Networks (ANN), back propagation.