REMOVAL OF NOISE IN THE CHILI PEPPER IMAGES USING WEIGHTED 4-CONNECTED MEDIAN FILTER

M. RAJALAKSHMI[1] & P. SUBASHINI[2]

[1]Research Scholar, Department of Computer Science, Avinashilingam Institute for Women, Coimbatore, Tamil Nadu, India

[2]Professor, Department of Computer Science, Avinashilingam Institute for Women, Coimbatore, Tamil Nadu, India

ABSTRACT

The food-borne Mycotoxins which are primarily known for affecting the human health are Aflatoxin and Fumonisins. The chili pepper is affected by Aflatoxin during harvest, production and storage periods. X-ray is a very popular non-destructive testing method. In this proposed work, X-ray images of chili pepper samples were processed using image processing methods. This research analysis is carried out with the technique of weighted 4-connected median filter. Weighted 4-connected median filter is being selected as a main tool for noise removal, based on the comparisons of performance measures of various preprocessing techniques. This weighted 4-connected median filter is an advance of the 4-Connected Median Filter. Noise level in the chili pepper X-ray images is reduced while using the Weighted 4-Connected Median Filter. The obtained MAE value is 0.18 and RMSE error value is 5.35.

KEYWORDS: Aflatoxin, Chili Pepper, X-Ray Imaging, Weights, Median Filter