World Academy of Science, Engineering and Technology
International Journal of Agricultural and Biosystems Engineering
Vol:9, No:08, 2015

Clustering the Wheat Seeds Using SOM Artificial Neural Networks

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Abstract : In this study, the ability of self organizing map artificial (SOM) neural networks in clustering the wheat seeds varieties according to morphological properties of them was considered. The SOM is one type of unsupervised competitive learning. Experimentally, five morphological features of 300 seeds (including three varieties: gaskozhen, Md and sardari) were obtained using image processing technique. The results show that the artificial neural network has a good performance (90.33% accuracy) in classification of the wheat varieties despite of high similarity in them. The highest classification accuracy (100%) was achieved for sardari.

Keywords : artificial neural networks, clustering, self organizing map, wheat variety
Conference Title : ICAE 2015 : International Conference on Agricultural Engineering
Conference Location : Istanbul, Türkiye
Conference Dates : August 17-18, 2015