these number with a threshold is 94% it means that the proposed design system is working accurately.

IV. Conclusion

The simulation results had shown that the classification through this system could be proved very effective as far as the images are concerned which contain only one prevalent wheat type. However, it is very difficult to categorize the wheat types which contained more than one prominent, so extensive research is required for categorizing such crop areas. A promising method for achieving that would be to divide wheat to any given population into smaller ones in order to diminish the possibility of there being more than one species of wheat in these smaller components. Moreover, based on the above scenario, this research had designed a real-time system which used for classification of two kinds of wheat (narrow and broad wheat). According to the result, almost 94% of the proposed system work appropriately in finding the result, but there is still some works need to be done for improvement in getting an outstanding result for classification of wheat. Overall, as compared to pervious work the result demonstrates an improvent of 2%. This work can be further explored for improving classification with the help of real-time system by introducing an improvement on the algorithms and real-time system on different wheat plant classification.

Acknowledgment

The authors would like to thank Universiti Tun Hussein Onn Malaysia (UTHM) Ministry of Higher Education (MOHE) Malaysia for financially supporting this Research under Trans-disciplinary Research Grant Scheme (TRGS) vote no. T003.

References

[1] Mabe, L. K., & Oladele, O. I. (2016). Application of Information Communication Technologies for Agricultural Development through Extension Services: A Review. Information Technology Integration for Socio-Economic Development, 52.

[2] Vibhute, A. S. (2014). An Image Processing Approach for Fertilizer and Pesticide Management.

[3] Midtiby, H. S., Åstrand, B., Jørgensen, O., & Jørgensen, R. N. (2016). Upper limit for context–based crop classification in robotic weeding applications. Biosystems Engineering, 146, 183-192.

[4] Zimdahl, R. L. (2013). Fundamentals of weed science. Academic press.

[5] Zou, C., Wang, P., & Xu, Y. (2016). Bulked sample analysis in genetics, genomics and crop improvement. Plant biotechnology journal, 14(10), 1941-1955.

[6] Balasubramanian, P., & Ardil, C. (2007). Compact Binary Tree Representation of Logic Function with Enhanced Throughput. Requirements Engineering, 125, 4364. 6666.

[7] Chiroma, H., Abdul Kareem, S., Khan, A., Nawi, N.M., YaU Gital, A., Shuib, L., Abu Bakar, A. I., Rahman, M. Z., Herawan, T.(2015). Global warming: Predicting OPEC carbon dioxide emissions from petroleum consumption using neural network and hybrid cuckoo search algorithm. PloS One, 10(8).

[8] Nawi, N.M., Khan, A., Rehman, M. Z., Aziz, M. A., Abawajy, J. H., Herawat, T. (2014). An accelerated particle swarm optimization based Levenberg marquardt back propagation algorithm. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)Volume 8835, 2014, Pages 245-253

[9] Kersten, W. C., Long, N. H., Diehl, J. C., Crul, M. R., & Van Engelen, J. M. (2017). Comparing Performance of Biomass Gasifier Stoves: Influence of a Multi-Context Approach. Sustainability, 9(7), 1140.

[10] Voisin, N., Leung, L. Y. R., & Hejazi, M. I. (2016). Drivers of Change in Managed Water Resources: Modeling the Impacts of Climate and Socioeconomic Changes Using the US Midwest as a Case Study. Terrestrial Water Cycle and Climate Change: Natural and Human-Induced Impacts, 221, 169.

[11] Mahayuddin, Z. R., Jais, H. M., & Arshad, H. (2017). Comparison of Human Pilot (Remote) Control Systems in Multirotor Unmanned Aerial Vehicle Navigation. International Journal on Advanced Science, Engineering and Information Technology, 7(1), 132-138.

[12] Lahmiri, S., & Boukadoum, M. (2014). Automated detection of circinate exudates in retina digital images using empirical mode decomposition and the entropy and uniformity of the intrinsic mode functions. Biomedical Engineering/Biomedizinische Technik, 59(4), 357-366.121212

[13] Momtahan, N. (2016). Extracellular Matrix from Whole Porcine Heart Decellularization for Cardiac Tissue Engineering (Doctoral dissertation, Brigham Young University).

[14] Schowengerdt, R. A. (2006). Remote sensing: models and methods for image processing. Academic press.

[15] Cheng, X. (2004). Hyperspectral imaging and pattern recognition technologies for real time fruit safety and quality inspection (Doctoral dissertation).

[16] Azima, F., Novelina, N., & Pane, R. S. (2013). The Physical and Chemical Properties of Wheat Flour in Some Wheat (Triticum spp.) Varieties Grown in West Sumatera. International Journal on Advanced Science, Engineering and Information Technology, 3(4), 303-308.

[17] Malczewski, J. (2004). GIS-based land-use suitability analysis: a critical overview. Progress in planning, 62(1), 3-65.

[18] Arroyo, J., Guijarro, M., & Pajares, G. (2016). An instance-based learning approach for thresholding in crop images under different outdoor conditions. Computers and Electronics in Agriculture, 127, 669-679.

[19] Yip, R. K. (1994, August). Line patterns Hough transform for line segment detection. In TENCON'94. IEEE Region 10's Ninth Annual International Conference. Theme: Frontiers of Computer Technology. Proceedings of 1994(pp. 319-323). IEEE.