Hidden markov modeling for sorghum crop production

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■ **ABSTRACT :** This study presents of a hidden markov model (HMM) based on technique to classify agricultural crops time series and identify better sequence. The objective is to figure out the hidden state sequence given the observation sequence so that the trend can be analyzed using the steady state probability distribution values. The probability of Markov process generated one year difference in time series value when considered is found to give the best optimum state sequence then other difference sequence. These numerical results clearly show an improved forecasting accuracy compared to all difference fitness value and highest fitness value is well fitted sequence in sorghum production using MATLAB coding programme.

■ **KEY WORDS :** Markov chain, Hidden sequence, Observation sequence, Transition, Emission probability matrix

■ **HOW TO CITE THIS PAPER :** Thirunavukkarasu, M. (2019). Hidden markov modeling for sorghum crop production. *Internat. J. Agric. Engg.*, **12**(2) : 177-185, **DOI: 10.15740/HAS/IJAE/ 12.2/177-185.** Copyright@2019: Hind Agri-Horticultural Society.