Corn Price Forecasting Using Artificial Intelligence Techniques

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In Sinaloa, Mexico, corn's production is one of the most important activities; it is also the top agricultural production nationwide. The Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food establishes its price per ton. However, farmers cannot easily predict the price that a ton of corn will have during the production cycle, due to the variations through the whole process. This is the reason why this investigation proposed a methodology that consists in estimating the price of white corn through Artificial Neural Networks (ANN), k Nearest Neighbors (kNN), and Support Vector Machines (SVMs) as a predictor. To estimate and complete the task, the forecasting methods need time series. Those can be defined as a set of observations about values that a quantitative variable takes at different instants of time. Historical data were collected on the price of white corn for the period from 1990 to 2017; after evaluating different architectures of the proposed methods, the best result was obtained with Artificial Neural Network.