**LITERATURE SURVEY**

**1) Crop and Yield Prediction Model**

**AUTHORS:**  Shreya S. Bhanose, Kalyani A. Bogawar

An agricultural sector necessitate for well defined and systematic approach for predicting the crops with its yield and supporting farmers to take correct decisions to enhance quality of farming. The complexity of predicting the best crops is high duet unavailability of crop knowledge-base. Crop prediction is an efficient approach for better quality farming and increase revenue. Use of data clustering algorithm is an efficient approach in field of data mining to extract useful information and give prediction. Various approaches have been implemented so far are worked either for crop prediction. Crop prediction model aiding farmers to take correct decision. This indeed helps in improving quality of farming and generate better revenue for farmers. Traditional clustering algorithms such as k-Means, improved rough k-Means and-means++ makes the tasks complicated due to random selection of initial cluster center and decision of number of clusters. Modified K-Means algorithm is thereby used to improve the accuracy of a system as it achieves the high quality clusters duet initial cluster centric selection.

**2) Data mining and wireless sensor network for agriculture pest/disease predictions.**

**AUTHORS:** Tripathy, A. K., et al

Data driven precision agriculture aspects, particularly the pest/disease management, require a dynamic crop-weather data. An experiment was conducted in a semi-arid region to understand the crop-weather-pest/disease relations using wireless sensory and field-level surveillance data on closely related and interdependent pest (Thrips) - disease (Bud Necrosis) dynamics of groundnut crop. Data mining techniques were used to turn the data into useful information/knowledge/relations/trends and correlation of crop-weather-pest/disease continuum. These dynamics obtained from the data mining techniques and trained through mathematical models were validated with corresponding surveillance data. Results obtained from 2009 & 2010 kharif seasons (monsoon) and 2009-10 & 2010-11 rabi seasons (post monsoon) data could be used to develop a real to near real-time decision support system for pest/disease predictions.

**3) An Analysis of Agricultural Soils by using Data Mining Techniques**

**AUTHORS:** Ramesh Babu Palepu

Agriculture is the most basic function to accomplish food demand all over the globe; it is a backbone particularly in the developing countries like India. The application of Data mining techniques in agriculture especially on soils can revise the situation of pledge making and improve cultivation yields in a better way. The analysis of soils plays an indispensable role for resolution making on several issues related to agriculture field. This paper presents about the role of data mining in perspective of soil analysis in the field of agriculture and also confers about several data mining techniques and their related work by several authors in context to soil analysis domain. The data mining techniques are of very up-to-the-minute in the area of soil analysis.

**4) Analysing Soil Data using Data Mining Classification Technique**

**AUTHORS:** Rajeswari and K. Arunesh

Soil is an essential key factor of agriculture. The objective of the work is to predict soil type using data mining classification techniques. Methods/Analysis: Soil type is predicted using data mining classification techniques such as JRip, J48 and Naive Bayes. These classifier algorithms are applied to extract the knowledge from soil data and two types of soil are considered such as Red and Black. Findings: In this paper, Data Mining and agricultural Data Mining are summarized. The JRip model can produce more reliable results of this data and the Kappa Statistics in the forecast were increased. Application/Improvement: For solving the issues in Big Data, efficient methods can be created that utilize Data Mining to enhance the exactness of classification of huge soil data sets.

**5) The Impact of Data Analytics in Crop Management based on Weather Conditions**

**AUTHORS:** A.Swarupa Rani

Agriculture is the most significant application area particularly in the developing countries like India. Data mining plays a crucial role for decision making on several issues related to agriculture field. The goal of the data mining process is to extract knowledge from an existing data set and transform it into a unique human understandable format for some advance use. Crop management of certain agriculture region is depends on the climatic conditions of that region because climate can make huge impact on crop productivity. Real time weather data can helps to attain the good crop management. Utilization of information and communications technology enables automation of extracting significant data in an effort to obtain knowledge and trends, which enables the elimination of manual tasks and easier data extraction directly from electronic sources, transfer to secure electronic system of documentation which will enable production cost reduction, higher yield and higher market price. Also identified that how the data mining helps to analyze and predict the useful pattern from huge and dynamically changed climatic data. In agricultural and biological engineering, researchers and engineers have developed methods of fuzzy logic, artificial neural networks, genetic algorithms, decision trees, and support vector machines to study soil, climate conditions and water regimes related to crop growth and pest management in agriculture. In this paper summarizes the application of data mining techniques, Neural Networks, Support Vector Machine, Big Data analysis and soft computing in the agriculture field base on weather conditions.