LITERATURE SURVEY

DOMAIN NAME : Machine Learning

TITLE : Fertilizers Recommendation System For Disease Prediction

LEADER NAME : Esha.A

TEAM MEMBER NAME : Shubashini.J, Asiya Begam.M, Kousika.M

AUTHOR NAME : Dr.P. Pandi Selvi,P. Poornima

ARTICLE NAME : Soil-Based Fertilizer Recommendation System for Crop Disease Prediction System

PUBLISHED YEAR : 2021

[1]Soil Based Fertilizer Recommendation System for Crop Disease Prediction System, Dr.P. Pandi Selvi , Agriculture is the main aspect for the economic development of a country. Agriculture is the heart and life of most Indians. But in recent days, the field was going down due to various natural calamities. In order to overcome the problem, various issues in this field need to be addressed. The soil type, fertilizer recommendation, diseases in plants and leaves. All these features need to be considered. Our proposed system was organized in such a way, to analyze the soil type, diseases in the leaves and finally to recommend the appropriate fertilizer to the farmers, that may be of great help to them. Plant disease, especially on leaves, is one of the major factors that reduce the yield in both quality and quantity of the food crops. Finding the leaf disease is an important role to preserve agriculture. Smart analysis and Comprehensive prediction model in agriculture helps the farmer to yield right crop at the right time. The main benefits of the proposed system are as follows: Yield right crop at the right time, Balancing the crop production, control plant disease, Economic growth, and planning to reduce the crop scarcity. Hence to Detect and recognize the plant diseases and to recommend fertilizer it is necessary to provide symptoms in identifying the disease at its earliest. Hence the authors proposed and implemented new fertilizers Recommendation System for crop disease prediction.

Problem Identified: Coconut is one of the most valuable crops for many years. In the past few years, coconut trees have been affected by many diseases which reduce the productivity of coconut cultivation. Several factors were attributed to this situation, including low yield, pests and pest diseases, and nutritional deficiency. Nutrient deficiency is one of the recent problems with coconut trees. Therefore, inrecent years, it has been observed that these types of diseases reduce the growth of trees and the economic side of the country. Hence, the planters must find out the ideal solution to protect their growth.

AUTHOR NAME : Devdatta A. Bondre,Mr. Santosh Mahagaonkar

ARTICLE NAME : Prediction of Crop Yield and Fertilizer Recommendation Using Machine Learning Algorithms

PUBLISHED YEAR: 2019

[2]Prediction of Crop Yield and Fertilizer Recommendation Using Machine Learning Algorithms, Devdatta A. Bondre, Mr.Santhosh Mahaganokar, This paper proposed and implements a system to predict crop yield from previous data. This is achieved by applying machine learning algorithms like Support Vector Machine and Random Forest to agriculture data and recommending fertilizers suitable for every particular crop. The paper focuses on the creation of a prediction model which may be used for future prediction of crop yield. It presents a brief analysis of crop yield prediction using machine learningtechniques. It aims to improve the yield of the crop in several ways and recommends fertilizer suitable for every particular crop. Any farmer is interested in knowing how much yield he is about to expect. In the past, yield prediction was performed by considering a farmer's experience on a particular field and crop. The yield prediction is a major issue that remains to be solved based on available data. Machine learning techniques are the better choice for this purpose. Different Machine learning techniques are usedand evaluated in agriculture for estimating the future year's crop production.

Problem Identified: Nowadays, modern people don’t have awareness about the cultivation of crops at the right time and the right place. Because of these cultivating techniques, the seasonal climatic conditions are also being changed against the fundamental assets like soil, water, and air which lead to insecurity offood.

AUTHOR NAME : Suma V, R Amog Shetty, Rishab F Tated, Sunku Rohan, Triveni S Pujar

ARTICLE NAME : CNN-based Leaf Disease Identification and Remedy RecommendationSystem

PUBLISHED YEAR: 2019

[3]CNN-based Leaf Disease Identification and Remedy Recommendation System, Suma V, this paper aim to help the farmers to protect their farms from any kind of pests and disease attacks and eliminate them without disturbing the decorum of the soil and untouched parts of other plants.[4] Mostlyin India, farmers use manual monitoring and some apps which have huge database limitations and are only bound to the detection part. Since Prevention is better than cure, this paper aims to detect attacks of pests/diseases in the future thereby making farmers prevent such attacks. Technology has laid its influence on developing farms and agro-based industries. Today, it is possible to grow crops in deserts by using technology. Technology has dived into depths in the agriculture sector. Automation technology is the present most demanded tool in agriculture. Many companies have come up with the latest solutions in Machine Learning, Artificial Intelligence transforming agriculture into Digital Agriculture, etc. Manytests have proved that deploying the technology on farms, will increase crop yield and farmer's revenue thereby. This paper discusses and tests Deep Learning technology implementation in agriculture.

Problem Identified: Farmers lack the knowledge of disease and hence they produce less production. Kisan call centers are available but do not offer service 24*7 and sometimes communication too fails. Farmers who are unable to explain the disease properly on call need to analyze the image of the affected area of the disease.

AUTHOR NAME : Limin Chuan, Ping He,Mirasol F. Pampolino, Adrian M. Johnston

ARTICLE NAME : Establishing a ScientificBasis for Fertilizer Recommendations for Wheat in China

PUBLISHED YEAR: 2013

[4]Establishing a Scientific Basis for Fertilizer Recommendations for Wheat in China, Limin Chuan, Wheat (Triticum aestivum L.) is one of the important cereal crops in China, and fertilizers have played a critical role in increasing wheat yields. However, in pursuing food security in China, the over- application of N fertilizer has become a common practice in wheat production systems, which has led to nutrient imbalances, inefficient fertilizer use, and large losses to the environment (Ju et al., 2009). Havingaccess to a science-based fertilizer recommendation method is critical to improving fertilizer useefficiency in a high-yielding wheat crop, especially for smallholder farmers in China. Nutrient Expert® for Wheat (NE) is a decision support system that has been developed by the International Plant Nutrition Institute (IPNI) to support advisers who make fertilizer recommendations to farmers. The science behind this fertilizer recommendation method is based on yield response and AE. This is an alternative approach developed for use when soil testing is limited or not available. The method uses soil indigenous nutrient supply in an attempt to avoid excessive nutrient accumulation in the soil and has been applied with successin rice, maize, and wheat crops in some Asian countries (Witt et al., 2007; Buresh et al., 2010; Pampolinoet al., 2011). This is a unique approach as it also considers N, P, and K interactions. The determination of fertilizer N requirements from NE has been modified to use a target AE and an estimation of yield response to applied N (Witt et al., 2007; Pampolino et al., 2011).

Problem Identified: Inappropriate application of fertilizers has become a common phenomenon in wheat production systems in China. This has led to nutrient imbalances, inefficient fertilizer use, and large lossesto the environment

AUTHOR NAME **:** R. Neela,P Nithya

ARTICLE NAME **:** Fertilizers Recommendation System For Disease Prediction In Tree Leave

PUBLISHED YEAR : 2019

The author **[5]Fertilizers Recommendation System For Disease Prediction In Tree Leave** proposes a method which helps us predict crop yield by suggesting the best crops. It also focuses on soil types in order to identify which crop should be planted in the field to increase productivity. In terms of crop yield, soil types are vital. By incorporating the weather details of the previous year into the equation, soil information can be obtained. The advantages are that It allows us to predict which crops would be appropriate for a given climate. Using the weather and disease related data sets, the crop quality can also be improved. Prediction algorithms help us to classify the data based on the disease, and data extracted from the classifier is used to predict soil and crop.

Problem Identified : Due to the changing climatic conditions, accurate results cannot be predicted by this system.

REFERENCES

[1] Dr.P. Pandi Selvi, P. Poornima (2021). “Soil Based Fertilizer Recommendation System for Crop Disease Prediction System”

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[3] Suma V, R Amog Shetty, Rishab F Tated, Sunku Rohan, Triveni S Pujar, (2019). “CNN-based Leaf Disease Identification and Remedy Recommendation System”.

[4] Limin Chuan, Ping He, Mirasol F. Pampolino, Adrian M. Johnston, Jiyun Jin, Xinpeng Xu, Shicheng Zhao, Shaojun Qiu, and Wei Zhou, (2013). “Establishing a Scientific Basis for Fertilizer Recommendations for Wheat in China”.

[5] R. Neela, P.(2019) “Fertilizers Recommendation System For Disease Prediction In Tree Leave” International journal of scientific & technology research volume 8, issue 11, november 2019.