A brief study to increase rice fertility in Plains

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Abstract: A deep study in the growth of rice production with fertile is necessary to satisfy the day to day food needs of the peoples in India. The automatic and systematic approach is necessary to increase the production and fertility of the soil in order to satisfy the people's food consumption with good quality. To improve the production the potassium content, nitrogen content and phosphorus content has to be measured to improve the quality and high production of rice in plains.

Keywords-Rice production,fertility of soil,food consumption.

I.Introduction

Fertilizer appropriate application is an important practical management to improvise soil fertility and best quality in the red-soil regions of Plains in Tamil Nadu[1]. In the present study, we examined the effects of five fertilization treatments, no fertilizer, rice straw return, chemical fertilizer, organic manure and green manure on soil , soil organic carbon, total nitrogen, ratio and available nutrients (AN, AP and AK) contents in the plowed layer (0–20 cm) of paddy soil[2]. Results showed that the soil pH was the lowest with an average of 5.30 unit and was significantly higher in 5.89 units and 5.63 units treatments ($P<0.05$)[3].
Thus, these indicated that organic manure should be recommended to improve soil fertility in this region[4] and K fertilizer should be simultaneously applied considering the soil K

Contents[5]. Considering the long-term fertilizer efficiency our results also suggest that annual straw returning application could improve soil fertility in this trial region.

II. Methodology

The methodology of the survey is given below. Here the image of the rice is given as input. Then the filtering of the input image is filtered. Edge of the image is detected using canny detector. Then the image is segmented. The pattern recognition of the image is done by applying three different properties of pattern recognition.
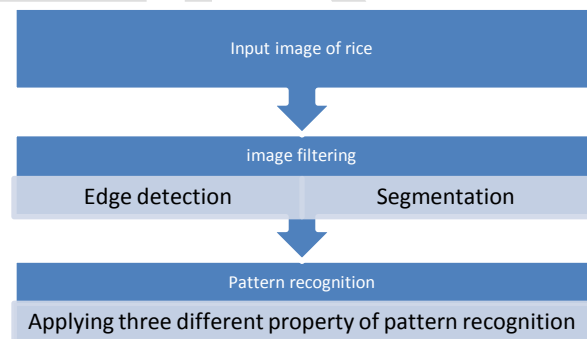

Fig.1. Methodology of the image.

Objective of the Proposed System

1. To detect the content of chemical which reduces the fertility of the rice crops.
2. To adopt the systematic approach to find the fertile crop
3. Based on the proposed system the pesticides can be used to improve the fertility of rice in plains.

III. Results and Discussion

The proposed system helps to detect the fertility of soil using rice plant and helps to predict the deficit in chemical content of the soil which reduces the fertile growth of rice and same can be used as pesticide in order to improve the growth and fertility of rice crops in plains.
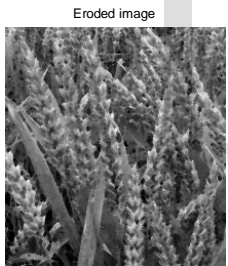

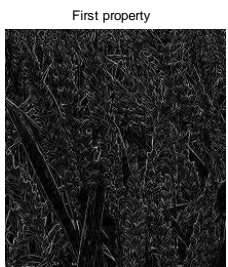Fig 2. Dilated rice image

Fig 3. Eroded Image

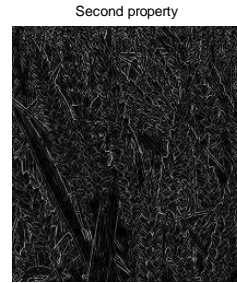Fig 4. First property to detect Nitrogen Content

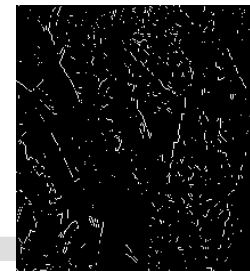Fig 5. Second Property to detect Pottasium content
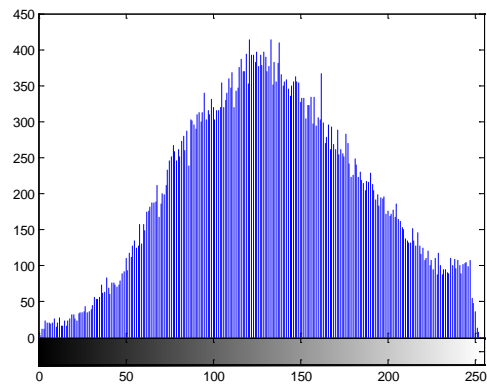

Fig 6. Third Property to detect Phosphorus Content

Fig 7. Histogram Equivalization

The proposed system helps to convert the image to dilated and eroded image and the first property output helps to find the nitrogen content and the second property helps to find the potassium content and the third property helps to

detect the phosphorus content. The future prediction has to be done by applying the chemical content to compensate the deficiency in the fertility of the crop in order to increase the production of rice in plains.

IV. Conclusion

Thus this study helps to predict the deficiency content in rice crops and its soil and in perhaps helps to   increase the production of rice by applying various pesticides to compensate the deficiency and to increase the rice production.

References

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