**Abstract:-** As professional agriculture engineers are responsible for the recognition of leaf diseases but by using intelligent systems they can be diagnosis in early stage also. A leaf disease diagnosis method that is implemented with the resources of a mobile phone application as well as using IOT(raspberry pi and web camera). It can be used both by amateur gardeners and by professional agriculturists for early detection of diseases. The recognition of a disease can be done by using dataset of 54,305 images (Plant Village Dataset) of diseased and healthy plants leaves collected under control conditions.The images cover 14 species of crops including: Apple,Grape,Soyabean,Potato,Cherry,Tomato,Corn,Peach,Squash,Blueberry,S-trawberry,Raspberry,Orange and Pepper .It contains images of 17 basic diseases,4 bacterial diseases,2 diseases caused by mold(oomycete),2 viral diseases and 1 disease caused by a mite.12 crop species also have healthy leaf images that are not visibly affected by diseases.Features extracted from testing image are compared against the disease signatures(according to which model is trained) in order to select the most likely disease. Out of 54,305 images 43,444 images used to train the model and rest used for validation.The accuracy was experimentally measured between 88% and 97%.

**Introduction:-**Agriculture forms a vital part for every country economy. Farmers can grow variety of crops but diseases hamper the growth of crops. One of the major factors responsible for the crop destruction is plant disease. Different plants suffer from different diseases and the main part of plant to examine the disease in leaf. The diseases on leaf can reduce both the quality and quantity of crops and their further growth. Through proper management strategies such as pesticides, fungicides and chemical applications one can facilitates control of diseases which interns improve quality. The disease treatment may be delay because the technician or expert can’t go to the locale to diagnose in good time. Relative to the person’s vision, computer image processing technique take on some characteristics such as speediness, huge information and distinguish small diversity which can’t be distinguished by person’s eyes, so image processing technique can help farmers to judge the reasons and severity of crop diseases, and it takes on important theoretical and practical significance for improving the automatic management of crop. Here two methods are proposed firstly android application and secondly using IOT sensors and devices. Android application has the feature firstly it detects the disease of leaf and then give description about those diseases and the methods to prevent from those diseases.Two methods are proposed so that the result is accurate and according to user comfort it can use.Model is trained using concept of image preprocessing , image segmentation and feature extraction using **SRCNN Model.** Super-Resolution Convolutional Neural Network is the first deep learning method for single image super-resolution, which can directly learn an end-to-end mapping between the low/high-resolution images. It only contains three layers, and each layer has a convolution layer with an activation function. The input image of the network is a bicubic interpolation image of a low-resolution image, with the same size as the output images. The first layer mainly extracts patches and representations of low-resolution images. The second layer maps the n1−dimensional representations (feature vectors) of several patches into an n2−dimensional one, making a non-linear mapping. The number of patches for each mapping operation depends on the kernel size of the second convolution layer. Then the last layer realizes the reconstruction of high-resolution image.

The concept of image processing assists us in following purposes:

1. Recognizing which plant leaf it is.
2. Finding the infected region.
3. Determine the color of infected region .