CROP RECO

Crop Recommendation based on
soil pH and Temperature

Presented by

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Date

JAN 27,2023

Github link
https://github.com/Padmahasini/CROP-RECOMMENDATION/tree/main

CONTENTS

AGRICULTURAL ISSUES

AGRICULTURE

Delayed paddy plantation has cascading effect on north India's air pollution: Harvard University

Delhi and other parts of the region can experience lesser pollution if certain districts of Punjab do not delay ...

December 16, 2022 SHARE

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Climate change: Crop yields in Punjab will fall by up to 13% in next 30 years

A study by Punjab Agricultural University used rainfall & temperature data from 35 ...

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AGRICULTURE

Subsidies not enough: Heavy rains destroy pearl onion crop in Tamil Nadu, prices reach Rs 100/kg

Heavy rains since November; farmers ask for MSP, production-based benefits

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AGRICULTURE

2022 too short, too far: A tough year for farmers, cattle owners

Down To Earth recaps the primary environment, health and developmental news from 2022

December 28, 2022

CLIMATE CHANGE

Frost causes heavy damage to potato, vegetable crops in north India

Frost-like conditions occur every year, but an episode like this happens once in three or four years

After excess rainfall, now poor prices leave Marathwada cotton farmers in debt

Excess rainfall has caused a loss of about 50 per cent across the cotton belt region

January 04, 2023 SHARE

WHY CROP RECO

FACTORS AFFECTING AGRICULTURE

PHYSICAL FACTORS

CLIMATE

TEMPERATURE

RAINFALL

WIND

LANDSCAPE

SOIL

SOIL TYPE

SOIL DEGRADATION

CULTURAL FACTORS

LABOUR

CAPITAL

TRANSPORT

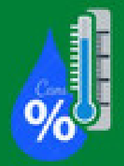
MARKET

WHAT DOES CROP RECO PROVIDE?

Provides Suitable crop recommendation with details for selected location

CROP RECO

GET HUMIDITY FORECAST



SELECT COORD FROM MAP

GET SOIL PH

GET SUITABLE CROP RECOMMENDATION

GET WEATHER FORECAST

S/W & API'S USED IN CROP RECO

EDITOR

VISUAL STUDIO CODE

SOFTWARE

QGIS

*All API's and s/w used are open source

FRAMEWORK

ANGULAR

LANGUAGES

HTML

CSS

TYPE SCRIPT

API'S

GEOCODING

WEATHER FORECAST

SOIL GRID PH

OPEN LAYERS MAP

LIBRARY

EMAIL JS

PARAMETERS CONSIDERED

SOIL PH

Soil pH is the measure of soil acidity or alkalinity, specifically the inverse log of the Hydrogen ion concentration on a scale from 0-14

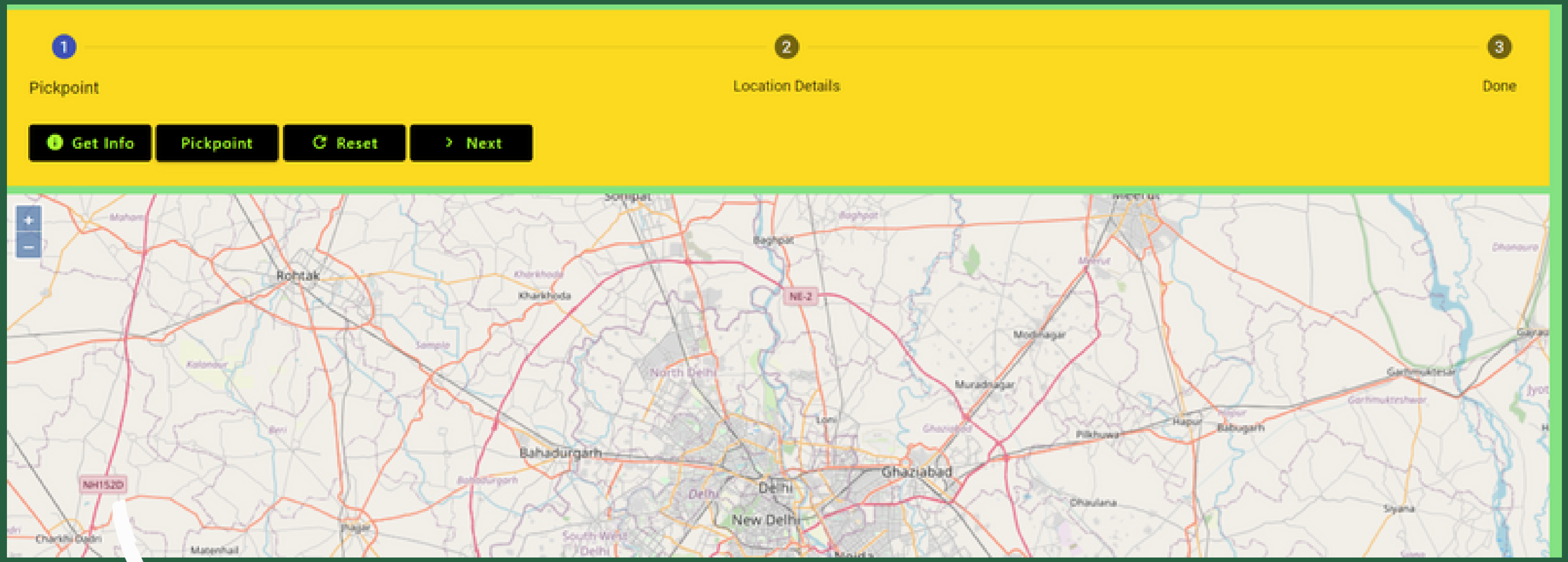
0 ACIDIC 6	blueberries, white potatoes
7 NEUTRAL	cabbage, carrot
8 ALKALINE 14	asparagus, cucumbers

TEMPERATURE

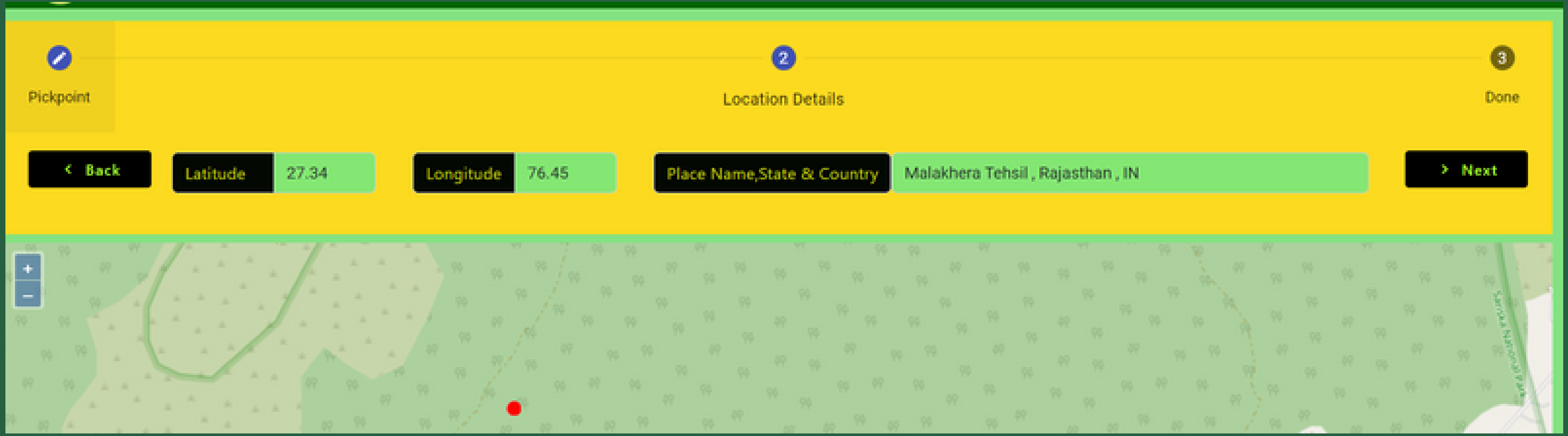
Every plant has a minimum, maximum, and optimum temperature for its growth

HOT TEMP	lettuce and broccoli
COLD TEMP	Sugarcane,ragi

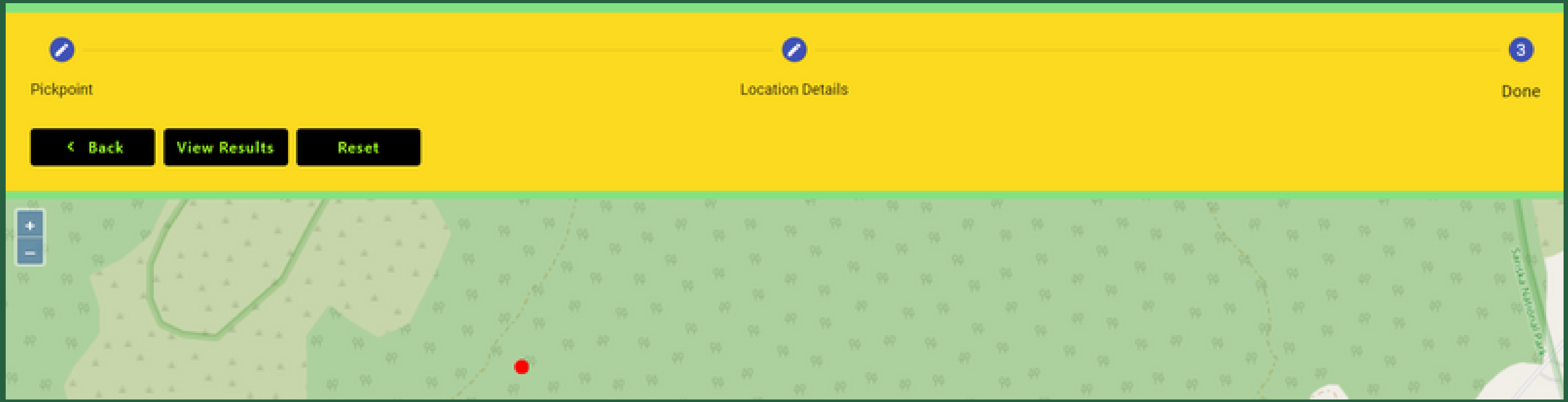
PROCEDURE



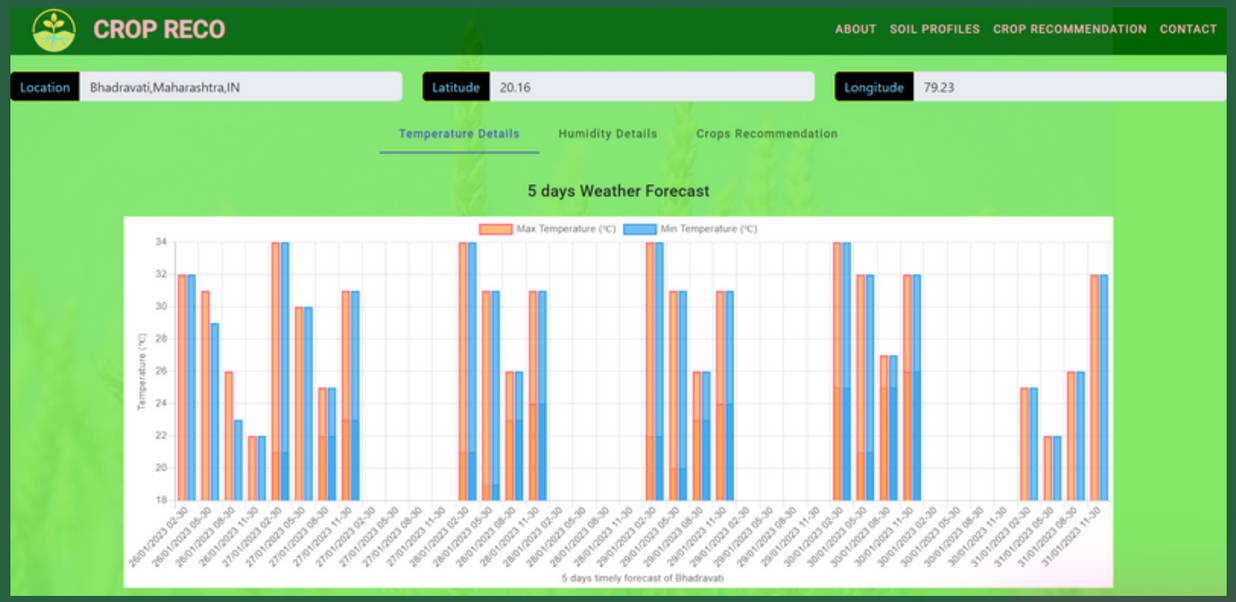
Pickpoint
Location Details
Done
Get Info
Pickpoint
Reset
Next
Rohtak
Bahadurgarh
Delhi
New Delhi
Ghaziabad

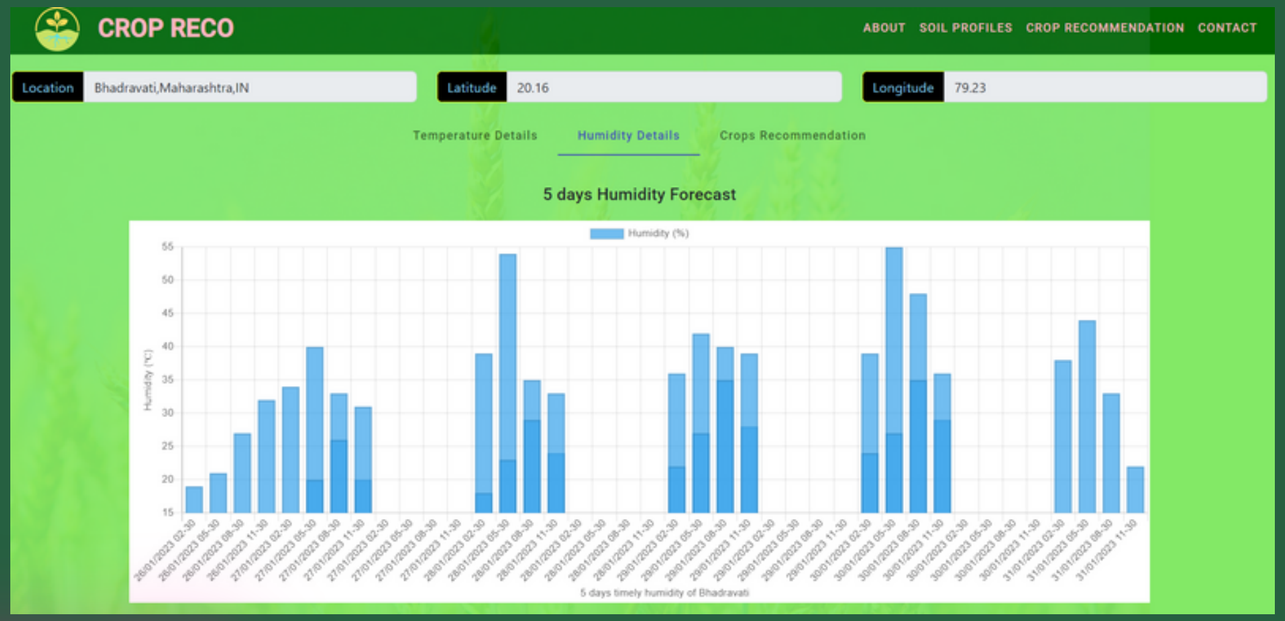


Pickpoint
Location Details
Done
Back
Latitude
27.34
Longitude
76.45
Place Name,State & Country
Malakhera Tehsil , Rajasthan , IN
Next

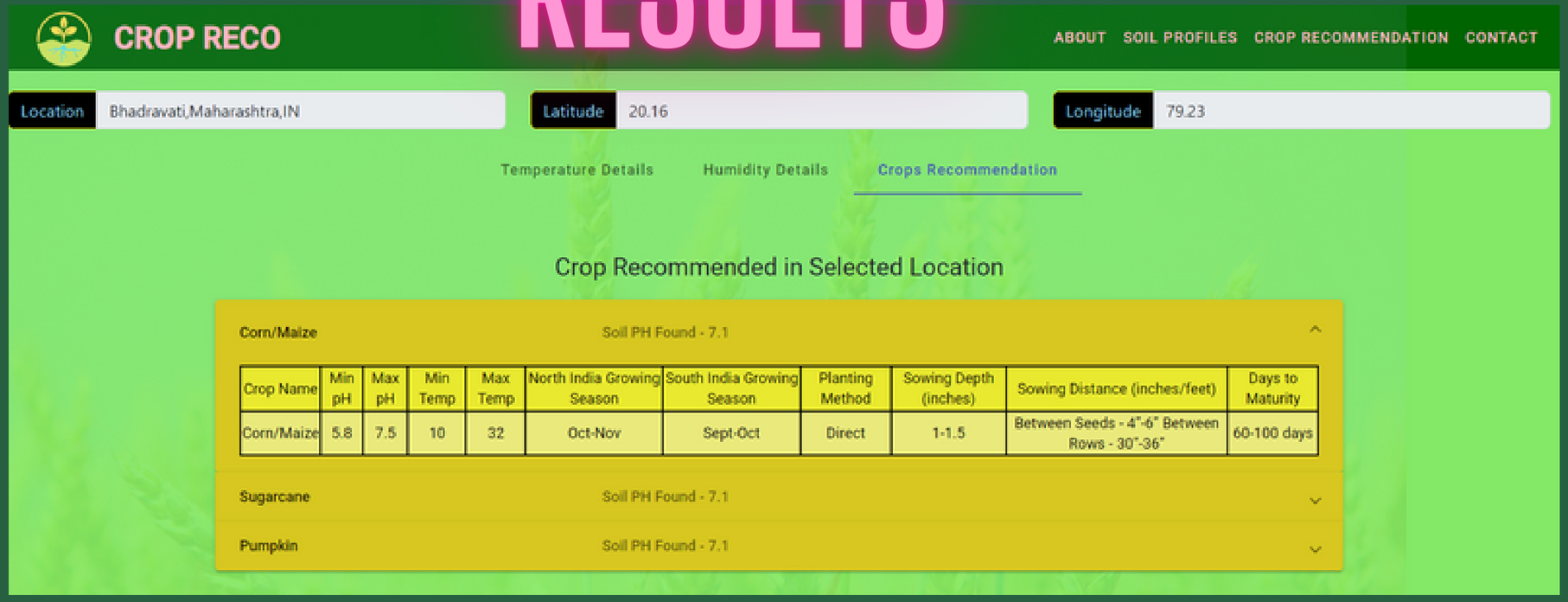


Pickpoint
Location Details
Done
Back
View Results
Reset





RESULTS



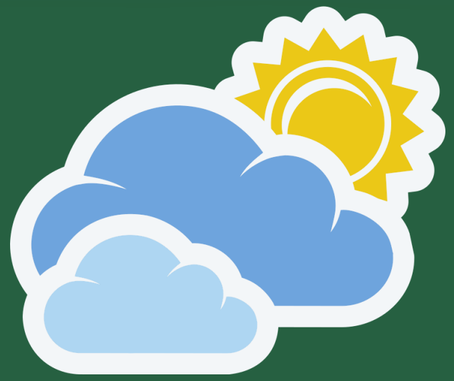
Crop Name	Min pH	Max pH	Min Temp	Max Temp	North India Growing Season	South India Growing Season	Planting Method	Sowing Depth (inches)	Sowing Distance (inches/feet)	Days to Maturity
Corn/Maize	5.8	7.5	10	32	Oct-Nov	Sept-Oct	Direct	1-1.5	Between Seeds - 4"-6" Between Rows - 30"-36"	60-100 days

WHAT'S NEW/INNOVATIVE IN CROP RECO

1. Crop Recommendation using soil pH and Temperature doesnot exist in any existing websites
2. No websites with UI by selecting coordinates to obtain soil pH.
3. Crop Reco also provides Max and Min pH,Maxi and Min Temp, Sowing Period in North and South India and Sowing Type values required for crop to grow in that location
4. All the S/W and API's used are open source and with free basic plan
5. Weather and Humidity forecast for 5 days with interval of 3 hours is provided in graph
6. Simple ,User friendly & Responsive for desktop and mobile

ADVANTAGES OF CROP RECO

SOWING TECHNIQUE



WEATHER FORECAST

INCREASE IN PRODUCTION

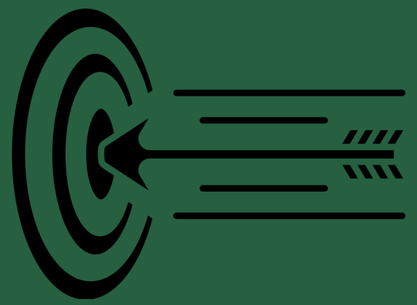
REDUCE SOIL DEGRADATION

SAVES COST

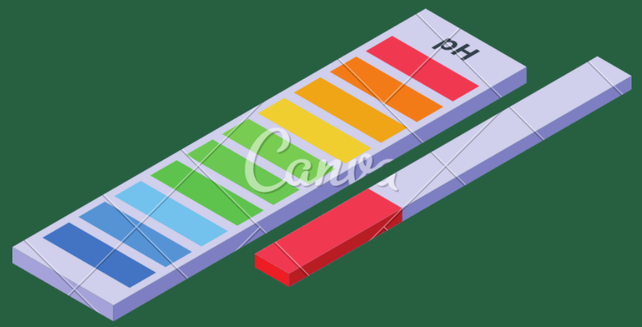
SAVES TIME

GLOBAL LEVEL EASY ACCESS

DISADVANTAGES OF CROP RECO



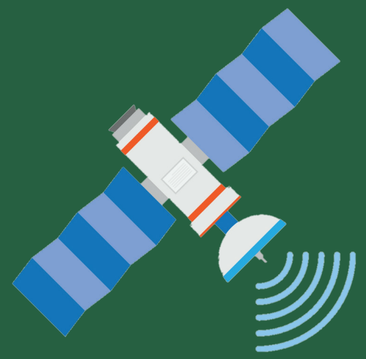
ACCURACY NEED TO BE TESTED BASED ON TEST CASES



pH VALUES VARIES PERIODICALLY

ADDITIONAL PARAMETERS SHOULD BE CONSIDERED

FUTURE ENCHANCEMENTS



CAN USE SATELLITE DATA SUCH AS NDVI FOR CROP MONITORING

MORE CROPS CAN BE CONSIDERED BASED ON LOCATION HISTORY

CROP RECO DEMO

http://localhost:4200/home

THANK YOU!