

SIH25030 – AI-Based Crop Recommendation for Farmers

Roadmap (Deadline: 15th September 2025)

6th – 7th Sept (Sat–Sun): Setup & Data Integration

Finalize problem scope (crop recommendation, disease detection, market/weather).

Collect APIs/datasets (SoilGrids/Bhuvan, IMD/OpenWeather, Agmarknet).

Setup tech stack:

Backend: FastAPI/Node.js

Mobile App: Flutter/React Native

Database: MySQL

Initialize GitHub repo and basic mobile app skeleton (farmer login/profile).

8th Sept (Mon): ML Model v1

Train simple ML model with soil + weather + demand → crop recommendation.

Add yield and profit estimation.

Expose model via backend API.

9th Sept (Tue): Disease Detection Integration

Integrate pre-trained PlantVillage CNN model.

API: Upload leaf image → detect disease → suggest treatment.

Add image upload option in mobile app.

10th Sept (Wed): Mobile App Core

Farmer inputs soil/location/past crop.

App shows Top 3 recommended crops with yield & profit forecasts.

Implement offline caching (using MySQL local sync).

11th Sept (Thu): Voice & Chat

Add speech-to-text (Google API / Vosk for offline mode).

Add chatbot Q&A (RASA / agriculture FAQ LLM).

Local language support (Hindi, Bengali, Tamil as demo).

12th Sept (Fri): Market & Weather

Integrate weather forecast based on location.

Fetch/display market demand and price trends (scraping/API).

Show “Best market to sell” insights.

13th Sept (Sat): UI/UX Polish

Farmer-friendly UI (large icons, big buttons, simple flow).

Leaf disease detection fully inside app.

Add sustainability score (traffic-light color system).

14th Sept (Sun): Testing

End-to-end testing for all features:

1. Crop recommendation
2. Yield & profit forecasts
3. Disease detection

4. Chatbot + voice interface

Optimize for low internet connectivity.

15th Sept (Mon): Final Demo Build

Freeze prototype for demo.

Record demo video.

Prepare PPT + documentation for SIH submission.

Final Deliverable

AI-powered crop recommendations.

Yield & profit forecast.

Crop disease detection.

Market & weather insights.

Multilingual voice/chat interface.

Offline support (MySQL local sync).