Farm Profile - FI001.0

Last modified by

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Current document version

V1.0

Module Name

F-Intel

Contents

1. Document History

VERSION HISTORY							
DATE	**CLIENT NAME**	**VERSION**	**DESCRIPTION OF CHANGE**	**AUTHOR**	**REQUIREMENT ID**	**CCB ID**	**STATUS**
26/08/2024	F-Intel	V 1.0	New Document	Pramod K			Pending

2. Overview -

2.1 Service objectives or Business requirements and the business values added by the service

Use Case: Quick Farm Overview for Planning and Management

The Farm Profile Card offers a concise and informative snapshot of a selected farm or subplot, providing essential details such as the current crop name, crop variety, season, and both the planned and predicted harvest dates. It also includes other relevant farm-specific information to give users a complete overview of the farm's status.

This card is non-editable, ensuring that users always have access to accurate, up-to-date data that reflects the actual conditions on the farm, supporting effective planning, monitoring, and decision-making for farm management.

3. Pre-requisite Services

#	MODULE NAME	SERVICE NAME	SERVICE CODE
1		User Registration Process (Farmizo)	
2		Farm Registration Process 1. Farm Infrastructure 2. Crop Infrastructure	
3			
4			
5			
6			
7			
8			
9			

4. Add form

4.1

Notes

- Not applicable

Feature:

4.2

Notes

- Not applicable

Field Descriptions

4.4.1. Add form field descriptions

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	- ERROR MESSAGE	Sample Example	PREREQUISITE	Mandatory Y/N

			-	-			
			-	-			

5. Customizations Summary Table

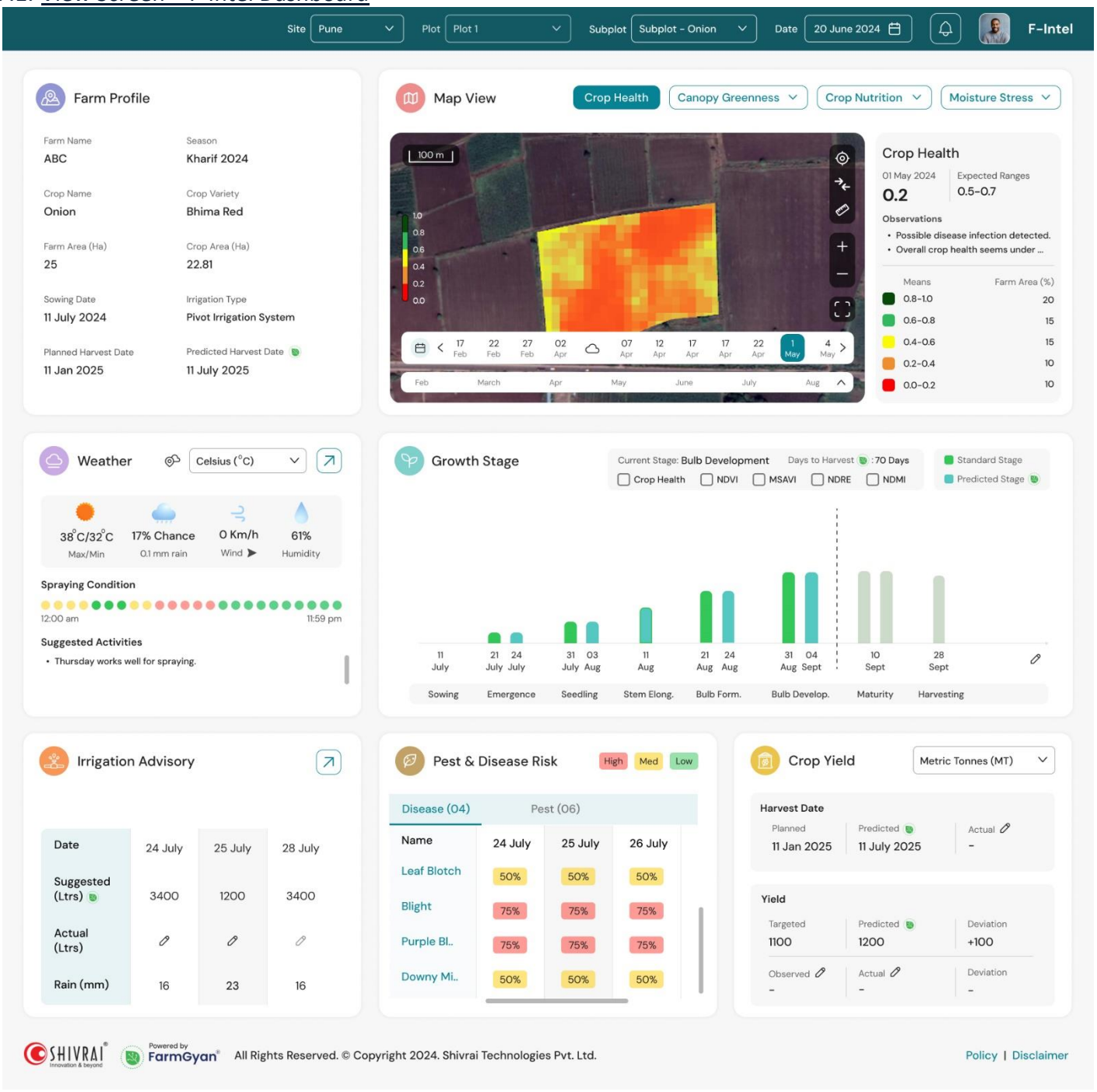
DATE	CLIENT NAME	REQUIREMENT ID	CCB ID	IMPACTED AREA	Change Category	REQUIREMENT STATUS

6. Customization Details/ Use Case

Requirement ID	DevOps ID
Requirement:	

7. View form

7.1. View Screen – F-Intel Dashboard



Notes

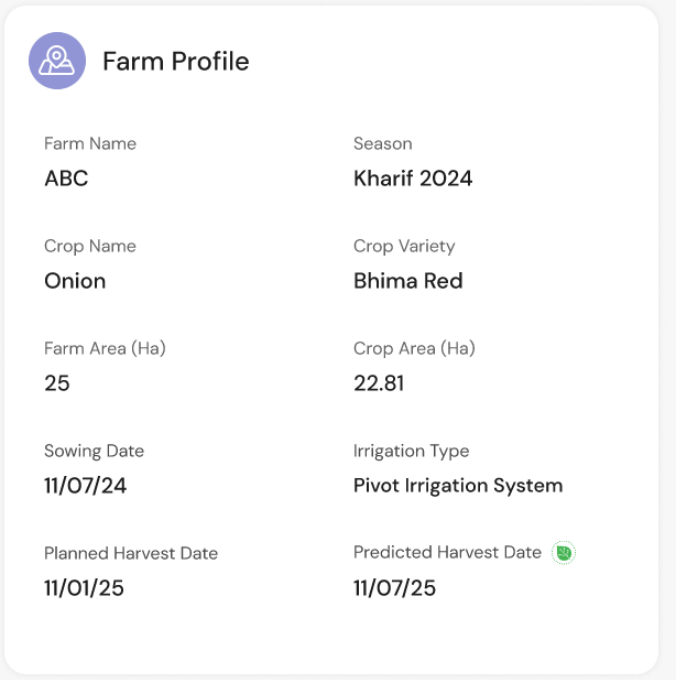
Introducing the F-Intel dashboard, designed to deliver a comprehensive range of insights:

- **Farm Profile**: Provides detailed information about the farm.
- **Map View**: Offers map-based insights into crop health, nutrition, canopy greenness, and moisture stress.
- **Weather Details**: Displays current weather conditions with hourly and daily updates, including suggestions for spraying conditions and recommended activities.

- **Crop Growth Stage**: Tracks the crop's current stage, age, and days to harvest. It also offers insights into crop performance using satellite-based time series data like NDVI, MSAVI, NDRE, and NDMI.
- **Irrigation Advisory**: Recommends the optimal amount of water for irrigation, factoring in actual irrigation and rainwater contribution.
- **Pest and Disease Risk**: Highlights the percentage risk of pests and diseases, complete with images, details, control measures, and expert recommendations.
- **Crop Yield**: Shows planned and predicted harvest dates, allows for input of actual harvest dates, and compares targeted vs. predicted yields. Users can also log field observations during the growing season and actual yields after harvesting to track deviations.

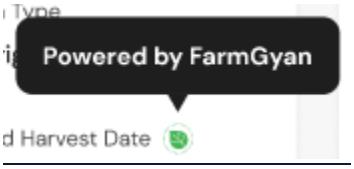
The dashboard presents insights based on the selected site, plot, subplot, and date.

7.2. Feature – Farm Profile -when data is available



Notes

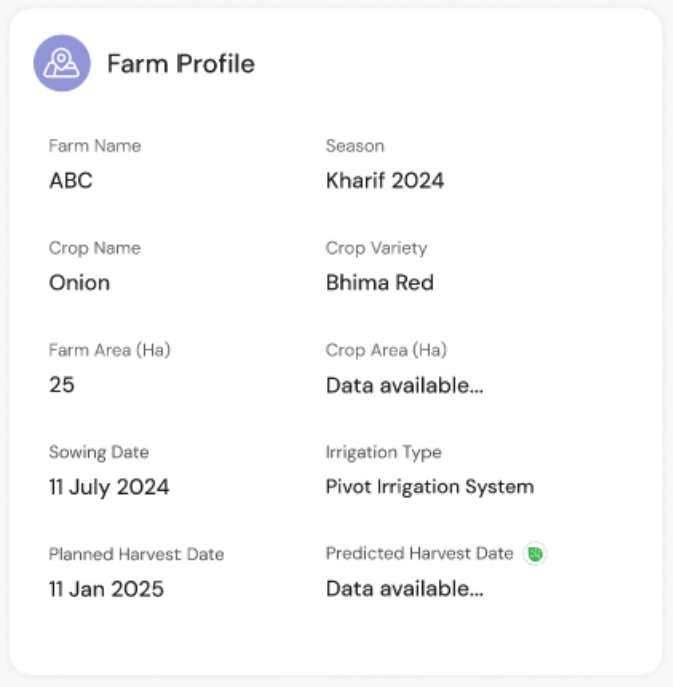
- This is Farm Profile card includes logo and Farm Profile as Title.
- Farm profile card is non-editable.
- This card will show the details of Farm based on the selection of farm (i.e. Subplot) and plot and site form header filter data will be appearing here for the selected (subplot) farm.
- It will display information such as the farm name, season, crop name, crop variety, farm area, crop area, sowing date, irrigation type, planned harvest date, and predicted harvest date.

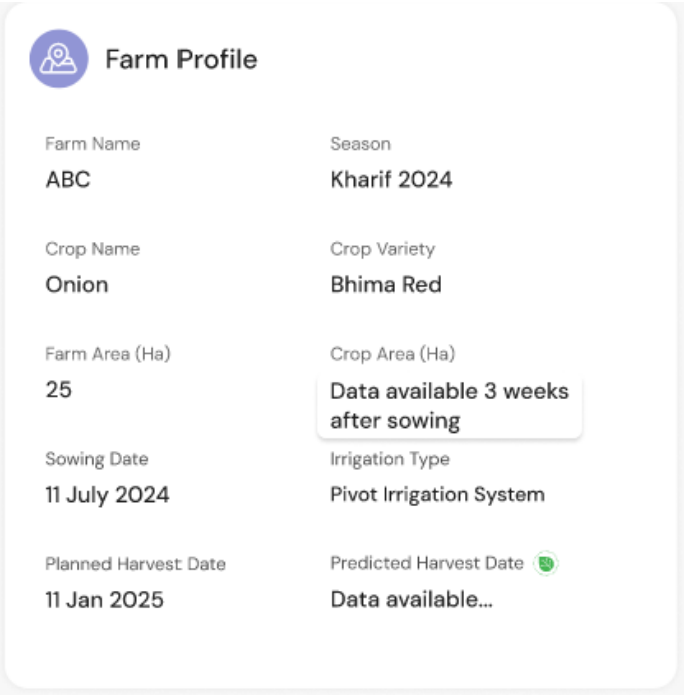


Notes

- The leaf icon will display "Powered by FarmGyan" when the user hovers over it like below.

7.2.1. Feature – Farm Profile -when no data available





Notes

- "Data available…" should be displayed and, upon mouse hover, should display the message "Data available 3 weeks after sowing" as shown in the image above when there is no data to showcase or when processing and displaying the data on the card for "Predicted Harvest Date" and "Crop Area" takes some time.

7.3. Cancel & Close Functionality

Notes

- Not applicable

7.4. Reverse Functionality

Notes

- Not applicable

7.5. Field Descriptions – Farm Profile

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	ERROR MESSAGE	PREREQUISITE	Enabled/Disabled
1	Farm Name	This will show the name of farm based on the selection of Site name, plot name and subplot name	- This is label field. - This will show the name of farm i.e., subplot name - Data will be appearing from "as per the data entered in the farm registration process of farm infrastructure"	NA	NA	NA
2	Season	This will show the crop season	- This is label field - This will show the crop season for the selected farm - Data will be appearing from "as per the data entered in farm registration process of crop infrastructure"	NA	NA	NA
3	Crop Name	This will show the crop name for the associated Farm (subplot) name	- This is label field - This will show the crop name which is associated on the selected subplot - Data will be appearing from "as per the data entered in the farm registration process of crop infrastructure"	NA	NA	NA
4	Crop Variety	This will show the variety of crop	- This is label field - This will show the variety of crop for the selected crop - Data will be appearing from "as per the data entered in the farm registration process of crop infrastructure"	NA	NA	NA
5	Farm Area	This will show the area of farm (i.e. subplot area)	- This is label field	NA	NA	NA

			- This will show the area of farm as per selected subplot - Data will be appearing from as per the data entered in the farm registration process of farm infrastructure"			
6	Crop Area	This will show the area of crop	- This is label field - This will show the area of crop as per selected subplot and crop - Data will be appearing from "as per the above crop area calculation"	NA	- The following is the approach to calculate the crop area during early growth stages using Sentinel-2 data - **Timeframe**: Use NDVI data from the stem elongation stage. - **Threshold Value**: Identify a suitable NDVI threshold (e.g., 0.2/0.3) to differentiate crops from bare soil and non-vegetated surfaces. - **Binary Mask Creation**: Apply the threshold to create a binary mask, separating crop areas from non-crop areas. - **Pixel Counting**: Count the number of crop pixels in the binary mask. - **Area Calculation**: Multiply the number of crop pixels by the pixel area (e.g., 100 sq. meters for a 10m resolution image). - **Crop Area** = Number of Crop Pixels × Area of a Single Pixel - **Field Validation**: Validate with ground truth data if possible. - **Adjust Thresholds**: Refine the threshold based on validation and crop characteristics	NA

					for improved accuracy.	
7	Sowing Date	This will show the sowing date of crop	- This is label field - This will show the sowing date of the crop which is associated to the selected subplot and crop - Data will be appearing from “as per the data entered in the farm registration process of crop infrastructure”	NA	NA	NA
8	Irrigation Type	This will show type of irrigation	- This is label field - This will show type of irrigation for the selected subplot - Data will be appearing from “as per the data entered in the farm registration process of crop infrastructure”	NA	NA	NA
9	Planned Harvest Date	This will show the date of planned harvesting	- This is label field - This will show the date of planned harvesting for the selected subplot for the associated crop - Data will be appearing from “as per the data entered in the farm registration process of crop infrastructure”	NA	NA	NA
10	Predictive Harvest Date	This will show the predictive harvesting date	- This is a label field - This will show the predictive harvesting date. - This predictive harvesting date will appear from the FarmGyan API. - The Leaf icon show the powered by FarmGyan when user hover over it.	NA	API Name: YiledPrediction API Code: ClCN001-YP	NA

Notes

7.6. Scenarios

#	SCENERIO NAME	SCENERIO DESCRIPTION & IMPACT
1	Planting date	If the user selects "Perennial" as the cultivation type during farm registration, the system will ask if they are planting a new crop. If the user says "YES," they'll need to provide the planting date. This planting date should be displayed on the farm's profile card instead of the sowing date as shown in the screenshot and design.
2	Pruning Date	If the user selects "Perennial" as the cultivation type during farm registration, the system will ask if they are planting a new crop. If the user says "NO," they'll need to provide the pruning date. This pruning date should be displayed on the farm's profile card instead of the sowing date as shown in the screenshot and design.
3	Sowing date	If the user selects "Seasonal" as the cultivation type during farm registration, the system will ask to provide the sowing date. This sowing date should be displayed on the farm's profile card as shown in the screenshot and design.
4	Sowing date	If the user selects "Ratoon" as the cultivation type during farm registration, the system will ask to provide the harvest date which acts as sowing date. This sowing date should be displayed on the farm's profile card as shown in the screenshot and design.

5	No data available	“Data available…” should be displayed and, upon mouse hover, should display the message "Data available 3 weeks after sowing" as shown in the image above when there is no data to showcase or when processing and displaying the data on the card for "Predicted Harvest Date" and “Crop Area” takes some time.

Notes

8. Common Validations

Add Form

#	FIELD NAME	FIELD DESCRIPTION	Applicable Y/N

- Not applicable

View Form

#	FIELD NAME	FIELD DESCRIPTION	Applicable Y/N
1			
2			

9. Edit Functionality

Notes

- Not applicable

10. Account Postings

Ledger details	Explanation	Ledger Name	Dr	Cr	Dr	Cr

Notes

- Not applicable

11. Detailed View

Notes

- Not applicable

12. Print View

Notes

- Not applicable

13. Configuration Settings

#	CONFIG SETTING ID	CONFIG SETTING NAME	CONFIG SETTING IMPACT DETAILS

14. Post-Impacted Services & Reports

#	MODULE NAME	SERVICE NAME	SERVICE CODE	DESCRIPTION / IMPACT

Notes

- Not applicable

15. Email Alerts

Notes

- Not applicable