

Pest & Disease Risk - FI006.0

Last modified by

Pramod Khombare

Module Name

F-Intel

Current document version

V1.0

Contents

1. Document History	3
2. Overview -	4
2.1 Service objectives or Business requirements and the business values added by the service.....	4
3. Pre-requisite Services	4
4. Add form	4
4.1	4
4.2	4
4.4.1. Add form field descriptions	5
5. Customizations Summary Table	5
6. Customization Details/ Use Case	5
7. View form.....	6
7.1. View Screen – F-Intel Dashboard	6
7.2. Feature – Pest & Disease -Home Page.....	6
7.2.1. Feature – Pest & Disease – Home Page – very low probability.....	8
7.2.2. Feature – Pest & Disease Details - Popup Page.....	9
7.2.3. Feature – Pest & Disease Details - Popup Page – non ERP user.....	10
7.2.4. Feature – Pest & Disease Details - Popup Page – ERP user	11
7.3. Cancel & Close Functionality.....	11
7.4. Reverse Functionality.....	11
7.5. Field Descriptions – Pest & Disease – Home Page.....	11
7.7. Scenarios.....	15
8. Common Validations	15
9. Edit Functionality	15
10. Account Postings	16
11. Detailed View	16
12. Print View	16
13. Configuration Settings	16
14. Post-Impacted Services & Reports	16
15. Email Alerts.....	16

1. Document History

VERSION HISTORY							
DATE	CLIENT NAME	VERSION	DESCRIPTION OF CHANGE	AUTHOR	REQUIREMENT ID	CCB ID	STATUS
11/08/2024	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: Proactive Pest and Disease Management

The Pest and Disease card is a critical tool for farmers and agronomists, offering a comprehensive list of potential risks from pest and disease attacks, categorized by severity as high, medium, or low. It provides an overview of risk details, including the name of the stress, affected hosts, causal organisms, visible symptoms, suggested control measures, and agronomist-advised actions for the next 7 days.

By using this card, users can proactively identify threats, understand their potential impact, and implement timely interventions to protect crops and minimize yield loss.

3. Pre-requisite Services

#	MODULE NAME	SERVICE NAME	SERVICE CODE
1		The Data Science team should have access to the weather data (forecast & historical) through APIs to provide pest and disease advisory. Name of the provider: OpenWeather	
2		The Development team should have access to Pest and Disease API to integrate with dashboard to display the data	
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

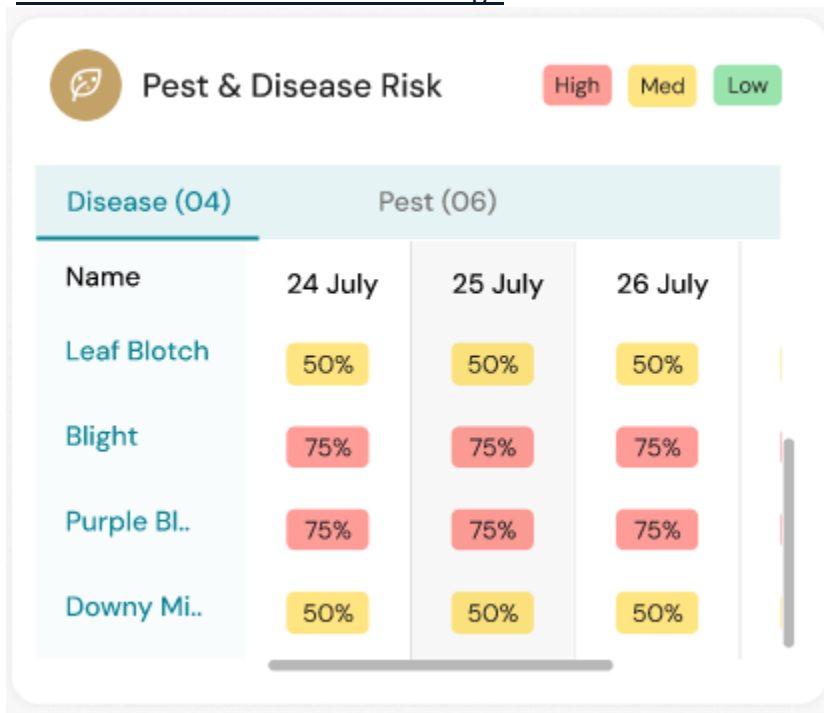
6. Customization Details/ Use Case

Requirement ID	DevOps ID
Requirement:	

- **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 – Pest & Disease -Home Page



Disease (04)		Pest (06)		
Name	24 July	25 July	26 July	
Leaf Blotch	50%	50%	50%	
Blight	75%	75%	75%	
Purple Bl..	75%	75%	75%	
Downy Mi..	50%	50%	50%	

Notes

- The pest and disease card show a list of possible pest and disease risks, along with their severity levels: high (red), medium (yellow), low (green), and very low. It also includes their likelihood of occurring, helping with proactive management of pests and diseases.
- The Pest & Disease risk card will show disease risks for three dates, when the user clicks on the "Disease" tab, user can view disease risks by scrolling horizontally as explained below:
 - The highlighted background indicates the current or closest date.
 - To the left of the highlighted background are the 7 previous advisory dates.
 - To the right are the 7 upcoming advisory dates.

Pest & Disease Risk - FI006.0

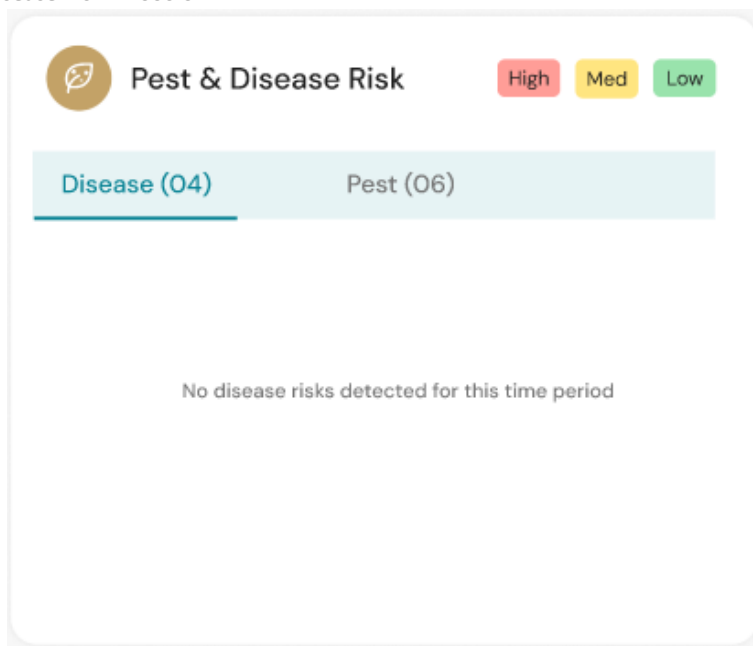
- The Pest & Disease risk card will show pest risks for three dates, when the user clicks on the "Pest" tab, user can view pest risks by scrolling horizontally as explained below:
 - The highlighted background indicates the current or closest date.
 - To the left of the highlighted background are the 7 previous advisory dates.
 - To the right are the 7 upcoming advisory dates.
- The "Name" column will stay fixed and visible during horizontal scrolling.
- The number "04" next to the "Disease" tab shows the number of disease risks suggested for that day. The user can click on any date to view pest or disease risks for that day. For example, if "25 July" is highlighted, the numbers "04" or "06" indicate risks for that date.
- On the card, only 4 pest or disease names are shown at a time. If there are more risks for a specific day, the user can scroll vertically. The "Name" row will stay fixed and visible during vertical scrolling.
- To learn more details about a specific pest or disease, the user can click on its name, and a popup with more information will appear as shown in section 7.2.1.

7.2.1. Feature – Pest & Disease – Home Page – very low probability

Pest & Disease Risk			
<div>High Med Low</div>			
Disease (04)	Pest (06)		
Name	24 July	25 July	26 July
Leaf Blotch	50%	-	50%
Blight	75%	75%	-
Purple Bl..	75%	25%	75%
Downy Mi..	-	-	50%

Notes

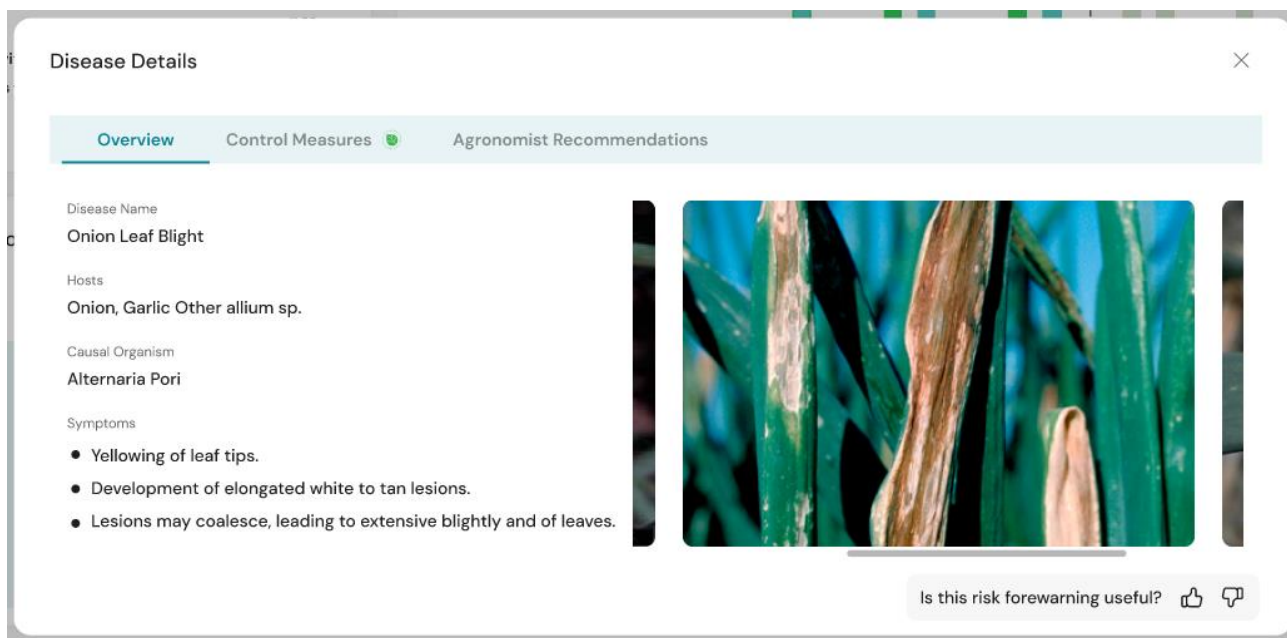
- A "-" symbol should be shown (as in the image above) when there is a very low chance of pest or disease occurrence on a particular day.



Notes

- A message "No disease risks detected for this time period" should be shown (as in the image above) when there are no disease risks to be provided.
- A message "No pest risks detected for this time period" should be shown when there are no pest risks to be provided.

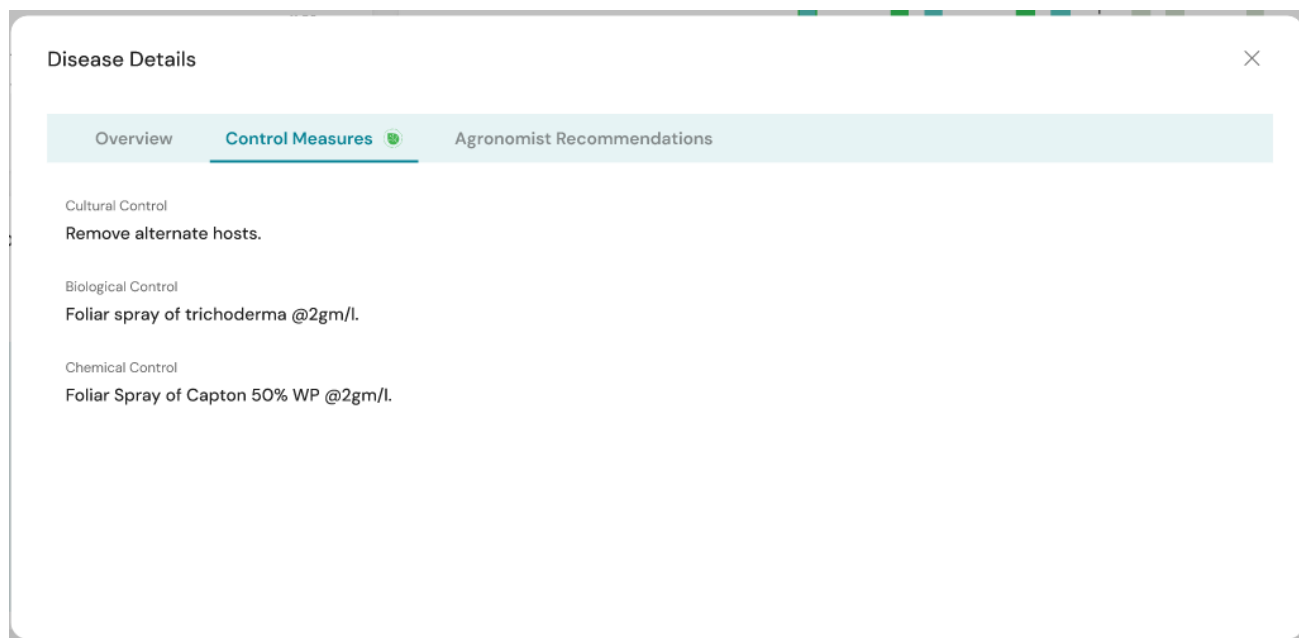
7.2.2. Feature – Pest & Disease Details - Popup Page



Notes

- The disease or pest details popup gives an overview of the risk, including the name of the issue, affected plants, causes, visible symptoms, suggested control methods, and actions recommended by agronomists for the next 7 days.
- It also includes high-resolution images of affected areas to help users recognize symptoms and decide on immediate actions.

- The popup asks for user feedback with a thumbs-up or thumbs-down to help improve the accuracy of future advice.

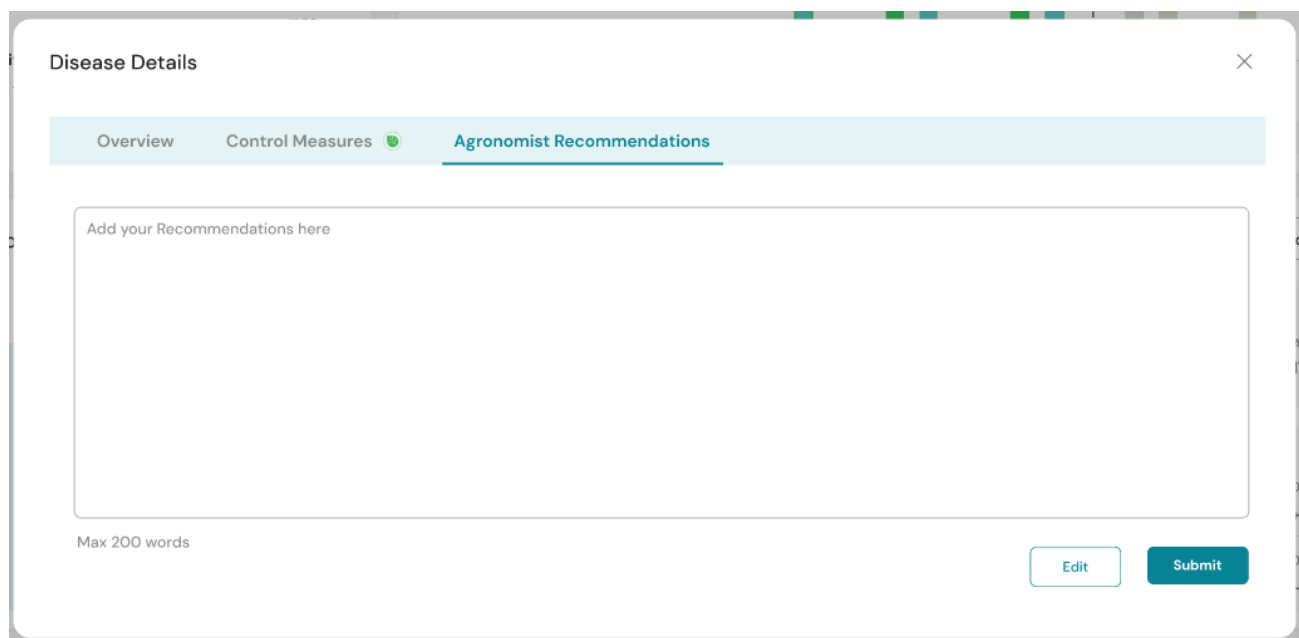


The screenshot shows a 'Disease Details' popup window with a close button (X) in the top right corner. It features three tabs: 'Overview', 'Control Measures' (which is selected and highlighted with a blue underline and a green status icon), and 'Agronomist Recommendations'. Under the 'Control Measures' tab, there are three sections: 'Cultural Control' with the text 'Remove alternate hosts.', 'Biological Control' with the text 'Foliar spray of trichoderma @2gm/l.', and 'Chemical Control' with the text 'Foliar Spray of Capton 50% WP @2gm/l.'.

Notes

- The disease or pest details popup suggests control methods that include cultural, biological and chemical controls for proactive management of pests and diseases.

7.2.3. Feature – Pest & Disease Details - Popup Page – non ERP user



The screenshot shows the 'Disease Details' popup window with the 'Agronomist Recommendations' tab selected and highlighted with a blue underline. The main content area is a large text box with the placeholder text 'Add your Recommendations here'. Below the text box, it says 'Max 200 words'. At the bottom right of the popup, there are two buttons: 'Edit' and 'Submit'.

Notes

- The disease or pest details popup provides an option to record the users/client's agronomist recommended actions against the particular pest or disease management.

- The agronomist can write his recommendations in 200 words and submit it.

7.2.4. Feature – Pest & Disease Details - Popup Page – ERP user

Disease Details
×

Overview
Control Measures
Agronomist Recommendations

- High infestation of blight is observed. Scouting Needed.
- Spray carbendazim 50% WP @5gm/l.

Notes

- When the user/client is ERP then the users F-Intel and FarmERP accounts have to be automatically synced to show the recommendations added in his FarmERP account.

7.3. Cancel & Close Functionality

Notes

- Not applicable

7.4. Reverse Functionality

Notes

- Not applicable

7.5. Field Descriptions – Pest & Disease – Home Page

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	ERROR MESSAGE	PREREQUISITE	Enabled/Disabled
1	High	This indicates the severity as high (red)	<ul style="list-style-type: none"> - This is a legend - This indicates the severity as high in red color 	NA	NA	NA
2	Med	This indicates the severity as high (red)	<ul style="list-style-type: none"> - This is a legend - This indicates the severity as medium in yellow color 	NA	NA	NA
3	Low	This indicates the severity as high (red)	<ul style="list-style-type: none"> - This is a legend 	NA	NA	NA

Pest & Disease Risk - FI006.0

			<ul style="list-style-type: none"> - This indicates the severity as low in green color 			
4	Disease	This is a disease tab, in this section list of disease and their names with details on a particular day will be displayed	<ul style="list-style-type: none"> - This is label with click action - This will show the list of disease and their names with details on a particular day - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
5	04	This will show the number of diseases on a particular day	<ul style="list-style-type: none"> - This is a number - This will show the number of diseases when clicked on a particular date - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
6	Pest	This is a pest tab, in this section list of pests and their names with details on a particular day will be displayed	<ul style="list-style-type: none"> - This is label with click action - This will show list of pests and their names with details on a particular day - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
7	06	This will show the number of pests on a particular day	<ul style="list-style-type: none"> - This is a number - This will show the number of diseases when clicked on a particular date - This data will be provided by the Farmgyan API 		API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	
8	Name	This will show the names of pests or disease here as per the selection of tabs	<ul style="list-style-type: none"> - This is a label - This will show the names of pests or disease here as per the selection of tabs - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
9	24/25/26 July	This is a date tab, in this section the list of pest or disease on a particular day will be displayed	<ul style="list-style-type: none"> - This is label with click action - These are the dates that shows the list of pest or disease on a particular day - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
10	75%/50%/25%	These are the severity percentages for high, med or low of particular pest or disease on a particular day	<ul style="list-style-type: none"> - This is a label - These are the severity percentages of particular pest or disease on a particular day 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA

			<ul style="list-style-type: none"> - High(red) is indicated in higher % - Med(yellow) is indicated in medium % - Low(green) is indicated in lower % - This data will be provided by the Farmgyan API 			
11	-	This is a symbol to be displayed when there are no pest or disease are detected on a particular day	<ul style="list-style-type: none"> - This is a symbol - This is a symbol to be displayed when there are no pest or disease are detected on a particular day - There won't be any background color for these percentages - This data will be provided by the Farmgyan API - If there is no data coming from FarmGyan API then the Engineering team has to show this symbol on the platform 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA

Notes

7.6. Field Descriptions – Pest & Disease Details – Popup Page

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	ERROR MESSAGE	PREREQUISITE	Enabled/Disabled
1	Overview	This is overview tab, in this section details of particular pest or disease will be displayed. It works similarly for Pest Details as well.	<ul style="list-style-type: none"> - This is label with click action - By clicking on this, particular pest or disease section will open - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
2	Disease Name	This will show the name of the disease under this section It works similarly for Pest Details as well.	<ul style="list-style-type: none"> - This is label - This will show the name of the disease - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
3	Hosts	This will show the name of the disease host under this section It works similarly for Pest Details as well.	<ul style="list-style-type: none"> - This is label - This will show the name of the disease host - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
4	Causal Organism	This will show the name of the causal	<ul style="list-style-type: none"> - This is label 	NA	API Name: CropGrowthStageBBCH	NA

Pest & Disease Risk - FI006.0

		organism under this section It works similarly for Pest Details as well.	<ul style="list-style-type: none"> - This will show the name of the causal organism - This data will be provided by the Farmgyan API 		API Code: CLCN001-BBCH	
5	Symptoms	This will show the details of symptoms under this section It works similarly for Pest Details as well	<ul style="list-style-type: none"> - This is label - This will show the details of symptoms under this section - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
6	Is this risk forewarning useful?	This will collect the user feedback	<ul style="list-style-type: none"> - This is an icon with click action - This will collect the user feedback - Thumbs up indicates user is satisfied with the advisory - Thumbs down indicates user is not satisfied with the advisory - This feedback has to be collected, stored and shared with Data Science team for improving the accuracy of advisory 	NA	NA	NA
7	Control Measure	This is Control Measures tab, in this section details of control measures will be displayed. It works similarly for Pest Details as well.	<ul style="list-style-type: none"> - This is label with click action - By clicking on this, details of control measures for particular disease will open - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
8	Cultural Control	This will show the details of the cultural control under this section It works similarly for Pest Details as well.	<ul style="list-style-type: none"> - This is label - This will show the details of the cultural control under this section - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
9	Biological Control	This will show the details of the biological control under this section It works similarly for Pest Details as well.	<ul style="list-style-type: none"> - This is label - This will show the details of the biological control under this section - This data will be provided by the Farmgyan API 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA
10	Chemical Control	This will show the details of the chemical control under this section	<ul style="list-style-type: none"> - This is label - This will show the details of the chemical control under this section 	NA	API Name: CropGrowthStageBBCH API Code: CLCN001-BBCH	NA

		It works similarly for Pest Details as well.	- This data will be provided by the Farmgyan API			
11	Agronomist recommendations	This is Agronomist Recommendations tab, in this section details of agronomist recommendations will be displayed. It works similarly for Pest Details as well.	- This is label with click action - By clicking on this, details of agronomist recommendations for particular disease will open - This data will be added by the user or will be synced from user's FarmERP account	NA	NA	NA

7.7. Scenarios

#	SCENARIO NAME	SCENARIO DESCRIPTION & IMPACT
1	When data is available or probability is from low to high	Refer to the image shown in section 7.2. when data is available
2	When data is not available or probability is very low	A "-" symbol should be shown (as in the image above) when there is a very low chance of pest or disease occurrence on a particular day. A message "No disease risks detected for this time period" should be shown when there are no disease risks to be provided. A message "No pest risks detected for this time period" should be shown when there are no pest risks to be provided.
3	Non-ERP user	The disease or pest details popup provides an option to record the users/client's agronomist recommended actions against the particular pest or disease management.
4	ERP user	When the user/client is ERP then the users F-Intel and FarmERP accounts have to be automatically synced to show the recommendations added in his FarmERP account.

Notes

8. Common Validations

Add Form

#	FIELD NAME	FIELD DESCRIPTION	Applicable Y/N

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