

SCOPING DOCUMENT

MODULE: DATA COLLECTION AND ASSURANCES

Purpose

The purpose of this document is to validate the proposed workflow for the Data collection and assurance module.

Hours Required for the implementation of the Data collection and assurances module - 240 hours

*The hours above mentioned is to implement what is described in this document only

Scope

The module's purpose is to:

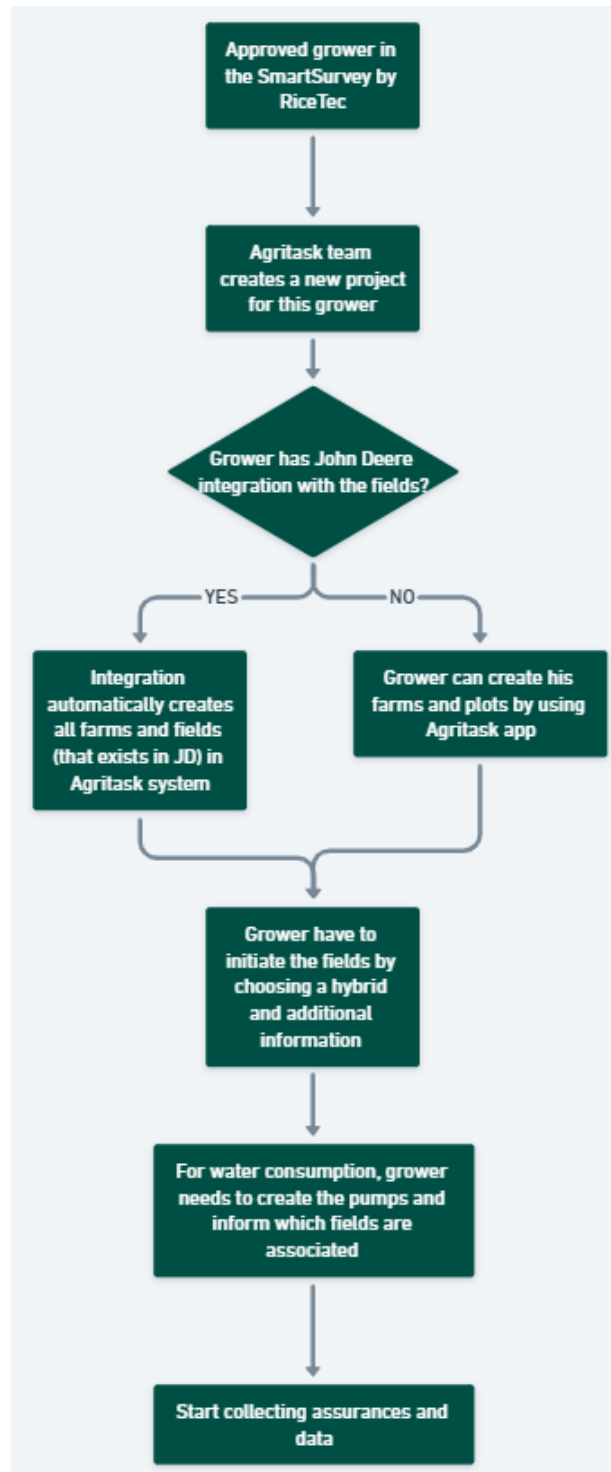
1. Ensure that the SmartRice claims are supported by the evidence and data collected by the approved growers in the SmartRice program.
2. Create a data structure that allows post-harvest traceability
3. To allow growers to see which fields will qualify for SmartRice claims and segregate accordingly

Implementation plan

Implementation module	Phase
Agritask mobile screens	Phase 1
Calculation scripts for water and Carbon emissions	Phase 1
Online reports	Phase 1
BI dashboard	Phase 1
AgWorld integration	Phase 2
Precision King integration	Phase 2
Clay content Integration (*)	Phase 2

Proposed WorkFlow

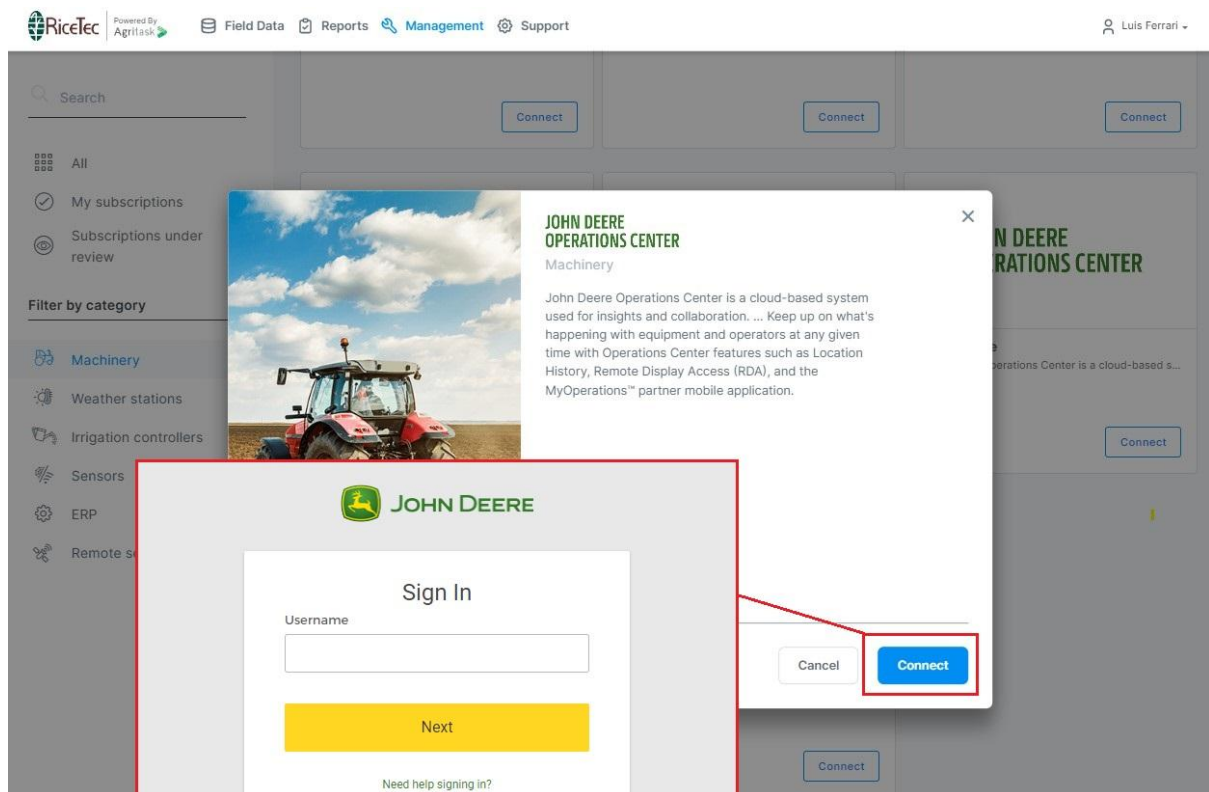
Proposed Workflow Scheme



SmartSurvey approved growers

Upon approval of the SmartSurvey, Agritask will initiate a new "project" in which the grower can report all the necessary data. For that, it is required 5 working days to get the environment ready for the new grower.

John Deere integration



The John Deere integration will automatically create all farms, fields and machines with the machine tracks into the Agritask system. To perform this integration, users must access the subscription page and select John Deere Operation Center card and follow the steps.

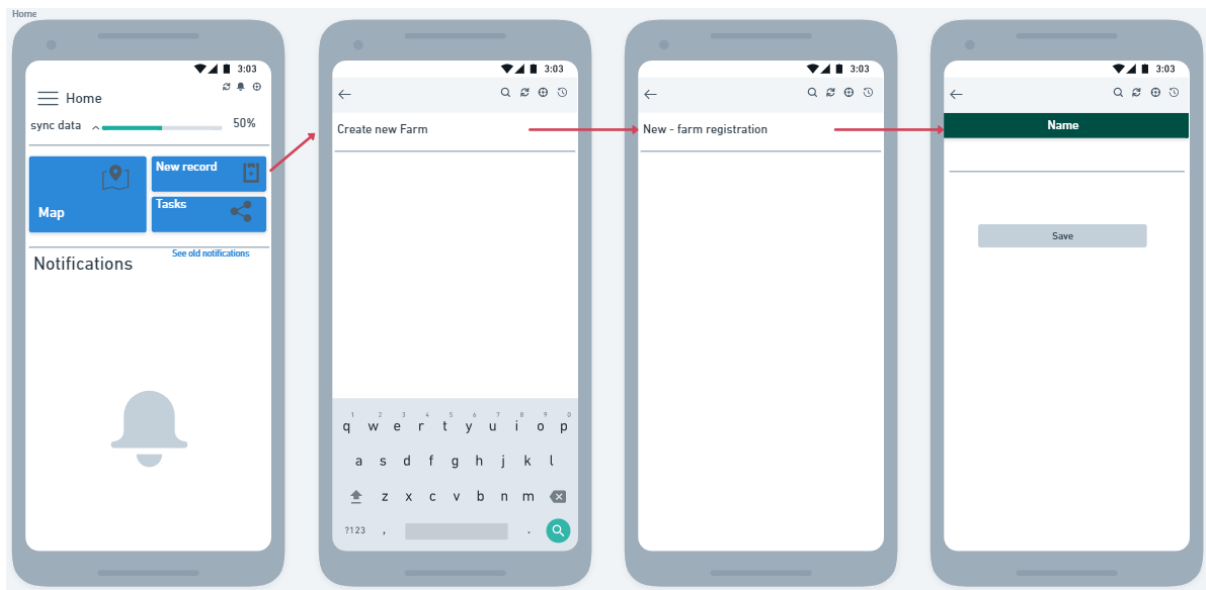
IMPORTANT! -> Verify if your level of access in the JD operation allows you to perform integration.

In cases where users don't have the John Deere Operation center or choose not to use it, the next step is to describe how they will register the farms and fields.

Proposed Screens

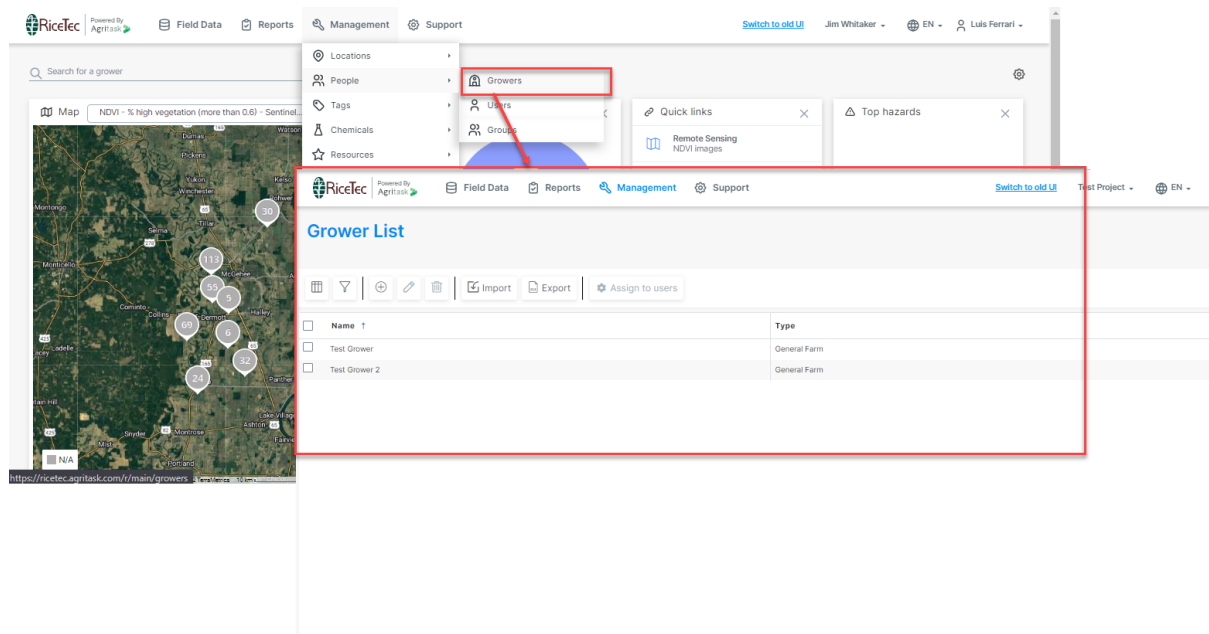
1. **Farm registration flow** -> The Farms registration can be done both through the mobile app and through the Web Application

Mobile application.



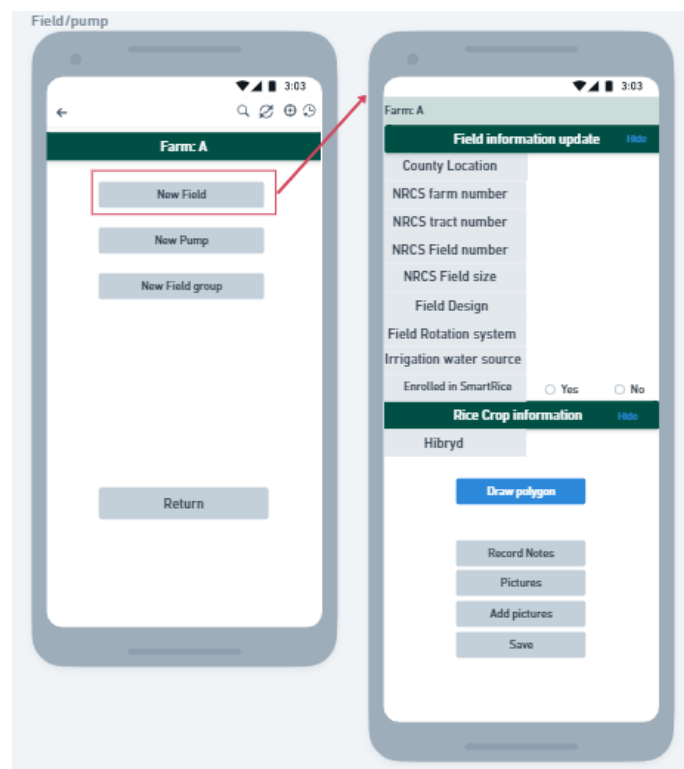
The Farm registration through the mobile application, the user will follow the above navigation and inform the name of the farm for each farm. The user must then resync the application so it creates the Farm entities in the server.

Web.

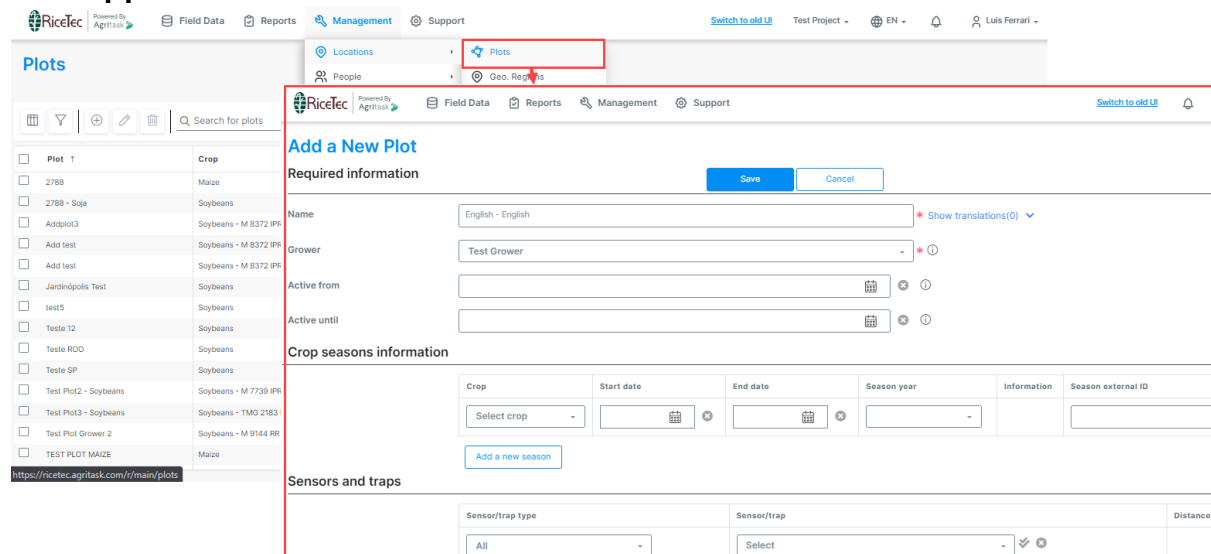


2. **New field registration flow** - the fields registration can be done both through the mobile app and through the Web Application

Mobile application.



Web application.



The screenshot shows the 'Add a New Plot' form in the Agritask web application. The form is divided into three main sections: 'Required information', 'Crop seasons information', and 'Sensors and traps'. The 'Required information' section includes fields for Name, Grower, Active from, and Active until. The 'Crop seasons information' section includes a table with columns for Crop, Start date, End date, Season year, Information, and Season external ID. The 'Sensors and traps' section includes a table with columns for Sensor/trap type, Sensor/trap, and Distance. The form is highlighted with a red border.

Through the above flow, the user will be able to register the fields for each already created farm. The following information is mandatory

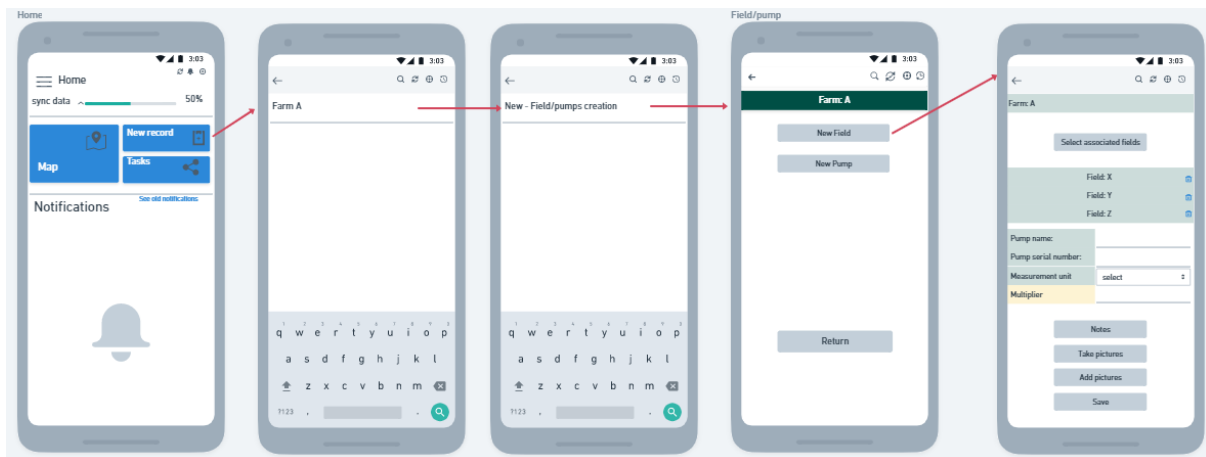
- County location
- NRCS farm number
- NRCS tract number
- NRCS field number
- Field design
- Field rotation system
- Irrigation water source
- Enrolled in SmartRice

#IMPORTANT

- The clay content % plays a very important role in the GHG emissions calculations. For that, an integration between technical teams from RiceTec using Agritask API endpoints will be built in order to retrieve such information, avoiding the need for manual input from the farmers. As of the day of this document (09/Jan/2023), the API documentation was already sent to the RiceTec dev team to start working on the integration.

3. Pumps Registration.

Before creating any pump, the user must make sure that all fields are already created. This is because the pumps will need to be associated with fields and hence the fields need to exist in the system already.



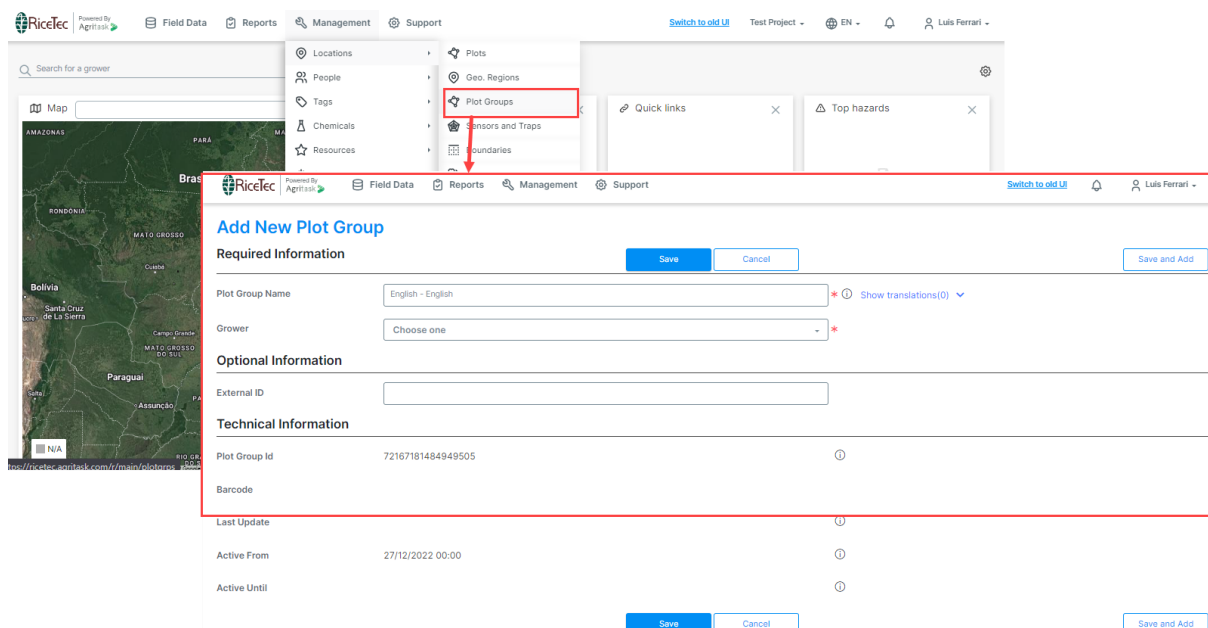
In this screen, the user must inform which fields are associated with the pump it's being created. It's important that the user go to the actual location where the pump is located because then the mobile app can get the coordinates of it. The user also has to inform the measurement unit. If the unit is not in gal, then the user must inform the multiplier which is a coefficient that will be used to calculate the amount of water consumed

4. **Field groups registration flow.** -> This flow can be done through the mobile application and through the web application. User must be sure that all fields are already created to add them into the field groups at the creation moment.

Mobile application.

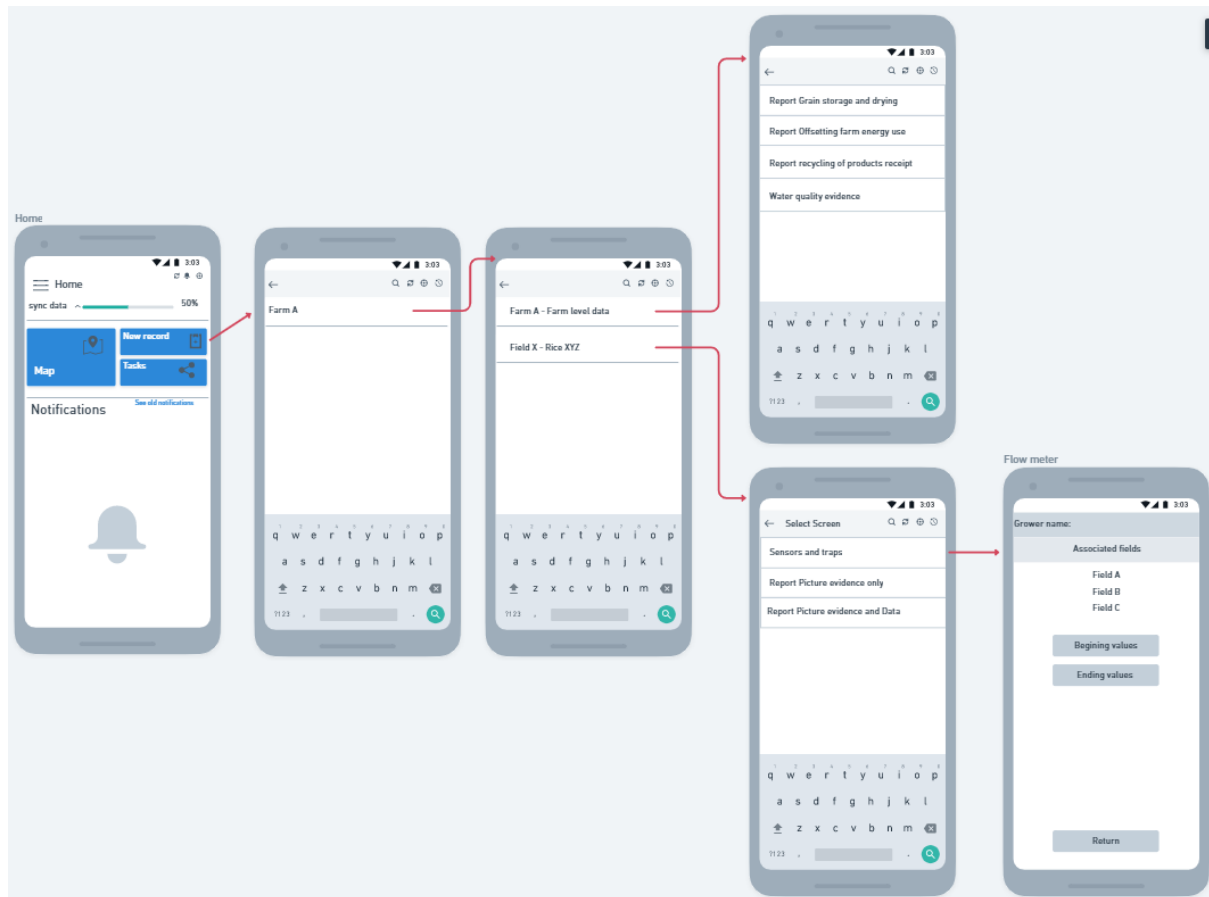


Web application.



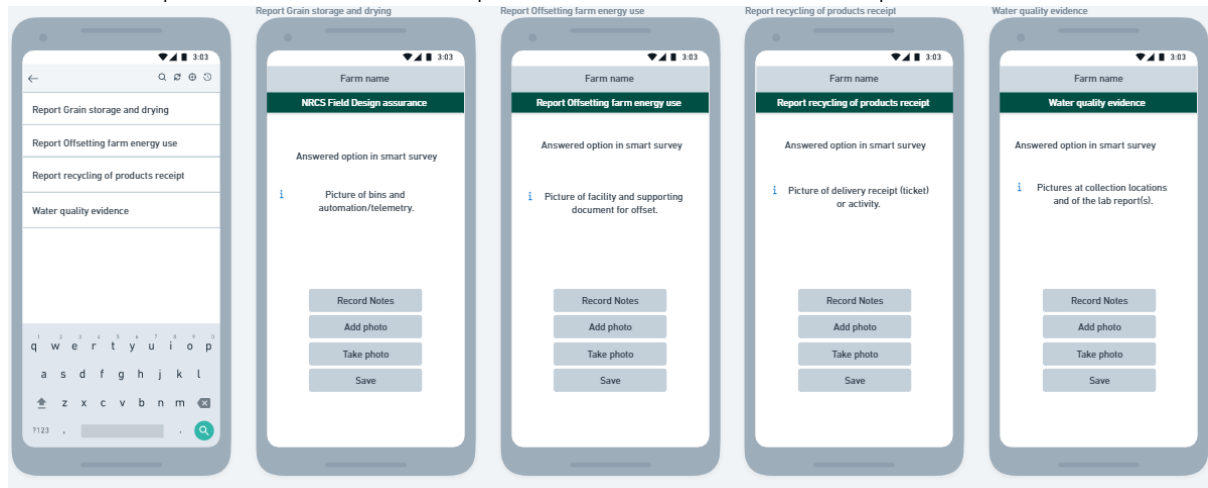
Data collection and assurances

After all registration of farms and fields are complete, the user can now start collecting the evidence and data necessary for the SmartRice program claims. To reach the screens, user will have to follow the below navigation steps



Farm level evidences

For this step, the user must take pictures of the evidence required in each screen.

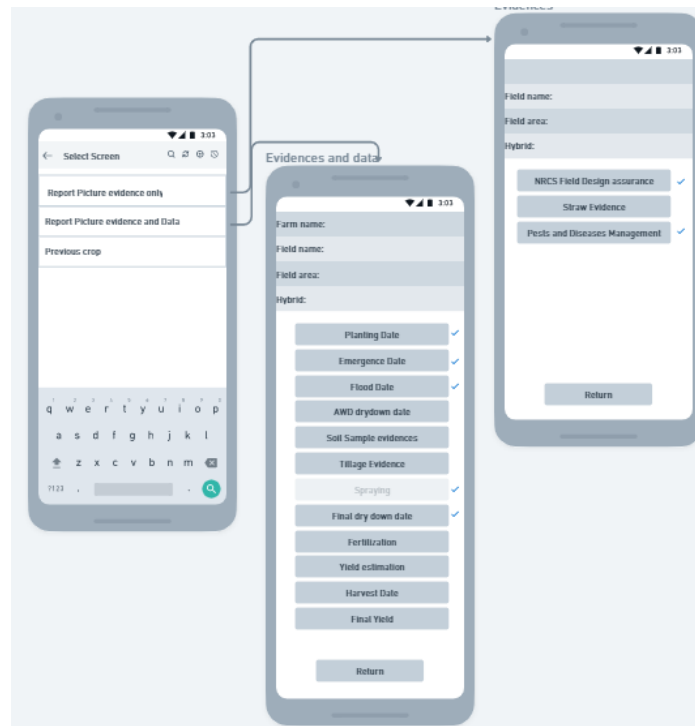


Field level data and evidence

For each field, the user will report evidence and data. In this step, the user will have two categories of reporting.

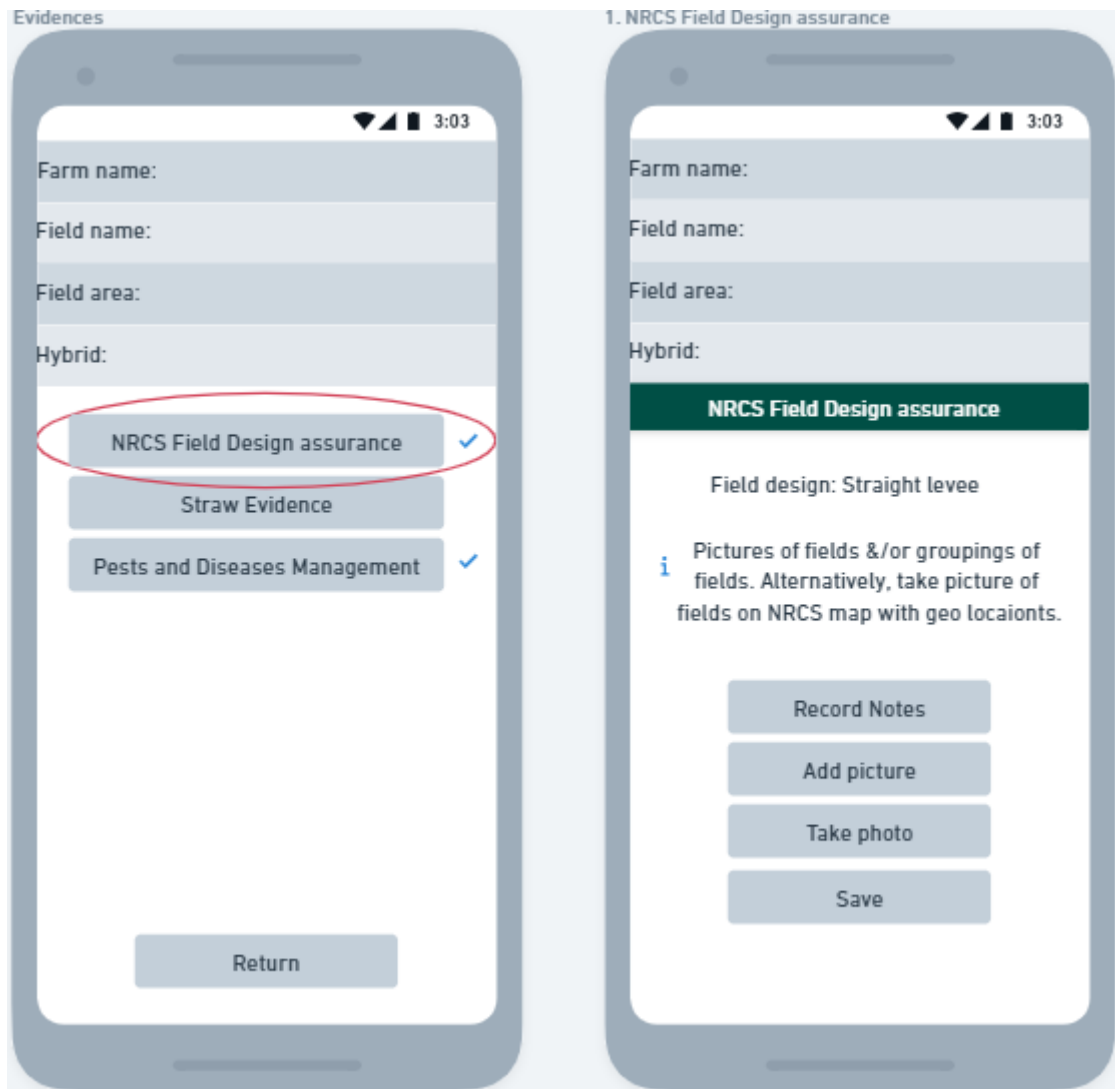
- Report evidence only
- Report data and evidence.

This will be segmented into two menus. Check the navigation scheme below. In the menus, the user will be able to see what was reported already and what is missing.



For all the screens, the user will be able to report the data and evidence for more than one field without having to enter each field individually.

Evidences only | Field Design -> In this screen, the user will have to take a picture from the mobile app of the field design. For better data collection, it's important that the user is in the field so the mobile app can capture his coordinates.



Evidences only | Straw evidence -> Here, the user will have to take a picture of the Straw residue management of that field. Again it's very important that the user be in place so the app can capture the timestamp and coordinates.

Evidences

Farm name:

Field name:

Field area:

Hybrid:

NRCS Field Design assurance ✓

Straw Evidence

Pests and Diseases Management ✓

Return

2. Straw Evidence - Q. 12

Farm name:

Field name:

Field area:

Hybrid:

Previous crop practices

Add fields to this report

☐ a) Residue removed-full tillage
☐ b) Residue retained-full tillage
☐ c) Residue retained-full tillage-cover crop
☐ d) Residue retained (reduced tillage)
☒ e) Residue retained (reduced tillage)-cover crop
☐ f) Residue removed (reduced tillage)
☐ g) Residue removed (reduced tillage; cover crop)
☐ h) Residue removed (no-tillage)
☐ i) Residue removed (no-tillage; cover crop)

Picture of burning or removal of straw from previous season crop

Record Notes

Add picture

Take photo

Save

Evidences only | Pests and diseases management -> Users must here add or take a picture of the Scouting reports or Working orders.

Evidences

3:03

Farm name:

Field name:

Field area:

Hybrid:

NRCS Field Design assurance ✓

Straw Evidence

Pests and Diseases Management ✓

Return

2. Q 15 evidences (Pests and Diseases Management)

3:03

Farm name:

Field name:

Field area:

Hybrid:

Pests and Diseases Management assurance

Add fields to this report

 Pictures of Scouting Reports, Spray Equipment, Work Orders, etc.

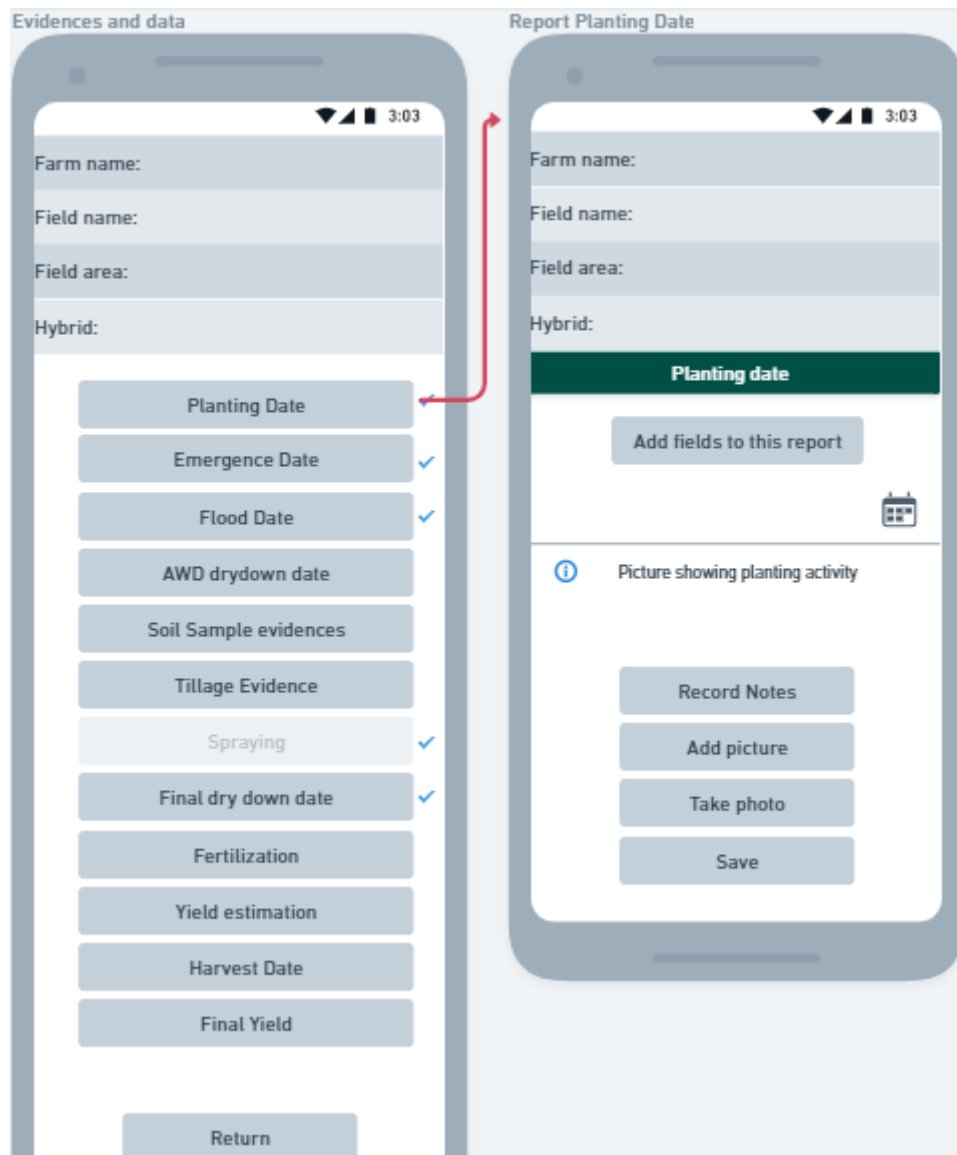
Record Notes

Add picture

Take photo

Save

Field data and evidences | Planting date -> Users must report the planting date and optionally, add or take a picture of the planting process.



Evidences and data

Farm name:

Field name:

Field area:

Hybrid:

Planting Date

Emergence Date ✓

Flood Date ✓

AWD drydown date

Soil Sample evidences

Tillage Evidence

Spraying ✓

Final dry down date ✓

Fertilization

Yield estimation

Harvest Date

Final Yield

Return

Report Planting Date

Farm name:

Field name:

Field area:

Hybrid:

Planting date

Add fields to this report

Picture showing planting activity

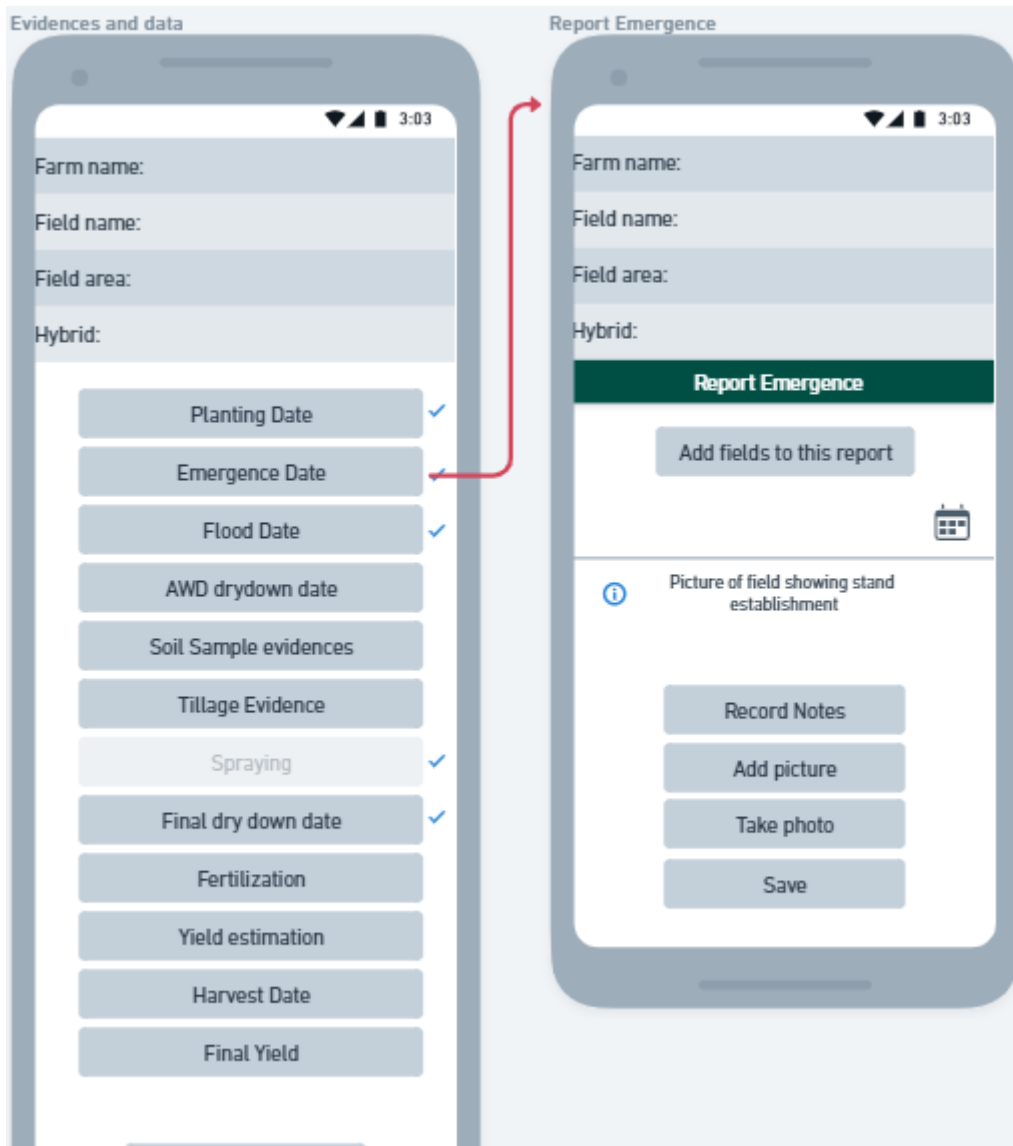
Record Notes

Add picture

Take photo

Save

Field data and evidences | Emergence date -> Users must report the emergence date and optionally, add or take a picture of the planting process.



Evidences and data

Farm name:

Field name:

Field area:

Hybrid:

Planting Date ✓

Emergence Date

Flood Date ✓

AWD drydown date

Soil Sample evidences

Tillage Evidence

Spraying ✓

Final dry down date ✓

Fertilization

Yield estimation

Harvest Date

Final Yield

Report Emergence

Farm name:


Field name:


Field area:

Hybrid:

Report Emergence

Add fields to this report



 Picture of field showing stand establishment

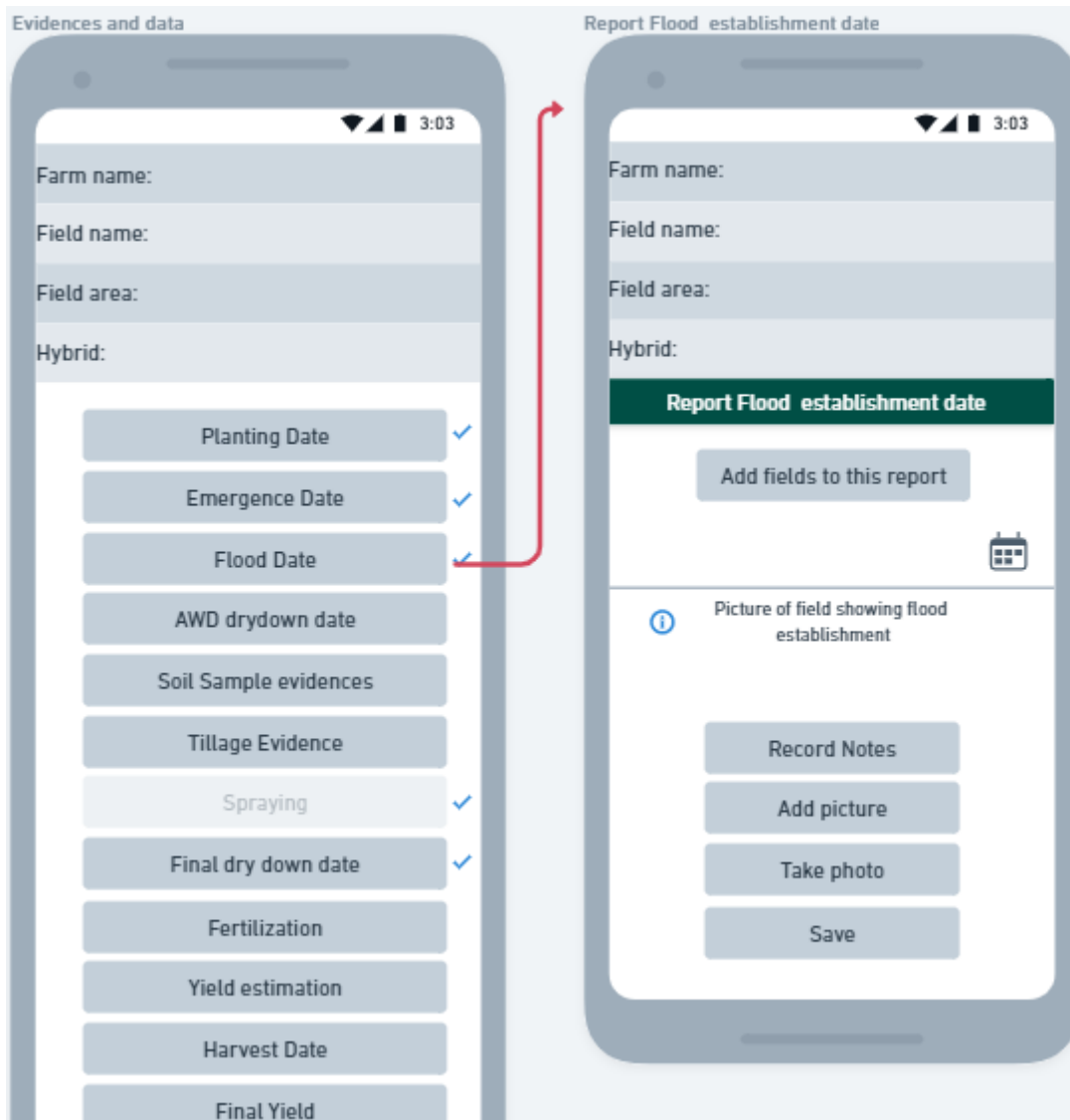
Record Notes

Add picture

Take photo

Save

Field data and evidences | Flood establishment date -> Users must report the flood establishment date and optionally, add or take a picture of the planting process.



The diagram illustrates the user interface for reporting flood establishment data in the Agritask app. It consists of two main sections: 'Evidences and data' and 'Report Flood establishment date'.

Evidences and data: This section contains a list of fields for data entry, each with a checkmark indicating completion status:

- Farm name:
- Field name:
- Field area:
- Hybrid:
- Planting Date ✓
- Emergence Date ✓
- Flood Date ✓
- AWD drydown date
- Soil Sample evidences
- Tillage Evidence
- Spraying ✓
- Final dry down date ✓
- Fertilization
- Yield estimation
- Harvest Date
- Final Yield

Report Flood establishment date: This section contains a form for reporting flood establishment data. It includes the following fields and buttons:

- Farm name:
- Field name:
- Field area:
- Hybrid:
- Report Flood establishment date** (Section Header)
- Add fields to this report
- Calendar icon
- Picture of field showing flood establishment (with an information icon)
- Record Notes
- Add picture
- Take photo
- Save

A red arrow points from the 'Flood Date' field in the 'Evidences and data' section to the 'Report Flood establishment date' section, indicating the flow of data.

Field data and evidences | AWD date and evidence -> Picture of field at driest, Include Isbell Rice Checker if present or picture of the chart from the moisture sensor software.



The image displays two smartphone screens side-by-side, illustrating the Agritask app interface for recording field data and AWD evidence.

Left Screen: Evidences and data

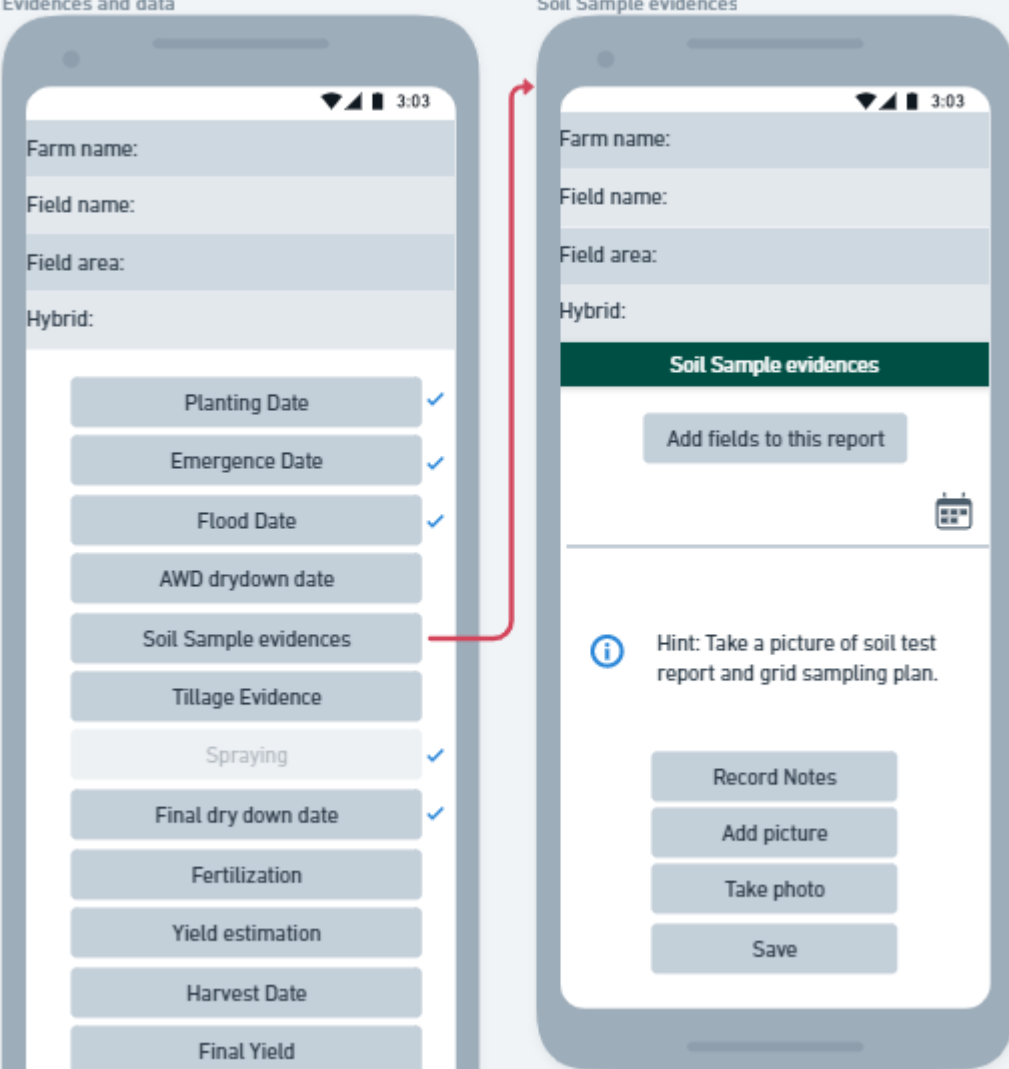
- Form fields: Farm name, Field name, Field area, Hybrid.
- Checklist items (each with a blue checkmark):
 - Planting Date
 - Emergence Date
 - Flood Date
 - AWD drydown date
 - Soil Sample evidences
 - Tillage Evidence
 - Spraying
 - Final dry down date
 - Fertilization
 - Yield estimation
 - Harvest Date

Right Screen: AWD evidence

- Form fields: Farm name, Field name, Field area, Hybrid.
- Section header: **AWD evidence**
- Button: Add fields to this report
- Calendar icon
- Information icon (i) and text: "Picture of field at driest, include Isbell Rice Checker if present or picture of the chart from the moisture sensor software"
- Buttons: Record Notes, Add picture, Take photo, Save

A red arrow points from the "AWD drydown date" checkbox on the left screen to the "AWD evidence" section on the right screen, indicating the flow of data from the checklist to the evidence recording screen.

Field data and evidences | Soil analysis date and evidence -> Here the user must inform the date of the last soil analysis performed and sample



Evidences and data

Farm name:

Field name:

Field area:

Hybrid:

Planting Date ✓

Emergence Date ✓

Flood Date ✓

AWD drydown date

Soil Sample evidences

Tillage Evidence

Spraying ✓

Final dry down date ✓

Fertilization

Yield estimation

Harvest Date

Final Yield

Soil Sample evidences

Farm name:


Field name:


Field area:

Hybrid:

Soil Sample evidences

Add fields to this report





Hint: Take a picture of soil test report and grid sampling plan.

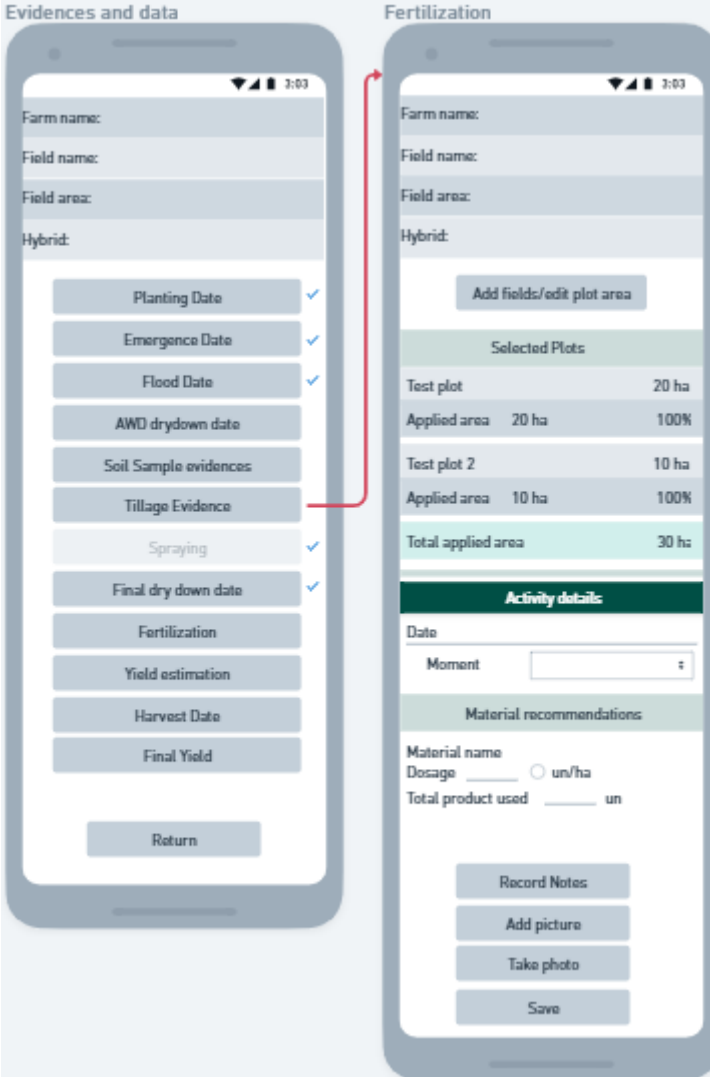
Record Notes

Add picture

Take photo

Save

Field data and evidences | Fertilization report -> In this screen, the user can report all fertilization applications reported in the season for each plot. This screen is important to be reported for the end GHG emission calculation.



Evidences and data

Farm name:

Field name:

Field area:

Hybrid:

- Planting Date ☒
- Emergence Date ☒
- Flood Date ☒
- AWD drydown date
- Soil Sample evidences
- Tillage Evidence
- Spraying ☒
- Final dry down date ☒
- Fertilization
- Yield estimation
- Harvest Date
- Final Yield

Return

Fertilization

Farm name:

Field name:

Field area:

Hybrid:

Add fields/edit plot area

Selected Plots		
Test plot	20 ha	
Applied area	20 ha	100%
Test plot 2	10 ha	
Applied area	10 ha	100%
Total applied area	30 ha	

Activity details

Date

Moment

Material recommendations

Material name

Dosage un/ha

Total product used un

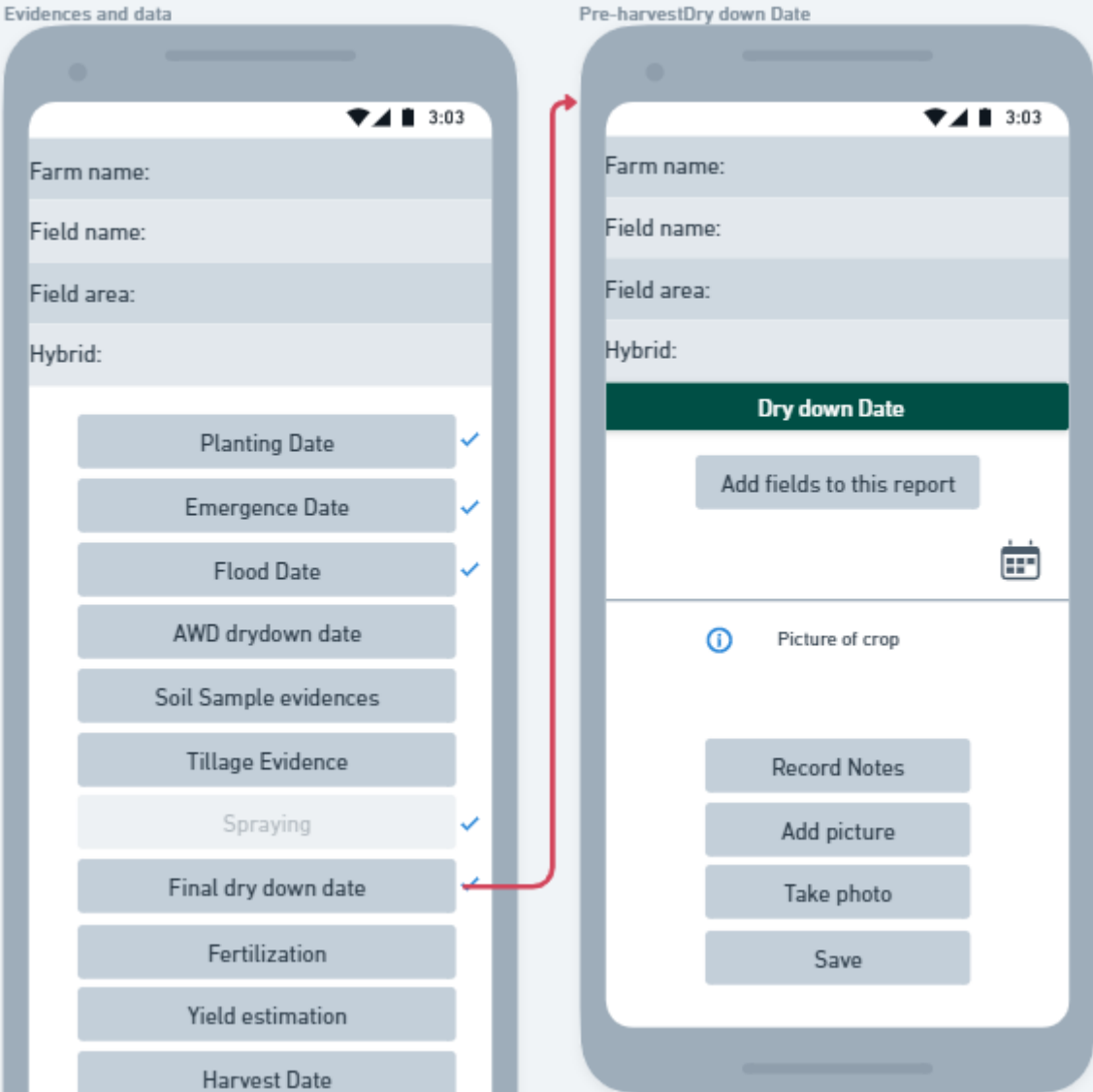
Record Notes

Add picture

Take photo

Save

Field data and evidence |Pre-harvest Dry down date -> Here the user will report the dry down date. This screen will trigger the water and GHG emission calculations. So all data that interfere with those parameters must be reported previously to this report.



Evidences and data

Farm name:
Field name:
Field area:
Hybrid:


Planting Date ✓
Emergence Date ✓
Flood Date ✓
AWD drydown date
Soil Sample evidences
Tillage Evidence
Spraying ✓
Final dry down date ✓
Fertilization
Yield estimation
Harvest Date


Pre-harvestDry down Date

Farm name:
Field name:
Field area:
Hybrid:

Dry down Date

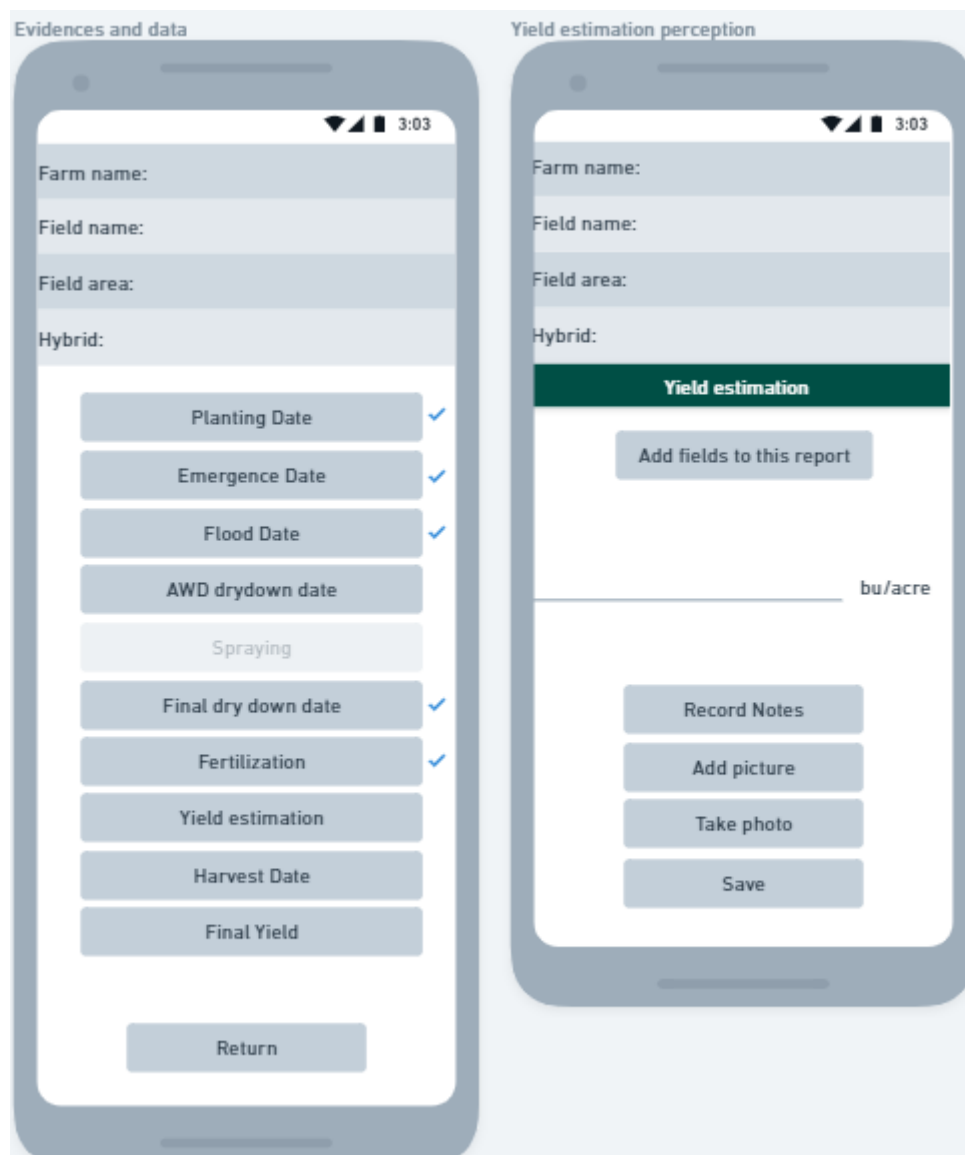
Add fields to this report



 Picture of crop

Record Notes
Add picture
Take photo
Save

Field data and evidences | Yield estimation -> In this screen, the user can report a yield estimation based on his perception. Once this screen is reported, the system will trigger all water consumption, GHG emission and yield (estimated). If any of those is below the claim (50% water consumption reduction, 50% GHG emission reduction and 20% higher yield) then the user will receive a notification informing that so he can decide how to segregate the production of each field.



The image displays two mobile application screens side-by-side, both showing a status bar at the top with signal, battery, and time (3:03).

Left Screen: Evidences and data

- Form fields: Farm name, Field name, Field area, Hybrid.
- Buttons with checkmarks: Planting Date, Emergence Date, Flood Date, AWD drydown date, Final dry down date, Fertilization.
- Buttons: Spraying, Yield estimation, Harvest Date, Final Yield.
- Bottom button: Return.

Right Screen: Yield estimation perception

- Form fields: Farm name, Field name, Field area, Hybrid.
- Section header: Yield estimation (on a dark green background).
- Button: Add fields to this report.
- Text input field: _____ bu/acre.
- Buttons: Record Notes, Add picture, Take photo, Save.

Field date and evidence | Harvest date -> Here the user can report the harvest date and optionally add or take a picture of the harvest process.

Evidences and data

Farm name:

Field name:

Field area:

Hybrid:

Planting Date ✓

Emergence Date ✓

Flood Date ✓

AWD drydown date

Spraying

Final dry down date ✓

Fertilization ✓

Yield estimation

Harvest Date

Final Yield

Return

Harvest Date

Farm name:


Field name:


Field area:

Hybrid:

Harvest Date

Add fields to this report



 Picture of harvest activity

Record Notes

Add picture

Take photo

Save

Field data and evidence | Final yield -> In this screen the user will report the final yield and as evidence, must take a picture of the scale receipt. Once this screen is saved, the record will trigger the final calculations for the parameters defined. This is to classify which fields are Smart Rice.

Evidences and data

3:03

Farm name:

Field name:

Field area:

Hybrid:

Planting Date ✓

Emergence Date ✓

Flood Date ✓

AWD drydown date

Spraying

Final dry down date ✓

Fertilization ✓

Yield estimation

Harvest Date

Final Yield

Return

Final Yield

3:03

Farm name:

Field name:

Field area:

Hybrid:

Receipt weighth (lb)

add receipt weight

Total produced (lb)

Final yield (lb/ac)

Auto Calculation

Auto Calculation =
sum of all receipt
weight / field area

Record Notes

Add picture

Take photo

Save

Screens restrictions:

- Users will have to report the Straw residue information before reporting the Tillage evidence screen. If the users tries otherwise, a warning message will pop-up instructing them to report first the Strat residue evidence screen.
- To report final Dry down date, user must have reported beginning and ending values for the associated pump
- To report Emergence date, user have to first report Planting date
- To report harvest date and final yield, users have to report emergence date.

Triggers and calculations

Smart Rice claims are 50% reduction of water consumption, 50% GHG emission reduction and 20% higher yield then average.

Some key moments will start triggering the calculations in the system.

1. **On reporting the pump ending values** -> This will calculate the total amount of water consumed. This calculation will take values from pumps and not individual fields, so the values will be considered to all associated fields to that pump.
2. **On reporting the final dry down date** -> This will calculate the total amount of GHG emission based on the reported data previously (clay content, Fertilizations and AWD)
3. **On yield estimation** -> This will trigger the calculation that will generate preliminary data of water consumed per pound of rice, GHG emissions per pound of rice and the Yield and percentage above or below the average. With that, the grower will receive a notification in his mobile app about the state of his field (only if the data is not meeting the SmartRice Criteria. This will support him to decide how to segregate the rice from each field.
4. **On Final yield** -> This will trigger the calculation that will generate data of water consumed per pound of rice, GHG emissions per pound of rice and the Yield and percentage above or below the average.

PDF report for auditors

After all data is collected together with the evidence, a PDF report can be exported from the system, which will contain all data reported with the evidence for each field. The PDF will bring only information for the fields that were marked to be enrolled in the Smart Rice program.

Integrations.

- With the implementation of the structure described in this document, the system will have the necessary entities for an integration. Ideally some information that potentially already exists in other platforms can be reported automatically in Agritask by integration, avoiding reporting the same data twice.

This document does not cover hours of implementation for integration. It covers only the screens, reports and configurations described..

Implementation of what is described in this document will start only after the confirmation and agreement with what is defined in this document.

RiceTec S.A

Date:1/10/2023

By: __Ricetec Inc_____

Role: _____Marketing Vp

Signature: __*Alberto Barbero*_____

Agritask Ltd

Date: _____

By: Amit Noam

Role: Chief Operation Officer

Signature: _____