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:

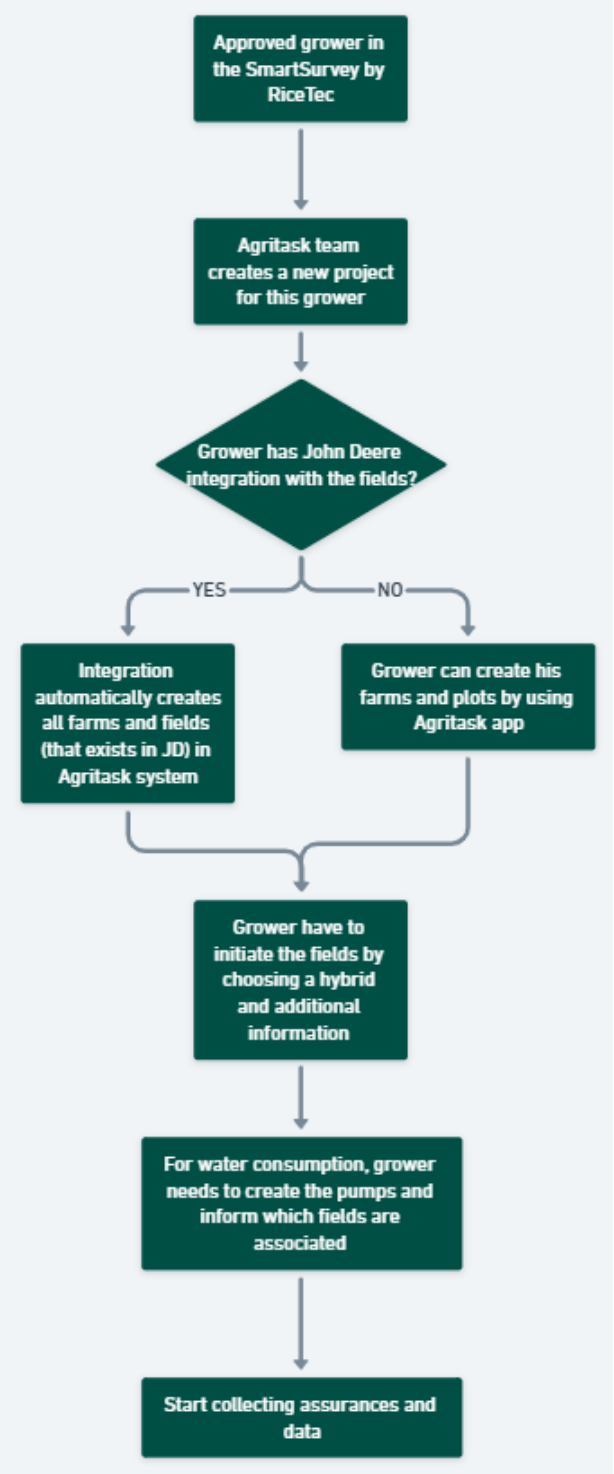
1. Ensure that the SmartRice claims are supported by the evidence and data collected by the approved growers in the SmartRice program.
2. Create a data structure that allows post-harvest traceability
3. To allow growers to see which fields will qualify for SmartRice claims and segregate accordingly

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

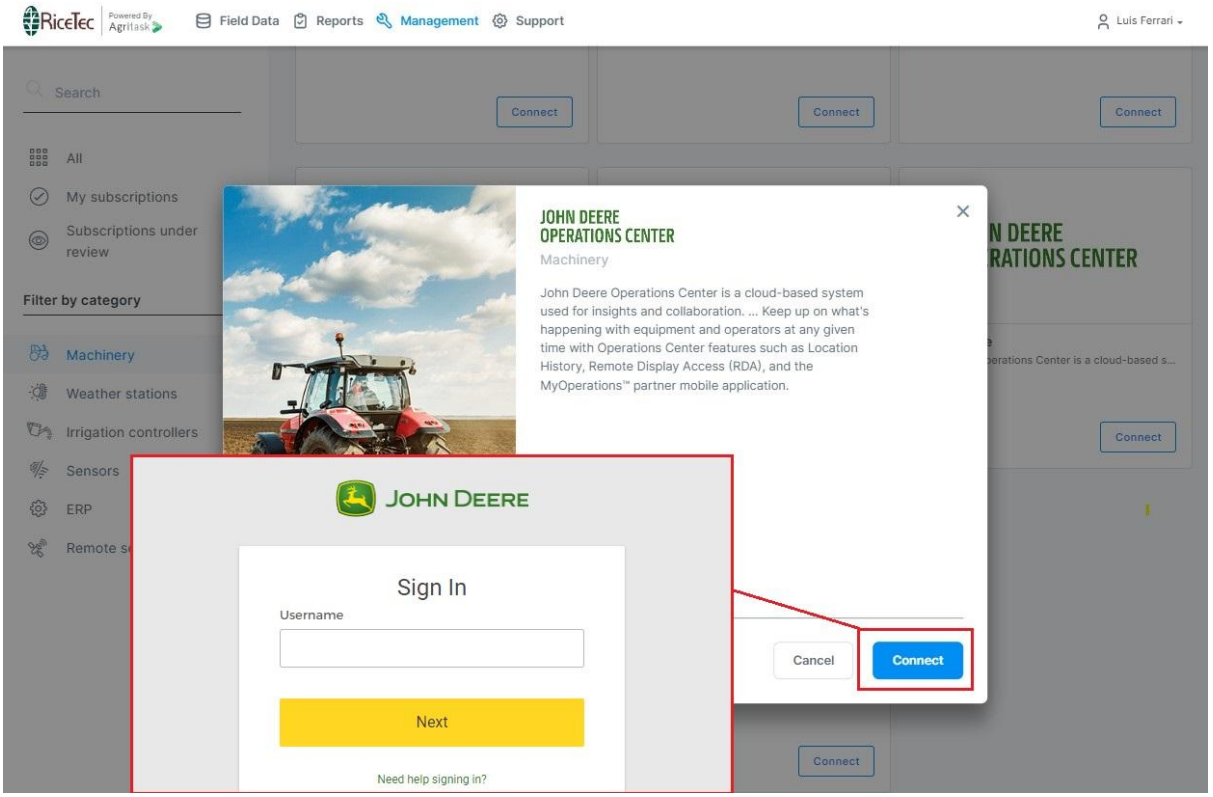
Proposed Workflow Scheme



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



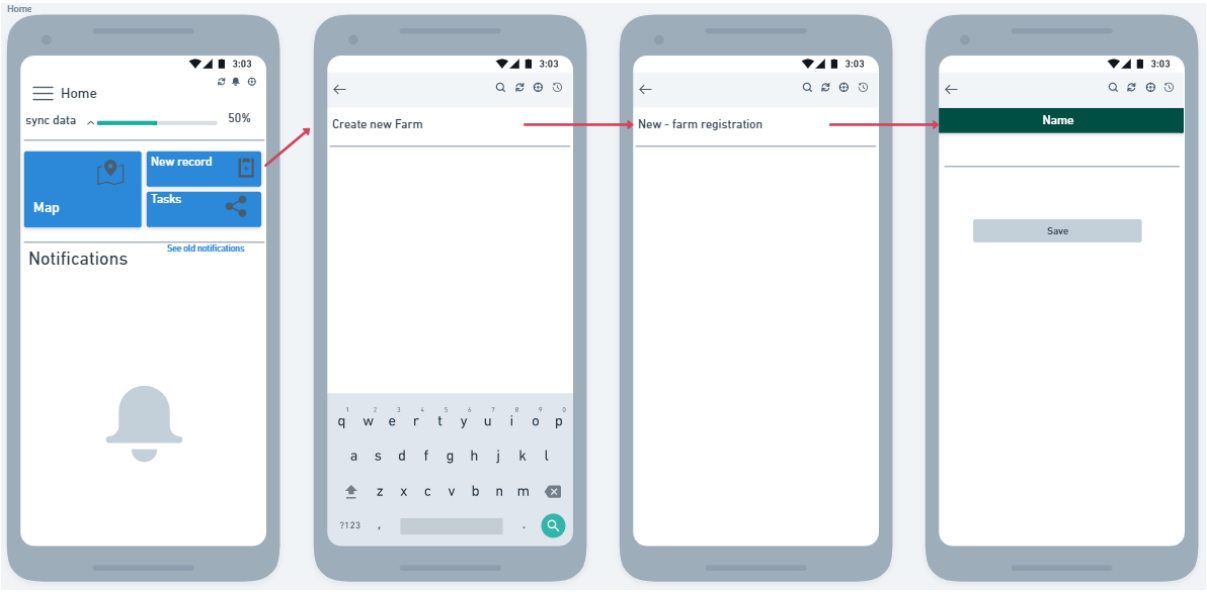
The John Deere integration will automatically create all farms, fields and machines with the machine tracks into the Agritask system. To perform this integration, users must access the subscription page and select John Deere Operation Center card and follow the steps.

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

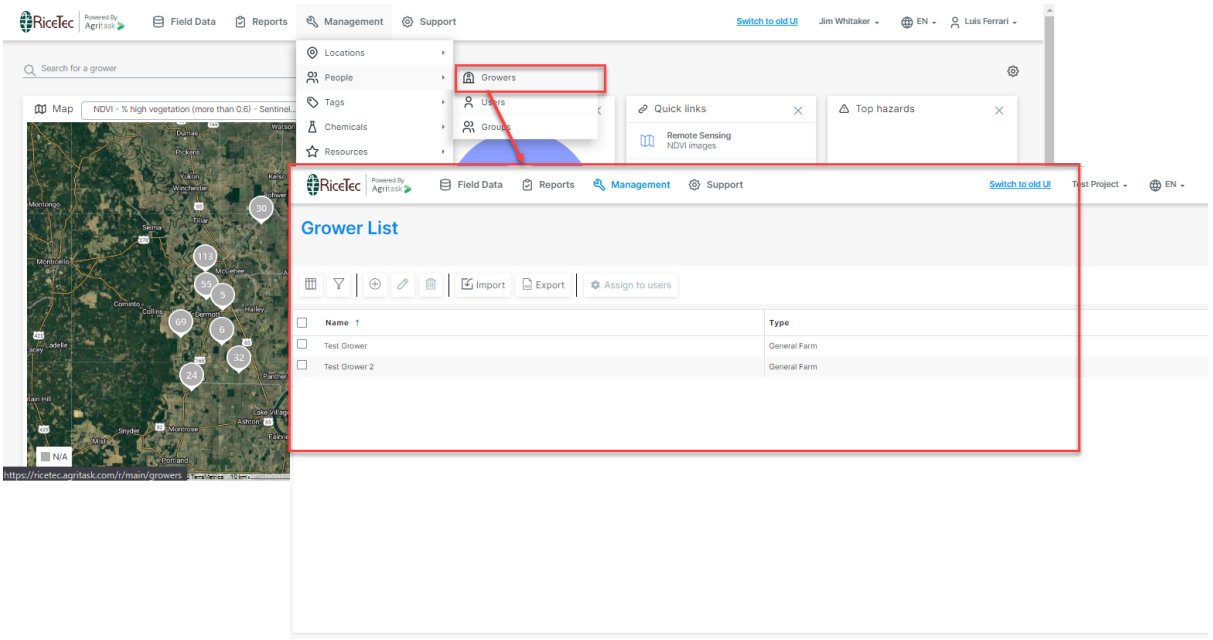
1. **Farm registration flow** -> The Farms registration can be done both through the mobile app and through the Web Application

Mobile application.



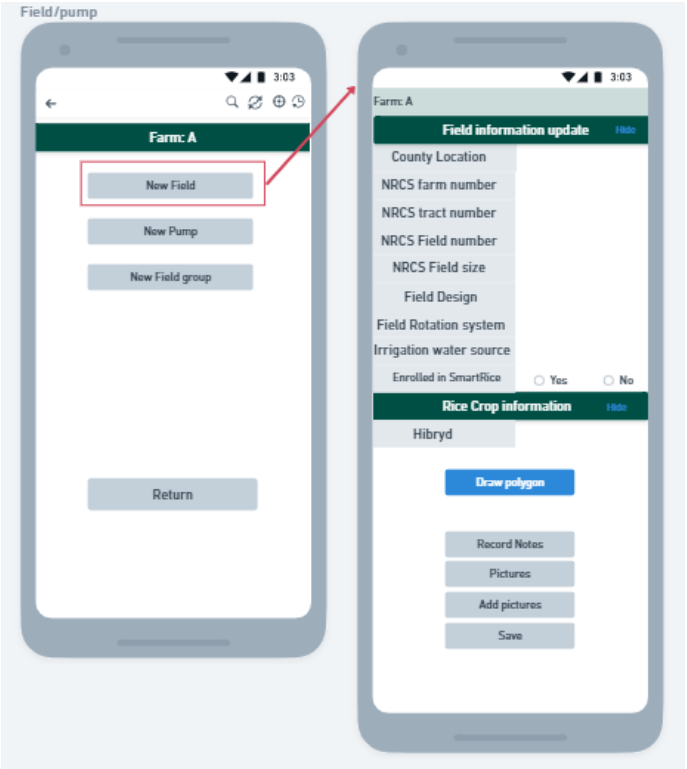
The Farm registration through the mobile application, the user will follow the above navigation and inform the name of the farm for each farm. The user must then resync the application so it creates the Farm entities in the server.

Web.

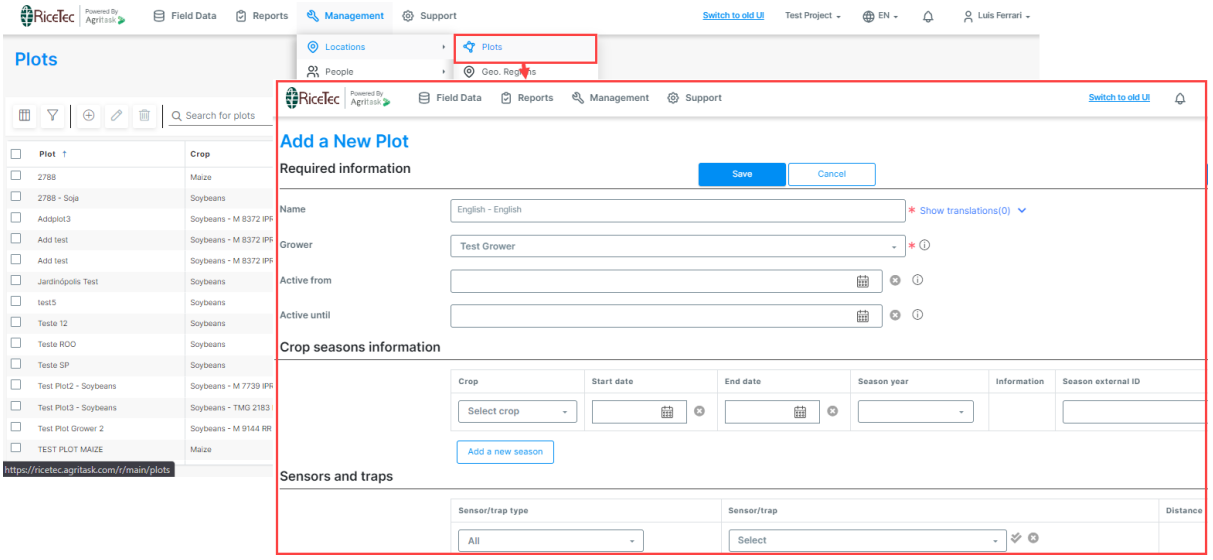


2. **New field registration flow** - the fields registration can be done both through the mobile app and through the Web Application

Mobile application.



Web application.



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

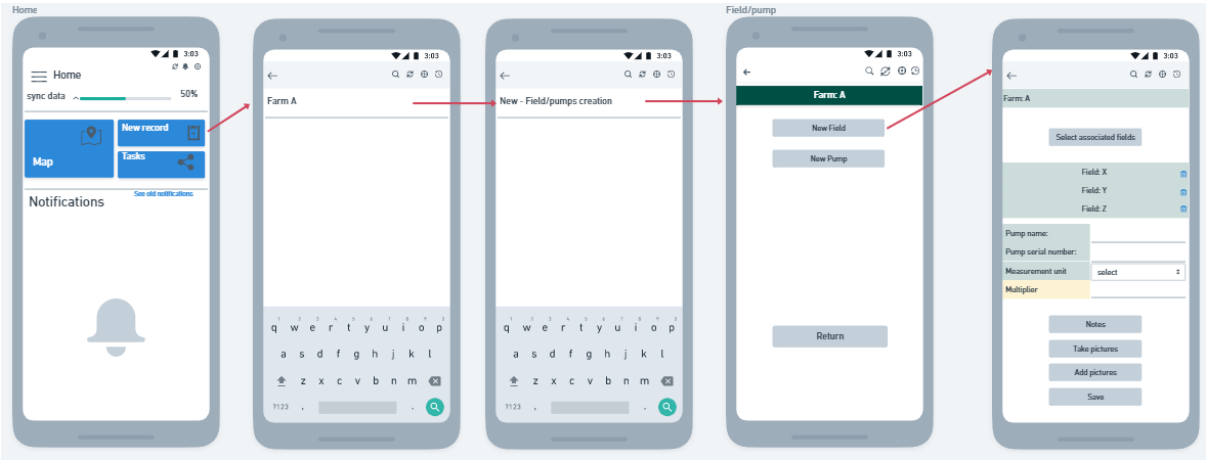
- County location
- NRCS farm number
- NRCS tract number
- NRCS field number
- Field design
- Field rotation system
- Irrigation water source
- Enrolled in SmartRice

#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.

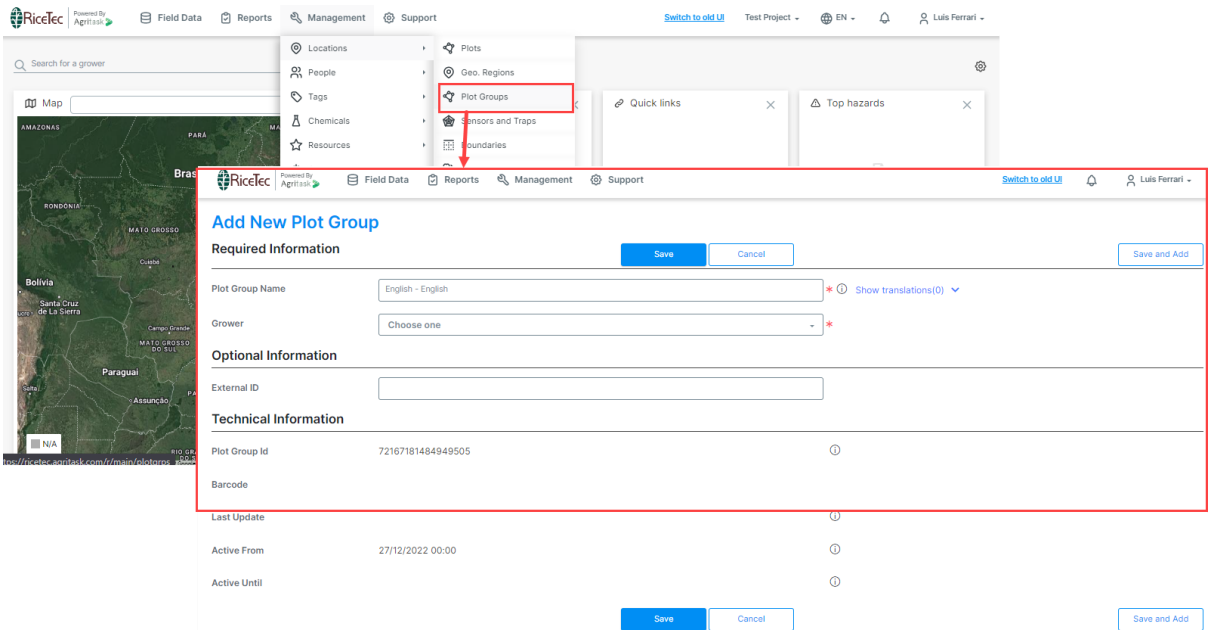


In this screen, the user must inform which fields are associated with the pump it's being created. It's important that the user go to the actual location where the pump is located because then the mobile app can get the coordinates of it.
The user also has to inform the measurement unit. If the unit 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.

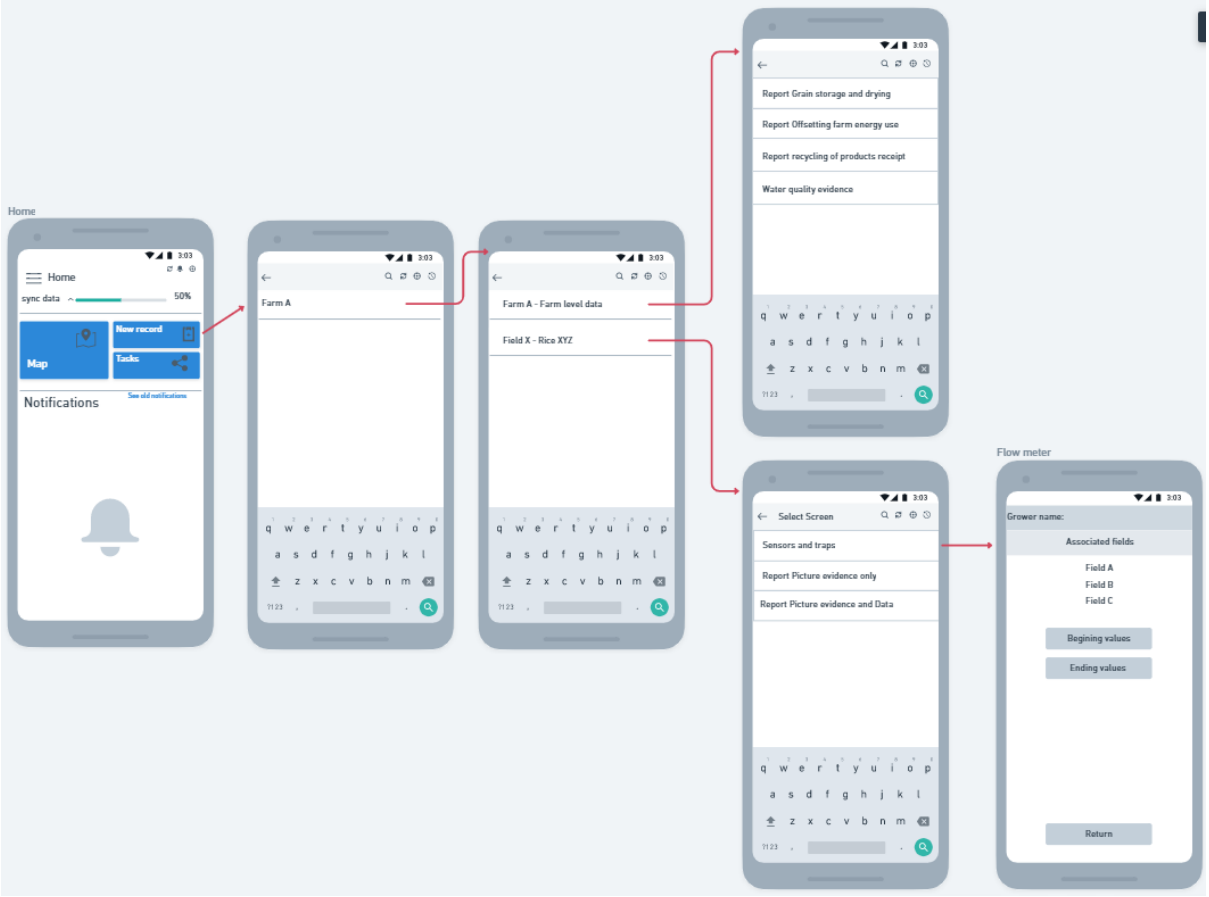
Mobile application.

Web application.



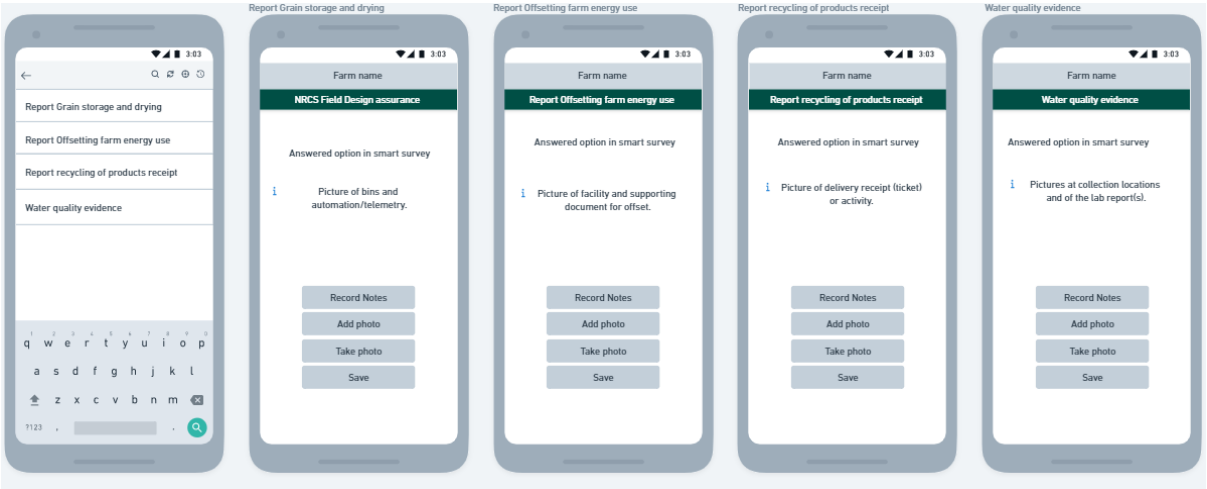
Data collection and assurances

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.

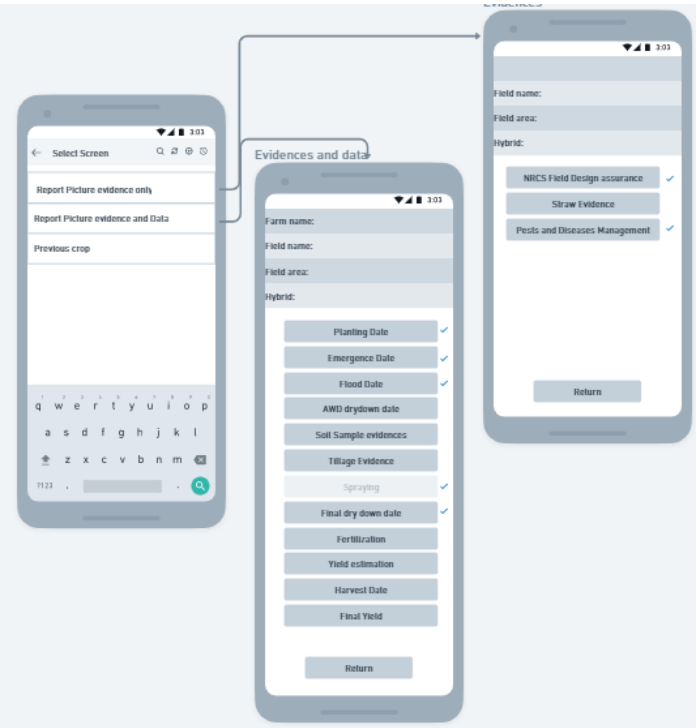


Field level data and evidence

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

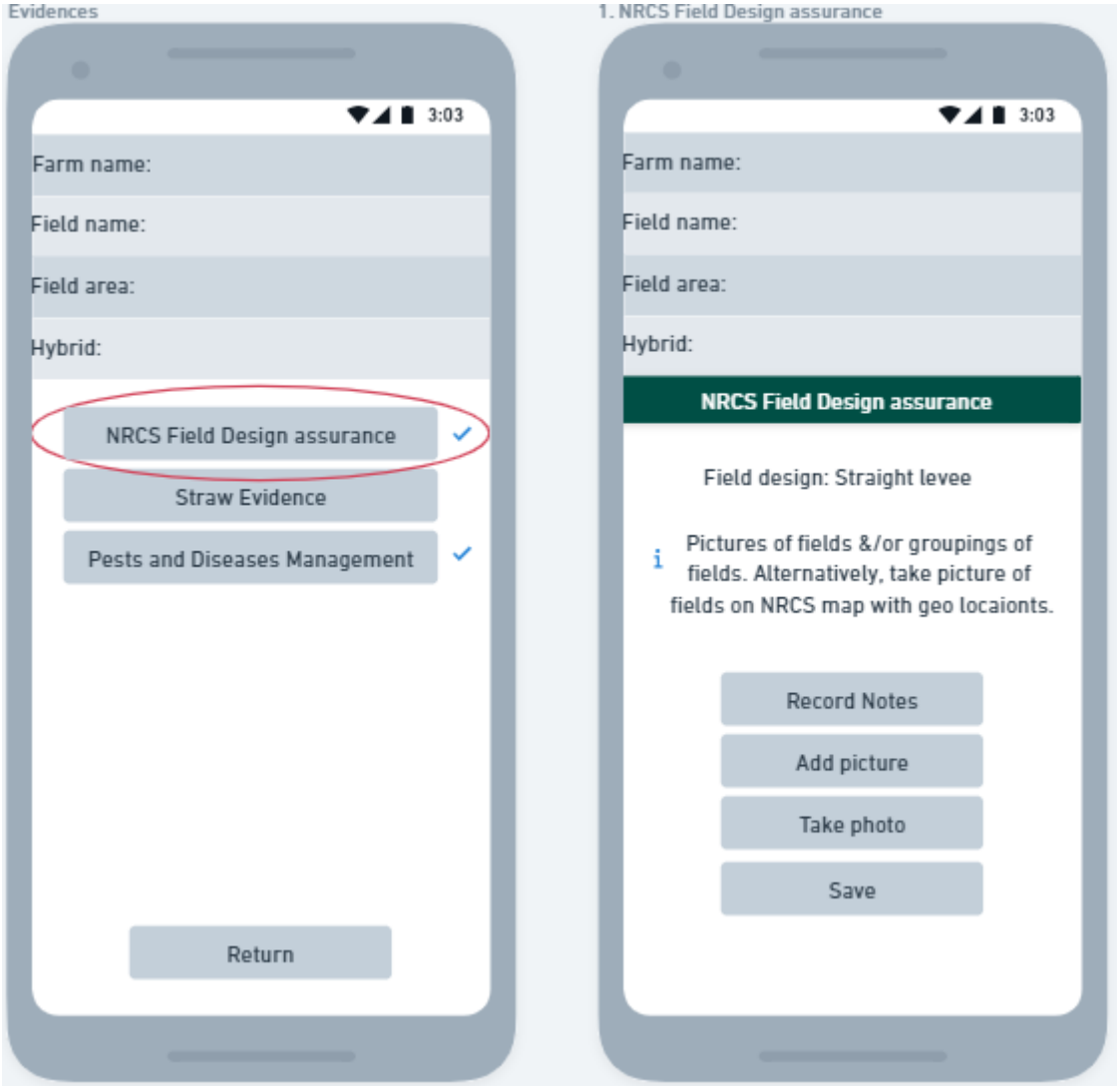
- Report evidence only
- Report data and evidence.

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.

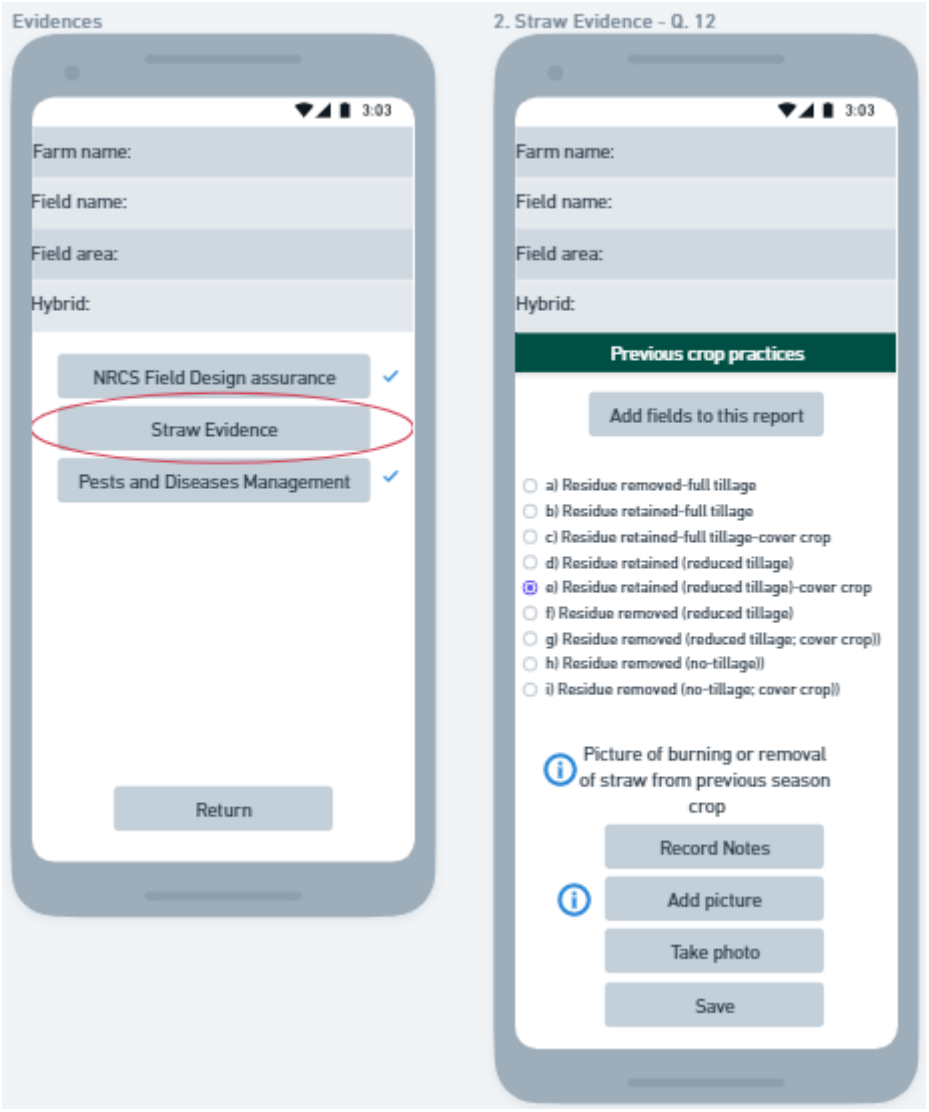


For all the screens, the user will be able to report the data and evidence for more than one field without having to enter each field individually.

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.



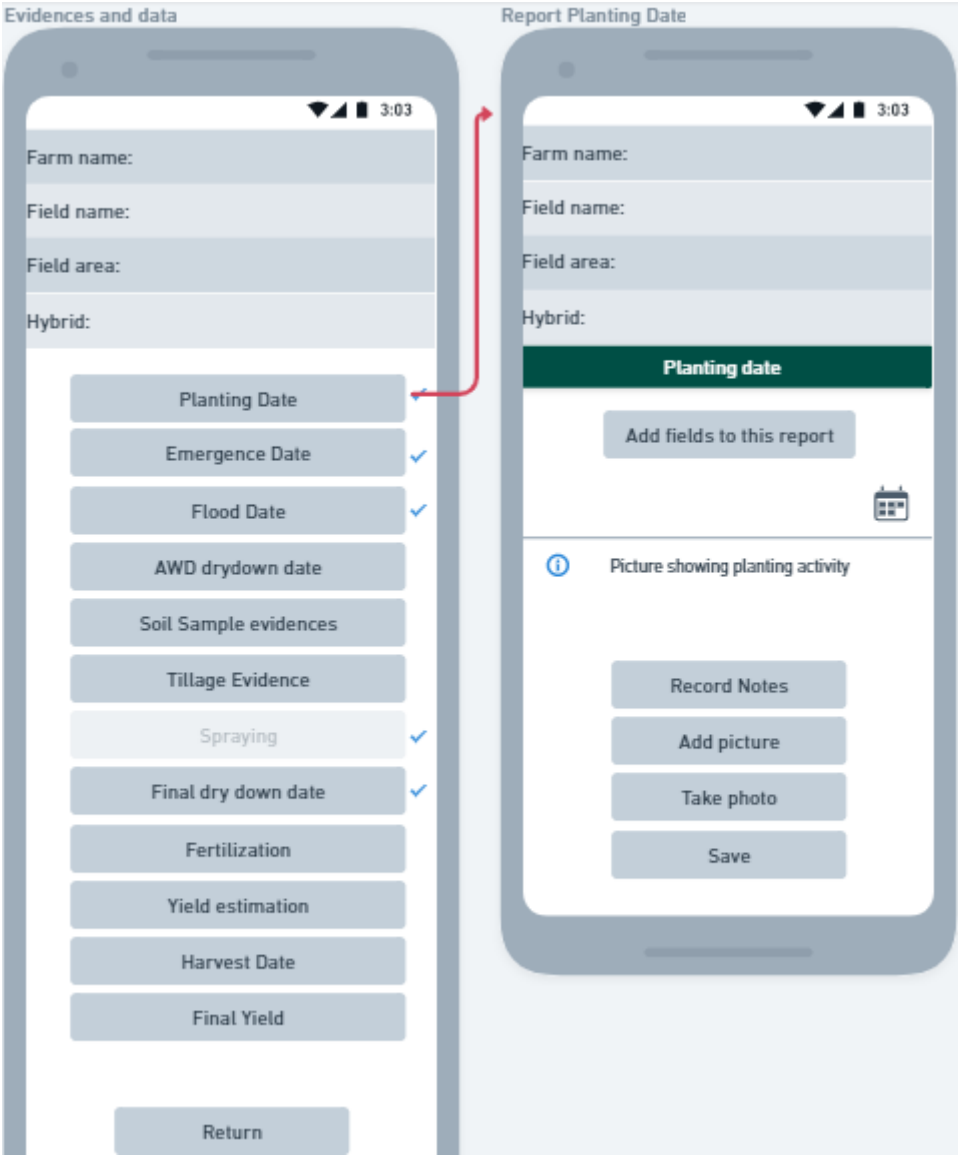
Evidences only | Straw evidence -> Here, the user will have to take a picture of the Straw residue management of that field. Again it's very important that the user be in place so the app can capture the timestamp and coordinates.



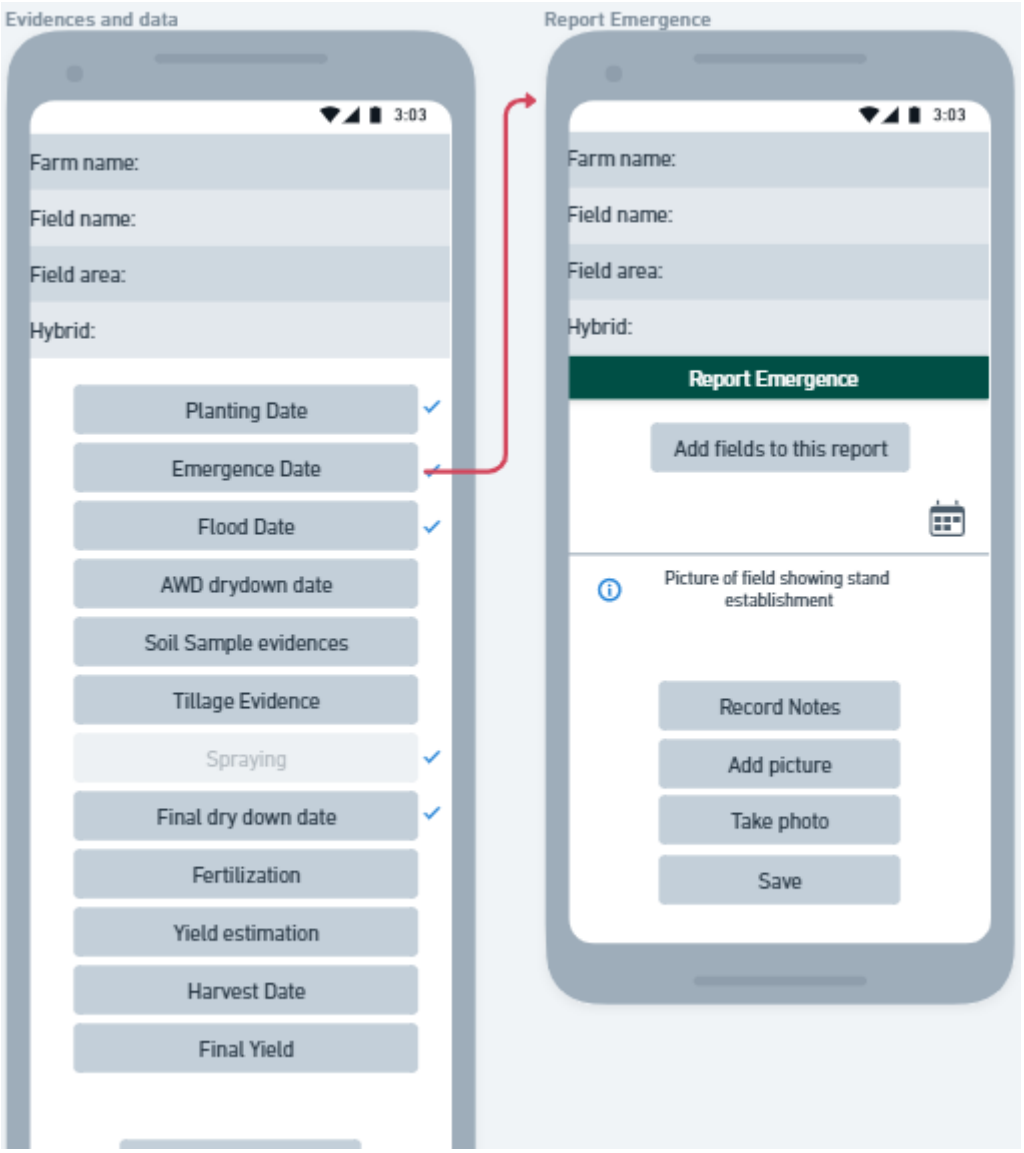
Evidences only | Pests and diseases management -> Users must here add or take a picture of the Scouting reports or Working orders.


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

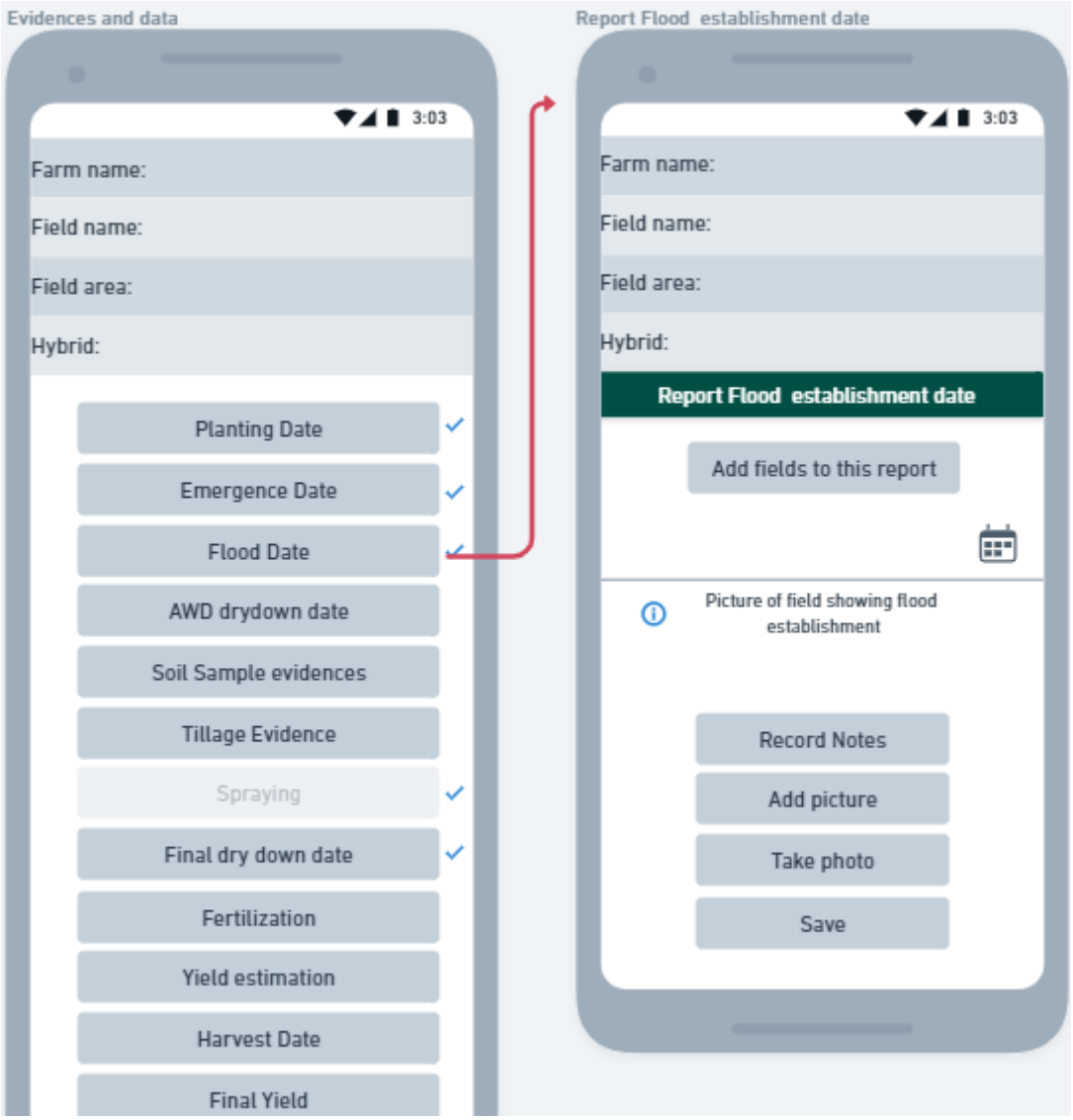
Field data and evidences | Planting date -> Users must report the planting date and optionally, add or take a picture of the planting process.



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

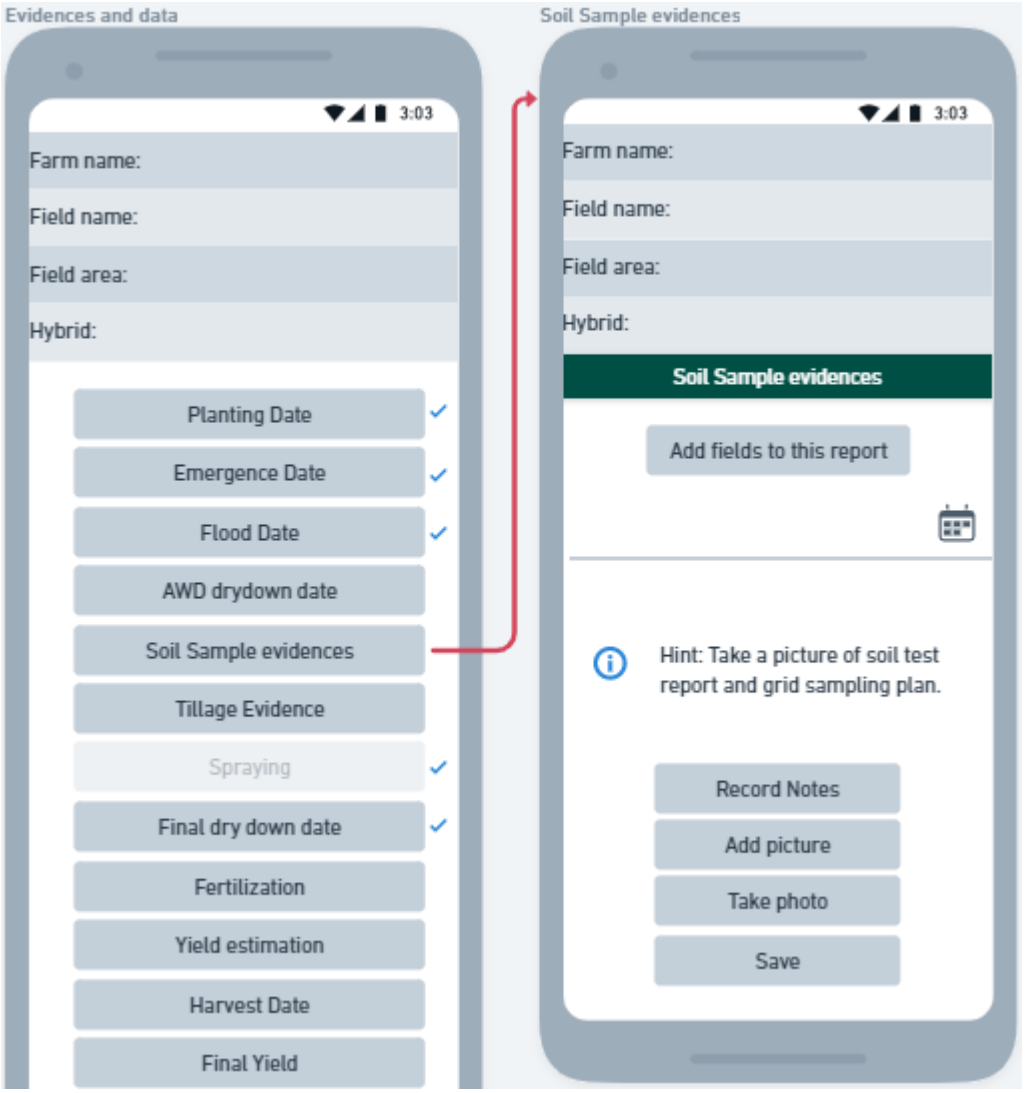


Field data and evidences | Flood establishment date -> Users must report the flood establishment date and optionally, add or take a picture of the planting process.



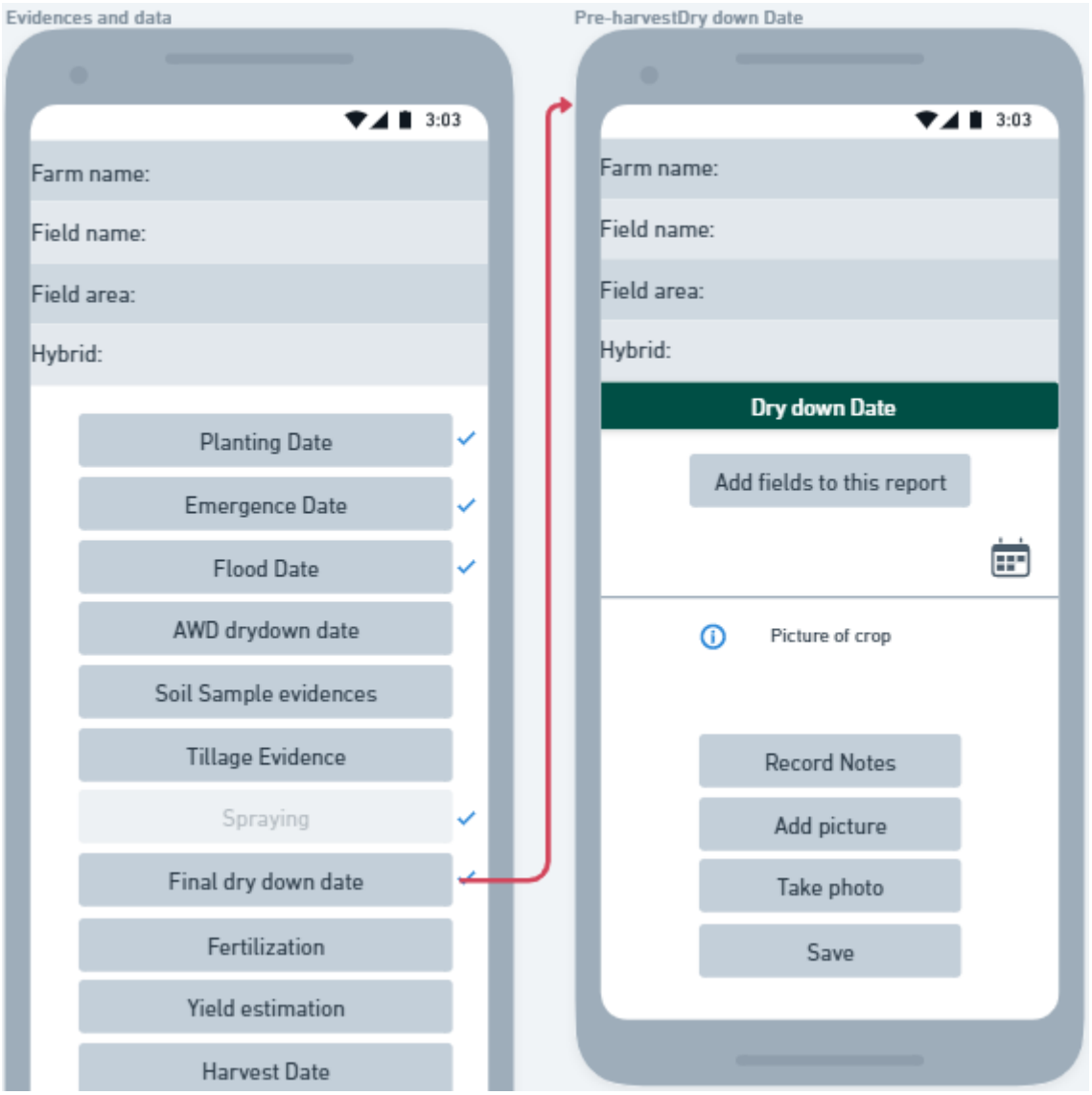
Field data and evidences | AWD date and evidence -> Picture of field at driest, Include Isbell Rice Checker if present or picture of the chart from the moisture sensor software.

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

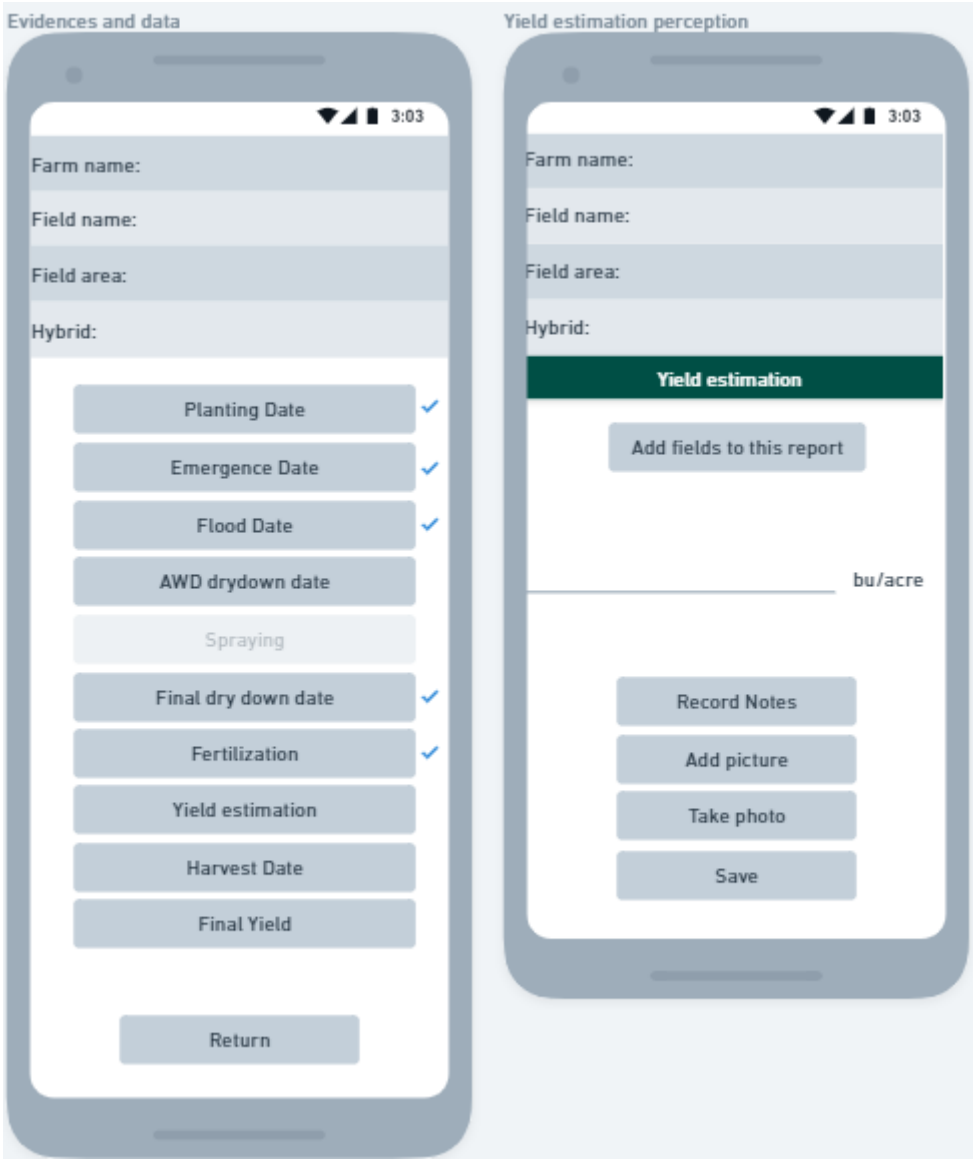


Field data and evidences | Fertilization report -> In this screen, the user can report all fertilization applications reported in the season for each plot. This screen is important to be reported for the end GHG emission calculation.

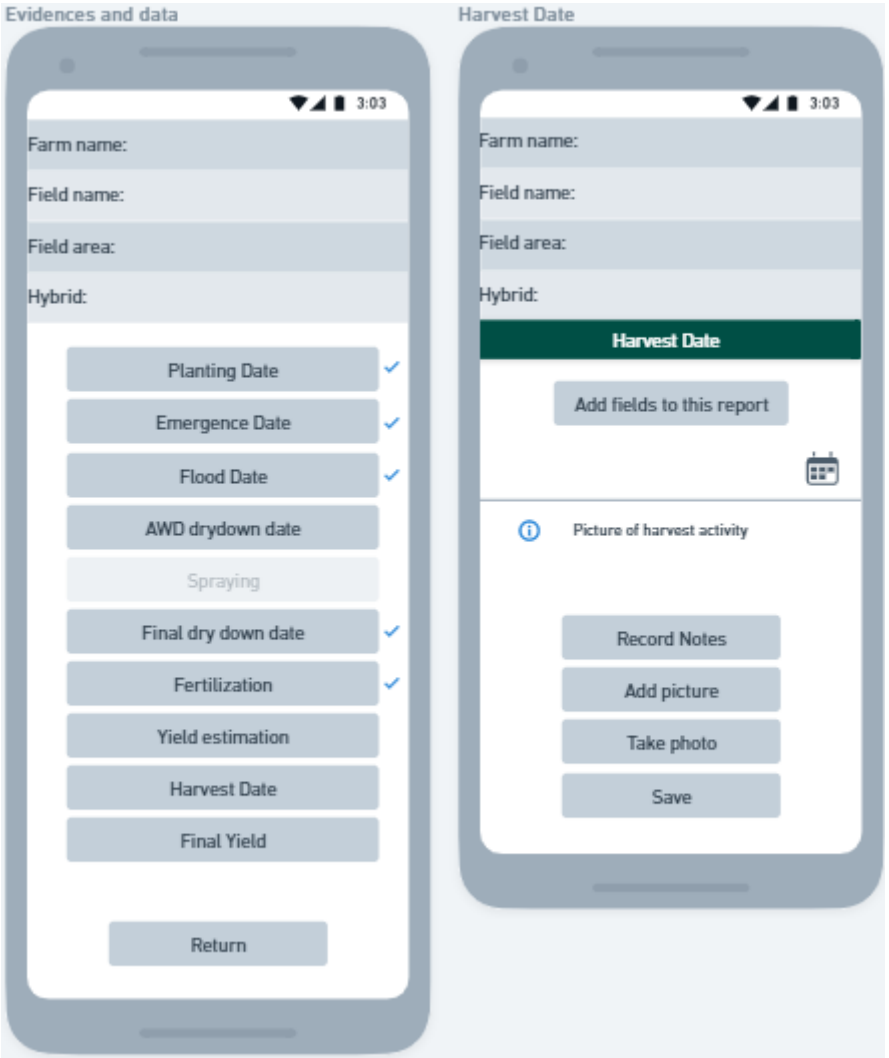
Field data and evidence |Pre-harvest Dry down date -> Here the user will report the dry down date. This screen will trigger the water and GHG emission calculations. So all data that interfere with those parameters must be reported previously to this report.



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.



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.



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.

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:_____