

AgroEco Research app

<http://sautiyawakulima.net/agresearch>

User's manual

Developed by Eugenio Tisselli

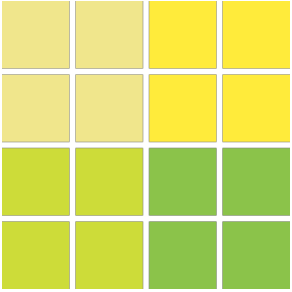
cubo23@yahoo.com



DOWNLOADING AND INSTALLING.

The AgroEco Research app works on most phones with Android operating system version 3.0 (Honeycomb) or higher.

1. Make sure that your phone allows you to install applications from "unknown sources" (that is, from sources different from Google Play)... to check whether you can do this, go to Settings >> Security, and check the "Enable unknown sources" checkbox. If you can't find that option there, you can try in Settings >> Applications.
2. Connect your phone to the Internet and navigate to <http://sautiyawakulima.net/agresearch> using your phone's browser.
3. Enter your login data (user alias and password)
4. You will see the main menu of the AgroEco Research web application. Choose 'Download app'.
5. A new screen will appear, with the logo of the app. Press the button labeled 'Download' found just below the logo.



6. The app should start downloading. On most Android phones, you can check the status of your download by sliding your finger from the top to the bottom of the screen... if this doesn't work, please check your phone's manual.

7. After the app has been downloaded, select it from the downloads section. Once you agree to grant the necessary permissions for the application, it will be installed on your phone.



CONFIGURATION.

You should be connected to the internet in order to configure the AgroEco Research app. You need to configure the app before you can start using it.

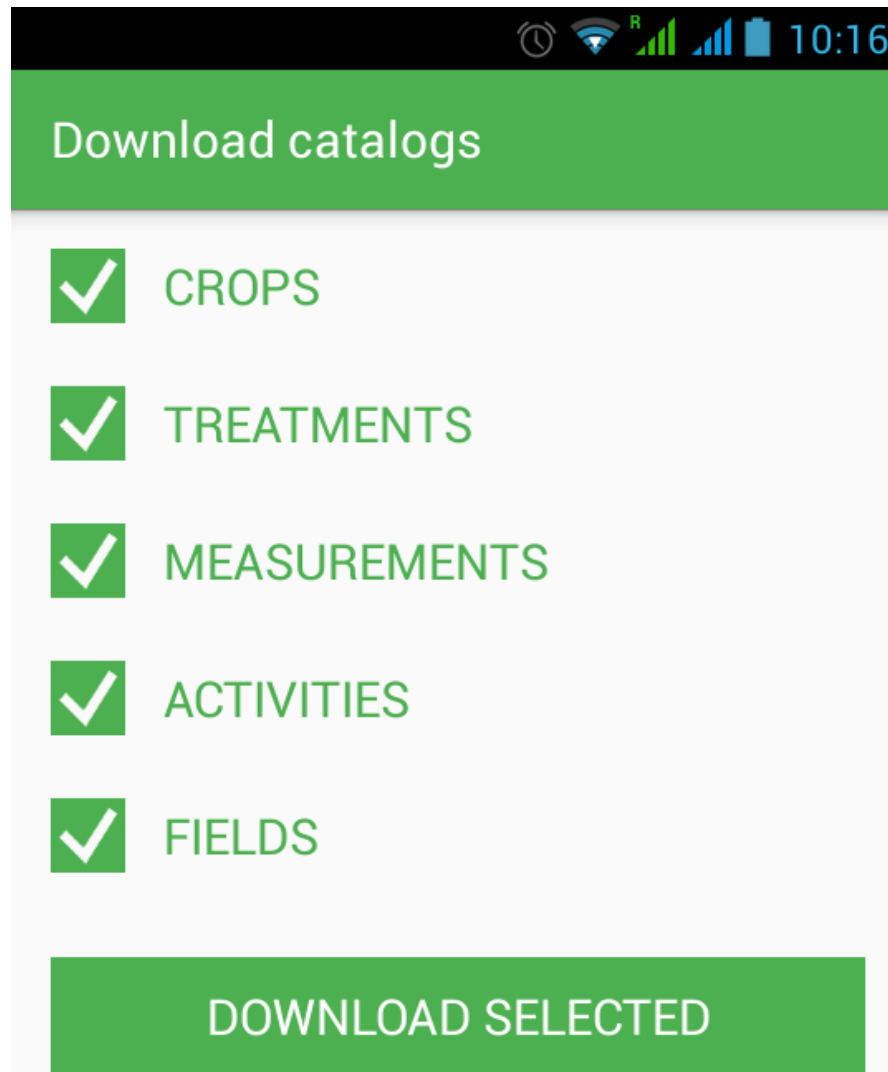
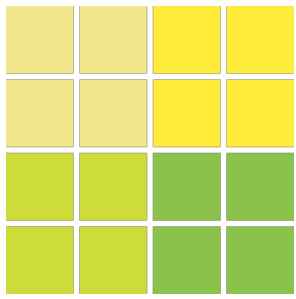
1. When you open the AgroEco Research app, you will be asked to enter the URL of the server to which the app will connect. Please enter the following URL, carefully avoiding typing mistakes:

<http://sautiyawakulima.net/agresearch>

2. You will then be asked to login. Please enter your login data (user name and password)

3. Once you've logged in, you will see the Main Menu. Since the catalogs containing the research framework data have not been downloaded yet, you will only see a few options. To download the catalogs, choose 'Settings'

4. On the Settings screen, choose 'Download catalogs'. You will see the following screen:

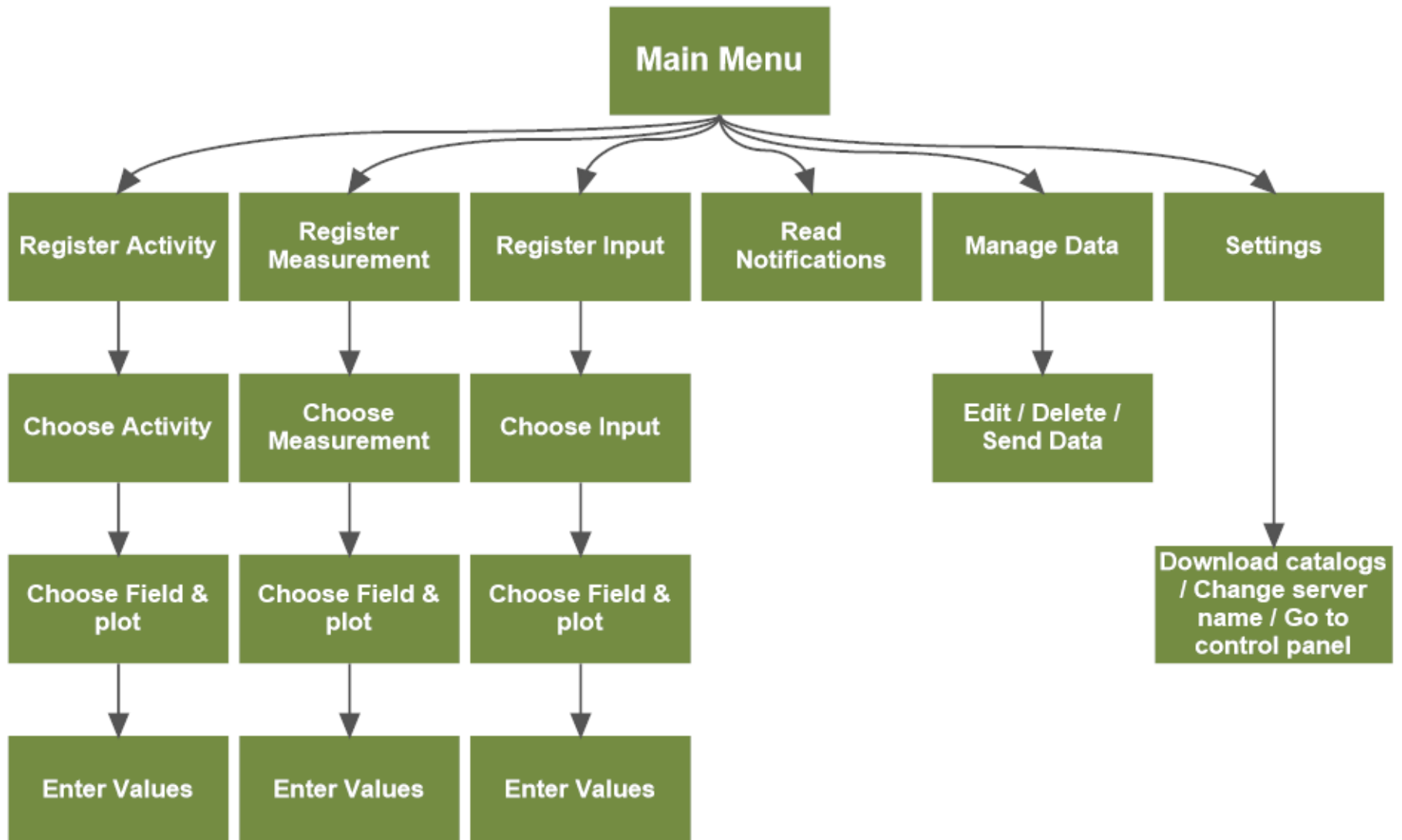


5. Make sure that all the catalog names are checked, and that you are still connected to the internet. Press 'Download selected' to download the catalogs. Once they have been downloaded, you can start using the AgroEco Research app.



USING THE AGROECO RESEARCH APP

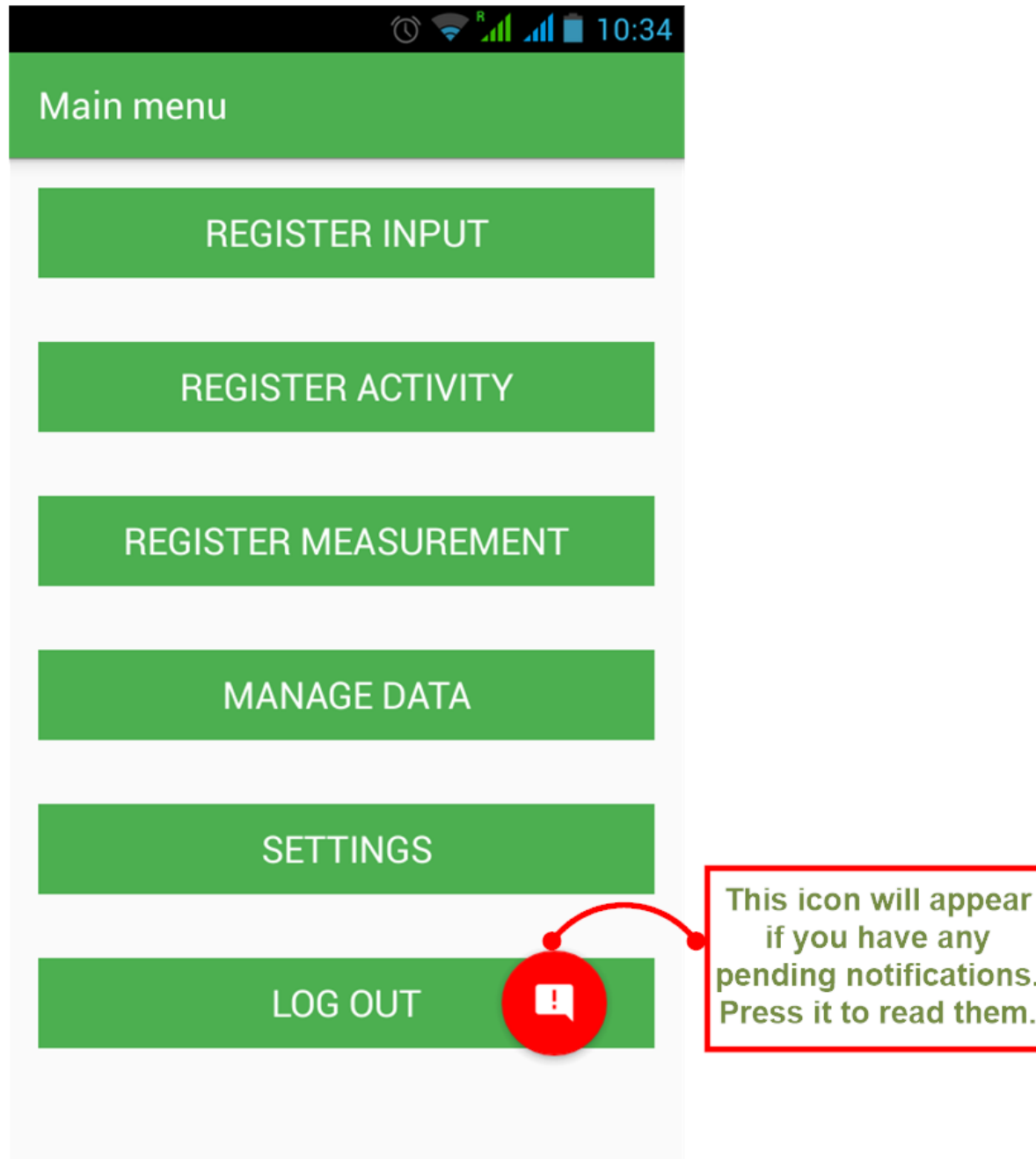
The following diagram illustrates the workflow of the AgroEcoResearch app. Please note that, at any point, you can go back to the previous screen by pressing the 'Back' button on your phone.





MAIN MENU

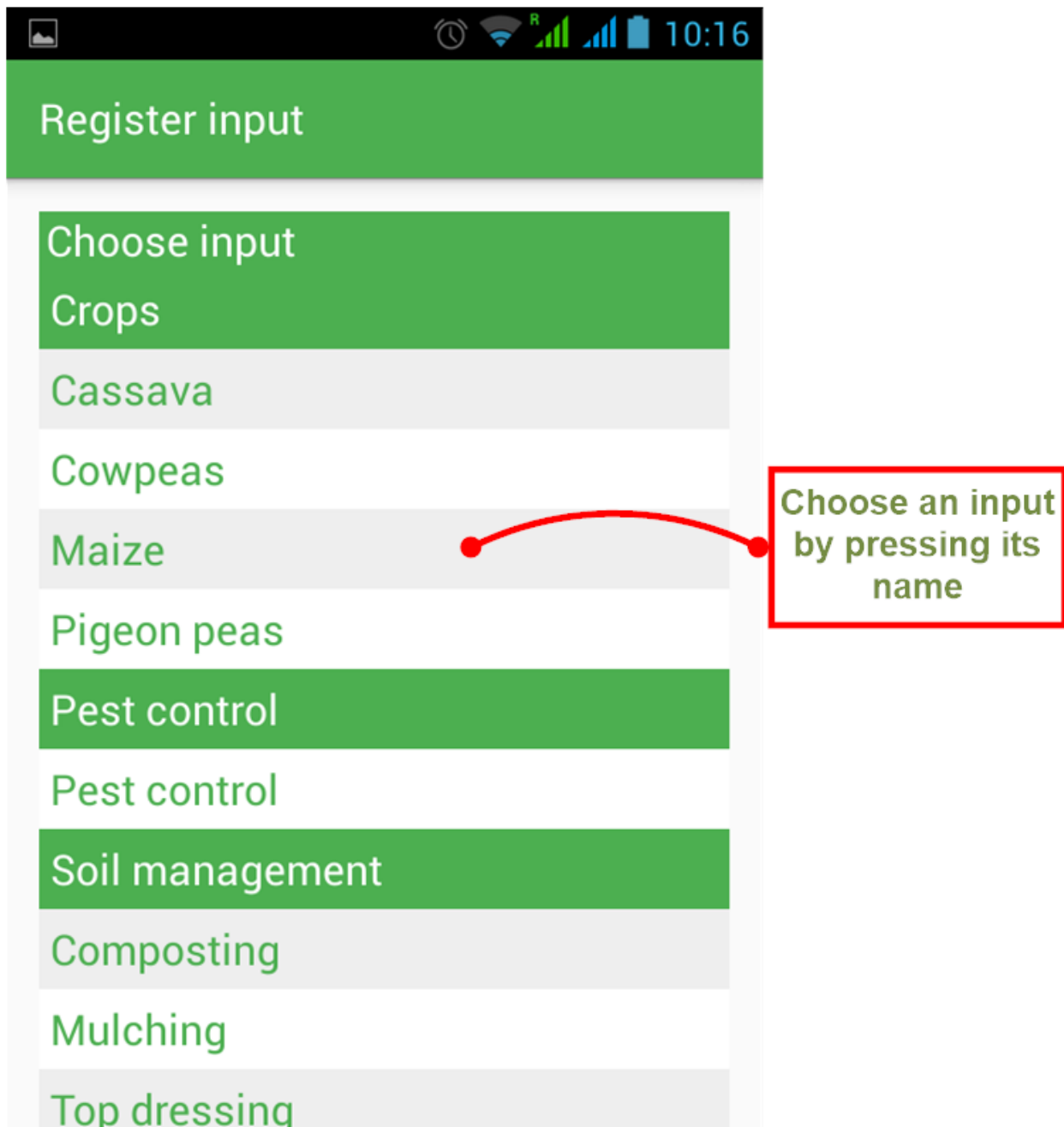
From the main menu, you will be able to register inputs, activities or measurements, manage data and settings, and read your notifications (if any).





REGISTERING AN INPUT

Inputs are materials used in the test fields: crops and treatment materials. After choosing an input, you will choose a field and plot(s) to which it is applied (page 11)



Register input

Choose input

Crops

Cassava

Cowpeas

Maize

Pigeon peas

Pest control

Pest control

Soil management

Composting

Mulching

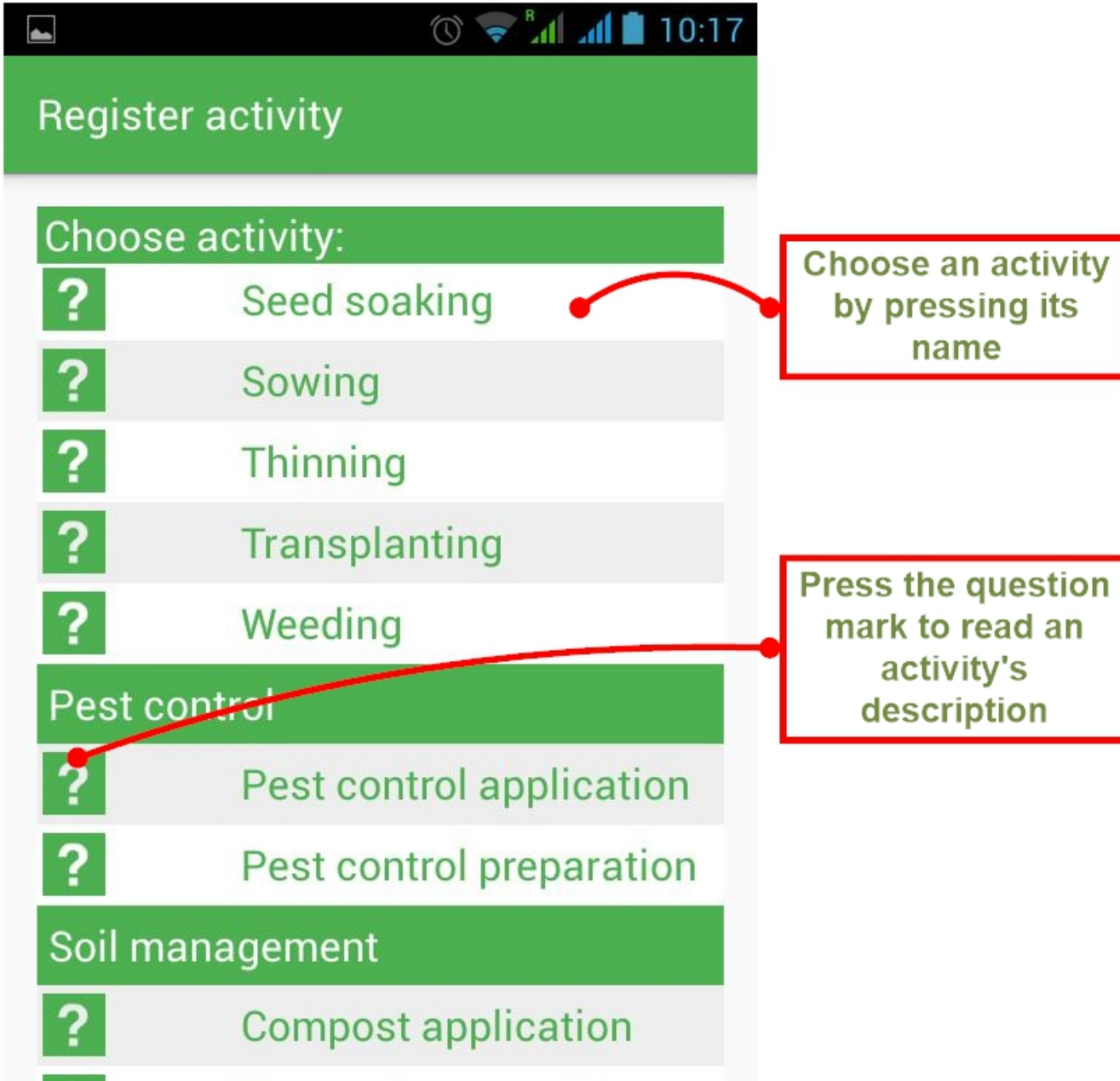
Top dressing

Choose an input by pressing its name



REGISTERING AN ACTIVITY

Activities are all tasks performed in the test fields, including field work and treatment preparation and application. After choosing an activity, you will choose a field and plot(s) to which it is applied (page 11)



Register activity

Choose activity:

- ? Seed soaking
- ? Sowing
- ? Thinning
- ? Transplanting
- ? Weeding

Pest control

- ? Pest control application
- ? Pest control preparation

Soil management

- ? Compost application

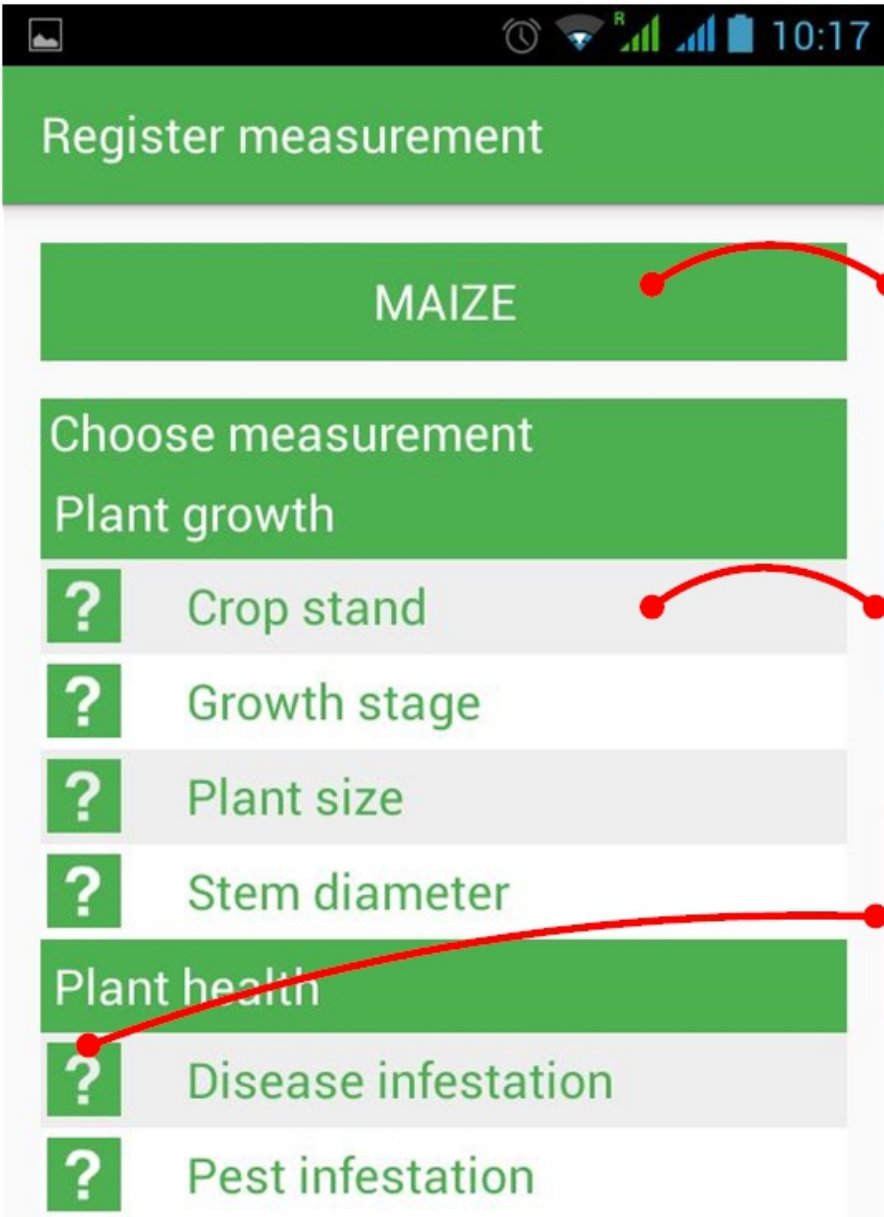
Choose an activity by pressing its name

Press the question mark to read an activity's description



REGISTERING A MEASUREMENT

Measurements refer to data gathered in the test fields. They are divided into categories (Cassava, Maize, Pulses and Soil) and subcategories. After choosing a category and a measurement, you will choose a field and plot(s) to which it is applied (page 11)



The screenshot shows a mobile application interface for registering measurements. The top status bar displays the time 10:17 and various icons. The app title 'Register measurement' is in a green header. Below it, a green button labeled 'MAIZE' is highlighted with a red box and an annotation: 'Choose a category by pressing here'. Underneath, a green button labeled 'Choose measurement' is followed by a section titled 'Plant growth'. This section contains a list of measurements, each preceded by a green question mark icon. The first item, 'Crop stand', is highlighted with a red box and an annotation: 'Choose a measurement by pressing its name'. Below this are 'Growth stage', 'Plant size', and 'Stem diameter'. A red line connects the 'Stem diameter' question mark to a red box with the annotation: 'Press the question mark to read a measurement's description'. Below the 'Plant growth' section is a green button labeled 'Plant health', followed by a list of measurements: 'Disease infestation' and 'Pest infestation', each preceded by a green question mark icon.

Register measurement

MAIZE

Choose measurement

Plant growth

? Crop stand

? Growth stage

? Plant size

? Stem diameter

Plant health

? Disease infestation

? Pest infestation

Choose a category by pressing here

Choose a measurement by pressing its name

Press the question mark to read a measurement's description

CHOOSING FIELD AND PLOT(S)

After choosing an input, activity or measurement, you will select a field, replication and plots to which it will be applied. You can select more than one plot, but only relevant ones will be available.

The screenshot shows a mobile application interface with the following components:

- Register: Growth stage (Maize)** (Green header bar)
- MASASI R1** (Green button for field and replication selection)
- Choose plots** (Section header for the plot grid)
- Plot Grid** (4x4 grid of plots):

C2+L	C1	C2	C1+L
C2	C1+L	C2+L	C1
C2+L	C1+L	C1	C2
C1	C2	C1+L	C2+L
- ENTER DATA** (Green button for data entry)
- Legend** (Black box with white text):
 - C1: Cassava
 - C2: Maize
 - L: Cowpeas
 - Pest control
 - Control treatment
 - Soil management and pest control
 - Soil management

Annotations with red boxes and arrows:

- Press here to choose a field and replication** (points to MASASI R1)
- Select a plot by pressing it. Selected plots are highlighted in red. Only plots relevant to the chosen input, activity or measurement can be selected** (points to the C2+L plot in the second row, third column)
- After selecting plot(s), press here to enter data** (points to ENTER DATA)
- Legend** (points to the legend box)



ENTERING DATA

Entering data for the chosen input, activity or measurement is straightforward. Just enter the relevant data in its appropriate field and press 'Register.' If you press the 'back' button, data will not be saved.

For **inputs**, you will need to enter the following data:

Crops:

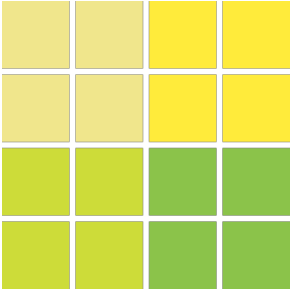
- Date
- Age (days)
- Origin
- Quantity
- Cost

Treatments:

- Date
- Material used
- Material quantity
- Preparation method
- Cost

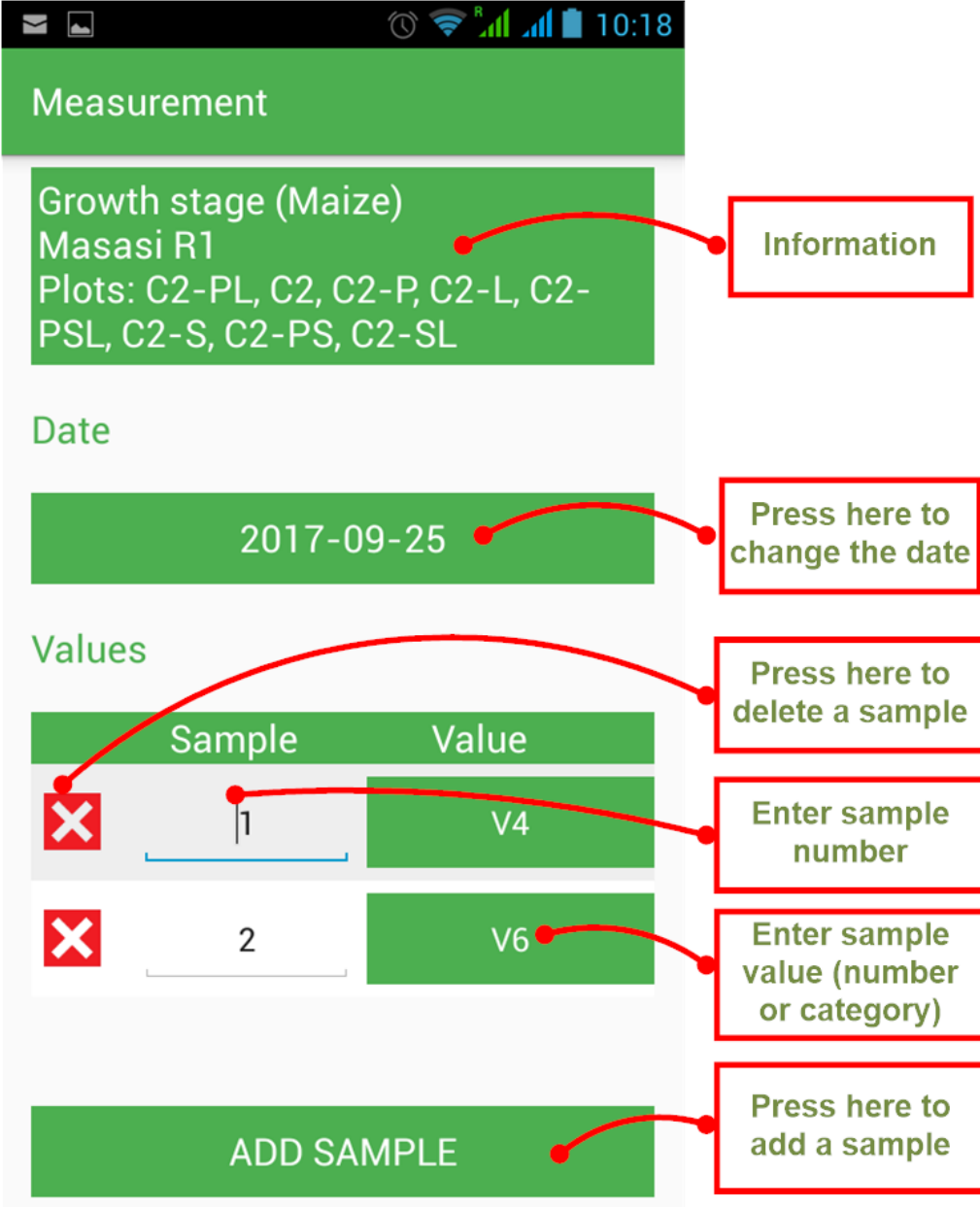
For **activities**:

- Date
- Value
- Units
- Number of laborers
- Cost



ENTERING DATA - MEASUREMENTS

Measurements can be either quantitative or qualitative. In the first case, you should enter a numeric value and, in the second, choose a category from a list (or enter a different one). Some measurements require multiple samples to be taken:



The screenshot shows a mobile application interface for entering measurement data. The interface is divided into several sections, each with a green header. The top section is titled "Measurement" and contains text for "Growth stage (Maize)", "Masasi R1", and a list of plots: "C2-PL, C2, C2-P, C2-L, C2-PSL, C2-S, C2-PS, C2-SL". Below this is a "Date" section with a green button displaying "2017-09-25". The "Values" section contains a table with two columns: "Sample" and "Value". The table has two rows: the first row has a red 'X' icon, the number "1", and the value "V4"; the second row has a red 'X' icon, the number "2", and the value "V6". At the bottom is a green button labeled "ADD SAMPLE". Red callout boxes with arrows point to specific elements: "Information" points to the measurement details; "Press here to change the date" points to the date button; "Press here to delete a sample" points to the red 'X' icon in the first row of the table; "Enter sample number" points to the input field for sample "1"; "Enter sample value (number or category)" points to the input field for value "V6"; and "Press here to add a sample" points to the "ADD SAMPLE" button.

Measurement

Growth stage (Maize)
Masasi R1
Plots: C2-PL, C2, C2-P, C2-L, C2-PSL, C2-S, C2-PS, C2-SL

Date

2017-09-25

Values

Sample	Value
1	V4
2	V6

ADD SAMPLE

Information

Press here to change the date

Press here to delete a sample

Enter sample number

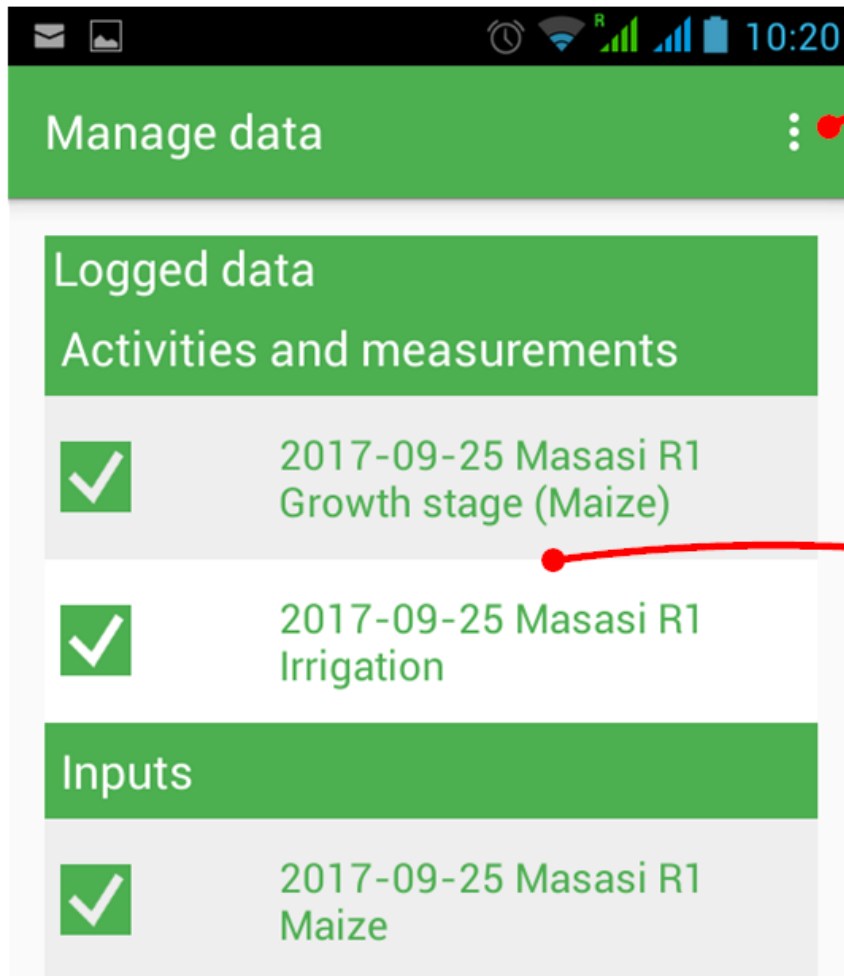
Enter sample value (number or category)

Press here to add a sample



MANAGING DATA

The data manager allows you to review, edit, delete and send the data you have registered.



Press here to access the data manager menu. From the menu, you will be able to send or delete the selected data items

Press a data item to review or edit it. Press its corresponding checkbox to select or deselect it.



SETTINGS

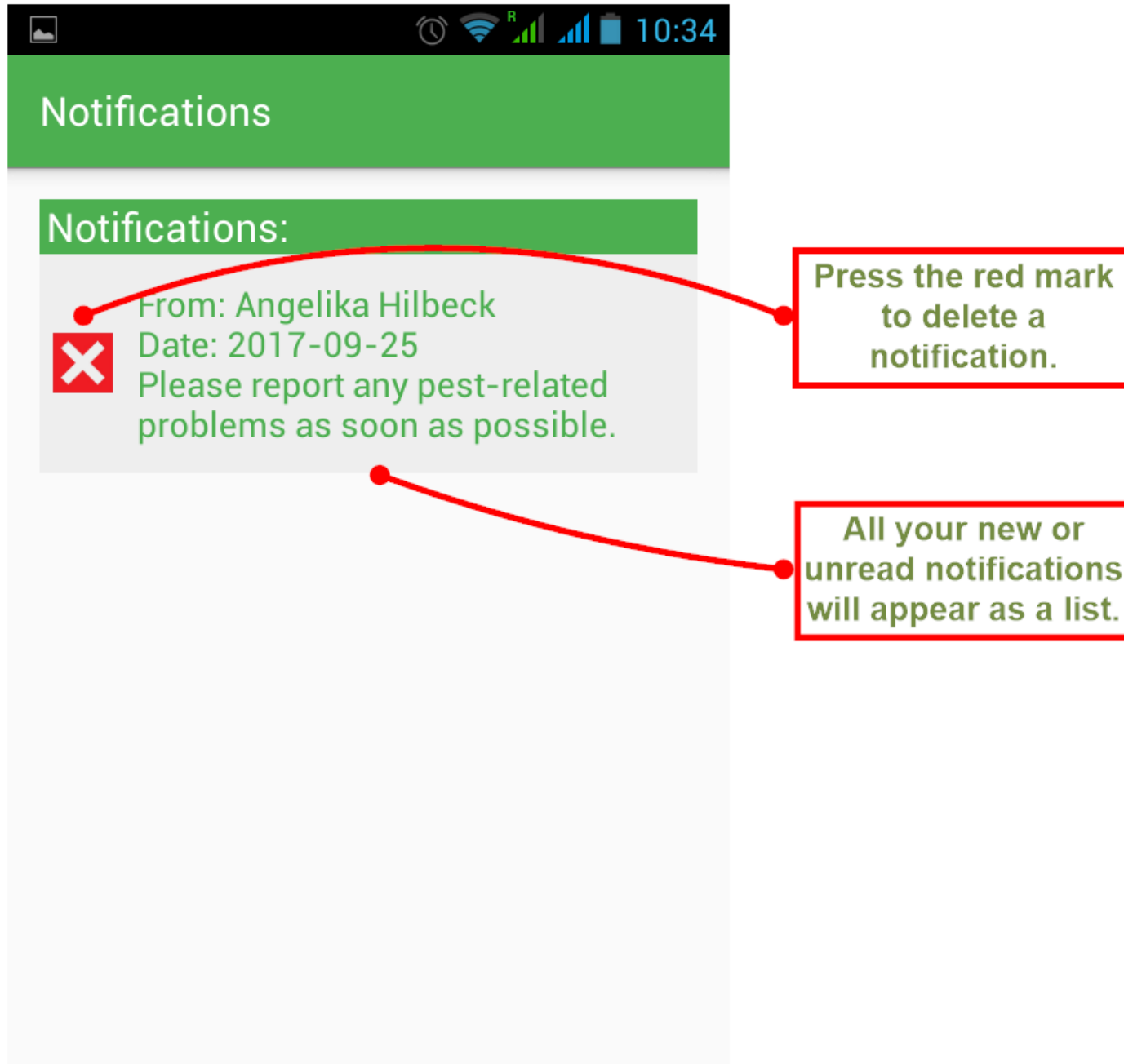
The Settings screen will allow you to perform the following tasks:

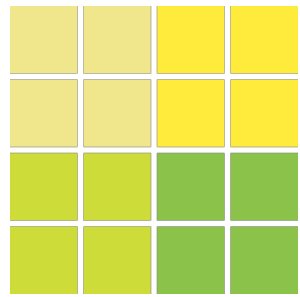
- **Download catalogs:** Data framework catalogs must be downloaded in order to enable the data collection tasks. This is normally done at the beginning of the process, as explained on p. 5. However, it is possible to download the catalogs again at any point in the process, in case the data framework has been updated.
- **Define server:** The server name (or URL) is defined at the beginning of the process, right after the application has been installed. However, it is possible to change it if needed.
- **Control panel:** This option allows you to access the web control panel of the AgroEcoResearch project, by opening your phone's web browser and navigating to the control panel's URL.



READING NOTIFICATIONS

If you have any new or unread notifications, you can read them by pressing the red icon that appears on the main menu (see p. 7).





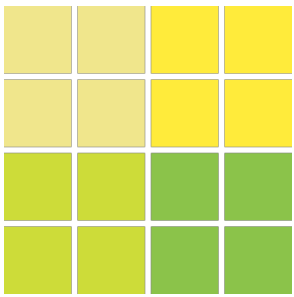
REVIEWING AND EDITING DATA ON THE WEB APPLICATION

The data that is sent from the AgroEcoResearch app is aggregated and stored in a web database. You can access the contents of this database to review and manage the data.

To do so, go to <http://sautiyawakulima.net/agresearch> and enter your login data.

You will see the main menu of the web application. Press 'Manage log' to review and edit the AgroEco Research data.

On the following page you will see an example of how the logged data will appear.



Click this check box to select or deselect all items

Click any check box to select or deselect single items

<input type="checkbox"/>	Item	Date	Field	Description	Actions
<input type="checkbox"/>	Activity	2017-09-25	Masasi R1	Irrigation	Details Edit
<input type="checkbox"/>	Measurement	2017-09-25	Masasi R1	Growth stage	Details Edit
<input type="checkbox"/>	Input	2017-09-25	Masasi R1	Maize	Details Edit
<input type="checkbox"/>	Measurement	2017-09-21	Masasi R1	Pest type	Details Edit
<input type="checkbox"/>	Measurement	2017-09-19	Masasi R1	pH	Details Edit
<input type="checkbox"/>	Activity	2017-09-19	Masasi R1	Weeding	Details Edit
<input type="checkbox"/>	Input	2017-09-19	Masasi R1	Pest control	Details Edit
<input type="checkbox"/>	Input	2017-09-19	Masasi R1	Cassava	Details Edit
<input type="checkbox"/>	Measurement	2017-09-19	Masasi R1	Crop stand	Details Edit
<input type="checkbox"/>	Measurement	2017-09-19	Masasi R1	Number of planted sticks	Details Edit

Click on 'Edit' to edit the corresponding item

Click on 'Details' to view the values of the corresponding item

Use the page navigators 'Previous' and 'Next' to move through the log pages

[Next](#)

Refresh

Delete selected

Filters

Menu

Click here to load new items

Click here to delete the selected items

Click here to apply filters to the data. You can filter by field, dates, activity, measurement, crop and / or treatment

Click here to return to the main menu



SENDING NOTIFICATIONS TO OTHER USERS

From the main menu of the web application, you can choose the option 'Notifications' to send text messages to other users of the AgroEco research app. Notifications will be received as soon as the recipient logs in to the mobile app.

Notifications

From:

Angelika Hilbeck

To:

Select:

Use this list to select the user to which you want to send a notification.

Message:

|

Type your message here.

Press here to send your notification.

Send

Main menu

Previous messages sent by Angelika Hilbeck:

To: Eugenio Tisselli

Date: 2017-09-25

Message: Please report any pest-related problems as soon as possible.

Sent: Yes

Sent notifications will be displayed here. If a user has not received a notification yet, you will be able to delete it.