AgroEco Research app
http://sautiyawakulima.net/agresearch

User's manual

1. 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.
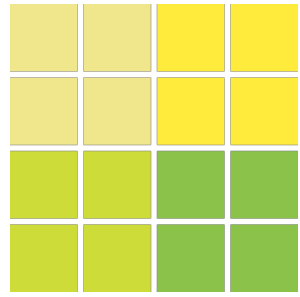
6. The app should start downloading. On most Android phones, you can check the status of your download by sliding your finger from the top to the bottom of the screen... if this doesn't work, please check your phone's manual.

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.

2. CONFIGURING.

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 login. Please enter your login data.

2. 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

3. Once you've entered the server URL, 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:

Download catalogs

- ☑ CROPS
- ☑ TREATMENTS
- ☑ MEASUREMENTS
- ☑ ACTIVITIES
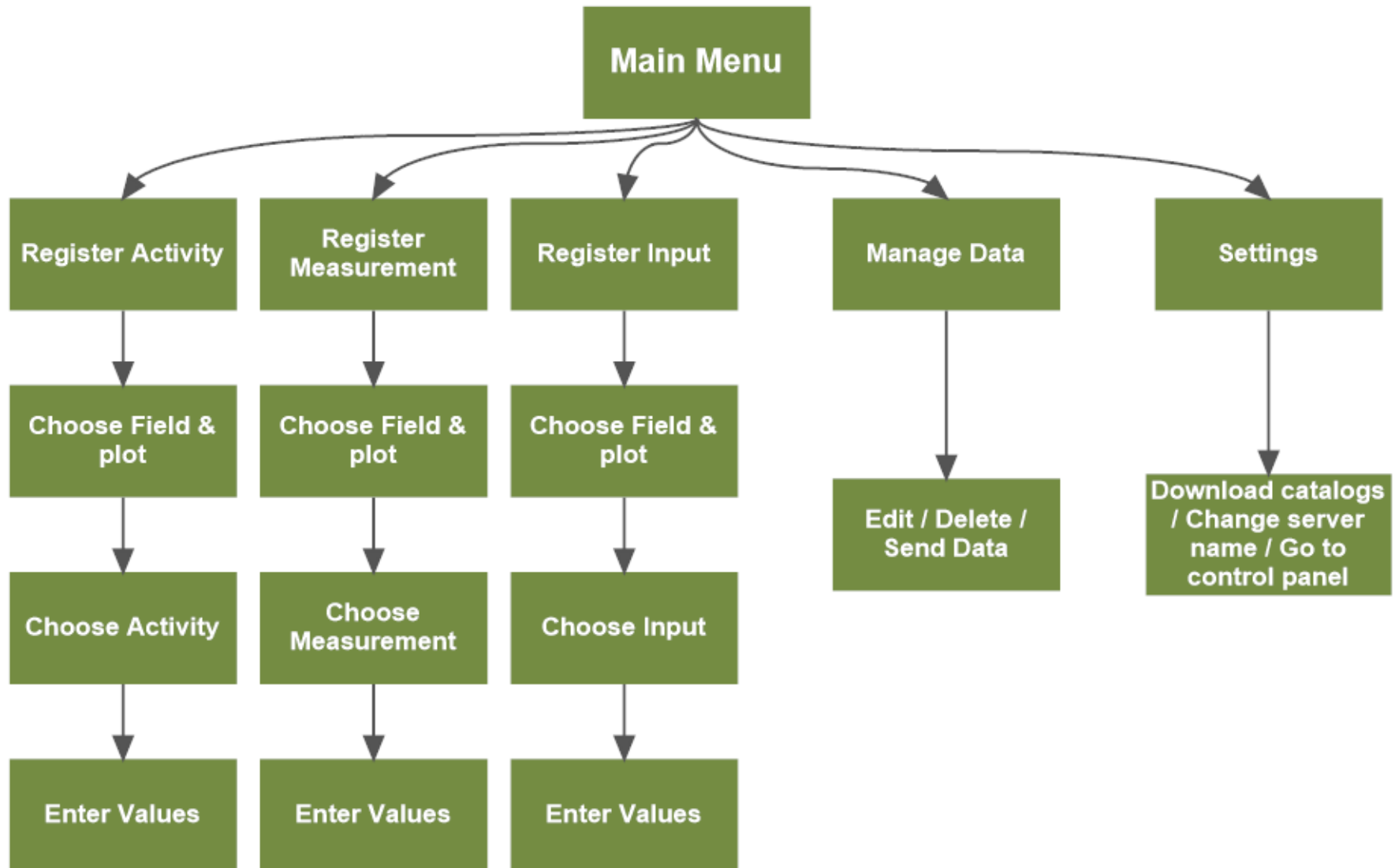- ☑ FIELDS
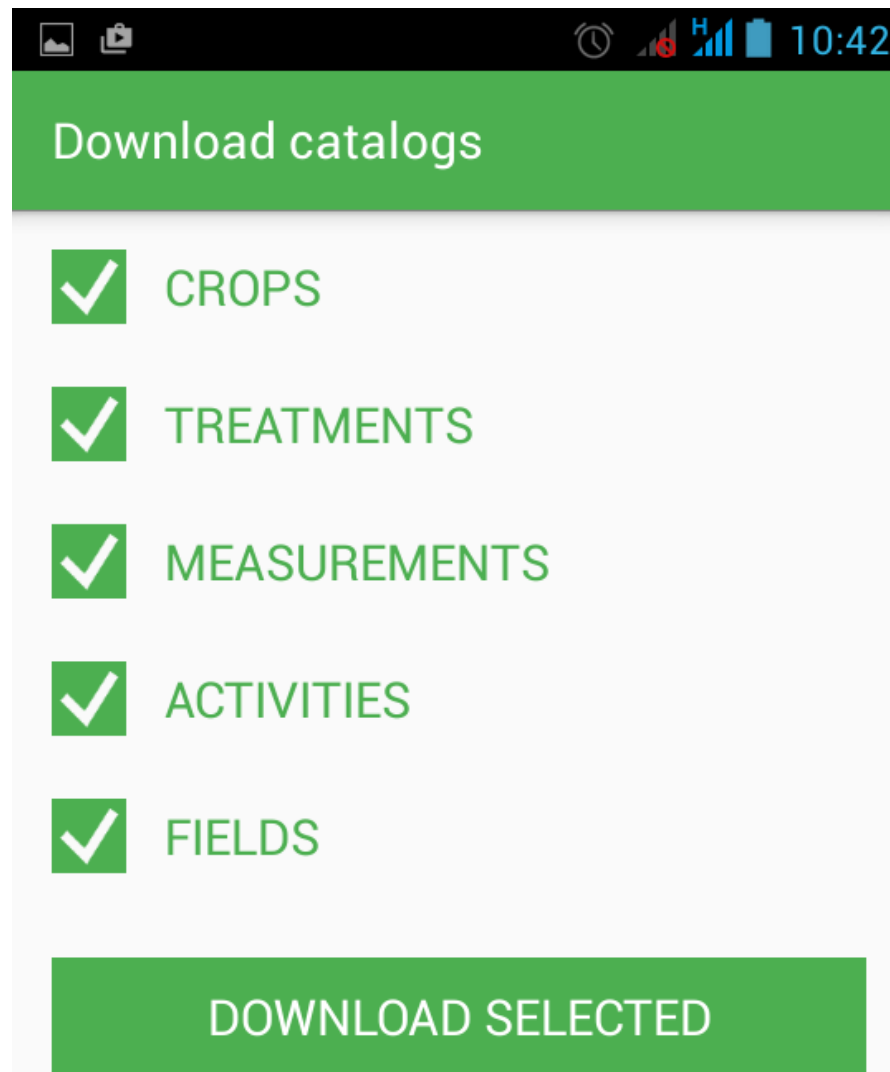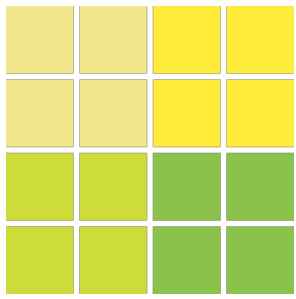
DOWNLOAD SELECTED

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.

3. USING THE AGROECO RESEARCH APP

The following diagram illustrates the structure 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 │
                              └───────────┘
      ┌───────────┬───────────┬───────────┬───────────┐
      ▼           ▼           ▼           ▼           ▼
┌───────────┐ ┌───────────┐ ┌───────────┐ ┌───────────┐ ┌───────────┐
│ Register  │ │ Register  │ │ Register  │ │  Manage   │ │ Settings  │
│ Activity  │ │Measurement│ │  Input    │ │   Data    │ │           │
└───────────┘ └───────────┘ └───────────┘ └───────────┘ └───────────┘
      │           │           │           │           │
      ▼           ▼           ▼           ▼           ▼
┌───────────┐ ┌───────────┐ ┌───────────┐ ┌───────────┐ ┌────────────────┐
│ Choose    │ │ Choose    │ │ Choose    │ │Edit/Delete│ │Download catalogs│
│ Field &   │ │ Field &   │ │ Field &   │ │ / Send    │ │/ Change server │
│ plot      │ │ plot      │ │ plot      │ │ Data      │ │name / Go to    │
└───────────┘ └───────────┘ └───────────┘ └───────────┘ │control panel   │
      │           │           │                         └────────────────┘
      ▼           ▼           ▼
┌───────────┐ ┌───────────┐ ┌───────────┐
│ Choose    │ │ Choose    │ │ Choose    │
│ Activity  │ │Measurement│ │ Input     │
└───────────┘ └───────────┘ └───────────┘
      │           │           │
      ▼           ▼           ▼
┌───────────┐ ┌───────────┐ ┌───────────┐
│  Enter    │ │  Enter    │ │  Enter    │
│  Values   │ │  Values   │ │  Values   │
└───────────┘ └───────────┘ └───────────┘
```

4. REGISTERING AN ACTIVITY, A MEASUREMENT OR AN INPUT

The first step in data collection tasks is to choose the field and the plot (or the entire field) where the data was produced. After you press one of the data collection buttons on the Main Menu (Activity, Measurement or Input), you will se the following screen.

Register activity

MASASI R1 — Press here to choose a field

Choose a plot

C1	C1+L	C1	C1+L
C2+L	C2	C2+L	C2
C1	C1+L	C1	C1+L
C2+L	C2	C2+L	C2

Choose a plot by pressing it

CHOOSE ENTIRE FIELD — Press here to choose the entire field

C1: Cassava (Kiroba)
C2: Maize (Staha)
L: Cowpeas (Local)

Control treatment
Soil management
Pest control
Soil management and pest control

Legend
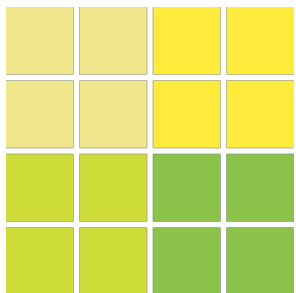
This screen allows you to choose the field and the plot for which the data will be entered. If the data is relevant to the entire field, you can press the button 'Choose entire field'. Alternatively, you can directly select a plot by pressing it.

After choosing the field and plot, you will be able to choose the activity, measurement or input in the following screen:

Choose activity: Masasi R1

Plot 10: Cassava (Kiroba) Intercropping, Pest control
Field work

Plot information

Harvesting
Last : Never

Irrigation
Last : 8 days ago

Planting
Last : 9 days ago

Choose an activity, measurement or input by pressing it

Weeding
Last : 8 days ago
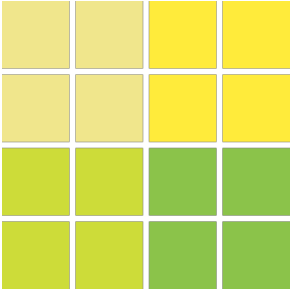
Pest control

Pest control application
Last : Never
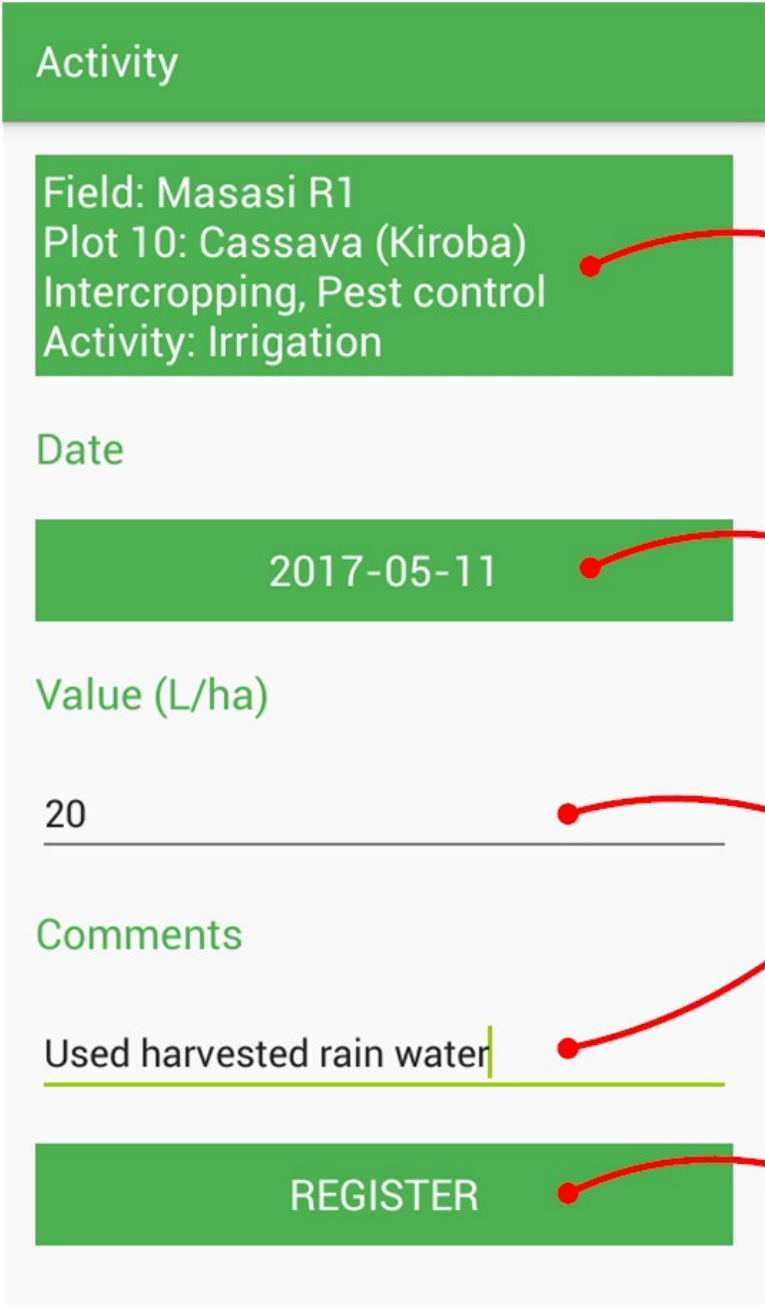
Pest control preparation
Last : 8 days ago

Finally, you will be able to enter the relevant values for the chosen activity, measurement or input in the following screen:

Activity

Field: Masasi R1
Plot 10: Cassava (Kiroba)
Intercropping, Pest control
Activity: Irrigation

Plot information

Date

2017-05-11

Press here to change the date

Value (L/ha)

20
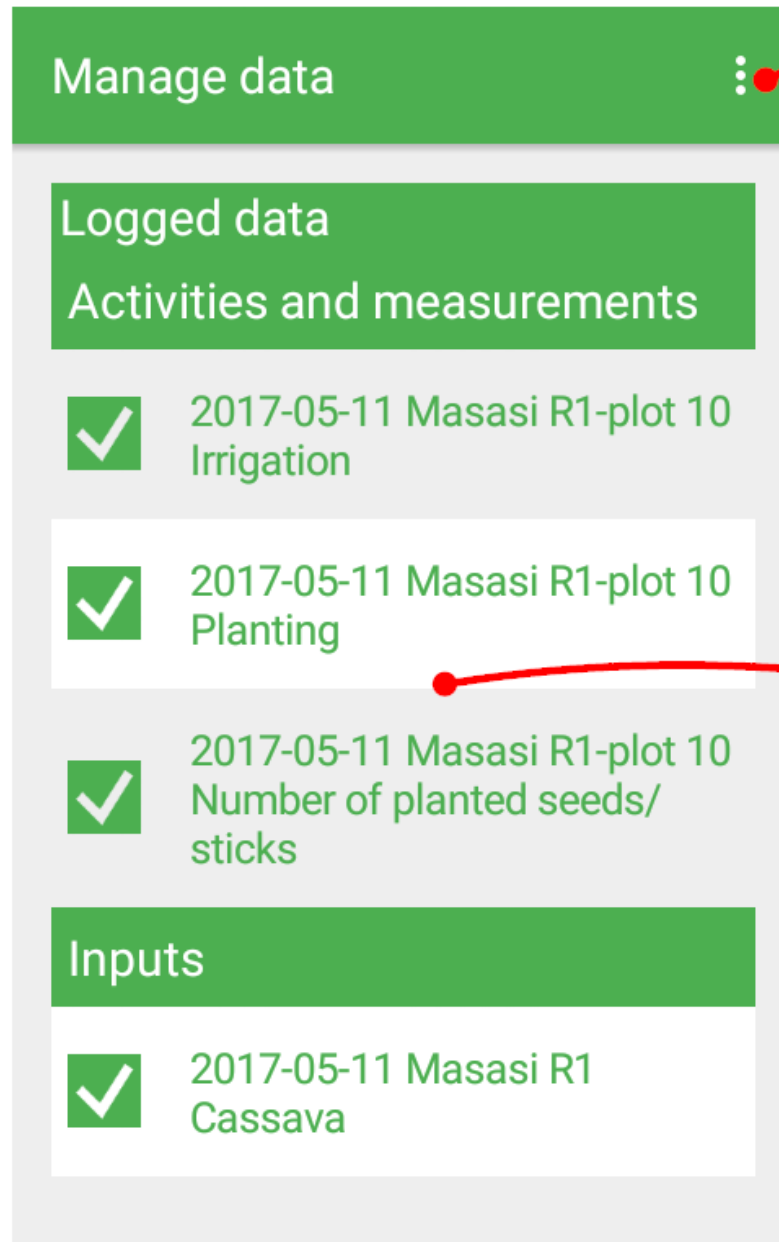
Enter values here

Comments

Used harvested rain water

REGISTER

Press here to register data. If you press the 'Back' button, data will not be saved

5. MANAGING DATA

The AgroEcoResearch Data Manager allows you to review, edit, delete and send the data you have recorded.

Manage data ⋮

Logged data

Activities and measurements

✅ 2017-05-11 Masasi R1-plot 10
Irrigation

✅ 2017-05-11 Masasi R1-plot 10
Planting

✅ 2017-05-11 Masasi R1-plot 10
Number of planted seeds/
sticks

Inputs

✅ 2017-05-11 Masasi R1
Cassava

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

This is the data item list. Press a data item to review or edit it. Press its corresponding check box to select or deselect it

6. 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.

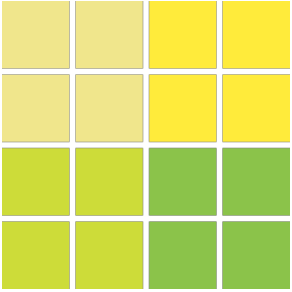## 7. REVIEWING AND EDITING DATA ON THE WEB APPLICATION

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 AgroEcoResearch data.

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

7. REVIEWING AND EDITING DATA ON THE WEB APPLICATION

Click this check box to select or deselect all items

Click any check box to select or deselect single items

☐	Item	Date	Field	Plot	Description	Actions
☐	Input	2017-05-11	Masasi R1	All	Cassava	Details || Edit
☐	Input	2017-05-11	Masasi R1	All	Cowpeas	Details || Edit
☐	Log	2017-05-11	Masasi R1	10	Irrigation	Details || Edit
☐	Log	2017-05-11	Masasi R1	10	Number of planted seeds/sticks	Details || Edit
☐	Log	2017-05-11	Masasi R1	10	Planting	Details || Edit
☐	Log	2017-05-10	Masasi R3	All	Number of planted seeds/sticks	Details || Edit
☐	Log	2017-05-10	Masasi R3	All	Planting	Details || Edit
☐	Input	2017-05-10	Masasi R3	1	Cassava	Details || Edit
☐	Log	2017-05-09	Masasi R2	All	Planting	Details || Edit
☐	Log	2017-05-08	Masasi R2	1	Weeding	Details || Edit

Click on 'Edit' to edit the corresponding item

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

Next

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

Delete selected	Filters	Menu

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