

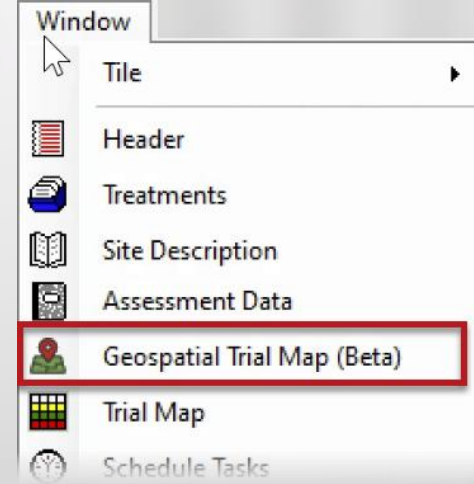
ARM 2025 Changes

Updates to ARM software in 2025

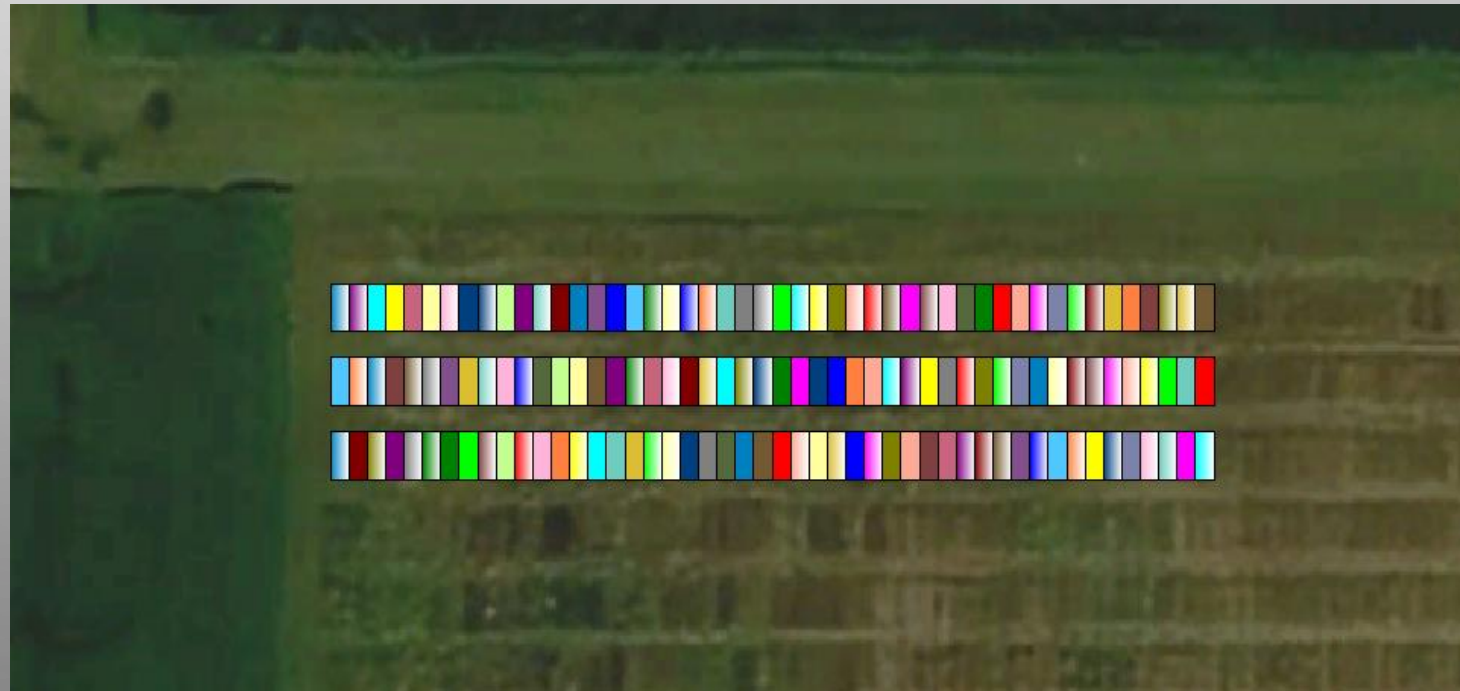
The background features a light gray gradient with a large, faint circular watermark in the center. Red circuit-like lines with circular nodes are positioned in the four corners of the page, creating a technical or digital aesthetic.

Trial Map

Geospatial Trial Map (Beta)

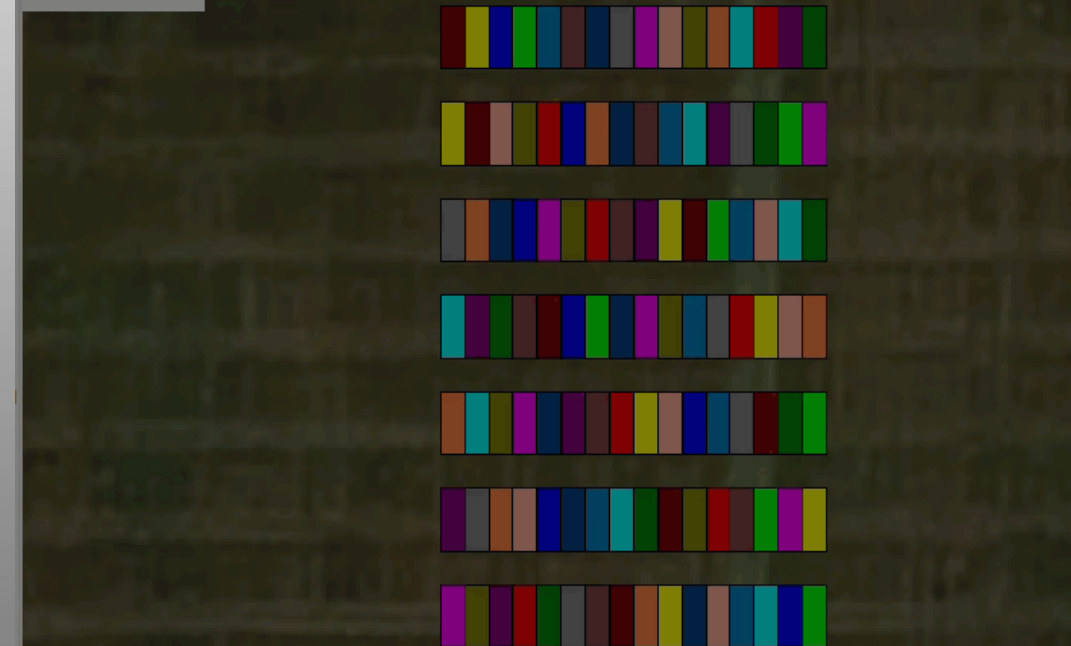
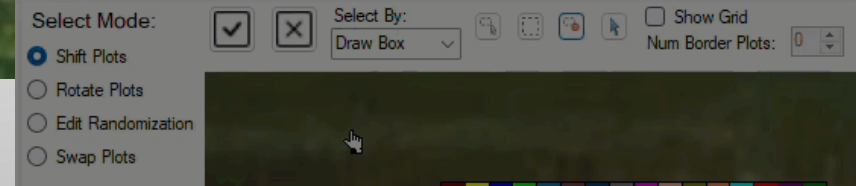


- Bring your trial locations to life with the new Geospatial Trial Map
Open with Window > Geospatial Trial Map (Beta)
- Trials are *georeferenced*:
all plots are assigned to
GPS coordinates
- Overlay trial onto satellite
map or drone imagery



Geospatial Trial Map

- Draw multiple maps together for a whole-field view
- On-the-fly layer adjustment
- Export map to shape-file, geojson, or KML file for use in other systems/equipment



Geospatial Trial Map (Beta)

This function is still in beta, meaning:

- Not the final product; features and functionality could still change
- Feedback is appreciated; e.g. what do you wish this tool can do?
- The existing Trial Map function is not going away now

Watch tutorial videos at gdmdata.com/Resources/Video-Tutorials/Series/Geospatial-Map



Site Description

Soil Properties to Measure

“Measured Elements” section is now “Measured *Properties*”

Soil Description

Additional Measured Soil Properties

[+ Insert Soil Records](#)

No.	Date	Property	Value	Unit	Depth	Unit	Source	Comment
1.	▼	▼		▼		▼	▼	

C	carbon
Ca	calcium
CaO	calcium oxide (lime)
Cl	chlorine
Conductivity	ability of soil water to conduct ar
Cu	copper
Mo	molybdenum
Moisture	soil moisture
N	nitrogen
Na	sodium
NH4	ammonium nitrogen
P2O5	phosphate (phosphorus oxide)
pH	pH
Porosity	the amount of empty spaces, or
S	sulfur
SAR	sodium adsorption ratio
SWS	soil water storage capacity
Temperature	soil temperature
WHC	water holding capacity

- Document more than just basic elements in the soil
e.g. temperature, moisture, water holding capacity
- Also added Source field: free-text to document the source of the measurement, e.g. the lab or station that processed the sample

Recording Soil Properties

New workflow to record soil properties, especially for repeated analyses

1. Select properties and units to record (can be specified in Protocol)
2. For a given analysis date, select **Insert Soil Records** button

Soil Properties to Record

No.	Property	Unit
1.	Mg	mg/100 g
2.	Ca	mg/100 g
3.	pH	pH (water)
4.	CEC	meq/100 g
5.	C	g/kg

Additional Measured Soil Properties

No.	Date	Property	Value	Unit	Depth	Unit	Source	Comment
1.								

Recording Soil Properties

3. Confirm properties to record and enter other details about the sample
4. Click OK to insert and auto-fill rows for selected properties to record

Insert Soil Records

Enter the date and soil depth at which soil properties were recorded.

Soil records will be inserted for the following properties:

- Mg (mg/100 g)
- Ca (mg/100 g)
- pH (pH (water))
- CEC (meq/100 g)
- C (g/kg)

Date: Jun-10-2025

Depth: 20 cm

Source: SoilLab

Comment:

OK Cancel

Additional Measured Soil Properties

+ Insert Soil Records

No.	Date	Property	Value	Unit	Depth	Unit	Source	Comment
1.	Jun-10-2025	Mg		mg/100 g	20	cm	SoilLab	
2.	Jun-10-2025	Ca		mg/100 g	20	cm	SoilLab	
3.	Jun-10-2025	pH		pH (water)	20	cm	SoilLab	
4.	Jun-10-2025	CEC		meq/100 g	20	cm	SoilLab	
5.	Jun-10-2025	C		g/kg	20	cm	SoilLab	
6.								

Weather Stations

Document weather station details and link to Weather records

Equipment	
	1.
Equipment Name	Davis Vue
Type	WEATHSTAT
Method/Sub-type	
Method/Sub-type Description	
Trade Name	Davis Vantage
Model	6357
Serial Number	11058402
Sensor Type	
Original Data Location	
Analysis Company	Davis Instrume
Analysis Method	WeatherLink L
Software Version	3.0.1

1. Add station as 'WEATHSTAT' in Equipment tab
2. Link Weather conditions to station with **Weather Station No** field
 - The field **Code** displays the Serial Number from Equipment

Site Description

Plan Description Site and Design Maintenance Soil Weather Environment Application Other Plan

Weather Conditions

Overall Moisture Conditions: Normal

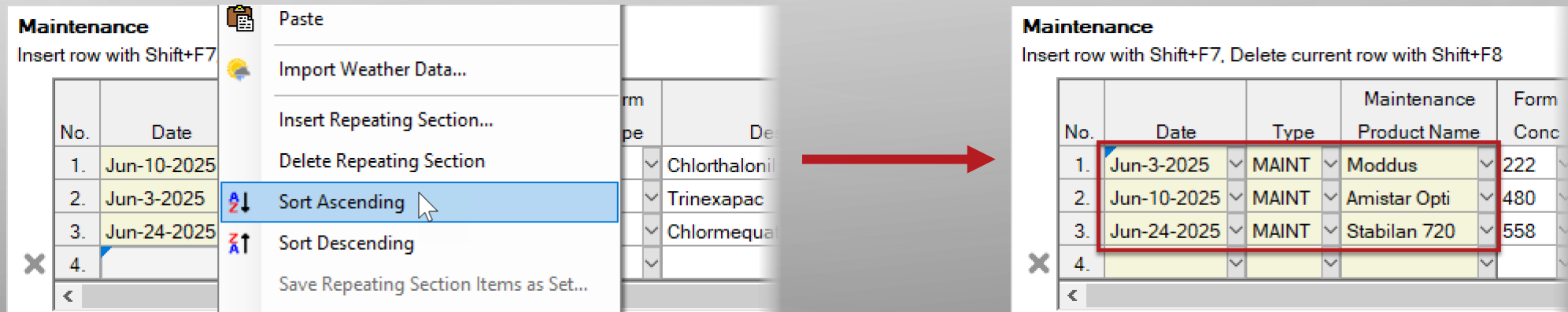
Weather Station No.: 1 Name: Davis Vue Code: 11058402

No.	Date	Time	Moisture Total	Unit	Precip	Unit	Unit	Type	Inte
-----	------	------	----------------	------	--------	------	------	------	------

Sorting Site Description tables

Added support for sorting the "add-row" grids based on their content

Not a temporary view, but re-orders the repeating sections



The image illustrates the sorting functionality for a table. On the left, a context menu is open over a table, with 'Sort Ascending' selected. On the right, the table is shown after sorting, with the rows re-ordered by date.

No.	Date	Type	Maintenance Product Name	Form Conc
1.	Jun-3-2025	MAINT	Moddus	222
2.	Jun-10-2025	MAINT	Amistar Opti	480
3.	Jun-24-2025	MAINT	Stabilan 720	558
4.				

Examples include:

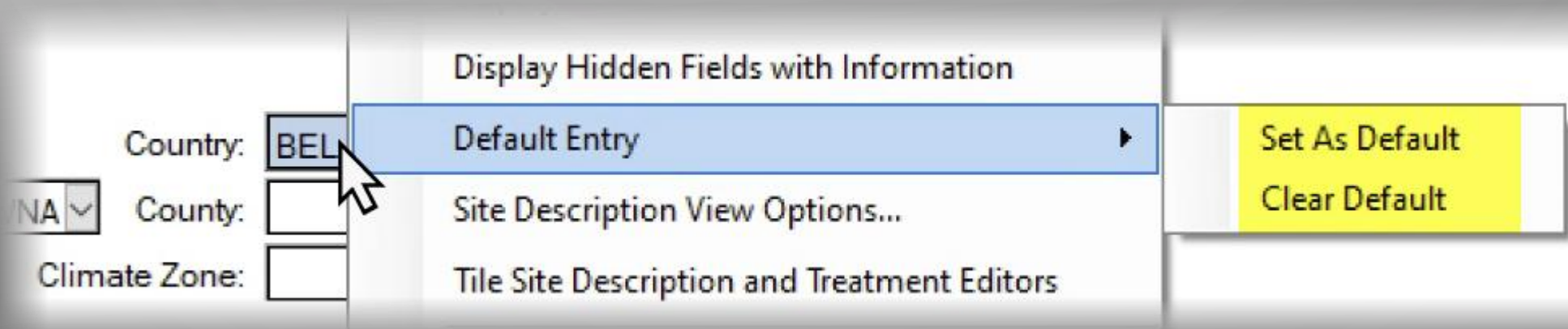
- Trial Location table

- Weather/Controlled Environment

- Maintenance

Set As Default

- Save values as default with “Default Entry” right-click menu
- Defaults are inserted when creating or opening a study where the chosen field is empty
- Remove existing default values using **Clear Default** command



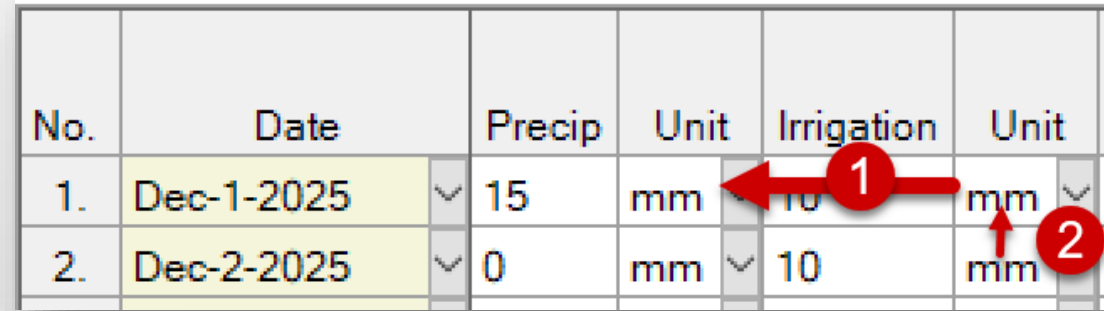
Unit Defaults

Improved the auto-fill of height, length, and moisture units:

1. Use the unit already entered in a **linked field**
2. Use the unit already entered in a **previous repeating section** of this field
3. Use the default saved previously by right-click > **Set as Default**
4. If no default from 1-3, then use **Metric** or **Imperial** default

Unit Defaults

No.	Date	Precip	Unit	Irrigation	Unit
1.	Dec-1-2025	15	mm	10	mm
2.	Dec-2-2025	0	mm	10	mm



Improved the auto-fill of height, length, and moisture units:

1. Use the unit already entered in a **linked** field
 - E.g. Irrigation unit defaults to choice in Precip amount entered in same row
2. Use the unit already entered in a **previous repeating section** of this field
 - E.g. Irrigation unit in row 2 defaults to unit chosen in row 1
3. Use the default saved previously by right-click > **Set as Default**
 - E.g. If I have saved 'mm' with the Set as Default, use that for Irrigation Unit
4. If no default from 1-3, then use **Metric** or **Imperial** default
 - E.g. For moisture, Metric default is 'mm' and Imperial default is 'IN'

Crop/Variety List

Added picklist for saving/selecting commonly used Crop+Variety details

Site Description

Crop Description

Crop/Variety List

Crop 1: C MABSD Malus domestica Apple BBCH Scale: BPOM

Entry Date: Crop Group: 11 Stage Scale: BBCH

Variety: Honey Maturity Group: III

Seed Shape: SMALL Seed Size: 2 S/g

Perennial Age: 100 DAY Perennial Height: 10 IN

Type List

Type	Crop 1	BBCH Scale	Scientific Name	Common Name	Crop Group	Variety	Maturity Group	Attributes	Seed Shape	Seed Size	Seed Size Unit	Perennial Age	Perennial Age I
✘ C	MABSD	BPOM	Malus domestica	Apple	11	Honey	III	Testing	SMALL	2	S/g	100	DAY

To fill: enter all Crop details then click Crop/Variety List button to add new record to your list

Maintenance – Crop Stage

Document Crop Stage at time of Maintenance application

The screenshot shows a software application window titled 'Maintenance'. The window contains a table with the following columns: No., Date, Crop ID, Crop Code, Crop Stage Majority, Type, Maintenance Product Name, and Form Conc. The first row of the table is highlighted in yellow and contains the following data: 1, Jun-3-2025, 1, ZEAMD, 12, MAINT. Below the table, there is a 'Crop ID List' dialog box with a table containing the following columns: Crop ID, Crop Code, Common Name, Variety, and Attributes. The first row of the dialog box is highlighted in blue and contains the following data: 1, ZEAMD, Dent com, BARDANE. A red arrow points from the 'Crop ID' field in the table to the 'Crop ID List' dialog box.

No.	Date	Crop ID	Crop Code	Crop Stage Majority	Type	Maintenance Product Name	Form Conc
1.	Jun-3-2025	1	ZEAMD	12	MAINT		

Crop ID	Crop Code	Common Name	Variety	Attributes
1	ZEAMD	Dent com	BARDANE	

- *Note: Must first link to existing Crop record using **Crop ID** field*

Stage at Application separators

Added darker separator lines between each crop/pest on the Stage at Application sections

Pest Stage At Each Application

	A			B		
<i>Application Date</i>	Apr-25-2023			May-17-2023		
<i>Pest 1 Code, Type, Scale</i>	CHEAL	W	BBCH	CHEAL	W	BBCH
Stage Majority, Percent						
Stage Minimum, Percent						
Stage Maximum, Percent						
Diameter Average						
Height Average						
Crop Part Attacked, Code						
<i>Pest 2 Code, Type, Scale</i>	ECHCG	W	BBCH	ECHCG	W	BBCH
Stage Majority, Percent						
Stage Minimum, Percent						
Stage Maximum, Percent						
Diameter Average						
Height Average						
Crop Part Attacked, Code						
<i>Pest 3 Code, Type, Scale</i>	DIGSA	W	BBCH	DIGSA	W	BBCH
Stage Majority, Percent						
Stage Minimum, Percent						
Stage Maximum, Percent						

Soil Description Date

Added field to describe the date that the soil sample was taken

Soil Description

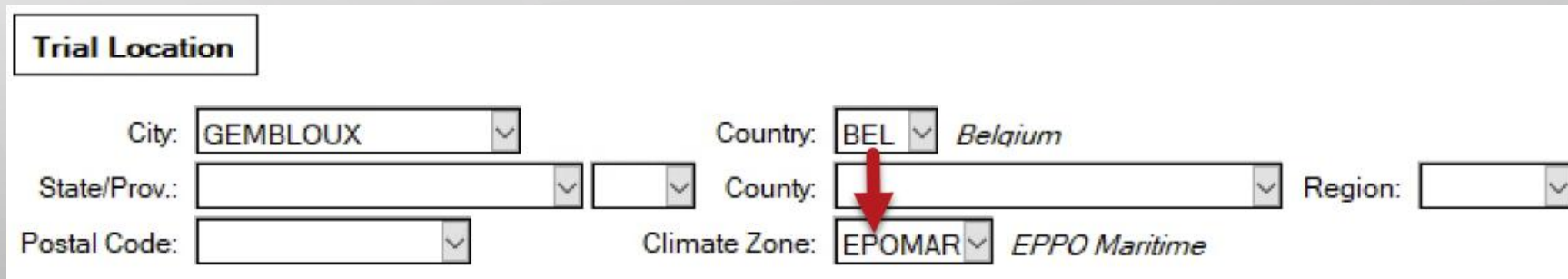
Date:

% Sand:	<input type="text" value="12"/>	% OM:	<input type="text" value="3.3"/>	Texture:	<input type="text" value="CLAY"/>
% Silt:	<input type="text" value="47"/>	% Carbon:	<input type="text"/>	Soil Name:	<input type="text"/>
% Clay:	<input type="text" value="41"/>	% Lime:	<input type="text"/>	Fert. Level:	<input type="text" value="G"/> <i>good</i>
Total:	<i>100</i>	pH:	<input type="text" value="6.6"/>	CEC:	<input type="text" value="33"/>

For some site types, these details may have been taken years ago!

Climate Zone (EU only)

- ARM now auto-fills the Climate Zone when an EU Country is selected



The screenshot shows a form titled "Trial Location" with the following fields and values:

Field	Value
City	GEMBLOUX
Country	BEL Belgium
State/Prov.	
County	
Region	
Postal Code	
Climate Zone	EPOMAR EPPO Maritime

A red arrow points to the "County" field, which is currently empty, indicating that the system is waiting for this information to be entered before auto-filling the "Climate Zone" field.

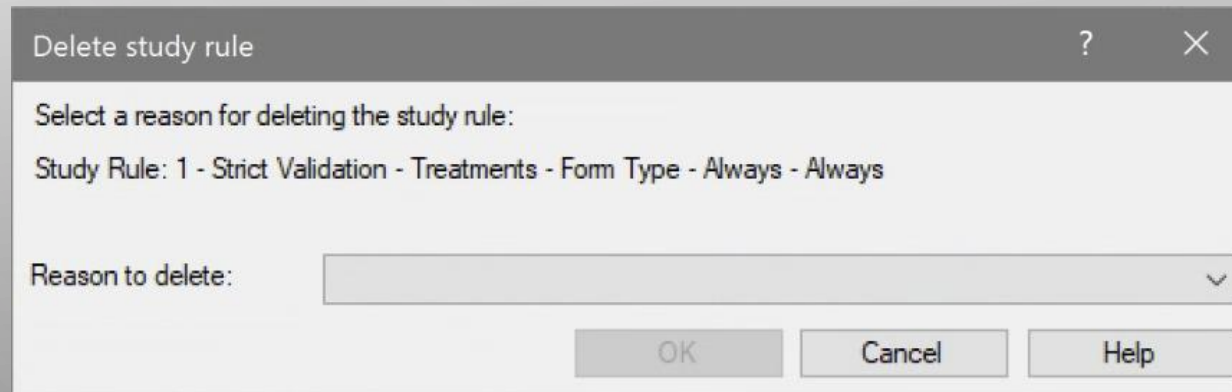
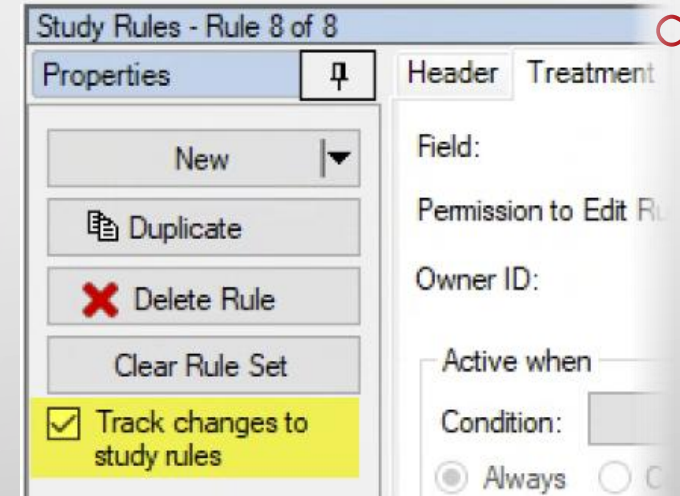
- For countries with multiple climate zones, auto-fill waits for State/Prov or County to be filled (e.g. Croatia or France)
- *Exception: When Site Type is set to a controlled environment, then “N/A” is auto-filled for Climate Zone*

The background features a light gray gradient with a large, faint circular watermark in the center. Red circuit-like lines with circular nodes are positioned in the corners, creating a technical or digital aesthetic.

Study Rules

Track changes to Study Rules

- New option logs changes to study rules in a trial
- Tracks when rules are **deleted** or **downgraded** (e.g. Required to Recommended)



- Select a Reason to click OK and proceed with the change or deletion

Track changes to Study Rules

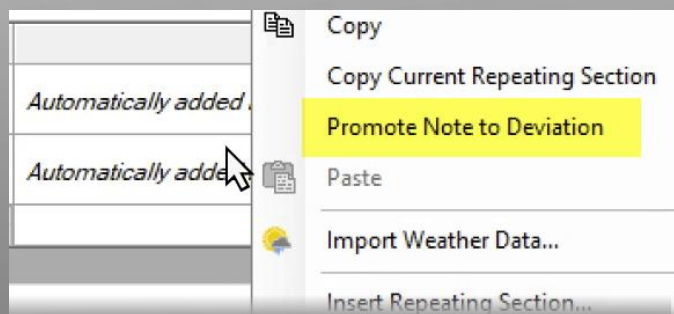
- The change and reason are logged as a **Note** in the trial

Notes

Insert row with Shift+F7, Delete current row with Shift+F8

No.	Context	Date	Time	By	Notes
2.	TRKRUL	Mar-14-2025	3:06 PM	Matthew Elsinger	Automatically added by ARM: Deleted Study Rule: Unnecessary rule: Strict Validation - Treatments - Form Type - Always - Always

- Right-click > **Promote Note to Deviation** creates a deviation record too



Deviations

Insert row with Shift+F7, Delete current row with Shift+F8

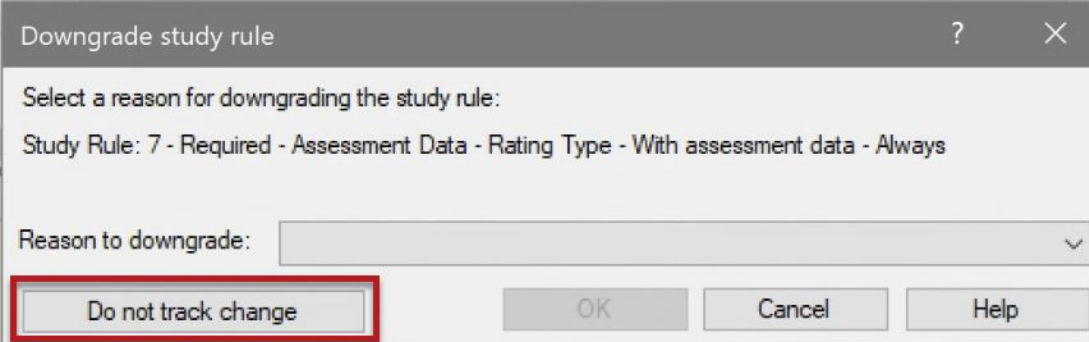
No. 1: Date: By:

Deviations: Deleted Study RuleStrict Validation - Treatments - Form Type - Always - Always

Reasons: Unnecessary rule

Track changes to Study Rules

- Only the **Protocol Owner** can turn tracking on or off
- Protocol Owner can also skip tracking of a particular rule change:



Downgrade study rule

Select a reason for downgrading the study rule:

Study Rule: 7 - Required - Assessment Data - Rating Type - With assessment data - Always

Reason to downgrade:

Do not track change OK Cancel Help

- Note: this does not affect **Permissions to Edit Rule** functionality. Users must still have rights to make changes to rules in the first place.

Why Track changes to Study Rules?

- Require documentation for departures from standard rules and requirements
There may be a good reason the rule could not be followed, let us know!
- Is the trial still valid?
If critical rules were removed/changed, the trial may need to be repurposed
- Provide feedback for future study rule sets
What rules caused issues for trialists? Why are rules being removed? Etc.

“Consistent Entries across...” study rule

New Conditional capability for Consistent Entries assessment rules:
Specify if rule applies to Protocol or Trial or Both

Study Rule Condition

Rating Date is Required when:

Condition: Assessment Data

+ AND

Protocol or Trial: Trial Only

- Trial Only
- Both
- Trial Only
- Protocol Only

Assessment Data

Field: Rating Date

Permission to Edit Rule: All protocol owners

Type: Required

Active when

Condition: Consistent entries across Rating Timin

Columns: All

Always Conditional

Edit... Trial = True

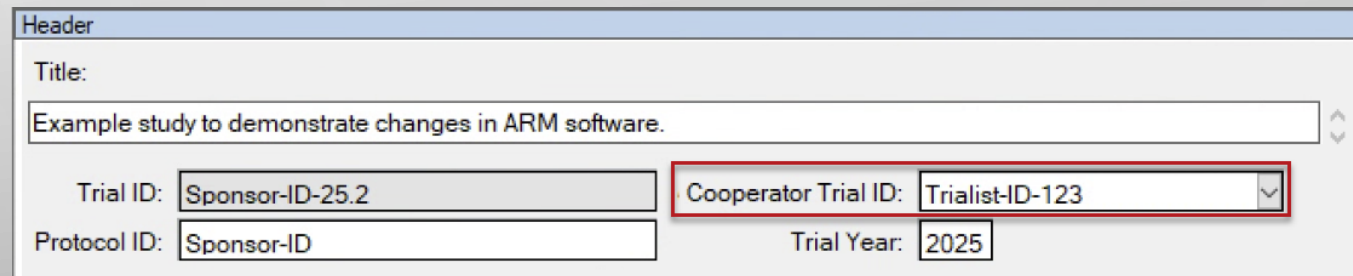
Adds flexibility in setting up planned ratings vs. final columns in a trial

The image features a light gray background with a large, faint, circular watermark in the center. The corners are decorated with red circuit-like lines and small circles, resembling a stylized PCB or network diagram. The word "Labels" is written in a black, serif font and is underlined.

Labels

Raw Data Labels

- Added **Cooperator Trial ID** field to CSV output for Raw Data Labels



The screenshot shows a form titled "Header" with the following fields:

- Title: Example study to demonstrate changes in ARM software.
- Trial ID: Sponsor-ID-25.2
- Cooperator Trial ID: Trialist-ID-123 (highlighted with a red box)
- Protocol ID: Sponsor-ID
- Trial Year: 2025

- **Why?** Sponsor may use Trial ID, so trialist uses Cooperator Trial ID for their own naming convention
- Create your own custom labels with ARM:
<https://gdmdata.com/Resources/Video-Tutorials/Custom-Labels-with-ARM>

Raw Data Labels

- Added **Risk Phrase** and **Safety Phrase** fields to CSV output for Treatment label formats
- **Why?** To communicate risks attributed to dangerous substances and/or important safety advice

Trial: ABC
Trt: 2 Name: Test item A
Form: 55 SL Rate: 100 mL/100 kg
Amt: 1,0 mL/mx Stg: BBCH00
Plots: 103 204 302 401
Appl: A

Risks: H304, H319, H400, H410

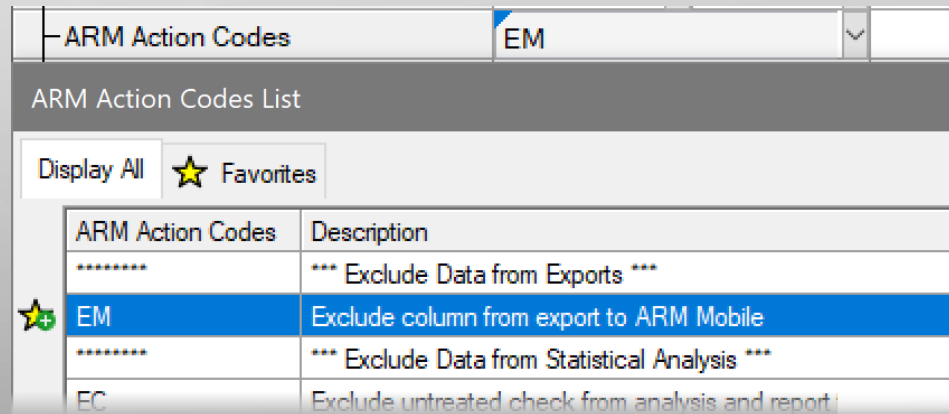


The image features a light gray background with a subtle gradient. In the center, the text "Assessment Data" is displayed in a black, serif font, underlined. The text is flanked by decorative red circuit-like lines in the corners, consisting of vertical and horizontal lines with small circles at the ends, resembling a stylized circuit board or data network.

Assessment Data

Exclude from ARM Mobile export

- New Action Code **EM** removes columns from data collection export



ARM Action Codes	Description
*****	*** Exclude Data from Exports ***
EM	Exclude column from export to ARM Mobile
*****	*** Exclude Data from Statistical Analysis ***
EC	Exclude untreated check from analysis and report

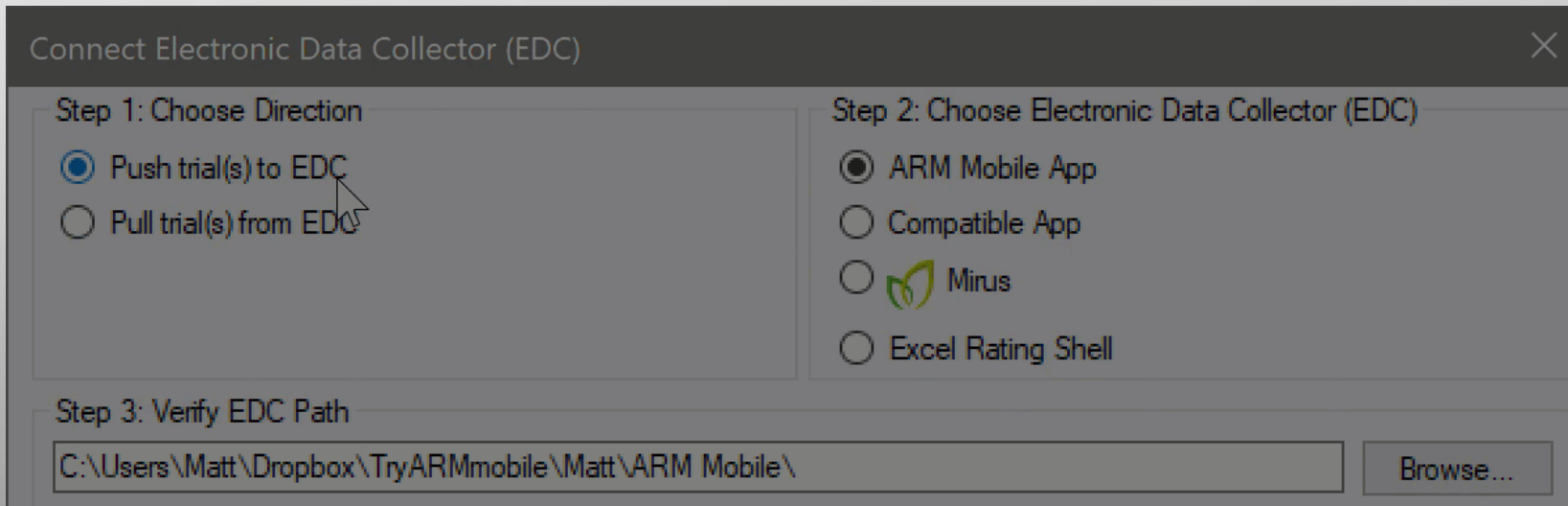
- **Why?** Some planned assessments are not for data collection apps, such as soil sample ratings

The image features a light gray background with a large, faint globe centered in the upper half. The corners are decorated with red circuit-like lines and nodes. The main text is centered and underlined.

Electronic Data Collector (EDC)

EDC – Compatible App

Changed to save Compatible App path separate from ARM Mobile path



- Now both ARM Mobile and a different “Compatible App” can be used in tandem by the same user

EDC – Mirus connection

Choose the path to create trials for Mirus & import data from Mirus

- Note: ARM automatically creates Imports, Exports, and Finished folders

Connect Electronic Data Collector (EDC)

Step 1: Choose Direction

Push trial(s) to EDC

Pull trial(s) from EDC

Step 2: Choose Electronic Data Collector (EDC)

ARM Mobile App

Compatible App

Mirus

Excel Rating Shell

Step 3: Verify EDC Path

C:\Users\Matt\Dropbox\MirusConnection\

Browse...

- *Previously this only worked for folder 'C:\HarvestMaster\Mirus' on your hard drive*

The image features a light gray background with a large, faint, circular watermark in the center. The corners are decorated with red circuit-like lines and nodes. The word "Attachments" is written in a black, serif font and is underlined.

Attachments

Attachment location

- Now also searches for attachments in a subfolder named after the study ID within the current data file path.

Name	Type	Size
2020-Tutorial	File folder	
AUDPC_1	File folder	
2020-Tutorial.dat0	ARM Trial	44 KB
AUDPC_1.dat0	ARM Trial	76 KB
AUDPC_2.dat0	ARM Trial	76 KB

Name	Type	Size
2020-Tutorial_P101_T0003_Feb-2-2023.jpg	JPG File	31 KB
2020-Tutorial_P102_T0001_Feb-2-2023.jpg	JPG File	31 KB
2020-Tutorial_P103_T0002_Feb-2-2023.jpg	JPG File	147 KB
2020-Tutorial_P104_T0004_Feb-2-2023.jpg	JPG File	111 KB

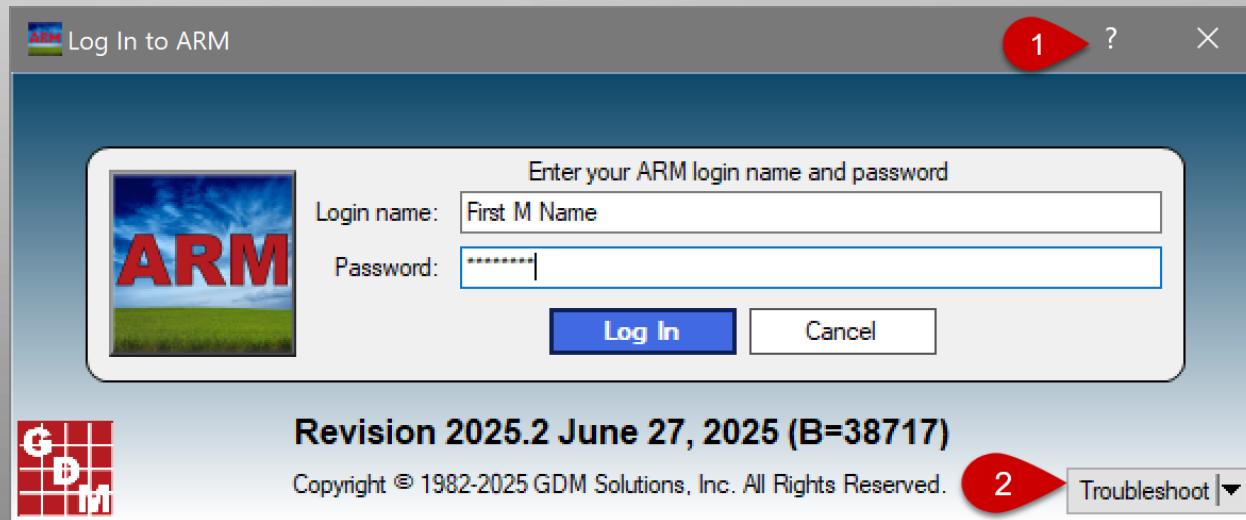
- *An alternative to saving attachments in the same folder as the trial*

The image features a light gray background with a subtle gradient. In the center, there is a large, faint, light gray circle. The word "Login" is written in a black, serif font and is underlined. The text is positioned on the left side of the page. The corners of the page are decorated with red circuit-like lines and small circles, resembling a stylized electronic board.

Login

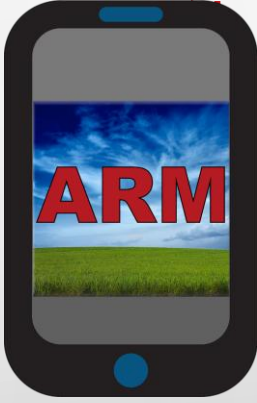
Updated Login Prompt

1. New ? button opens ARM Help
2. Troubleshooting options are easily accessible if errors occur





ARM Mobile

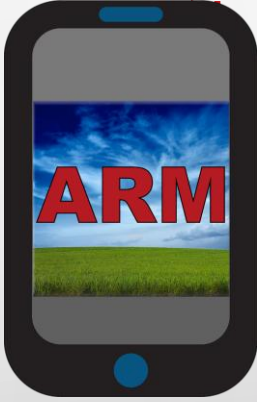


ARM Mobile app updates

Improved subsample workflow:

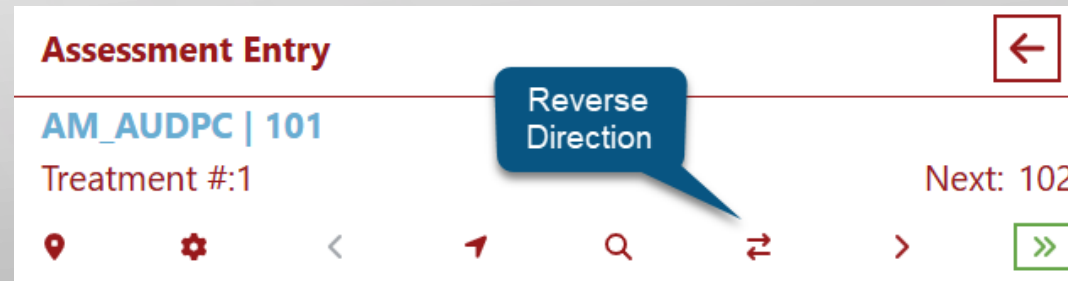
- New Walkthrough option: “Audible Indicator After Ratings”
 - Plays a sound after the specified number of values are inputted
 - Used when only taking a certain number of subsamples at a time, e.g. half of the plot
- When moving to a plot, focus goes to the first rating without a value
 - Useful when doing a subset of ratings/subsamples and returning to a plot to finish

The screenshot shows a dialog box titled "Update Walkthrough" with a red header. It contains three sections: "Set Walking Path" with a dropdown menu showing "Serpentine within blocks"; "Choose replicate" with a dropdown menu showing "All"; and "Audible Indicator After Ratings" with a text input field containing the number "10". A "Close" button is located at the bottom right of the dialog box.



ARM Mobile app updates

Added an option to reverse the Walkthrough direction while entering data



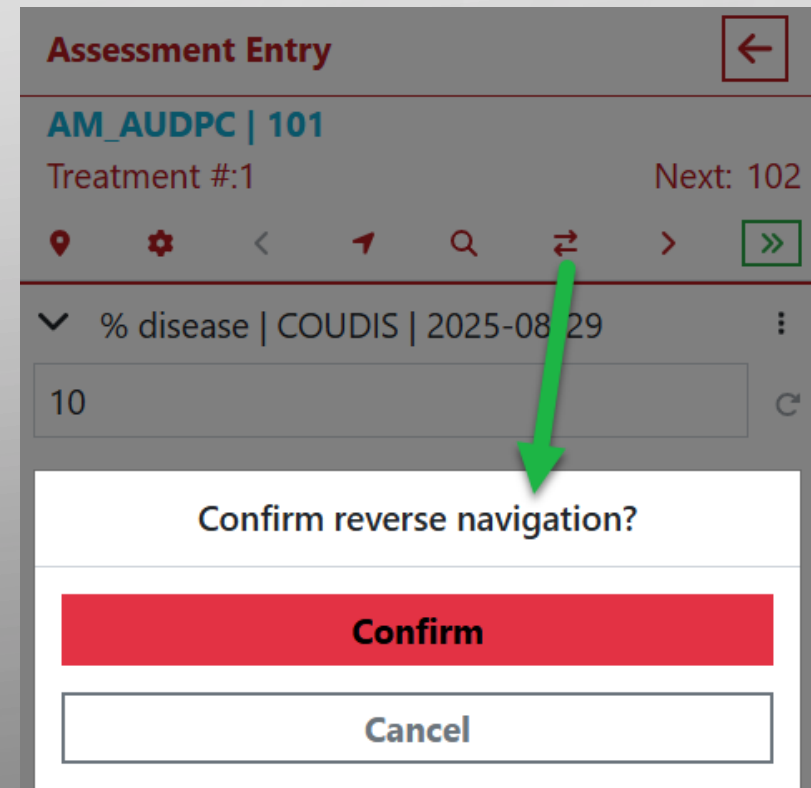
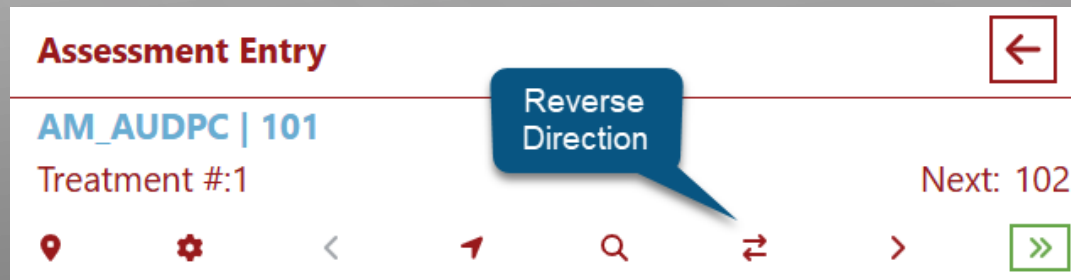
- Changes current Walkthrough direction to “Reversed”, to change Next plot to the opposite direction
- **Use Case:** *In vineyard, half of subsamples are taken on one side of the vine, all the way down the row. Then the researcher “flips” to the other side and returns back to the previous plots for the rest of ratings.*

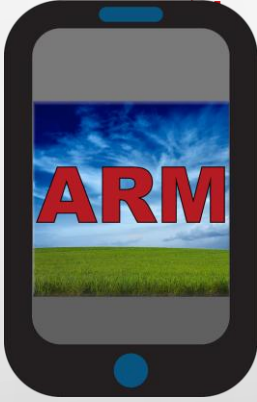


ARM Mobile app updates

New prompt when using Reverse Direction button

Feedback from users: *new button affected muscle memory, so prevent accidental direction changes with a prompt*





ARM Mobile app updates

Added support for importing GPS coordinates from ARM Mobile to LL Corner fields in Site Description

Option to overwrite existing values, if app is more accurate:

