

Efficient Weed Research Management with ARM 9

See www.gdmdata.com/resources/meetings.htm for presentation copy
(Meeting Calendar link on left navigation panel of www.gdmdata.com)



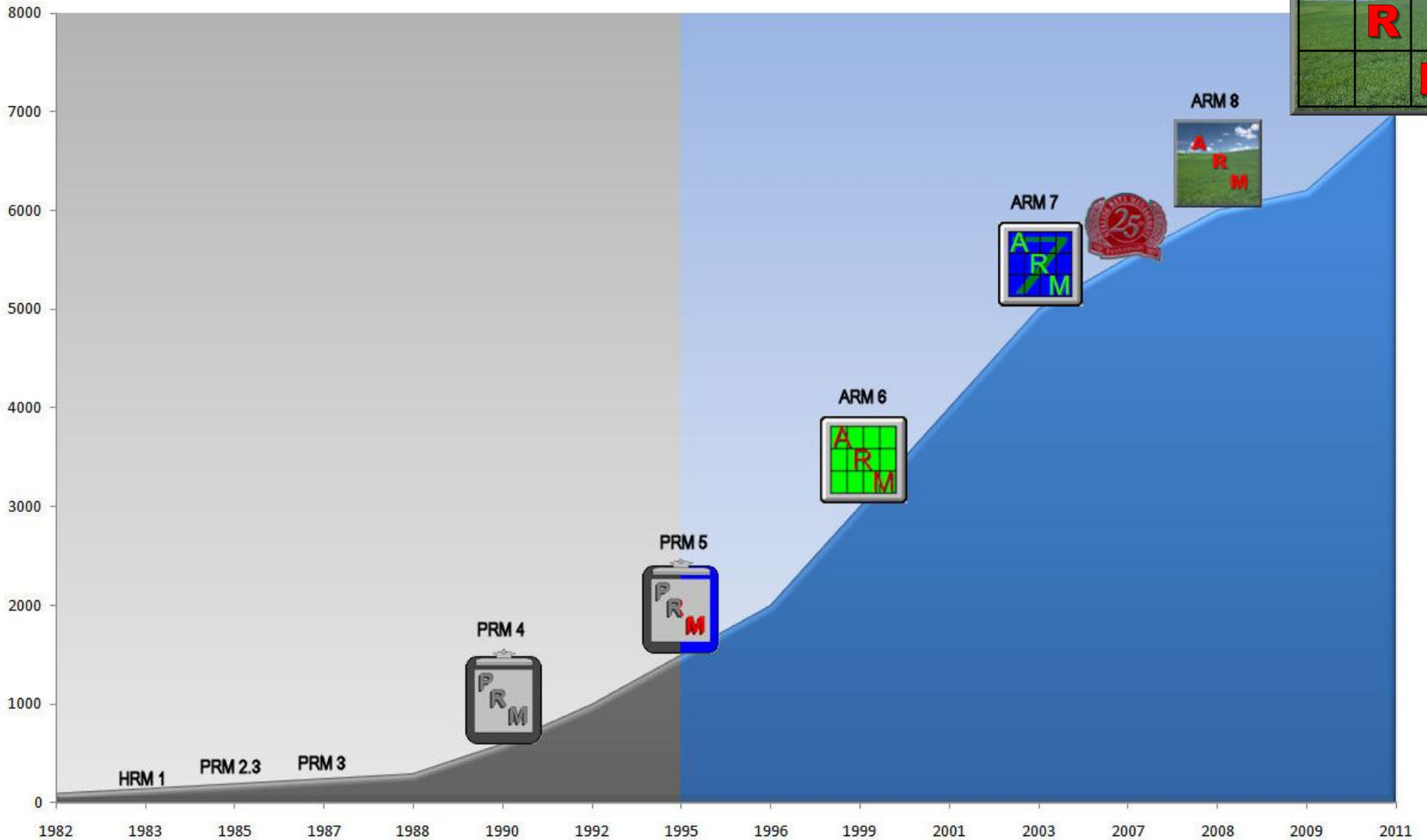
Steven R. Gylling

Gylling Data Management, Inc.



ARM 9 – Evolution of ARM Software

Total ARM User Licenses Over Time



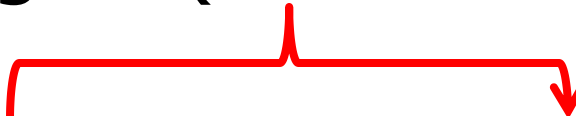


ARM 9 Design Objectives

- More user friendly
e.g. automation and “guides”
- More manageable
e.g. connect tasks to Outlook
- Better data quality
e.g. automatic data checking

Treatments Editor

- Color bands also display in non-scrolling region (Trt No. to Treatment Name)



Trt Line	Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1	1	CHK	Untreated Check					
2	2	FUNG	TUB	250	G/L	EC	0.5	L/ha
3	3	FUNG	TUB	250	G/L	EC	1	L/ha
4	4	FUNG	TILT 250	250	G/L	EC	0.5	L/ha
5	5	FUNG	MICO 60	600	G/L	EC	1.5	L/ha
6	5	FUNG	FUNGOL	200	G/L	SC	1.25	L/ha



Assessments

- Much greater flexibility to link additional related information to an assessment, such as:
 - Digital photograph.
 - “Damaged plot” marker (plot drowned out or treatment was misapplied).
 - Bar code label ID.
 - GPS Coordinates.
 - Comment.
- Enter dates as assessment values

Assessment - Linked Image

Assessment Data - Line 4										
Column Number						1	2	3		
SE Name										
SE Description										
Rating Timing										
Sub	Rp	Bk	Col	Plot	Trt	1	2	3	4	
1	1	1	1	101	1	34		5.9		
1	1	1	2	102	2	34	1.5	5.9		
1	1	1	3	103	3	34	1.5	5.9		
1	1	1	4	104	4	34	1.5	5.9		
1	1	1	5	105	5	34	1.5	5.9		
1	2	2	1	201	2	342	2.5	18.5		
1	2	2	2	202	4	21	1.3	4.6		
1	2	2	3	203	1	23	1.4	4.8		
1	2	2	4	204	5	34	1.5	5.9		
1	2	2	5	205	3	34	1.5	5.9		
1	3	3	1	301	1	132	2.1	11.5		
1	3	3	2	302	2	2143	3.3	46.3		
1	3	3	3	303	4	2134	3.3	46.2		
1	3	3	4	304	3	341	2.5	18.5		
1	3	3	5	305	5	34	1.5	5.9		

Properties

Assessment View


Assessment (Plot 104, Col 2)

Comment:

Barcode:

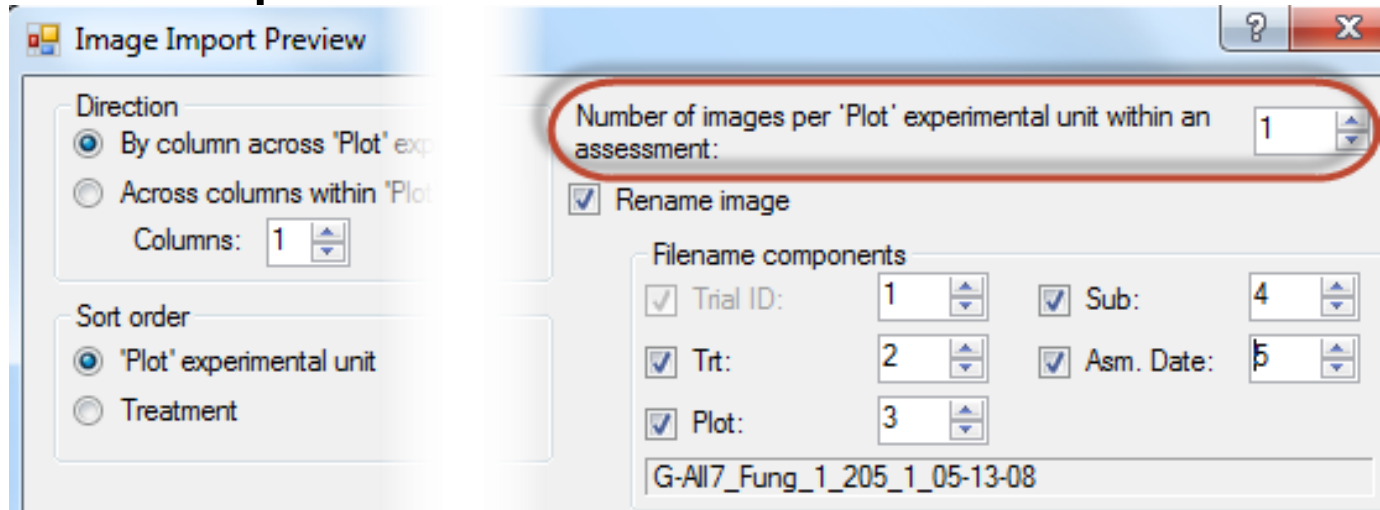
GPS Coordinates:

Damaged Plot

Image: 

Assessment Data Images

- Enhanced for defining multiple images per plot
 - Specify number of images per plot when subsamples are defined



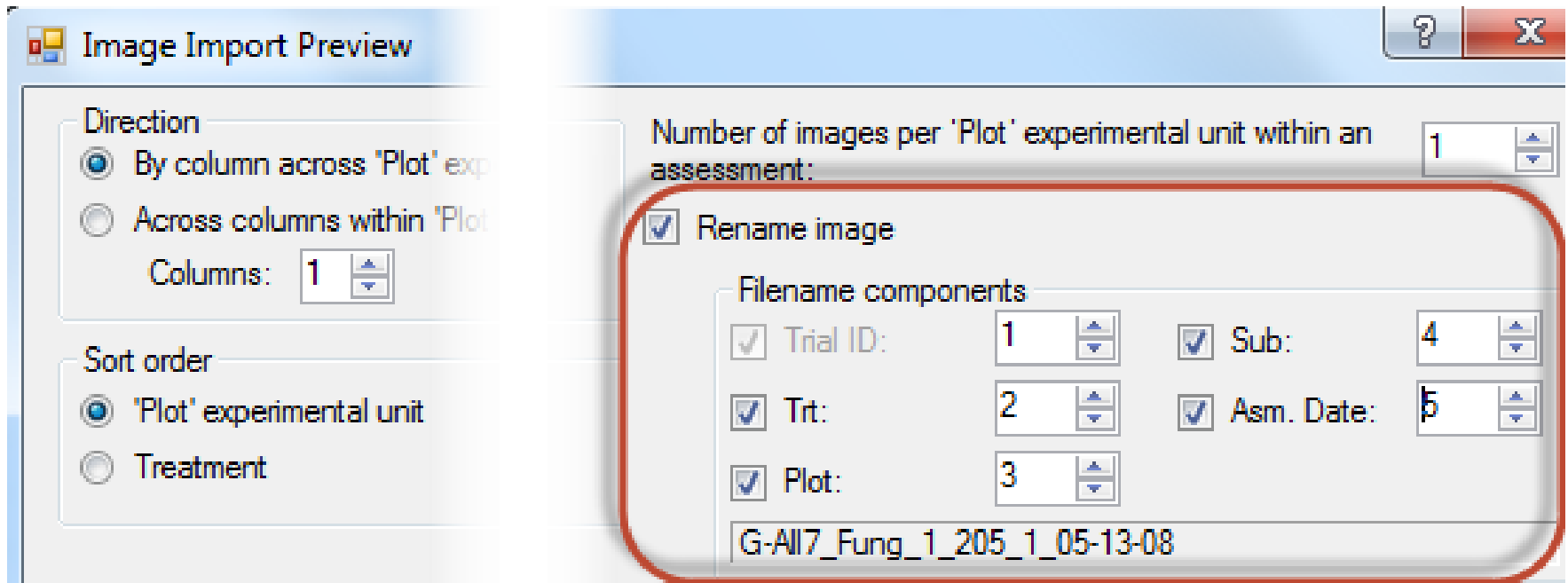
Assessment Data Images

- Example of 2 images for plot 101 col. 6

v	Plot	Trt	6 (Calculated)						
	101	3	83.00133	0.40	98.73	20.00	8.70	13.0	8.99
	102	1	0.00	9.90	0.00	10.00	8.25	12.1	8.62

Assessment Data Images

- More 'Rename images' choices



Assessment Data Images

- View data images grouped by treatment

The screenshot displays a software interface for agricultural assessment. On the left, a data table lists various parameters. In the center, two image windows show field plots. On the right, a panel for 'Assessment (Plot 10)' includes a comment field, barcode, GPS, and a 'Damaged' checkbox. The 'Image' section features 'Attach' and 'Remove' buttons, which are circled in red, and a 'Display current treatment' checkbox.

75.00		70.00	
60		55.00	
70.00		60.00	
65.00		65.00	
0.00	10.00	0.00	28.00
65.00		55.00	
70.00		65.00	
70.00		60.00	
0.00	15.00	0.00	22.00
55.00		50.00	
65.00		60.00	
60.00		60.00	
0.00	13.00	0.00	25.00

Assessment Data Editor (8.5.0+)

- When cursor is in a calculated column, column heading of source column(s) are highlighted (like Excel formulas)

P	P	P	T1 AUDPC
0	0	0	1
8	9	10	11 (Calculated)
30	50	80	1765.0
80	90	94	3949.0

- Calculated columns also identified



Experimental “Plot” Unit ID

- Expanded flexibility to describe an experimental “plot” unit:
 - Plot ID (number) that is number or text e.g. A1
 - Globally unique plot ID assigned centrally by corporate headquarters
 - Permanent ID (bar code, RFID tag, or tree ID)
 - GPS boundaries of experimental unit
 - Database Globally Unique ID (e.g. Microsoft GUID)

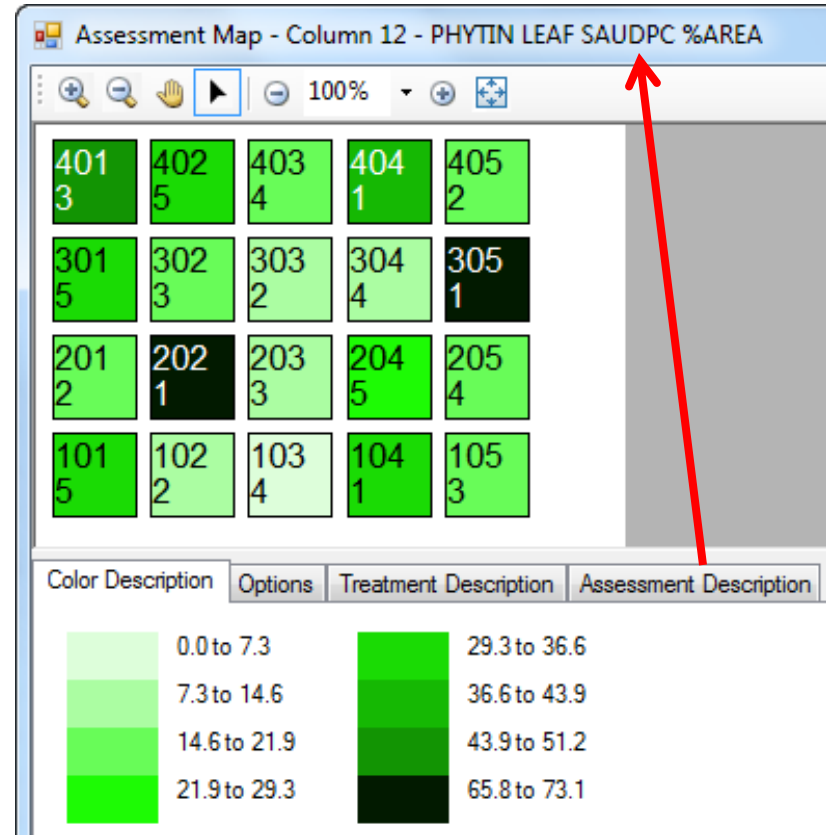


Use WSSA Weed Codes

- Default weed code list is based on EPPO plant list (formerly from Bayer)
 - EPPO = European Plant Protection Org.
 - Includes weeds for essentially all countries
 - Expansion of Bayer code dictionary
- Select Utilities – “Use WSSA Weed Codes and Names in G-All7” to instead use WSSA weed codes

Assessment Map

- Assessment Description tab selects data header fields to describe each column on map and map report



Trial Map Enhancements

Check/Ref
(read from
Settings)

Color
palette

The screenshot shows the 'Trial Map' software interface. At the top left, there is a grid of 20 plots arranged in 4 rows and 5 columns. Each plot contains a treatment code (e.g., 401, 301, 201, 101) and a replication number (e.g., 1, 3, 2, 3). The plots are color-coded: 401 is white with diagonal lines, 402 is teal, 403 is green, 404 is dark red, 405 is white with diagonal lines, 301 is teal, 302 is green, 303 is white with diagonal lines, 304 is white with diagonal lines, 305 is dark red, 201 is green, 202 is teal, 203 is white with diagonal lines, 204 is dark red, 205 is white with diagonal lines, 101 is teal, 102 is white with diagonal lines, 103 is dark red, 104 is green, 105 is white with diagonal lines.

Below the grid is a table with columns: Trt, Trt Code, Trt Description, and a 'Reset' button. The table contains the following data:

Trt	Trt Code	Trt Description
1	CHK	Untreated Check
2	Tu.5	TUB 0.5 L/ha
3	Tu1	TUB 1 L/ha
4	Tilt	TILT 250 0.5 L/ha
5	M+F	MICO 60 1.5 L/ha; FUNGOL 1.25 L/ha

At the bottom right, there is a color palette with a grid of colored squares. Above the palette, there is a 'Color order' dropdown menu set to 'Default', a checked checkbox for 'Identify Untreated and Reference', and two icons: 'CHK' (white with diagonal lines) and 'REF' (white with diagonal lines). Below the icons is the color palette itself, which includes a variety of colors including blues, greens, reds, yellows, and greys.

On the right side of the interface, there is a 'Properties' panel with the following options:

- Color by:
 - Replicate
 - Treatment
- Auto-select for move
 - Treatment
 - 'Plot' Experimental Unit
 - Replicate

At the bottom right, there are several buttons: 'Settings...', 'Re-Randomize', 'Re-Number 'Plots'', 'Print', 'Accept Current', 'Cancel', and 'Help'.

Trial Map Enhancements

Outside
border
plots

Numbering

Define
custom
palette

The screenshot shows the 'Trial Map' software interface. A context menu is open over the grid, with 'Insert Outside Border 'Plots'' highlighted. The grid contains plots numbered 106 to 607. The 'Properties' panel on the right shows 'Color by' set to 'Treatment' and 'Display border 'Plot' numbers' checked. The 'Options' panel at the bottom shows 'GemplerStd' selected in the 'Color of' dropdown. A custom color palette is visible at the bottom.

Trt	Trt Code	Trt Descr	Reset
1	CHK		
2			
3			
4			
5			

March 2013



Trial Map Enhancements

- Click-and-drag to move objects.
- Define color to use for each treatment.
- Zoom in/out.
- Auto-fit trial map dialog to current map size and shape.
- Save trial map dialog size and zoom level in each trial.



Trial Map Enhancements

- Special colors to identify check and reference treatments - map and graph
- Treatment color selection palette of 999 unique color + symbol combinations
- Border plot options on right-click menu

Tasks

- Assessment Data
- Trial Map
- Schedule Tasks**
- Calendar
- Comments
- Attachments
- Settings

■ Re-designed Schedule Tasks editor

Schedule Tasks

Type

Treatment application - for Appl Code: A

Assessment - for Rating Timing:

Other

Timing

Date: 04/15/13

Interval: Hours

Application Date

Timing deviation allowed: - 4/15/2013 +

Description:

First application - Regrowth

Assigned to:

Duration

Length: 2.25 Hours per day

Multiple days

Duration: 1 Days

Previous

Next

New

Delete

	Completed	Type	Description	Timing	- Planned	+ Completed	Assigned to	Length (h)
1	<input type="checkbox"/>	Treatment application - for A	First application - Regrowth	04/15/13	04/15/13			2.25
2	<input type="checkbox"/>	Assessment - for 1	% control and phyto assessment	7 Days After A	04/22/13			1
3	<input type="checkbox"/>	Assessment - for 2	% control and phyto assessment	14 Days After A	04/29/13			1
4	<input type="checkbox"/>	Assessment - for 3	% control and phyto assessment	21 Days After A	05/06/13			1

Tasks

- Schedule tasks relative to:
 - Fixed date
 - Application Date
 - Emergence Date
 - Planting Date

The screenshot shows a software interface for scheduling tasks. At the top, there are columns labeled 'Timing', '- Planned', '+ Completed', and 'Assign'. Below this, there are rows with dates: '7 Da', '14 D', and '21 D'. A dialog box is open, allowing the user to select a scheduling method. The 'Interval' option is selected with a radio button. The 'Interval' field is empty, and the unit is set to 'Days'. A dropdown menu is open, showing three options: 'Application Date', 'Emergence Date', and 'Planting Date'. The 'Application Date' option is currently selected. To the right of the dropdown, there is a field containing the letter 'A'.

Tasks

- Relative tasks adjust to date changes
 - Initial planned dates:

Type	Description	Timing	-	Planned	+	Completed
Treatment application - for A	First application - Regrowth	04/15/13		04/15/13		
Assessment - for 1	% control and phyto assessment	7 Days After A		04/22/13		
Assessment - for 2	% control and phyto assessment	14 Days After A		04/29/13		
Assessment - for 3	% control and phyto assessment	21 Days After A		05/06/13		

- Revised plan after application is made:

Type	Description	Timing	-	Planned	+	Completed
Treatment application - for A	First application - Regrowth	04/15/13		04/15/13		4/20/2013
Assessment - for 1	% control and phyto assessment	7 Days After A		04/27/13		
Assessment - for 2	% control and phyto assessment	14 Days After A		05/04/13		
Assessment - for 3	% control and phyto assessment	21 Days After A		05/11/13		

Tasks

■ Display tasks on Master Calendar

The screenshot displays a software interface for managing tasks on a master calendar. The interface is divided into several sections:

- Navigation Bar:** Located at the top left, it contains a search field and a list of navigation items. The "Master Calendar" item is highlighted with a red circle.
- Task List:** A tree view on the left side of the main window. It includes items like "ARM (GDMdef)", "Header", "Treatments", "Protocol Description", "1. Trial Plan", "2. Assessments", "3. Locations", "4. Project", "5. Trt. Comments", "6. Application Timings", "Assessment Data", "Schedule Tasks", "Calendar", "Attachments", "Settings", "Summary Across Trials", "Germplasm Manager", and "Tasks".
- Master Calendar:** The central area shows a calendar grid for April, May, and June 2008. The grid is titled "April - May 2008". Tasks are represented by colored boxes with text labels: "00 Assx", "00 MIP", "00 Assr", "00 Asse", "00 7", "00 Assr", "00 folla", "00 Assr", "00 Assr", "00 2", "00 1st", "00 2nd", "00 3rd", and "00 4th".
- Properties Panel:** Located on the right side, it contains various filters and settings. The "Studies" section is highlighted with a red circle and includes radio buttons for "All protocols", "All trials", and "Selected studies", along with a "Reselect" button. Below this is a list of study identifiers: "Rate_Unit_Examples", "DEM-V-2009-US-001-A-01.C", "HR99DEUAG11234", "EGDK012652009", and "FA22WI 01231234". There is also a "Color code" dropdown menu set to "Type" and a "Print" button at the bottom.

Tasks

- Create Outlook appointments from tasks

Schedule Tasks

Type

Treatment application - for Appl Code:

Assessment - for Rating Timing:

Other

Timing

Date: 04/15/13

Interval: Hours

Application Date

Timing deviation allowed: 4/7

Properties

Total hours: 5.25

Outlook

Profile name:

Password:

Calendar name:

Create Appointments

Calendar Print Help

Include completed tasks

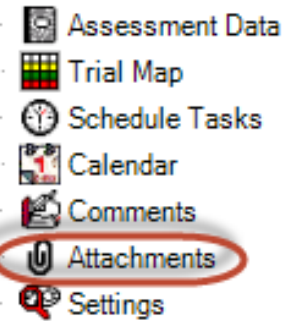
	Completed	Type	Duration (h)	Duration (d)	Outlook Profile
1	<input type="checkbox"/>	Treatment application - for A	2.25		
2	<input type="checkbox"/>	Assessment - for 1	1		
3	<input type="checkbox"/>	Assessment - for 2	1		
4	<input type="checkbox"/>	Assessment - for 3	1		



Linked Outlook Appointments

- Changes to scheduled task dates in ARM are automatically applied to linked Outlook tasks when trial is saved.
- Changes made by moving ARM-linked Outlook appointments are copied back to tasks in ARM trial the next time that trial is opened in ARM

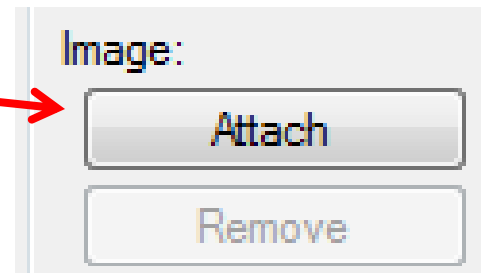
Attachments



- Attachments editor is an index of photos, documents, other related files
- To attach:
 - Drag-and-drop files from Windows Explorer
 - Select "Attach" button on editor, then browse to file to link
 - Paste image into rich text field such as Comments or Conclusions

Attach Assessment Images

- Images/photos of assessments should be attached in Assessment Data editor:
 - Click into relevant plot and data column
 - Select Attach button on Properties panel
 - Select image in Open dialog
 - Confirm position on Image Import Preview
 - Select image file rename options to clearly identify trial and plot linkage



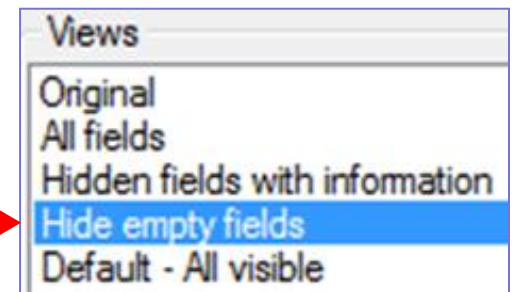
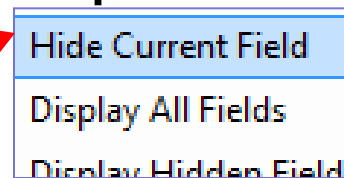
Editor Views to Simplify/Tailor

Create saved editor views hide unused editor fields (simplify editor screens).

1. To hide un-needed fields either:

Treatment Field	Visible
Form Type	<input checked="" type="checkbox"/>
Lot Code	<input type="checkbox"/>
Density	<input checked="" type="checkbox"/>
Registration Num	<input type="checkbox"/>
Re-Entry Interval	<input type="checkbox"/>
Description	<input checked="" type="checkbox"/>
Cost	<input type="checkbox"/>

- Clear checkboxes on View Options dialog for the editor.
- Right-click and Hide Field on editor itself.
- Fill desired fields, then use "Hide empty fields" view.





Editor Views to Simplify/Tailor

2. On View Options dialog for the editor select "Save View" button
 3. Assign a useful name:
"My view", "Turf view", "Cereals", etc.
- Also use views to select site description, assessment header, and treatment fields to print on reports

Create Protocol – Design tab

- Define number of treatments in single-factor protocols in Design tab of Settings dialog
- Treatments editor is pre-filled

Protocol Settings

General Design Treatment Application Layout

Randomized Complete Block (RCB)

Factors: 1

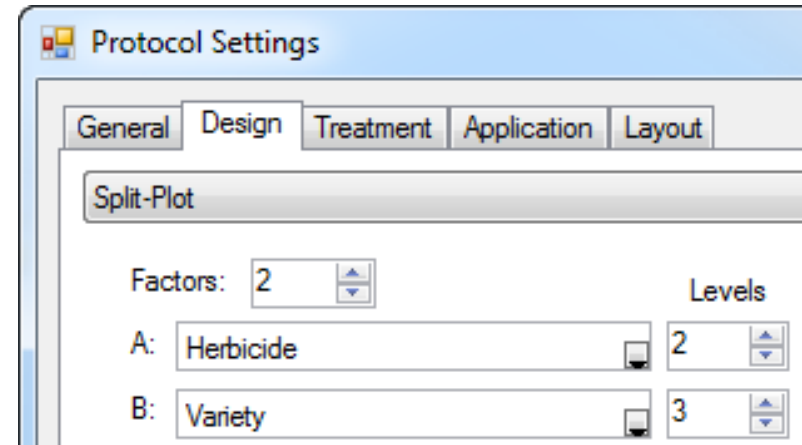
Treatments

A: 8

Trt Line	Trt No.	Type	Treatment Name
1	1		
2	2		
3	3		
4	4		
5	5		
6	6		
7	7		
8	8		

Create Protocol – Design tab

- Define number of levels per factor
- Treatments editor is pre-filled



Protocol Settings

General Design Treatment Application Layout

Split-Plot

Factors: 2

Levels

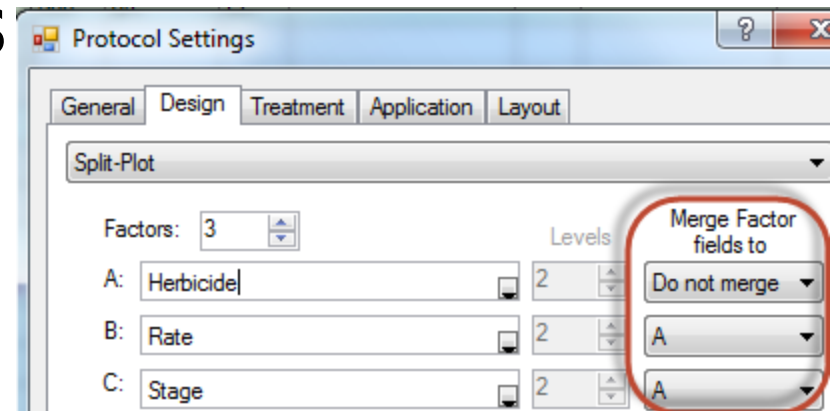
A: Herbicide 2

B: Variety 3

Treatments - Line 2			
Trt Line	Trt No.	Type	Treatment Name
1			Start of Factor A (Herbicide)
2	1	HERB	
3	2	HERB	
4			Start of Factor B (Variety)
5	1	VAR	
6	2	VAR	
7	3	VAR	

Create Trial - Merge Factor to

- New Settings option to define auto-merge actions for combining factors when creating a multi-factor trial (e.g. copying rates or growth stages to factor that defines tested products)



Create Trial - Merge Factor to

- These protocol treatments:

Trt Line	Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Growth Stage	Appl Code
1			Start of Factor A (Herbicide)							
2	1	HERB	Tub	500	g/L	EC				
3	2	HERB	Tilt	600	g/L	EC				
4			Start of Factor B (Rate)							
5	1		Low rate				25	g Al/ha		
6	2		High rate				50	g Al/ha		
7			Start of Factor C (Stage)							
8	1		Early						EAPOCR	A
9	2		Late						LAPOCR	B

Create Trial - Merge Factor to

- Result in these trial treatments

Trt Line	Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Factor ID	Level No.
1	1	HERB	Tub	500	g/L	EC	25	g AI/ha	EAPOCR	A	A	1
2	1		Low rate				25	g AI/ha			B	1
3	1		Early						EAPOCR	A	C	1
4	2	HERB	Tub	500	g/L	EC	25	g AI/ha	LAPOCR	B	A	1
5	2		Low rate				25	g AI/ha			B	1
6	2		Late						LAPOCR	B	C	2
7	3	HERB	Tub	500	g/L	EC	50	g AI/ha	EAPOCR	A	A	1
18	6		Late						LAPOCR	B	C	2
19	7	HERB	Tilt	600	g/L	EC	50	g AI/ha	EAPOCR	A	A	2
20	7		High rate				50	g AI/ha			B	2
21	7		Early						EAPOCR	A	C	1
22	8	HERB	Tilt	600	g/L	EC	50	g AI/ha	LAPOCR	B	A	2
23	8		High rate				50	g AI/ha			B	2
24	8		Late						LAPOCR	B	C	2

Study Rule Required and Recommended Field Colors (8.5.0+)

- Required=pink background:

Latitude of LL Comer °:

Longitude of LL Comer °:

- Recommended=blue background:

Overall Moisture Conditions:



Study List

- Use study list as the ARM desktop when current study is closed
- More study list entry fields, to give more flexible filters and sorts
- Easier filtering method to locate ARM studies that meet desired criteria

Study List as ARM desktop

The screenshot displays the ARM (GDMdef) desktop application interface. The main window is titled "ARM (GDMdef)" and features a menu bar (File, Edit, Format, Tools, Table, Utilities, Window, Graph, Add-Ins, Help) and a toolbar. A navigation bar on the left lists various study components like "ARM", "Summary Across Trials", "Germplasm Manager", "Tasks", and "Master Calendar". A tree view on the right shows a hierarchical structure of study details, including "Header", "Treatments", "Site Description", "General Trial", "Objectives/Conclusions", "Personnel", "Crop Description", "Pest Description", "Site and Design", "Maintenance", "Soil", "Moisture", "Application", "Crop Stage at Appl.", "Pest Stage at Appl.", "Appl. Equipment", "Treatment Appl. Comments", "Notes", "Deviations", and "Settings".

The central area is a form for editing study details, organized into sections: "Header" (Title, Trial ID, Protocol ID, Location, Study Director, Project ID, Investigator), "Treatments" (Protocol/Site Description - General), "Trial Status" (Trial Status, Initiation Date, Planned Completion Date), "Trial Location" (City, State/Prov., Postal Code, Country, Latitude of LL Corner, Longitude of LL Corner), and "Settings" (Conducted Under GLP, Official Trial Code, Conducted Under GEP, Other Trial Code). An "Active Filter: Active Studies" is shown on the right side of the form.

At the bottom, a table lists the study details for the selected studies. The table has columns for "Selected", "Study ID", "Study Type", "Title", "Project ID", "Study Director", and "Mas".

Selected	Study ID	Study Type	Title	Project ID	Study Director	Mas
<input checked="" type="checkbox"/>	AUDPC7	Trial	AUDPC Transformation/Graph Example Trial		Fran O. Gylling	
<input type="checkbox"/>	ST-EXAM1	Trial	ARM ST Tutorial Example Product Screening Number 1		Bill Jenkins	
<input type="checkbox"/>	St-Int1	Trial	ARM ST Tutorial Example Product Screening Number 1		Bill Jenkins	
<input type="checkbox"/>	BRO-05-01	Protocol	Screening - Broccoli - 2005 - Central area	BROC	Dongbu	
<input type="checkbox"/>	CORN_Yield_06_01	Protocol	Corn North - Yield trials for Product positioning	CORN_Yield_0	Dongbu	
<input type="checkbox"/>	G-AI17_Herb	Protocol	Determination of the efficacy and lowest effective dose rate of HERB 1 against m	G-AI17_Herb	R.E. Search	
<input type="checkbox"/>	G-AI17_Ins	Protocol	Efficacy of some new insecticide formulations against Californian Red Scale (Aon		Your Name	
<input type="checkbox"/>	G-Seed7_1	Protocol	Corn North West - Yield trials for Product positioning	G-Seed7_1	G. CONTZERG	
<input type="checkbox"/>	St-Exam	Protocol	ARM ST Tutorial Example Product Screening Number 1		R.E. Search	
<input type="checkbox"/>	St-Int	Protocol	ARM ST Tutorial Example Product Screening Number 1		R.E. Search	
<input type="checkbox"/>	BRO-05-01_01	Trial	Screening - Broccoli - 2005 - Central area		Dongbu	
<input type="checkbox"/>	CORN_Yield_05_01_01	Trial	Corn North - Yield trials for Product positioning		Dongbu	
<input type="checkbox"/>	G-AI17_Fung	Trial	An assessment of the efficacy of TUB and other fungicides for the control of Septoria D		R.E. Search	
<input type="checkbox"/>	G-AI17_Herb	Trial	Determination of the efficacy and lowest effective dose rate of HERB 1 against monoco		R.E. Search	
<input type="checkbox"/>	G-AI17_Ins1	Trial	Efficacy of some new insecticide formulations against Californian Red Scale (Aonidiela		Your Name	
<input type="checkbox"/>	G-Seed7_1	Trial	Corn North West- Yield trials for Product positioning		G. CONTZERG	
<input type="checkbox"/>	G-Seed7_1	Trial	Corn North West- Yield trials for Product positioning		G. CONTZERG	
<input type="checkbox"/>	G-Seed7_2	Trial	Screening - Broccoli - 2005 - Emilia-Romagna area		AZ ROMA MAGN	
<input type="checkbox"/>	St-Exam2	Trial	ARM ST Tutorial Example Product Screening Number 1		R.E. Search	
<input type="checkbox"/>	St-Exam3	Trial	ARM ST Tutorial Example Product Screening Number 1		R.E. Search	

At the bottom of the window, there are buttons for "Select All", "Clear All", "Remove Filter", "Browse...", "Refresh", "Clipboard", "OK", "Cancel", and "Help". A checkbox labeled "Include archived studies" is also present.

Study List

- Enter 'filters' to find desired studies
- Tutorial mode shows only studies in Tutorial folder, for ARM and ST

The screenshot shows a form titled "Site Description - General(2)" with various input fields. A dropdown menu is open for the "Discipline" field, showing options: F, FIH, and FIS. The "Include" button is highlighted in blue. Other buttons visible are "Exclude", "OK", and "Range".

Selected	Study ID	Study Type
<input type="checkbox"/>	2009Fung_AU	Trial
<input type="checkbox"/>	ATD_06HERB-05_02	Trial
<input type="checkbox"/>	ATD_06HERB-05_03	Trial
<input type="checkbox"/>	ATD_06HERB-05_04	Trial

Buttons: Select All, Clear All, Remove Filter

Include archived studies Tutorial

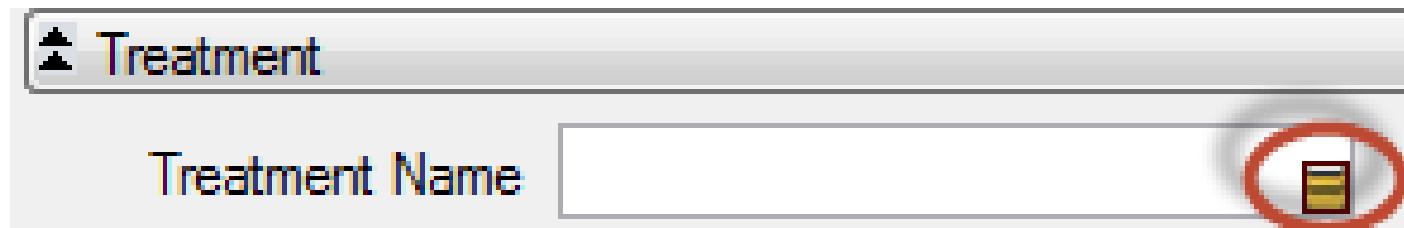
Find Trials using Study List

- How to find trials with treatment(s), crop(s), and weed(s) of interest:

1. Display only trials

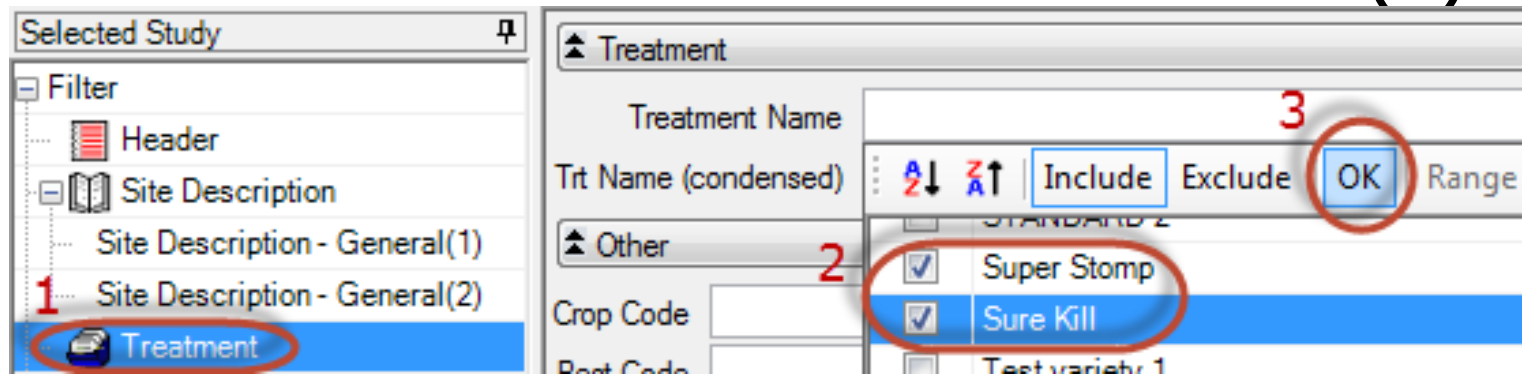


2. Display unique treatment names



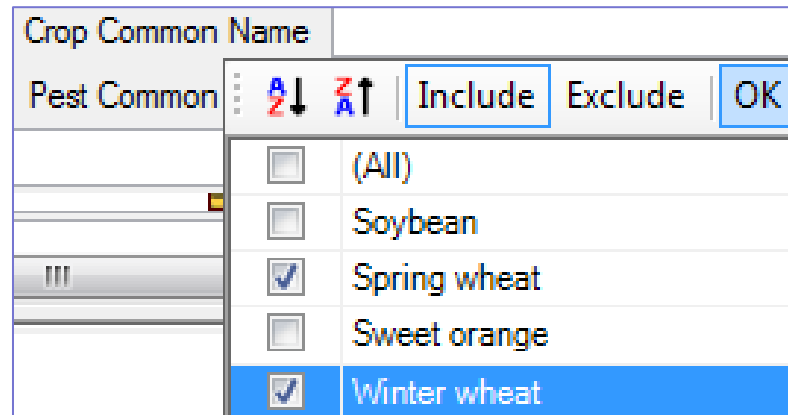
Find Trials using Study List

3. Select trials with desired treatment(s)



The screenshot shows a software interface for selecting trials. On the left, a 'Selected Study' window has a 'Filter' pane with 'Treatment' selected (1). On the right, the 'Treatment' pane shows 'Super Stomp' and 'Sure Kill' selected (2), and the 'OK' button is highlighted (3).

4. Identify desired crop(s)



The screenshot shows a software interface for identifying desired crops. The 'Crop Common Name' window has a 'Pest Common' pane with 'Spring wheat' and 'Winter wheat' selected.

Find Trials using Study List

3. Identify desired weed(s)

Pest Common Name

⌵ ⌴ | Include Exclude OK

<input checked="" type="checkbox"/>	Lambsquarters, common
<input type="checkbox"/>	Matricaria inodora
<input checked="" type="checkbox"/>	Nightshade, black

4. Open matching trials from grid

Selected	Study ID	Title
<input type="checkbox"/>	ATD_06HERB-05_01	Herbicidal efficacy of HERB_2203 with a range of broad-leaved weed herbicides
<input type="checkbox"/>	ATD_06HERB-05_02	Herbicidal efficacy of HERB_2203 with a range of broad-leaved weed herbicides
<input type="checkbox"/>	ATD_06HERB-05_06	Herbicidal efficacy of HERB_2203 with a range of broad-leaved weed herbicides

Export Assessment Data

- File - Export - Data Export
- Create file to open in other programs
- Settings to analyze with SAS, R, etc.

The screenshot shows the 'Data Export Options' dialog box with the following settings:

- File type:** Delimited (*.csv)
- Delimiter:** Tab
- Treatments:** Export selected (unchecked), Synonym number: 0
- Format:** Export selected data columns (checked), Header as first line (checked), Missing data As: (empty), Include 'Plot' experimental unit (checked), Include trial ID (checked)
- Assessments:** All data (selected)
- Treatment information:** First line (selected), All, separate (unchecked), All, concatenated (unchecked), Separator character (unchecked), Enclose separator with spaces (unchecked)
- Sort order:** Treatment (selected), Replicate (unchecked)
- Export batch into one file:** (unchecked)

Export Assessment Data

- Settings to graph means of treatments

The screenshot shows the 'Data Export Options' dialog box with the following settings:

- File type:** Delimited (*.csv)
- Delimiter:** Tab
- Treatments:** Export selected; Synonym number: 0
- Export selected data columns
- Format:** Header as first line; Missing data As: [empty]; Include 'Plot' experimental unit; Include trial ID
- Treatment information:** None; First line; All, separate; All, concatenated; Separator character; Enclose separator with spaces
- Assessments:** All data; 'Plot' experimental unit means; Treatment means
- Sort order:** Treatment; Replicate
- Export batch into one file