

Required Trial Management Software Features



Gylling Data Management, Inc.



Trial Management Steps

1. Prepare treatment list
2. Plan required number of replicates by either: best guess, consult statistician, or perform power analysis
3. Create randomization
4. Define plot size
5. Calculate treatment quantity to apply



Trial Management Steps

6. Establish trial

- Plant
- Apply treatments
- Record site location and other information

7. Make assessments

8. Review and analyze assessments

9. Prepare key graphs

10. Print final reports



Trial Management Steps

These steps are the same whether using:

- Paper
- Office/general purpose software
- Project management software
- ARM
 - Provides automations, and
 - Improves efficiency, quality, and consistency



Overview of Trial Management Software Requirements

- General Requirements:
 - Structure so trials are entered consistently
 - Dictionaries to standardize vocabulary
 - Enter information only once
- Resulting Benefits:
 - Portability across languages and platforms
 - Automation of routine tasks
 - Efficiency and accuracy



Protocol Components no. 1

- Clearly-defined treatments with formulation and rate details

Trt Line	Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	Appl Description
1	1	CHK	Untreated Check									
2	2	FUNG	TUB	250	G/L	EC	0.5	L/ha	125	g A/ha	A	pre-emergence
3	3	FUNG	TUB	250	G/L	EC	1	L/ha	250	g A/ha	A	pre-emergence
4	4	FUNG	TILT 250	250	G/L	EC	0.5	L/ha	125	g A/ha	B	early post
5	5	FUNG	MICO 60	600	G/L	EC	1.5	L/ha	900	g A/ha	B	early post
6	5	FUNG	FUNGOL	200	G/L	SC	1.25	L/ha	250	g A/ha	B	early post

Protocol Components no. 2

■ Description of required assessments

Assessment Data - Line 8												
Column Number	1			2		3		4				
Pest Type	<div><div></div></div>			<div><div></div></div>		W	<div><div></div></div>	Weed	W	<div><div></div></div>	Weed	
Pest Name	<div><div></div></div>			<div><div></div></div>		<div><div></div></div>		<div><div></div></div>		<div><div></div></div>		
Crop Name	<div><div></div></div>			<div><div></div></div>		<div><div></div></div>		<div><div></div></div>		<div><div></div></div>		
Description	crop injury			crop height		weed density		weed biomass				
Rating Date	<div><div></div></div>			<div><div></div></div>		<div><div></div></div>		<div><div></div></div>		<div><div></div></div>		
Rating Type	PHYTO <div><div></div></div>			HEIGHT <div><div></div></div>		COUNT <div><div></div></div>		BIOMAS <div><div></div></div>		<div><div></div></div>		
Rating Unit	>% <div><div></div></div>			cm <div><div></div></div>		PLANT <div><div></div></div>		g <div><div></div></div>		<div><div></div></div>		
Sample Size, Unit	1	PLOT	<div><div></div></div>	25	PLANT	<div><div></div></div>	1	m2	<div><div></div></div>	1	m2	<div><div></div></div>
Collection Basis, Unit			<div><div></div></div>			<div><div></div></div>			<div><div></div></div>			<div><div></div></div>
Number of Subsamples	1			25		1		1		1		



Protocol Components no. 3

■ Define objectives

Objectives:

[Normal] ▼ Microsoft Sans Serif ▼ 10 ▼ | B

1. Identify any phytotoxic effects on crop

2. Quantify weed density and total biomass to characterize control

3. Measure crop height to verify any growth inhibition

Protocol Components no. 4

- Study rules that clearly identify key information to record in each trial created from the protocol

The screenshot displays a software application window with a menu bar (File, Edit, Format, Tools, Table, Utilities, Window, Graph, Ad) and a toolbar. The main window is titled 'Site Description' and contains a 'Navigation Bar' on the left. The form is divided into two sections: 'Site Description' and 'Study Rules'.

Site Description Form:

- General Trial | Objectives/Conclusions | Contacts | Crop Description | Pest Desci
- City: Country:
- State/Prov.:
- Postal Code: Climate Zone:
- Latitude of LL Corner °:
- Longitude of LL Corner °:

Study Rules Table:

Rule	Rule ID	Editor	Field
3	Required	Site Description	General Trial - City
4	Required	Site Description	General Trial - Trial State
5	Required	Site Description	General Trial - Postal Code
6	Recommended	Site Description	General Trial - Trial Country
7	Required	Site Description	General Trial - Latitude of LL Corner °



Support for Typical Experimental Designs

- Randomize and appropriately analyze
 - Completely Random Design
 - Randomized Complete Block (RCB)
 - Latin Square
 - Lattice Designs (Incomplete Block)
 - Multi-Factor Designs
 - RCB with Factorial Arrangement of Treatments
 - Split-Plot
 - Strip-Block (Criss-Cross)

Randomize Treatments

The screenshot shows the 'Trial Map' software interface. The main window displays a 5x5 grid of treatment plots. Each plot is a colored square with a number and a treatment code. The colors correspond to the treatments: red for 'ref', green for 'tub.5', teal for 'tub1', dark red for 'tilt', and hatched for 'chk'.

The grid layout is as follows:

Row	Col 1	Col 2	Col 3	Col 4	Col 5
1	401 ref	402 tub1	403 chk	404 tilt	405 tub.5
2	301 tilt	302 tub.5	303 tub1	304 chk	305 ref
3	201 chk	202 tub1	203 ref	204 tilt	205 tub.5
4	101 tub1	102 ref	103 chk	104 tub.5	105 tilt

Below the grid is a table with three tabs: 'Options', 'Movement Arrows', and 'Treatment Description'. The 'Treatment Description' tab is active, showing a list of treatments with their codes and descriptions.

Trt	Trt Code	Trt Description
1	chk	Untreated Check
2	tub.5	TUB 0.5 L/ha
3	tub1	TUB 1 L/ha
4	tilt	TILT 250 0.5 L/ha
5	ref	MICO 60 1.5 L/ha; FUNGOL 1.25 L/ha

To the right of the grid 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 are buttons for 'Settings...', 'Re-Randomize', 'Re-Number 'Plots'', 'Accept Current', and 'Cancel'.

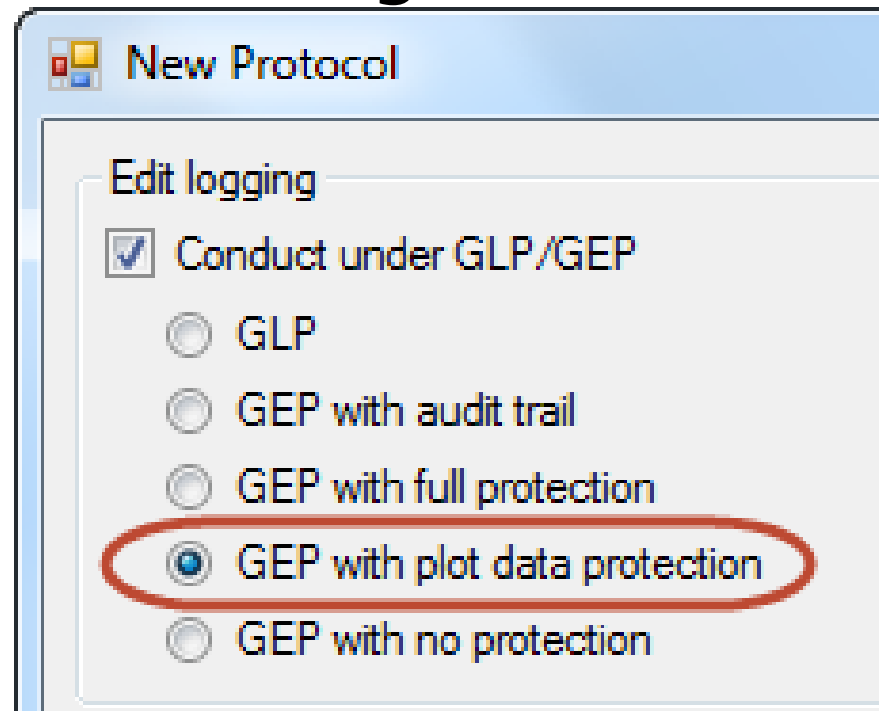


Robust Data Collection Tools

- Enter data only once to avoid transcription errors
- Employ appropriate range checking for assessed values
- Perform data quality checks before leaving trial site (analyze, graph)
- Include photographs that illustrate or support measurements & observations

Data Protection

- Offer a protection that allows only trial owners to change assessment data



The screenshot shows a 'New Protocol' dialog box with a section titled 'Edit logging'. Under this section, there is a checked checkbox for 'Conduct under GLP/GEP'. Below this, there are five radio button options: 'GLP', 'GEP with audit trail', 'GEP with full protection', 'GEP with plot data protection' (which is selected and circled in red), and 'GEP with no protection'.

New Protocol

Edit logging

☒ Conduct under GLP/GEP

☐ GLP

☐ GEP with audit trail

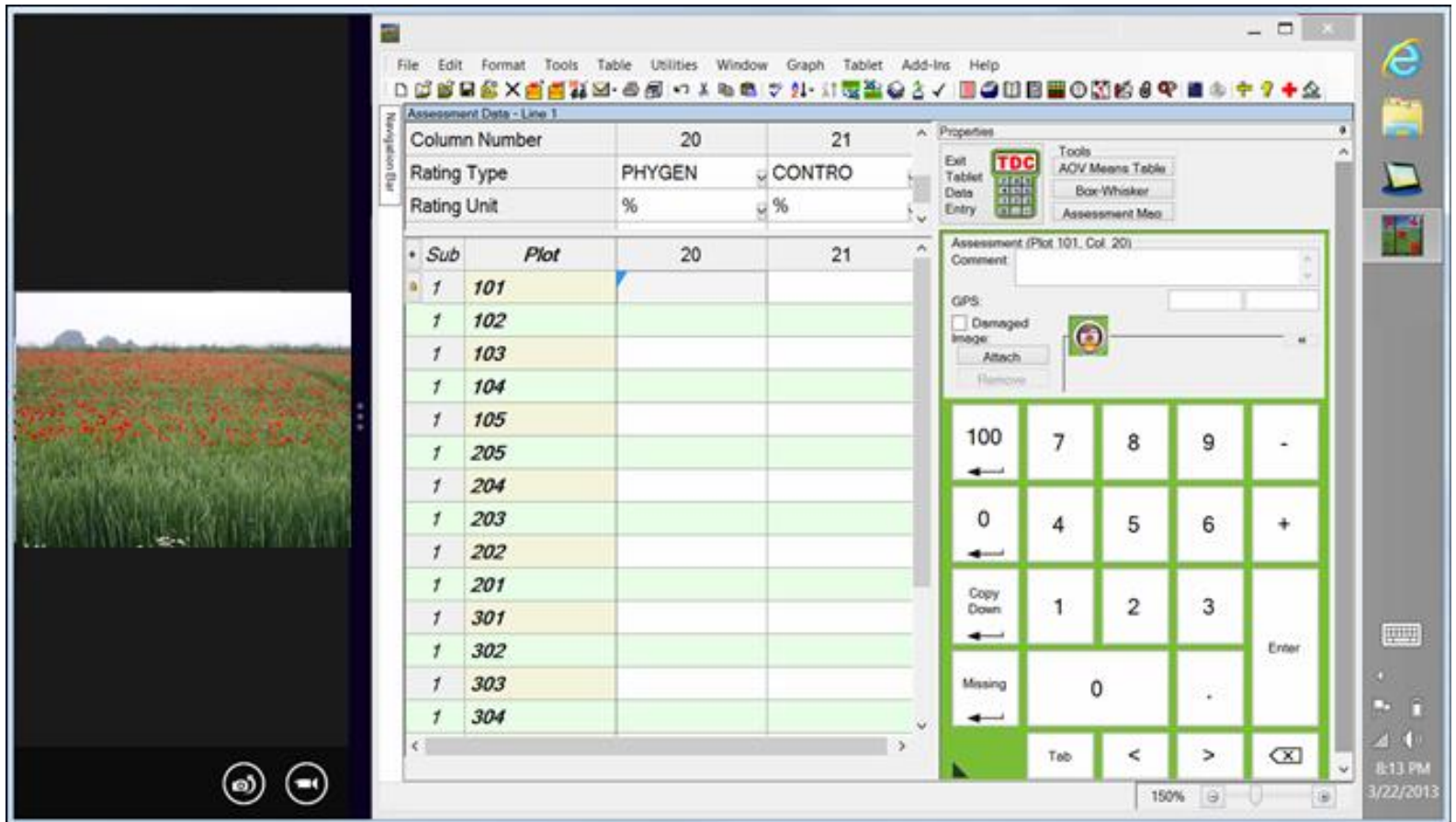
☐ GEP with full protection

☒ GEP with plot data protection

☐ GEP with no protection

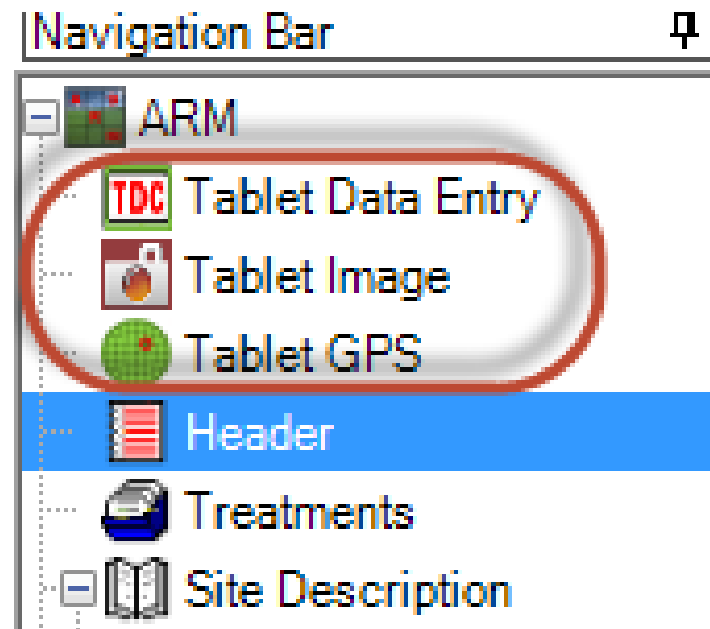
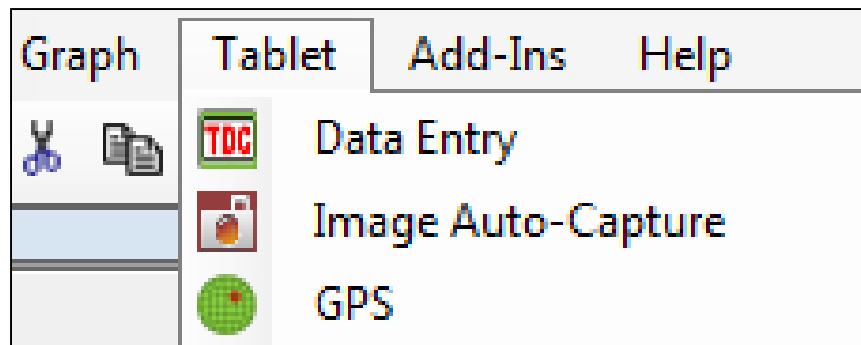
ARM Tablet Data Collector

Win 8.1
Pro
tablet
+
ARM
+
special
ARM
tablet
features



Tablet Data Collector Features

- Tablet Data Entry
- Tablet Image Capture
- Tablet GPS



Assessment - Linked Image

Assessment Data - Line 1

Column Number		7	8	9	
Pest Type		W <input type="checkbox"/> Weed	W <input type="checkbox"/> Weed	W <input type="checkbox"/> Weed	W <input type="checkbox"/> Weed
Pest Name		<input type="checkbox"/> Soft wheat	<input type="checkbox"/> Blackgrass	<input type="checkbox"/> Blackgrass	<input type="checkbox"/> Blackgrass
Crop Name		<input type="checkbox"/> Winter rape	<input type="checkbox"/> Winter rape	<input type="checkbox"/> Winter rape	<input type="checkbox"/> Winter rape
Description					
Rating Date		<input type="checkbox"/> 2008/Apr/11	<input type="checkbox"/> 2008/Apr/24	<input type="checkbox"/> 2008/Apr/24	<input type="checkbox"/> 2008/Apr/24
Rating Type		<input type="checkbox"/> GROUND	<input type="checkbox"/> GROUND	<input type="checkbox"/> CONTRO	<input type="checkbox"/> GROUND
Rating Unit		<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %	<input type="checkbox"/> %
Sample Size, Unit		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collection Basis, Unit		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Subsamples		1	1	1	1
Days After First/Last Applic.		0	0	13	13
Trit-Eval Interval		0 DA-A	13 DA-A	13 DA-A	13 DA-A
Days After Emergence					
ARM Action Codes		<input type="checkbox"/> P ES	<input type="checkbox"/> P ES	<input type="checkbox"/> P	<input type="checkbox"/> P

+	Sub	Rp	Blk	Col	Plot	Trit		7	8	9	
	1	1	1	1	101	4				75	
	1	1	1	2	102	2				60.00	
	1	1	1	3	103	5				70.00	
	1	1	1	4	104	3				65.00	
	1	1	1	5	105	1	8.00	25.00	9.00	0.00	
	1	2	2	1	201	5				65.00	
	1	2	2	2	202	4				70.00	
	1	2	2	3	203	3				70.00	
	1	2	2	4	204	1	12.00	18.00	12.00	0.00	
	1	2	2	5	205	2				55.00	
	1	3	3	1	301	3				65.00	
	1	3	3	2	302	2				60.00	
	1	3	3	3	303	1	10.00	20.00	12.00	0.00	

Properties

Assessment View

View Options...

Ignore Match

Refresh

Hidden: Row

Hidden Fields

☐ Pest Code
☐ Pest Scientific N
☐ Crop Code
☐ BBCH Scale
☐ Crop Scientific N

Views

Original
All fields
Hidden fields with information

Tools

AOV Means Table

Box-Whisker

Assessment Map

Treatment

☐ Display current treatment

Assessment (Plot 101, Col 9)

Comment: some plants damaged by animals

Barcode:

GPS:

☒ Damaged

Image:

Attach

Remove

Rename

-

	4 (Calculated)
1.00	54
10.00	0.00
1.00	72.00

Analysis of Data

■ Duncan's Test at 5%

■ Coefficient of Variation

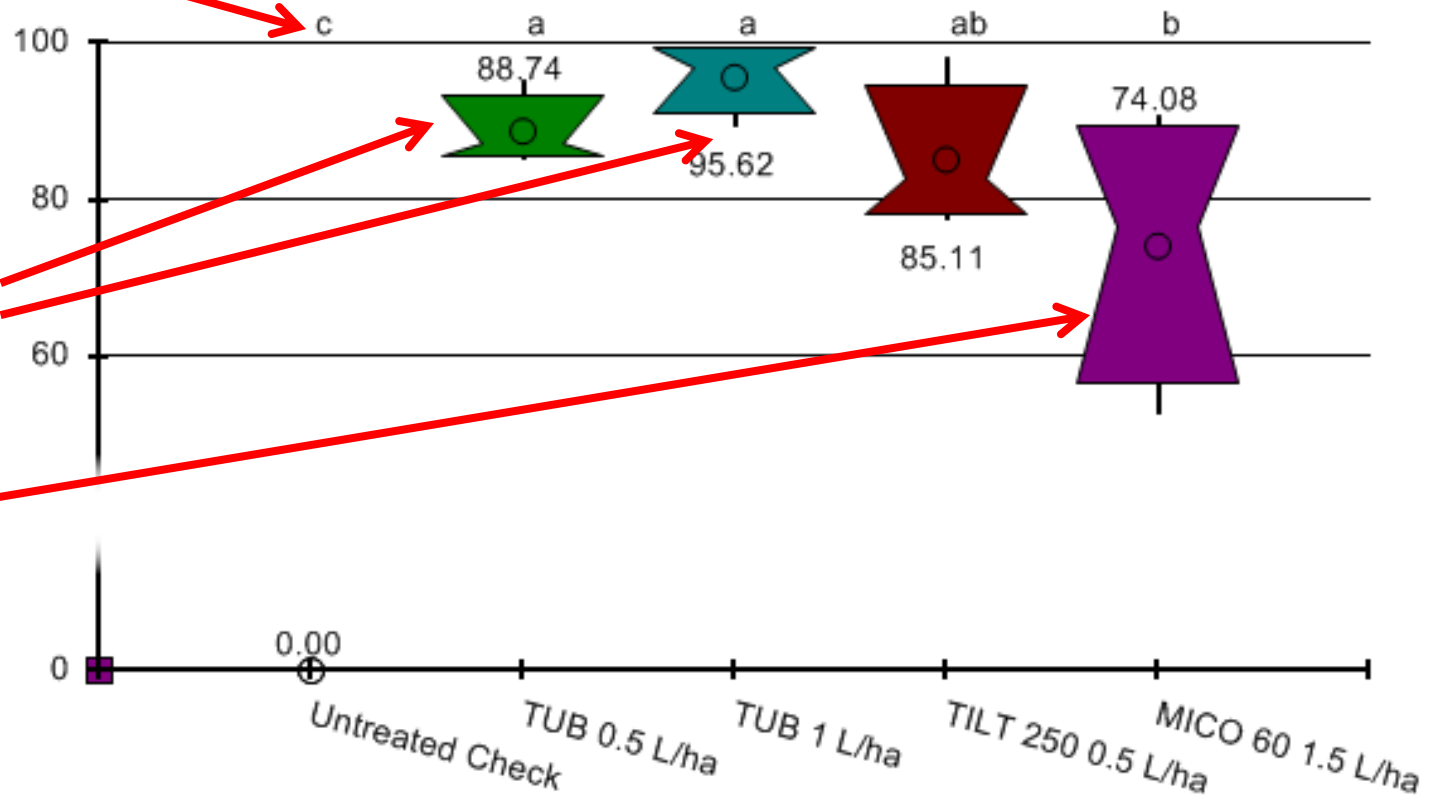
Pest Code	SEPTTR	SEPTTR
Description	severity	control
Rating Date	2/Jul/2008	2/Jul/2008
Rating Type	PESSEV	PESSEV
Rating Unit	%	%UNCK
Sample Size. Unit	10 LEAF	10 LEAF
Trt Treatment		
No. Name	Rate Unit Code	8
1 Untreated Check	ABC	15.51 a
2 TUB	0.5 l/ha ABC	1.74 b
3 TUB	1 l/ha ABC	0.83 b
4 TILT 250	0.5 l/ha ABC	2.35 b
5 MICO 60	1.5 l/ha AB	3.88 b
FUNGOL	1.25 l/ha C	74.09 b
LSD (P=.05)	3.146	12.750
Standard Deviation	2.042	8.275
CV	42.01	12.04
Bartlett's X2	10.194	6.963
P(Bartlett's X2)	0.037*	0.073
Skewness	1.7361*	-1.3261*
Kurtosis	2.3213*	0.1148
Replicate F	4.360	2.117
Replicate Prob(F)	0.0270	0.1514
Treatment F	35.175	89.729
Treatment Prob(F)	0.0001	0.0001

Variability Graph (Box-Whisker)

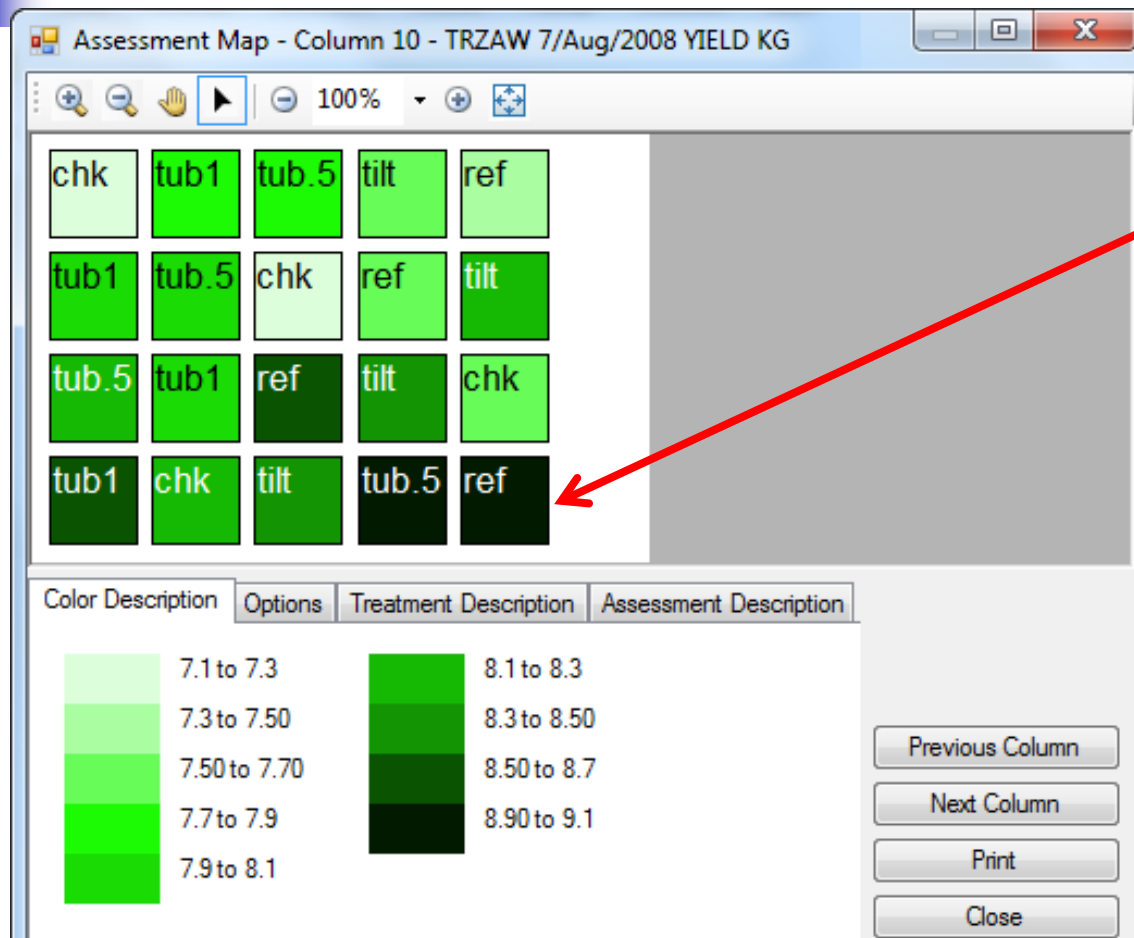
- Duncan's Test at 5%

- Stable across replicates

- More variable across replicates



Assessment Map



Replicate 1
values
darker
(larger)
than other
replicates

Site Information no. 1

■ Trial Location

Site Description	
General Trial	Objectives/Conclusions Contacts Crop Description Pest Description Site and Design Maintenance
General Trial Information	
Discipline: <input type="text" value="F"/> <i>fungicide</i>	
Trial Status: <input type="text" value="F"/> <i>one-year/final</i>	Trial Reliability: <input type="text" value="HIGH"/>
Initiation Date: <input type="text" value="2007/Sep/30"/>	Planned Completion Date: <input type="text"/>
Completion Date: <input type="text" value="2008/Aug/7"/>	
Trial Location	
City: <input type="text" value="GEMBLOUX"/>	Country: <input type="text" value="BEL"/> <i>Belgium</i>
State/Prov.: <input type="text" value="NAMUR"/>	
Postal Code: <input type="text" value="5030"/>	Climate Zone: <input type="text" value="EPOMAR"/> <i>EPPO Maritime</i>
Latitude of LL Corner °: <input type="text" value="50.5667"/> <input type="text" value="N"/>	
Longitude of LL Corner °: <input type="text" value="4.6833"/> <input type="text" value="E"/>	

Site Information no. 2

■ People

Site Description						
General Trial	Objectives/Conclusions	Contacts	Crop Description	Pest Description	Site and Design	Maintenance
Contacts						
Study Director:	R.E. Cearch		Title:		Study Leader	
Organization:						
Investigator:	I. M. Assist		Title:		Site Manager	
Organization:						
Postal Code:			E-mail:			
Country:						
Cooperator/Landowner						
Cooperator:	NORTH FARM		Role:			
Organization:			Org. Type:			
Address 1:			Address 2:			
City:	GEMBLOUX		Phone No.:		04 73 23 62 89	
State/Prov:	NAMUR		Fax No.:			
Postal Code:	5030		Mobile No.:			
Country:	BLG <i>Belgium</i>		E-mail:			

Site Information no. 3

■ Site and Design

Site Description							
General Trial	Objectives/Conclusions	Contacts	Crop Description	Pest Description	Site and Design	Maintenance	Soil
Site and Design							
Treated Plot Width: 2.5 m		Site Type: FIELD field					
Treated Plot Length: 10 m		Experimental Unit: 1 PLOT plot					
Treated Plot Area: 25 m ²		Treatments: 5		Tillage Type: CONTIL conventional-till			
Replications: 4		Study Design: RACOB L Randomized Complete Block (RCB)					
% Slope: 1.0							
Untreated Arrangement: INCLUDED		single control randomized in each block					

Site Information no. 4

■ Soil

Site Description				
Crop Description	Pest Description	Site and Design	Maintenance	Soil
Soil Description				
% Sand:	<input type="text" value="34"/>	% OM:	<input type="text" value="3.5"/>	Texture: <input type="text" value="SIL"/> <i>silt loam</i>
% Silt:	<input type="text" value="45"/>	pH:	<input type="text" value="6.8"/>	Soil Name: <input type="text" value="Vienna silt loam"/>
% Clay:	<input type="text" value="21"/>	CEC:	<input type="text"/>	Fert. Level: <input type="text"/>
				Soil Drainage: <input type="text" value="G"/> <i>good</i>

Site Information no. 5

■ Application

Site Description			
Contacts Crop Description Pest Description Site and Design Maintenance			
Application Description			
	A	B	C
Application Date:	2008/Apr/15 <input type="text"/>	2008/Jun/3 <input type="text"/>	2008/Jul/8 <input type="text"/>
Appl. Start Time:	14:30	10:00	11:15
Appl. Stop Time:			
Application Method:	SPRAY <input type="text"/>	SPRAY <input type="text"/>	SPRAY <input type="text"/>
Application Timing:	POSPOS <input type="text"/>	POSPOS <input type="text"/>	POSPOS <input type="text"/>
Application Placement:	BROFOL <input type="text"/>	BROFOL <input type="text"/>	BROFOL <input type="text"/>
Applied By:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Air Temperature, Unit:	17 C <input type="text"/>	17 C <input type="text"/>	19.5 C <input type="text"/>
% Relative Humidity:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Wind Velocity, Unit:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Wind Direction:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Dew Presence (Y/N):	<input type="text"/>	<input type="text"/>	<input type="text"/>
Soil Temperature, Unit:	10 C <input type="text"/>	13 C <input type="text"/>	16 C <input type="text"/>
Soil Moisture:	MOIST <input type="text"/>	DRY <input type="text"/>	MOIST <input type="text"/>
% Cloud Cover:	50	20	10

Site Information no. 6

■ Application Equipment

Site Description													
Site and Design		Maintenance		Soil		Moisture		Application		Crop Stage at Appl.		Pest Stage	
Application Equipment													
Some information is copied from Application tab of Settings													
Use Application Description tab to insert or delete Applications													
	A			B			C						
Appl. Equipment:	AZO <input type="text"/>			AZO <input type="text"/>			AZO <input type="text"/>						
Operation Pressure, Unit:	2.6 BAR <input type="text"/>			2.6 BAR <input type="text"/>			2.6 BAR <input type="text"/>						
Nozzle Type:	TEJ110 <input type="text"/>			TEJ110 <input type="text"/>			TEJ110 <input type="text"/>						
Nozzle Size:	02 <input type="text"/>			02 <input type="text"/>			02 <input type="text"/>						
Nozzle Spacing, Unit:	50 CM <input type="text"/>			50 CM <input type="text"/>			50 CM <input type="text"/>						
Boom Length, Unit:	3 M <input type="text"/>			3 M <input type="text"/>			3 M <input type="text"/>						
Spray Volume, Unit:	250 L/HA <input type="text"/>			250 L/HA <input type="text"/>			250 L/HA <input type="text"/>						
Mix Size, Unit:	2.65 Liters <input type="text"/>			2.65 Liters <input type="text"/>			2.65 Liters <input type="text"/>						



Site Information no. 7

- Other site information as appropriate
 - Trial objectives and conclusions
 - Crop and pest details
 - Rainfall and irrigation
 - Notes and deviations from protocol

[-] [book icon]	Site Description
...	General Trial
...	Objectives/Conclusions
...	Contacts
...	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
...	Protocol Comments



Management Reports

- Trial Map
- Applications: spray or seeding plan
- Plot Signs
- Site Information
- Labels: container, plot, seed, harvest
- Field Tour Sheet
- List of Treatments
- Statistical analysis of assessments



Label Reports

- Labels for:
 - Pre-measured quantity of products for each application, placed in small containers

----- Container -----

Container 1/Trt. Line

Brief Container 1/Trt. Line

Brief Cont. Spray Volume, 1/trt line

Brief Cont., Material ID, SpVol, 1/Art line

Experimental Cont. 1/Line

Container 1/Trt. Line + Title

Container 1/Trt. Line + Appl

Container 1/Treatment

Container 1/Treatment + Title

Cont. Multi-Row Trt. 4"x2"

Cont. Multi-Row Lg. Plot #

Cont. Multi-Row Lg.#, File Name

Cont. Multi-Row Lg.#, Mix Size

Cont. Multi-Row Lg.#, Mix Details 99x68mm

Cont. Multi-Row Lg.#, Mix, Rate, Stage 4"x2"

Cont. Weight Audit (1 wide line)

Container Export (1 wide line)



Label Reports

- Labels for:
 - Identifying each plot

----- Plot -----
Plot # Spray Randomization (1/Trt.)
Large Plot # Spray Rand. (1/Trt.)
Plot 1/plot
Brief Plot 1/plot
Plot Soil Core Tube
AgCan Tyvec Plot 6"x3"
AgCan Tear-off Plot 6"x3"
AgCan Tear-off Plot (harvest order)
AgCan Brief Plot
Large Plot # Stake Label
Large Plot # Stake/no Trial ID
Large Bold Plot # Stake Label
Large Plot # Sample Label
Large Plot # Sample, bar code
Large Plot # Sample+Product, bar code
Plot Product Quantity
Plot Seed Tray (in trt. order)
Large Plot # Trt, Mix (Ridgetown)



Label Reports

- Labels for:
 - Identifying packets of seed to plant
 - Identifying small sacks of material harvested from each plot

----- Seed Packet -----

Seed Packet (in trt. order)

Seed Packet (detailed, 1/Plot * Subs)

Seed Packet (detailed, 1/Plot, trt. order)

Seed Packet (detailed, 'n' blank pages)

Seed Packet (brief, 1/Treatment)

Seed Packet (brief, 'n' blank pages)

----- Harvest -----

Plot Harvest (in harvest order)

Plot Harvest+Moisture,Weight fill-in

Plot Harvest+Range/Row, bar code

Harvest Bag (in harvest order)

Harvest Bag, bar code Plot (harvest order)

Harvest Bag (pooled, 1/Trt.)

Brief Harvest Bag (harvest order)

Brief Harvest Bag (pooled, 1/Trt.)

Brief Harvest Bag, bar code Trial,Trt,Plot

Brief Harvest Bag, bar code Trt,Plot

Brief Harvest Bag, bar code Plot

Brief Tear-off Harvest Bag 6.75cm x 5cm

Applications Report

■ Spray/Seeding Plan

Product quantity to measure
for each application rate

Trial ID: G-All7 Fung

Location: Gembloux

Trial Year:

Reps: 4

Appl Code: A

Plots: 2.5 by 10 meters

Spray vol: 200 L/ha

Mix size: 2.15 liters (min 2.15)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate Unit	Appl Code	Spray Volume Unit	Volume Unit	Mix Size Unit	Mix Unit	Amt Product to Measure	Rep 1	2	3	4
3	TUB	250	G/L	EC	1 l/ha	ABC					10.75 ml/mx	101	202	301	402
1	Untreated Check					ABC						102	205	303	401
4	TILT 250	250	G/L	EC	0.5 l/ha	ABC					5.375 ml/mx	103	204	305	404
2	TUB	250	G/L	EC	0.5 l/ha	ABC					5.375 ml/mx	104	201	302	403
5	MICO 60	600	G/L	EC	1.5 l/ha	AB	250 L/HA	2.65 Liters			15.9 ml/mx	105	203	304	405

Reps: 4

Appl Code: B

Plots: 2.5 by 10 meters

Spray vol: 200 L/ha

Mix size: 2.15 liters (min 2.15)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate Rate Unit	Appl Code	Spray Volume Unit	Volume Unit	Mix Size Unit	Mix Unit	Amt Product to Measure	Rep 1	2	3	4
3	TUB	250	G/L	EC	1 l/ha	ABC					10.75 ml/mx	101	202	301	402
1	Untreated Check					ABC						102	205	303	401
4	TILT 250	250	G/L	EC	0.5 l/ha	ABC					5.375 ml/mx	103	204	305	404
2	TUB	250	G/L	EC	0.5 l/ha	ABC					5.375 ml/mx	104	201	302	403
5	MICO 60	600	G/L	EC	1.5 l/ha	AB	250 L/HA	2.65 Liters			15.9 ml/mx	105	203	304	405

Appl. no. 1

Appl. no. 2



Data Analysis Reports

- Choices of different statistical methods:
 - Assessment Data Summary
 - AOV Means Table
 - Factorial AOV
 - Correlations
 - Dose-Response

Study Management Tools

ARM 9.1.1 (GDMdef)

File Edit Format Tools Table Utilities Window Graph Add-Ins Help

Study List

Select study to open

Selected Study

Filter

- Header
- Site Description
- Site Description - General(1)
- Site Description - General(2)
- Treatment
- Other

Header

Study ID Parent Protocol Study Type

Title

Site Description - General(1)

Location

Keywords

GLP Investigator

GEP Study Director

Project ID

Other Study Director Organization

Site Description - General(2)

Technician

Other Investigator Organization

Trial Location City Trial Location State/Prov.

Trial Postal Code Trial Location Country Latitude Longitude

Status Discipline

Initiation Date Planned Completion Date

Other Trial ID

Study Type

☒ All/No Filter

☐ Trials Only

☐ Protocols Only

When was it modified?

☒ Don't remember

☐ Within the last week

☐ Past month

☐ Within the past year

Active Filter (46):
Active Studies

Selected	Study ID	Parent Protocol	Project ID	Other Trial ID	Study Type	Discipline	Status	Title
<input type="checkbox"/>	AUDPC7				Trial		F	AUDPC Transformation/Graph Example Tr
<input checked="" type="checkbox"/>	G-AII7_Fung	G-AII7_Fung			Trial	F	F	An assessment of the efficacy of TUB and c
<input type="checkbox"/>	AlphaLattice Tutorial	Alpha-Lattice Design			Trial	SEED	E	Alpha design example, John and Williams
<input type="checkbox"/>	ATD_06HERB-05_01	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H01	Trial		F	Herbicidal efficacy of HERB_2203 with a re
<input type="checkbox"/>	ATD_06HERB-05_02	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H02	Trial		F	Herbicidal efficacy of HERB_2203 with a re
<input type="checkbox"/>	ATD_06HERB-05_03	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H03	Trial		F	Herbicidal efficacy of HERB_2203 with a re
<input type="checkbox"/>	ATD_06HERB-05_04	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H4	Trial		F	Herbicidal efficacy of HERB_2203 with a re
<input type="checkbox"/>	ATD_06HERB-05_05	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H05	Trial		F	Herbicidal efficacy of HERB_2203 with a re
<input type="checkbox"/>	ATD_06HERB-05_06	ATD_06HERB-05	ATD_07HERB-05	DDM-49H06	Trial		F	Herbicidal efficacy of HERB_2203 with a re
<input type="checkbox"/>	BRO-05-01_01	BRO-05-01			Trial	SEED	F	Screening - Broccoli - 2005 - Central area
<input type="checkbox"/>	CORN_Yield_05_01_01	CORN_Yield_05_01			Trial	SEED	F	Corn North - Yield trials for Product position
<input type="checkbox"/>	G-AII7_Fung_srg	G-AII7_Fung			Trial	F	F	An assessment of the efficacy of TUB and c
<input type="checkbox"/>	G-AII7_Herb	G-AII7_Herb			Trial	H	F	Determination of the efficacy and lowest eff
<input type="checkbox"/>	G-AII7_Herb	G-AII7_Herb			Trial	H	F	Determination of the efficacy and lowest eff
<input type="checkbox"/>	G-AII7_Herb2	G-AII7_Herb			Trial	H	F	Determination of the efficacy and lowest eff

Select All Clear All Remove Filter

Selected Study

Study ID Parent Protocol

Title

Location

Keywords

GLP Investigator

GEP Study Director

Project ID

Other Study Director

Technician

Other Investigator

Trial Location City

Trial Postal Code Trial Location Country

Status Discipline

Browse... Rebuild... Clipboard OK Help

Oct 2015

Study Management Tools

- Track progress of studies
- Search current and historical trials
- Extract information for mapping, etc.



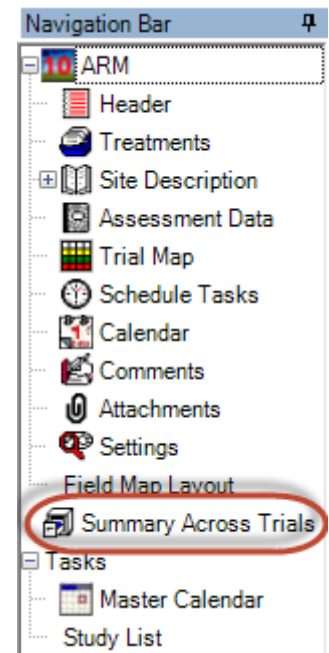


Multi-Trial Summary

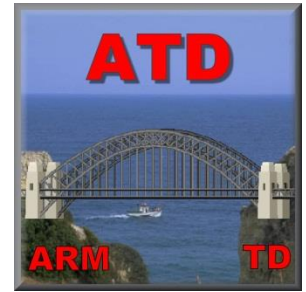
- Tools to analyze experiments over locations and years
- Easy selection of trials, treatments, and assessments to include
- Automated statistical analysis

ARM Summary Across Trials

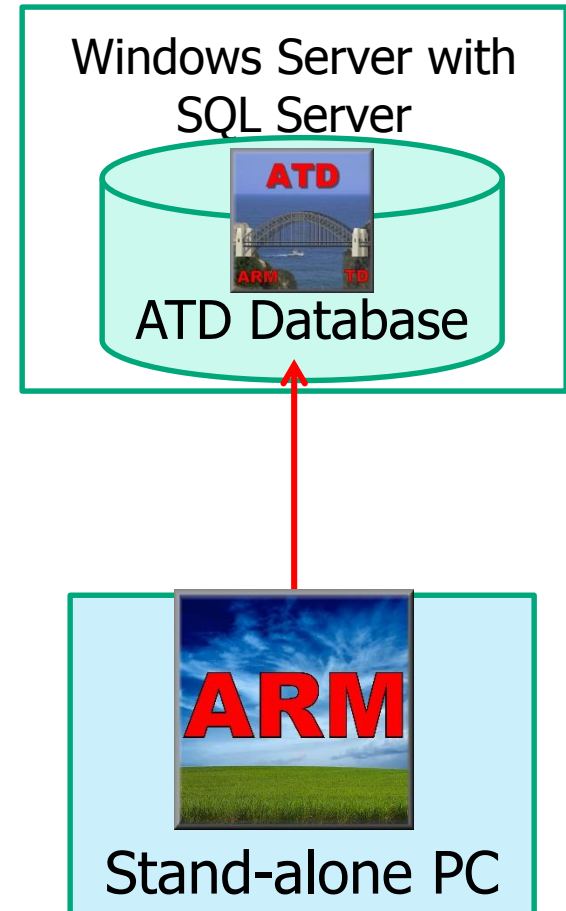
- Optional ARM add-in to summarize a trial series over locations and years
- Summarize selected treatments/entries across a wide range of trials
- View and arrange summary on a grid
- Export the report to Word, Excel, PDF
- Data graphs of across-trial means
- Export raw data to other statistics software



ATD Trial Database

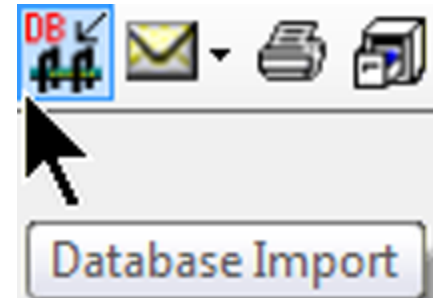


- ARM clients connect to ATD Backend database either directly over a local network, or remotely over VPN
- Authorized ARM clients export trials to SQL Server ATD Backend database that resides on the shared server



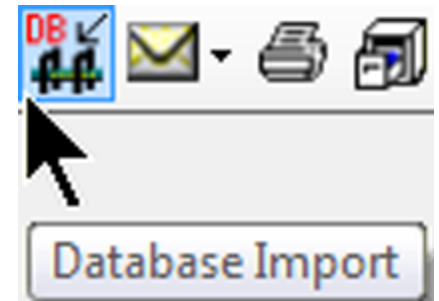
Using ATD with ARM

- Authorized ARM users export trials to ATD database using “Database Export” button on ARM toolbar
- All ARM users who install the ATD connection can import trials from ATD using “Database Import” to select 1 or more trials to import from Backend database (interface is similar to ARM study list)



Using ATD with ARM

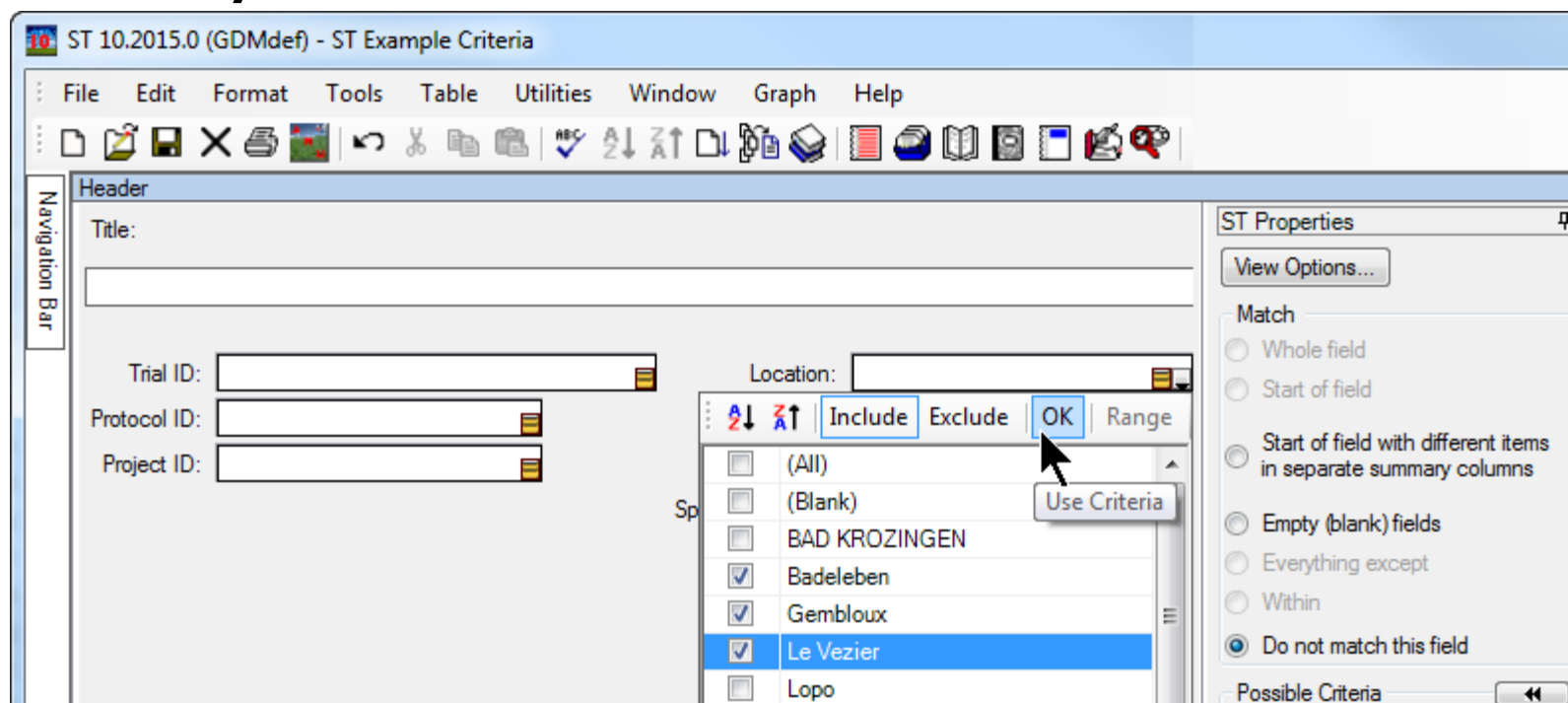
- ARM trials imported from ATD Backend database can be used in ARM like any standard trial: reviewing, graphing, and analyzing assessment data, or printing reports





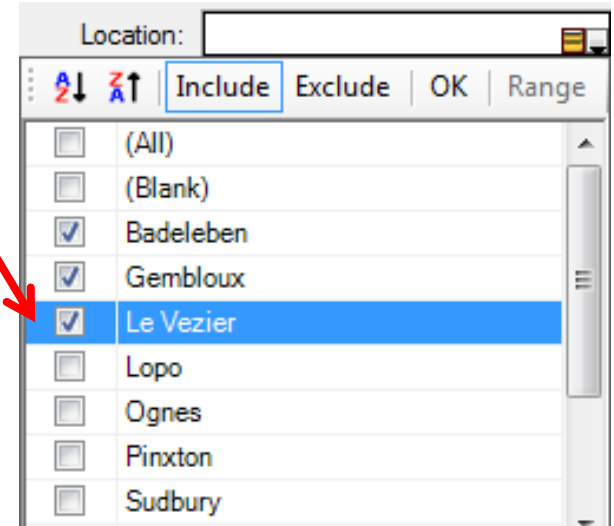
Using ATD with ST

ST criteria/query selection screen connects directly to ATD



Using ATD with ST

- ST is the query and multi-trial summary interface for ATD.
- Select one or more field entries from drop-down lists showing unique field entries in ATD for the current ARM entry field.





Software Must Always “Grow”

- As research methods and objectives change and improve, software must also adapt to support those new research objectives and methods.
- “Unchanging” software:
 - Becomes less useful each year.
 - Can be costly by “losing” (not supporting) information gathered with new technology.