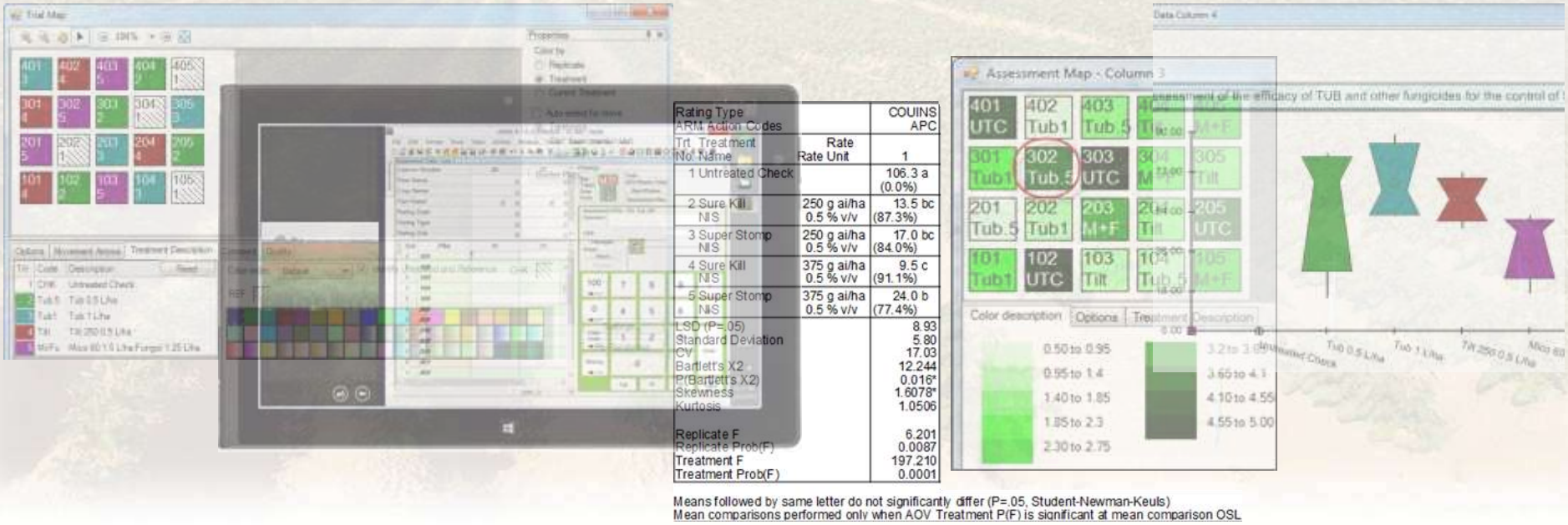
ARM

Software to plan, create, manage, capture data, analyze, and report information for planned field, greenhouse, and laboratory efficacy experiments.



Products Overview

- ARM

  ARM is a very flexible program for managing replicated and non-replicated efficacy experiments throughout the entire research season. It is designed to enter protocols, randomize and create trials according to the selected experimental design, capture trial assessments and other information, summarize, report, and graph on a single-trial basis. ARM is most beneficial for field and greenhouse researchers. Ongoing enhancements make ARM a useful tool for a broad range of agricultural and non-agricultural disciplines.

- ARM TDC

  A Windows 10 touch tablet computer plus the Tablet Data Collector add-in running within ARM. Use TDC to record all trial information at the trial site directly into the actual ARM trial. TDC is optimized for:

  - Touch data entry of assessment data.
  - Taking pictures that are directly linked to the current plot.
  - Directly recording GPS coordinates of trial corners using built-in GPS unit.

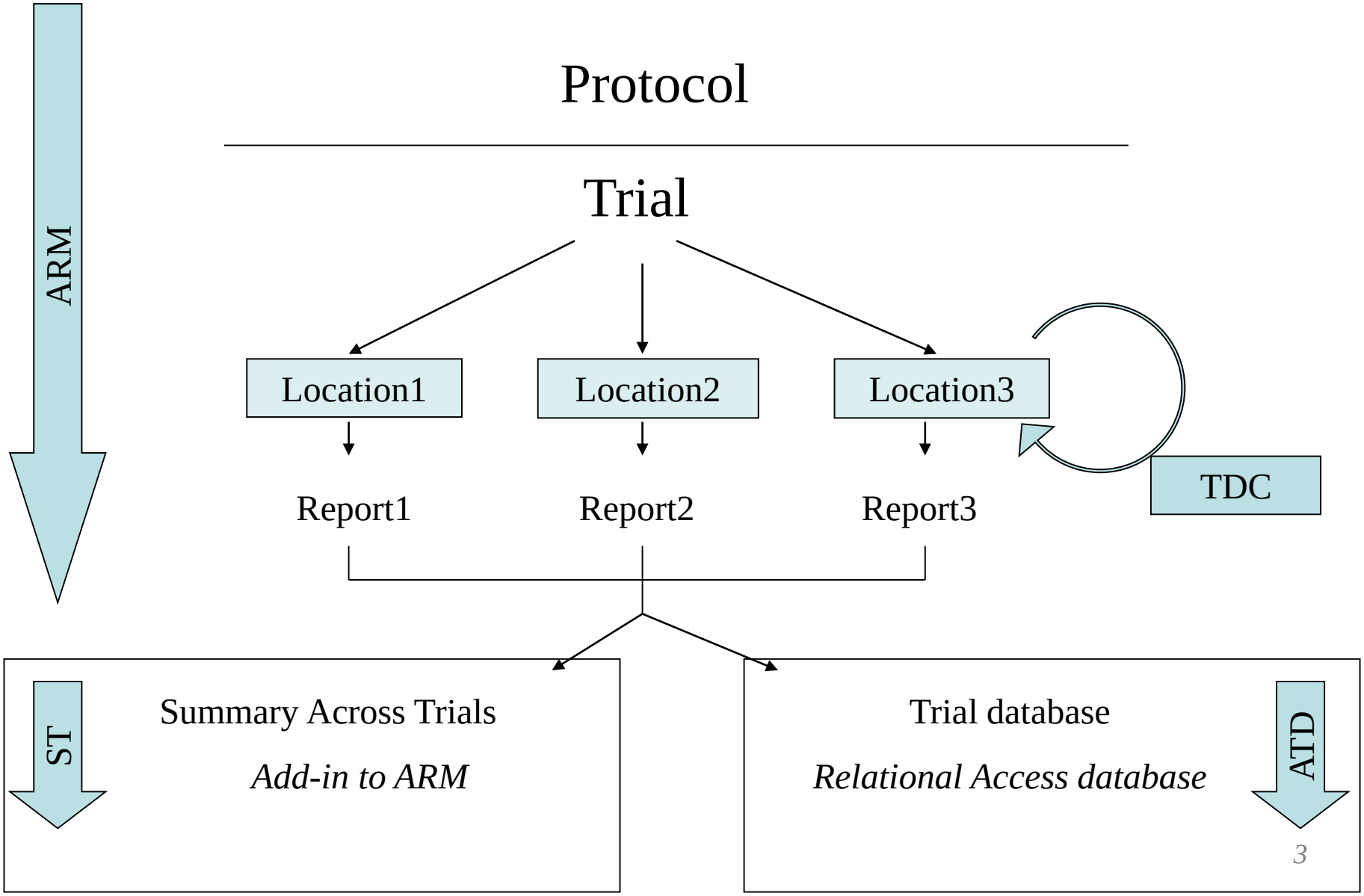
- ARM ST

  ARM Summary Across Trials software summarizes ARM trials across locations and years. Researchers, product managers and information technology groups use it to produce summaries of research trials. The resulting information can improve planning of future trials, and can help quantify the consistency of research results.

- ARM ATD

  ARM Trial Database is an add-in option to store and maintain trials in a relational database. ARM directly exports and imports trials in the database, and Microsoft Office™ products can be used to build customized reports for trials extracted from the database.

Information flow in ARM



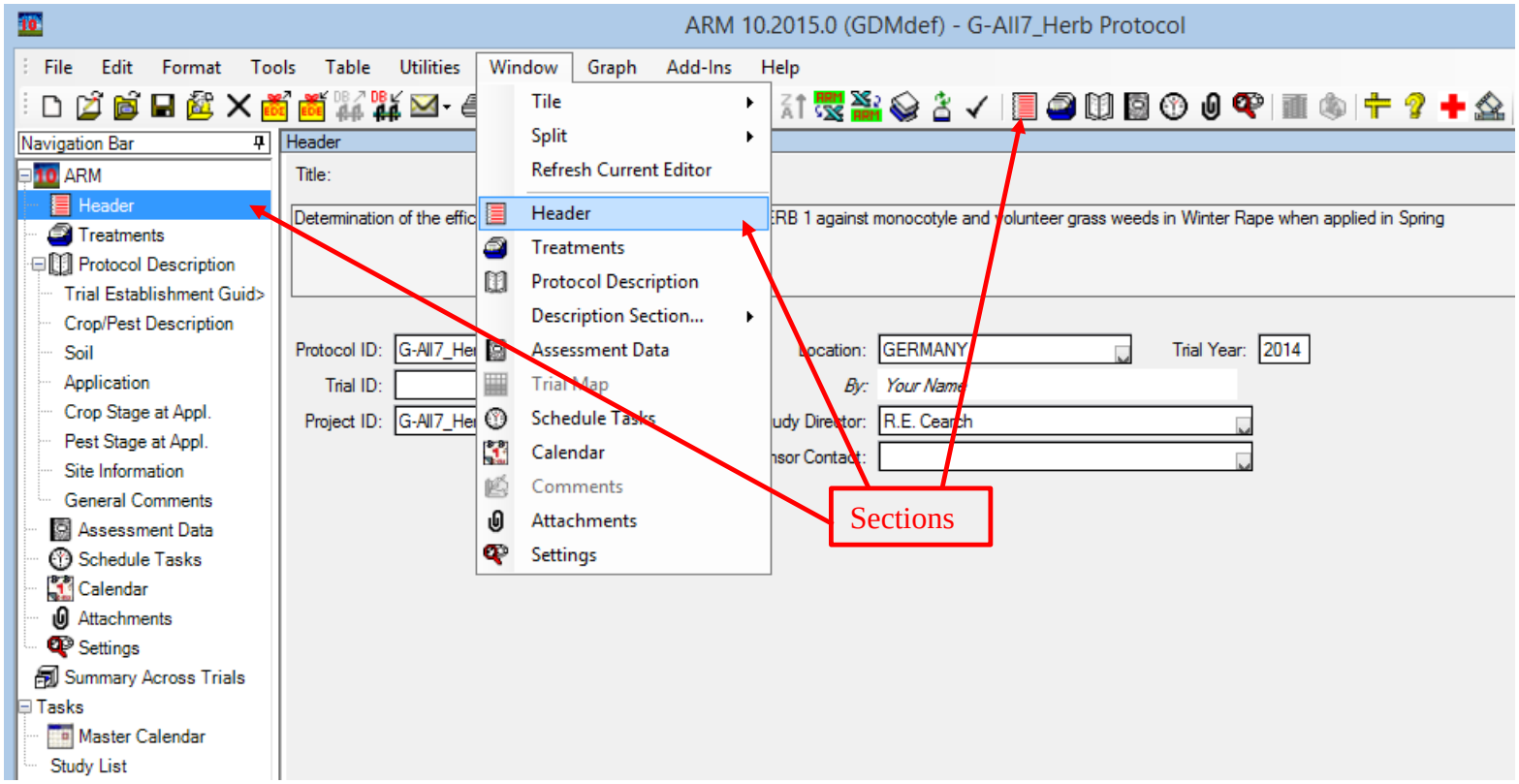
Sections

(click link to go directly to a section)

- Protocols
- Study List
- Trial
- Print Reports
- Help
- Benefits
- Utilities
- Appendix A – TDC (Tablet Data Collector)
- Appendix B – ARM ST (ARM Summary Across Trials)
- Appendix C – Supported Languages
- Appendix D – Data Flow with ARM and ATD

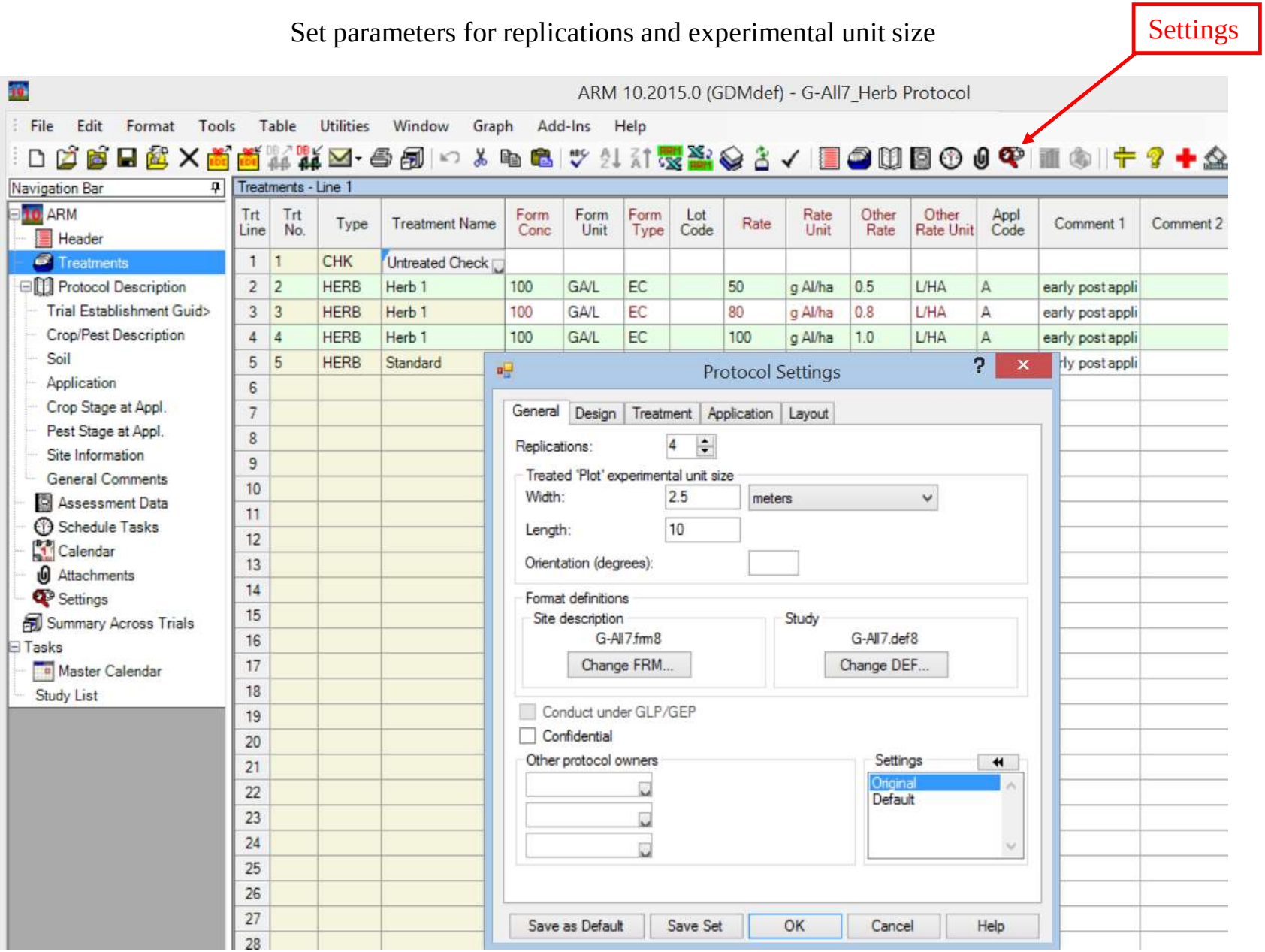
Protocol

- A well-written protocol contains all information needed to run trials



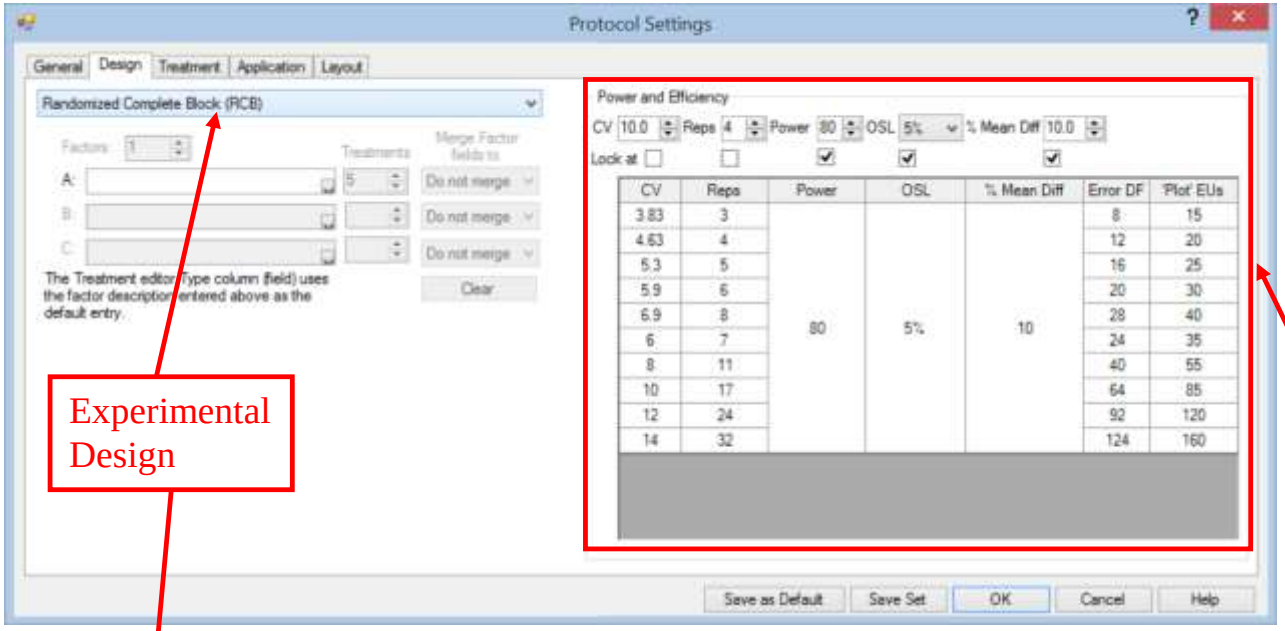
Protocol settings – General Tab

Set parameters for replications and experimental unit size



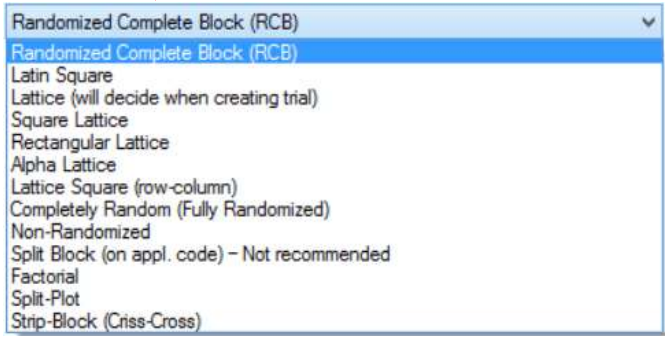
Protocol settings – Design Tab

Select experimental design and plan number of replicates using Power and Efficiency calculator



CV	Reps	Power	OSL	% Mean Diff	Error DF	'Plot' EUs
3.83	3	80	5%	10	8	15
4.63	4				12	20
5.3	5				16	25
5.9	6				20	30
6.9	8				28	40
6	7				24	35
8	11				40	55
10	17				64	85
12	24				92	120
14	32				124	160

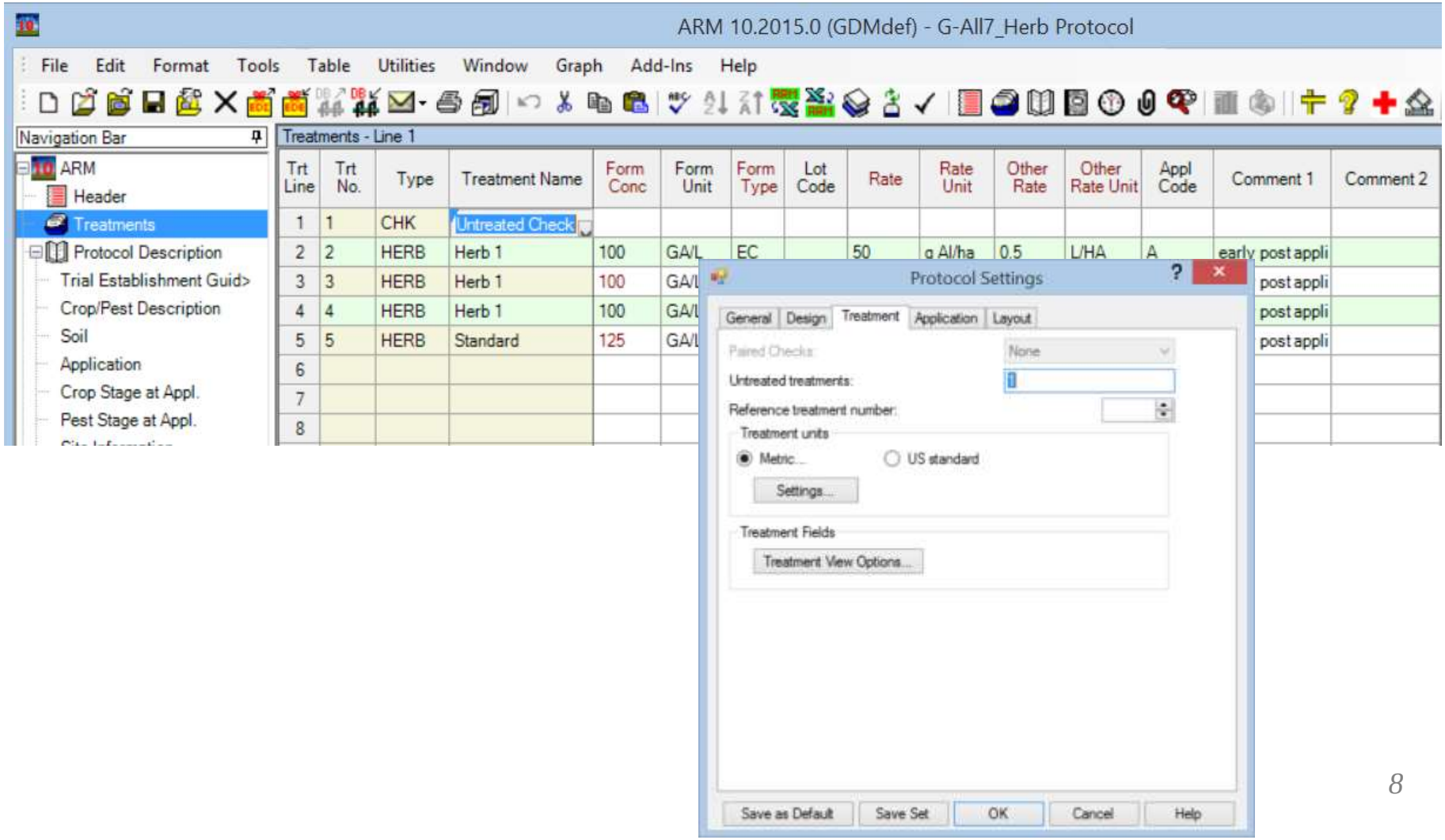
Experimental Design



Plan appropriate number of replicates based on CV, significance level, statistical power by using the Power and Efficiency calculator

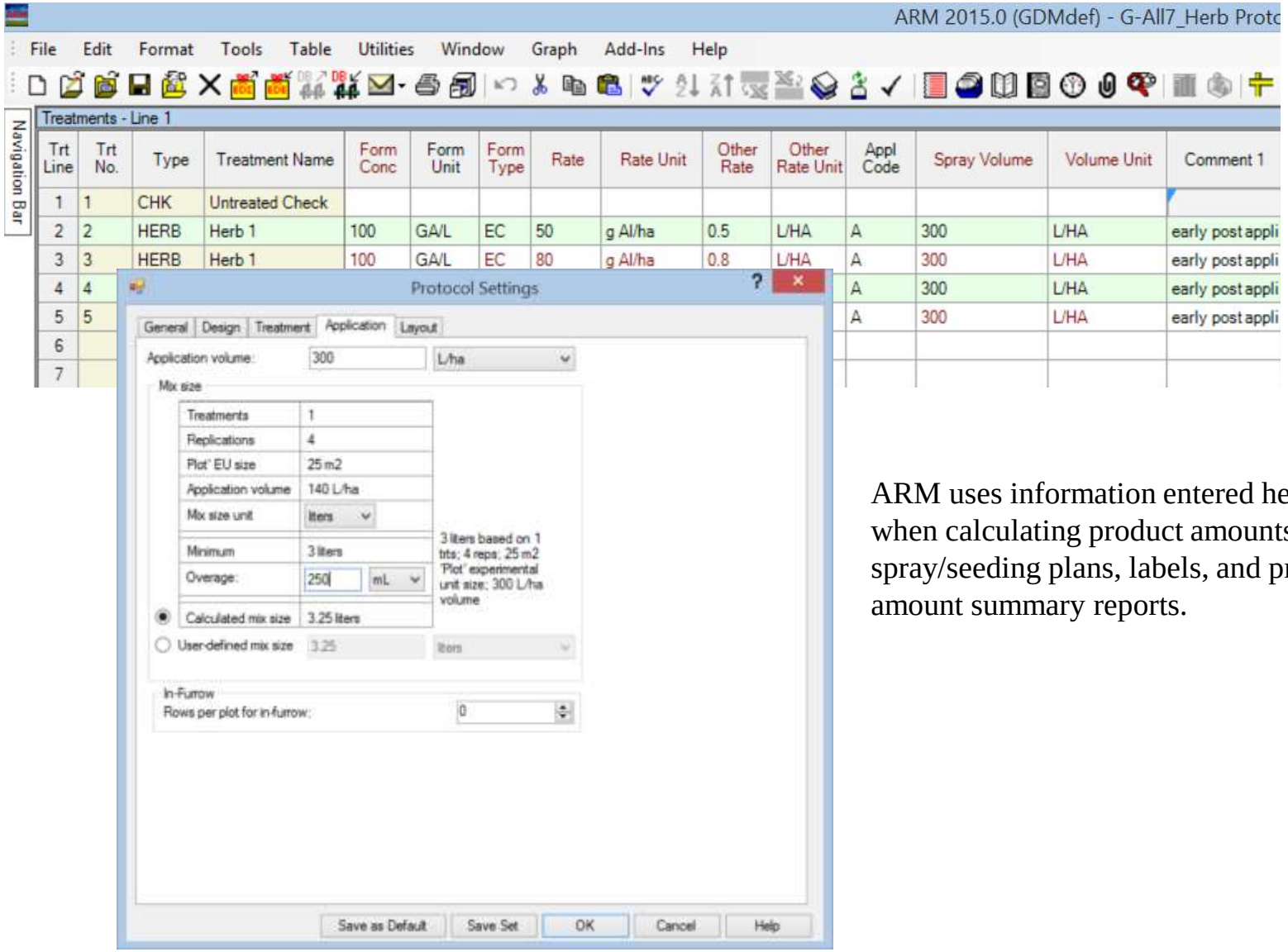
Protocol settings – Treatments Tab

Select Untreated treatment, treatment units and fields to display



Protocol settings – Application Tab

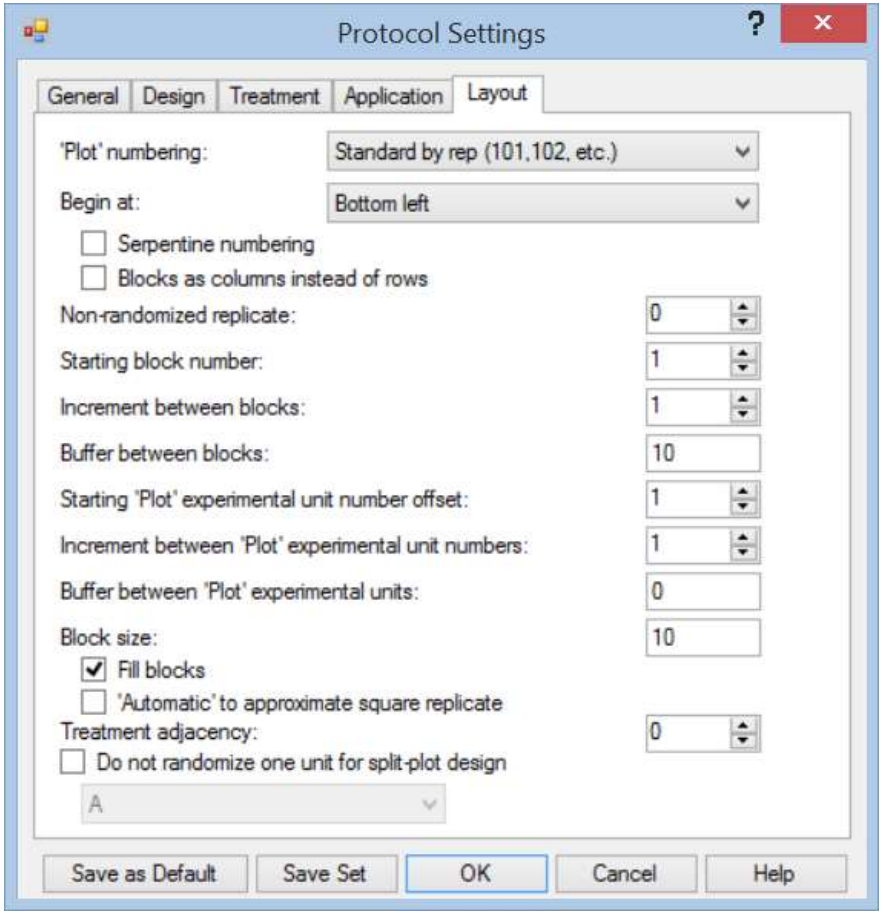
Set Application volume, mix size and overage amounts.

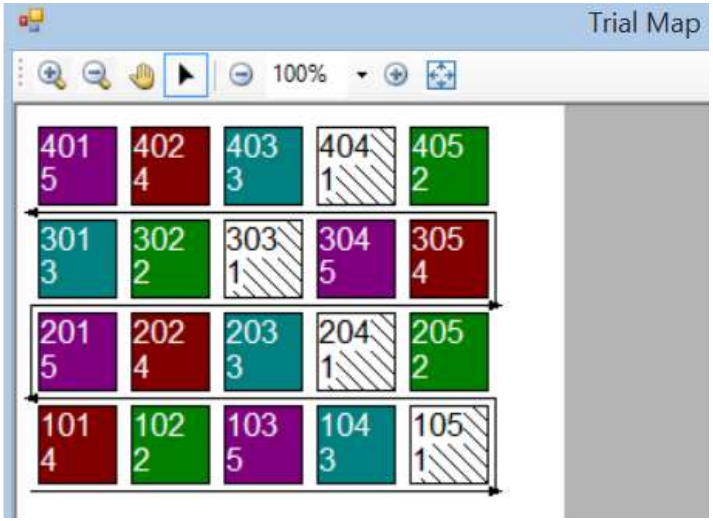


ARM uses information entered here when calculating product amounts for spray/seeding plans, labels, and product amount summary reports.

Protocol settings – Layout tab

Set layout for field, including plot numbering and block size to accommodate field size.

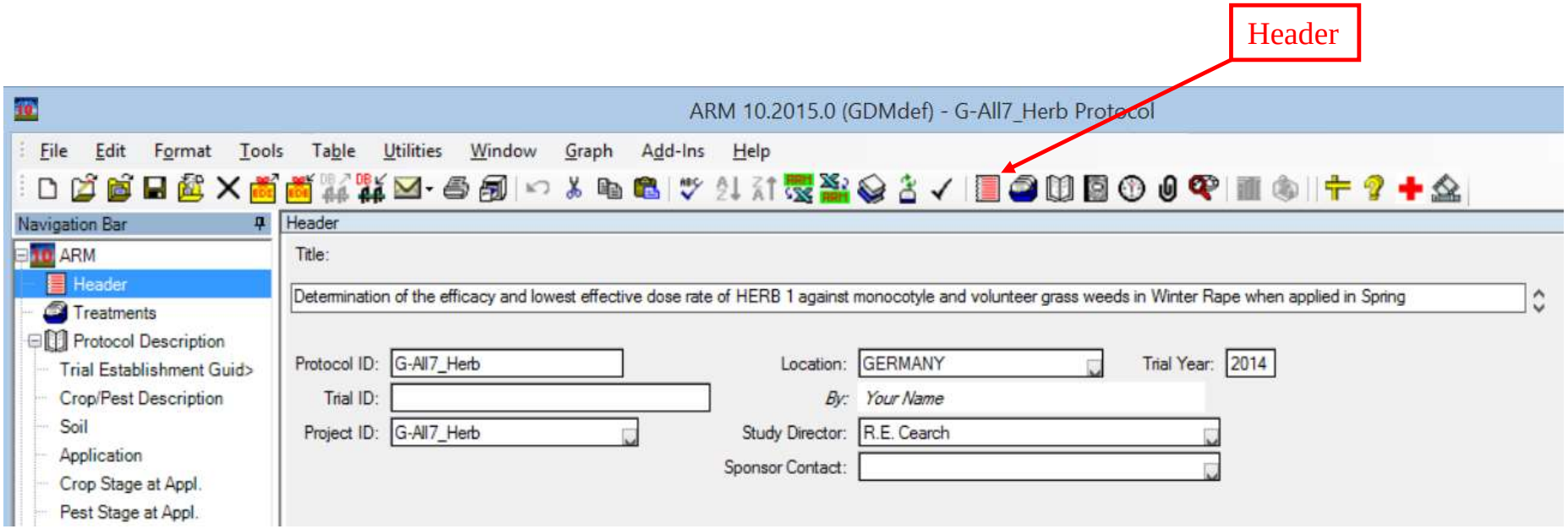




Block size = 10. Option to fill blocks selected.

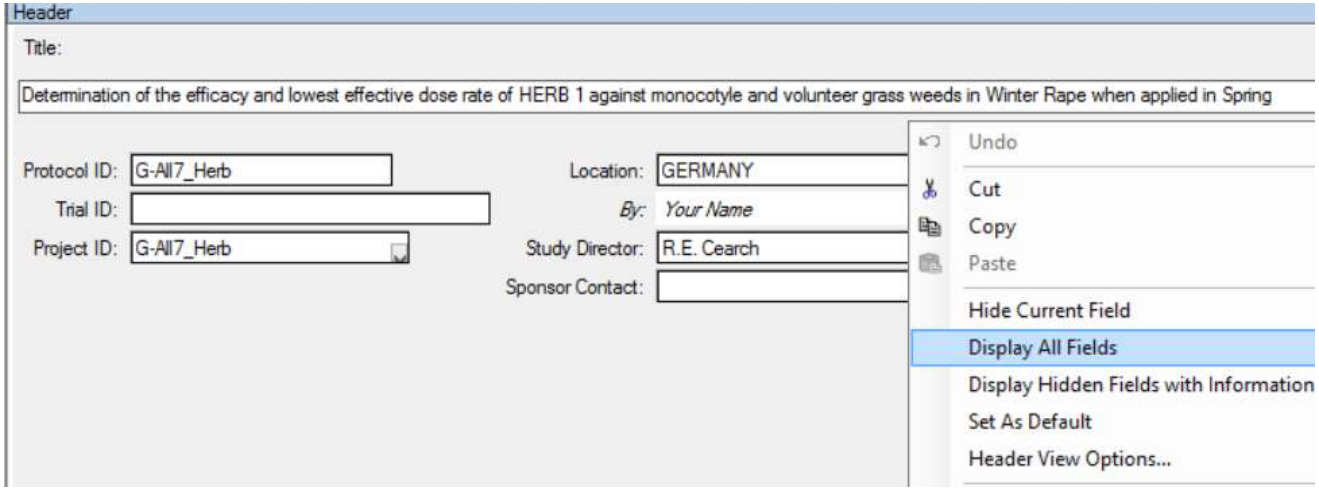
Protocol - Header

General protocol information, printed on page heading of reports

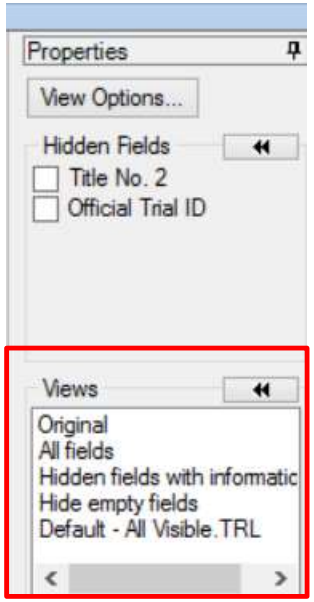


Your screen might be different.

Some fields are hidden by default



Hidden fields



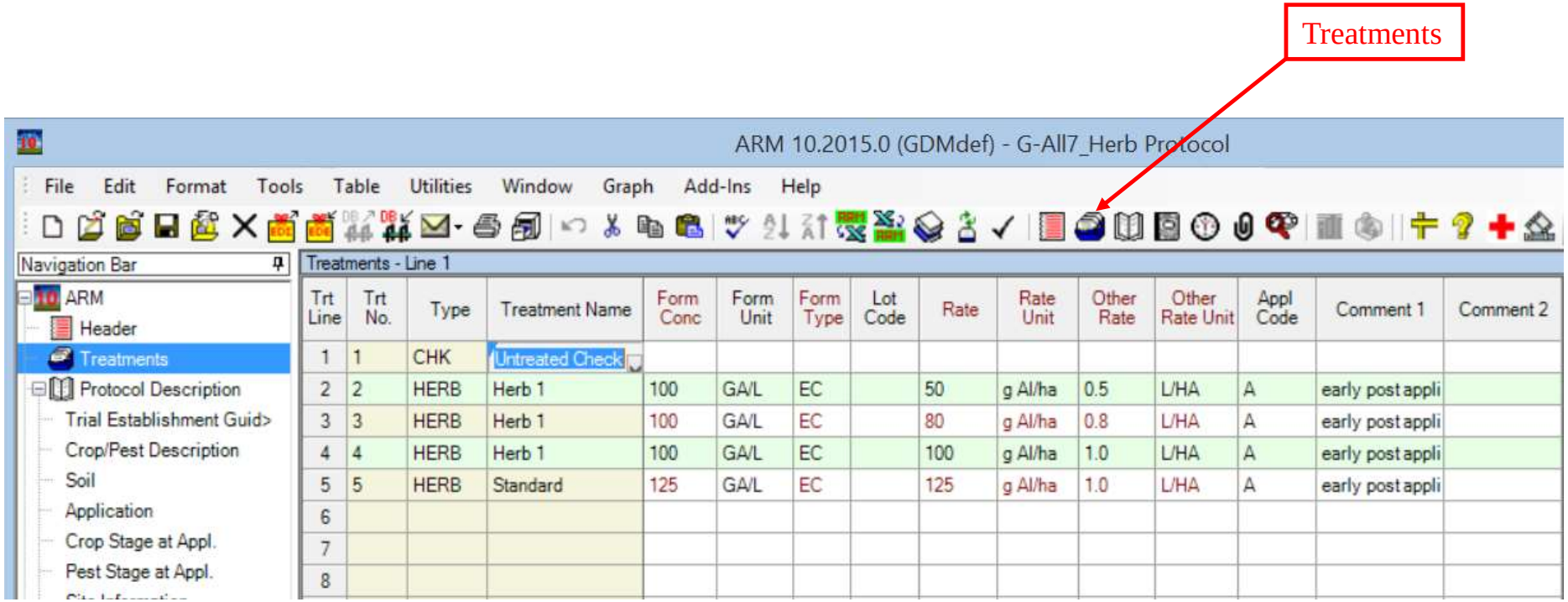
Some fields in the Header and in the Site description are hidden by default.

To display, right-click anywhere and select

Display all fields or from the Properties bar (right side of screen), select a view

Protocol – Treatments list

Complete details of all treatments to test in trials created from a protocol.

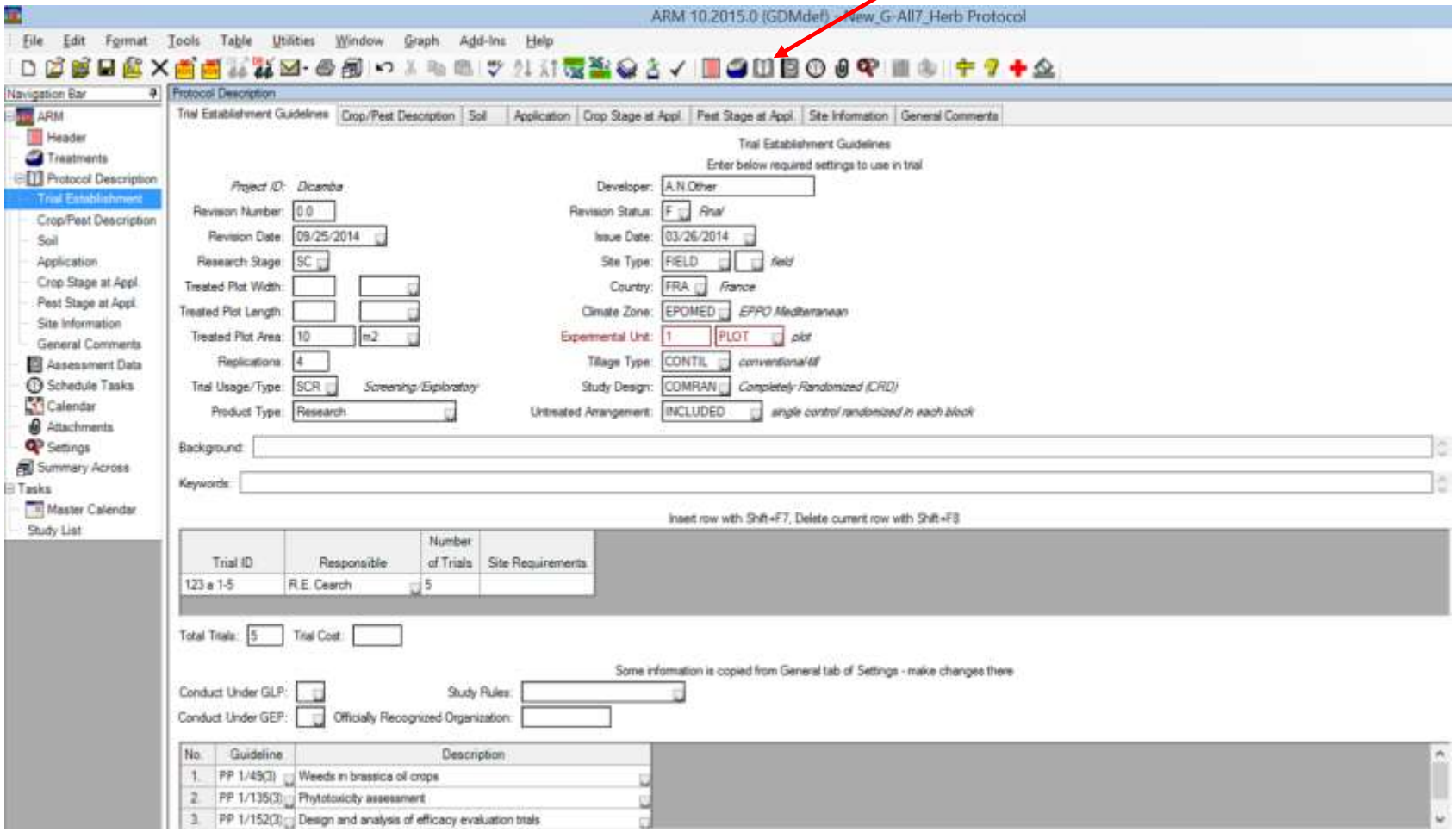


Trt Line	Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Lot Code	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	Comment 1	Comment 2
1	1	CHK	Untreated Check											
2	2	HERB	Herb 1	100	GA/L	EC		50	g AI/ha	0.5	L/HA	A	early post appli	
3	3	HERB	Herb 1	100	GA/L	EC		80	g AI/ha	0.8	L/HA	A	early post appli	
4	4	HERB	Herb 1	100	GA/L	EC		100	g AI/ha	1.0	L/HA	A	early post appli	
5	5	HERB	Standard	125	GA/L	EC		125	g AI/ha	1.0	L/HA	A	early post appli	
6														
7														
8														

Protocol – Protocol description

Additional details on how, when where, and why to conduct trials created from a protocol.

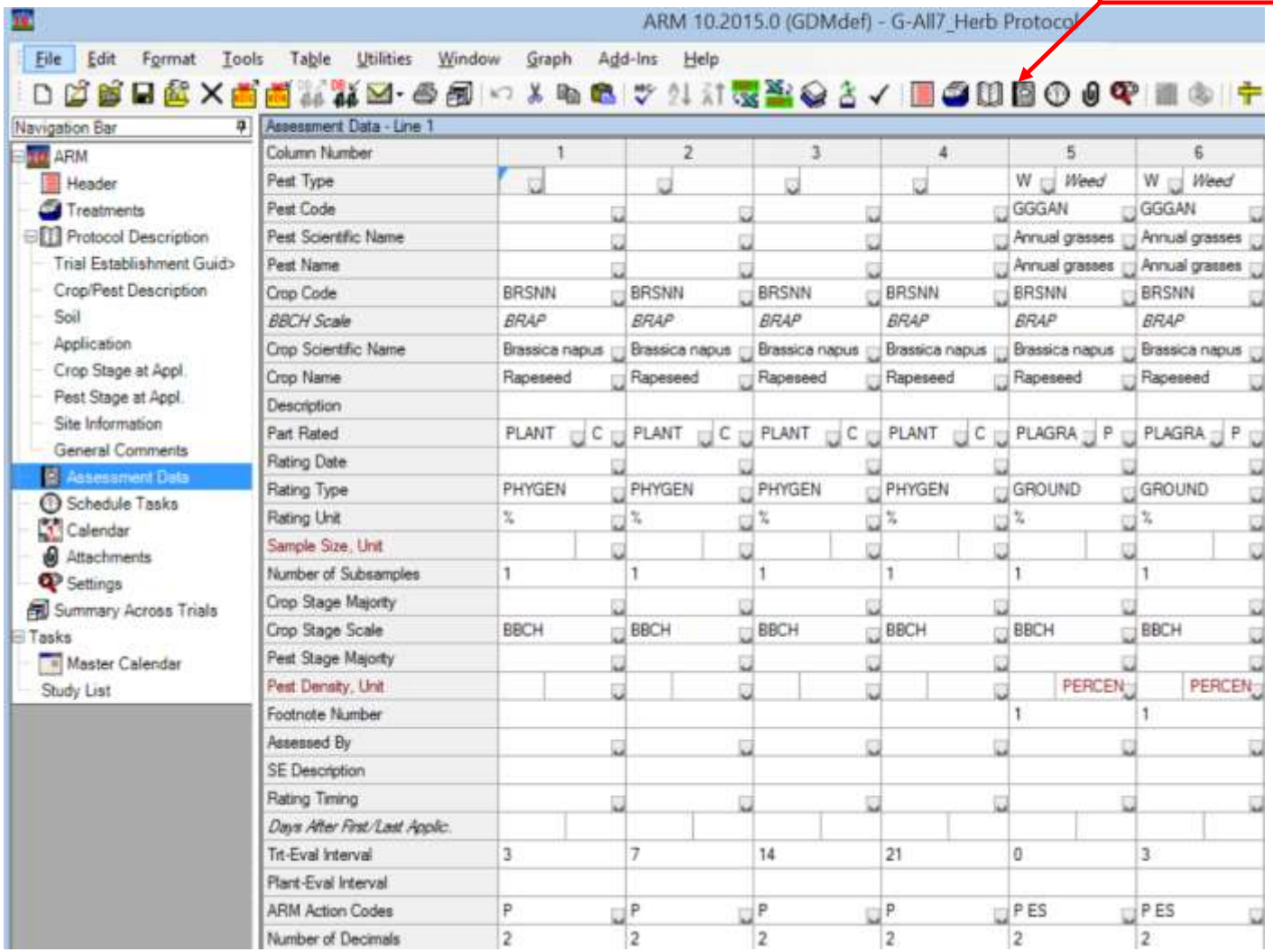
Description:
Protocol description in Protocol
Site description in Trial



Protocol – Assessment data

Description of required or recommended assessments to perform in trials created from a protocol.

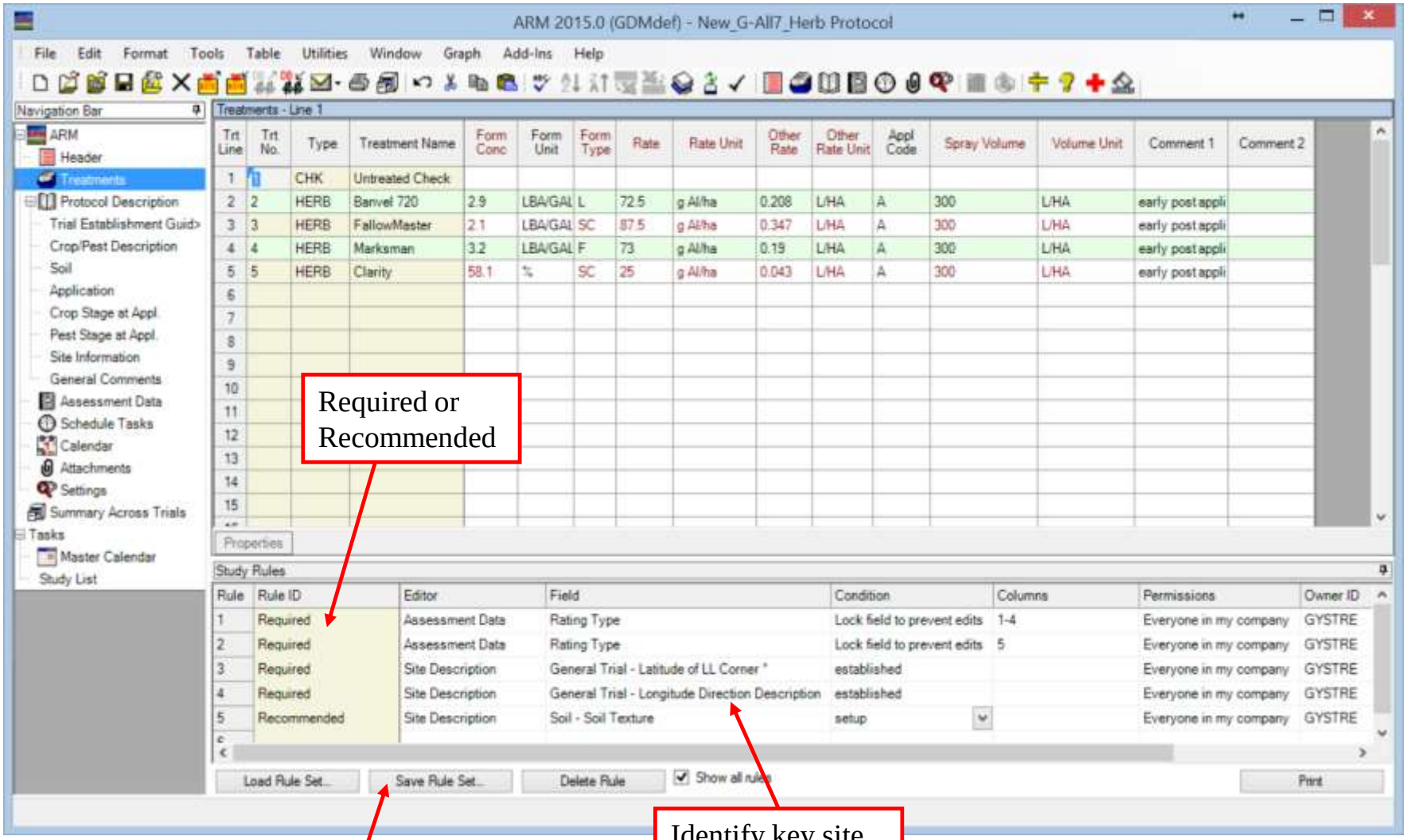
Assessment data:
Only Assessment data headers in Protocol



Column Number	1	2	3	4	5	6
Pest Type					W Weed	W Weed
Pest Code					GGGAN	GGGAN
Pest Scientific Name					Annual grasses	Annual grasses
Pest Name					Annual grasses	Annual grasses
Crop Code	BRSNN	BRSNN	BRSNN	BRSNN	BRSNN	BRSNN
BBCH Scale	*BRAP*	*BRAP*	*BRAP*	*BRAP*	*BRAP*	*BRAP*
Crop Scientific Name	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus
Crop Name	Rapeseed	Rapeseed	Rapeseed	Rapeseed	Rapeseed	Rapeseed
Description						
Part Rated	PLANT C	PLANT C	PLANT C	PLANT C	PLAGRA P	PLAGRA P
Rating Date						
Rating Type	PHYGEN	PHYGEN	PHYGEN	PHYGEN	GROUND	GROUND
Rating Unit	%	%	%	%	%	%
Sample Size, Unit						
Number of Subsamples	1	1	1	1	1	1
Crop Stage Majority						
Crop Stage Scale	BBCH	BBCH	BBCH	BBCH	BBCH	BBCH
Pest Stage Majority						
Pest Density, Unit					PERCEN	PERCEN
Footnote Number					1	1
Assessed By						
SE Description						
Rating Timing						
Days After First/Last Applic.						
Trt-Eval Interval	3	7	14	21	0	3
Plant-Eval Interval						
ARM Action Codes	P	P	P	P	P ES	P ES
Number of Decimals	2	2	2	2	2	2

Protocol – Study Rules

Purpose is to inform trialist of requirements for a study



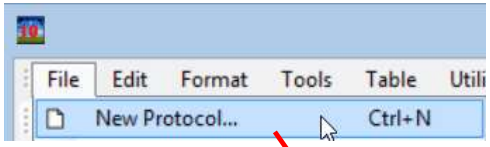
Required or Recommended

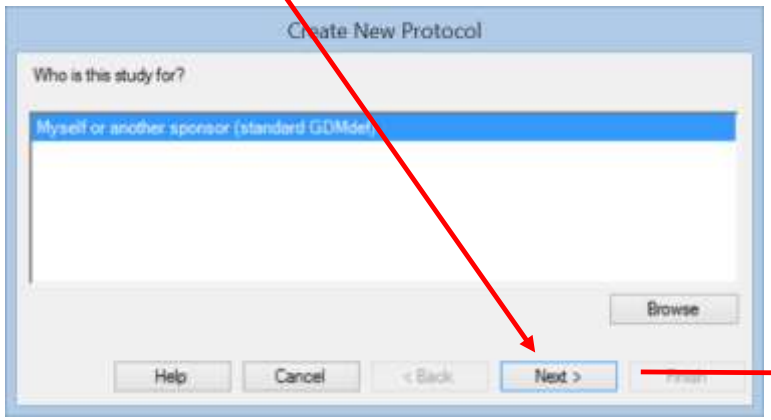
Save rule sets for easy portability and re-use

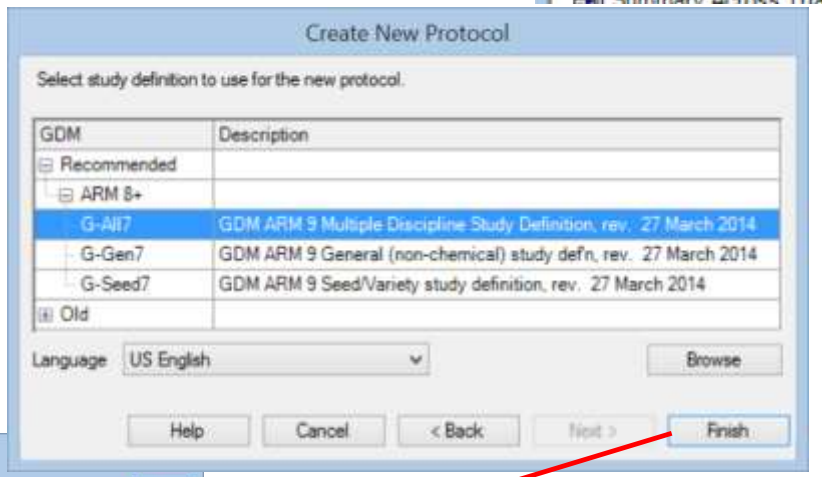
Identify key site description entry fields

Create one Protocol

Sequence of steps used to create a new protocol.

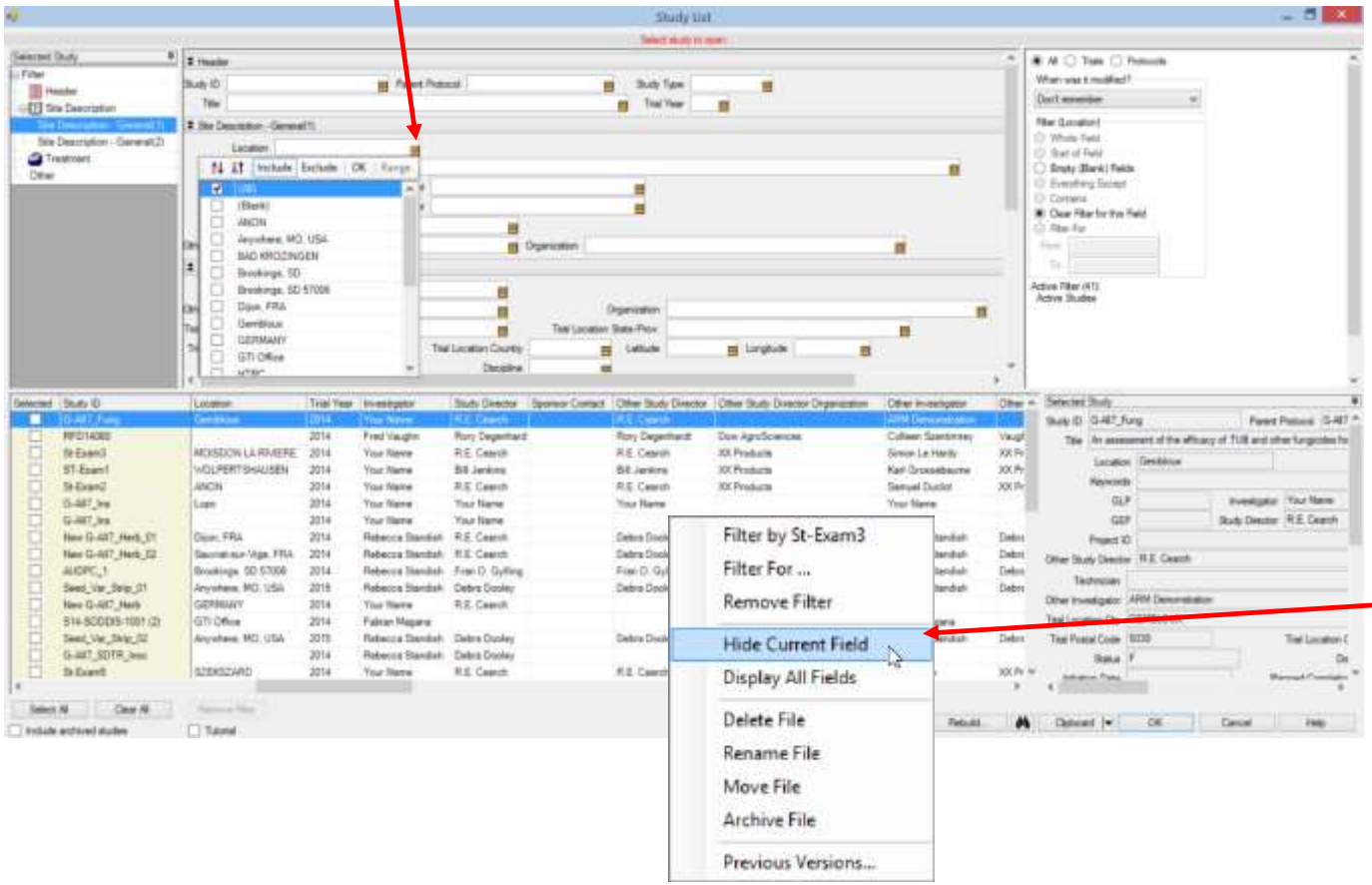






Navigation: File | Open | from Study List

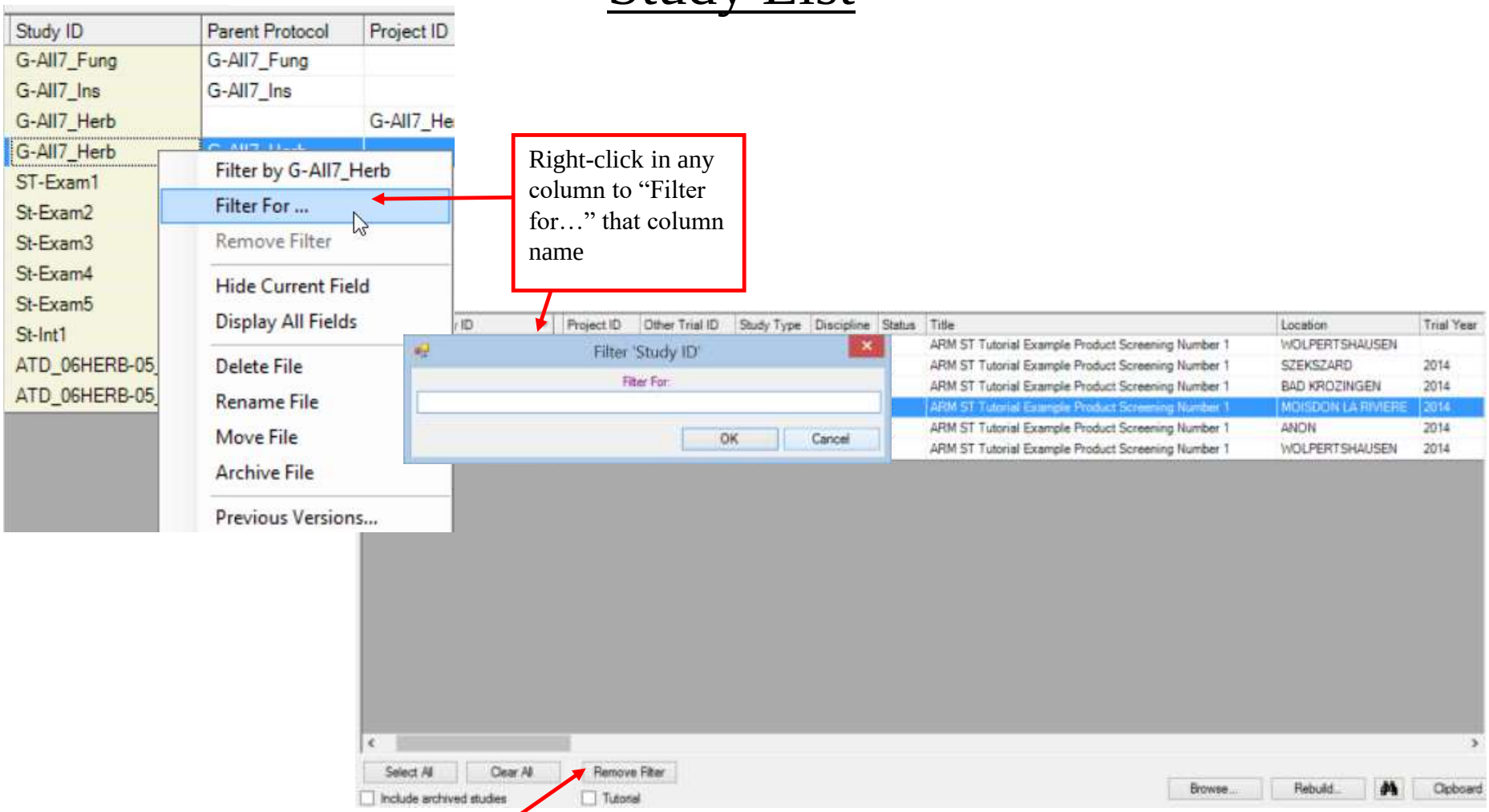
Sort or filter on several key fields to limit choices



- Open Trial or Protocol via Study List
- Tracks all ARM files
- ARM defaults to study list view upon open
- Perform searches or sorts on columns

Right-click to hide one or multiple fields; display all fields

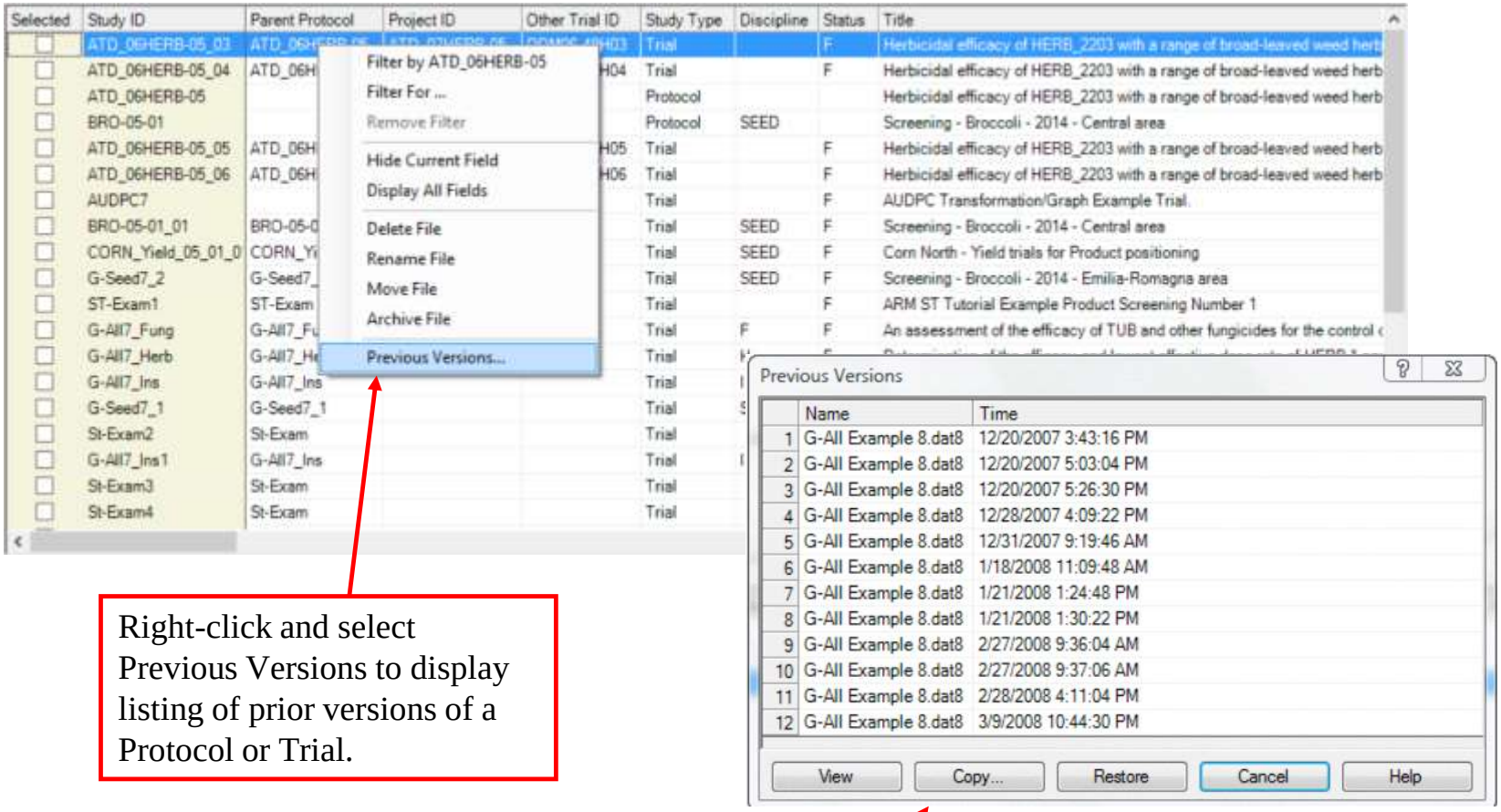
Study List



Right-click in any column to "Filter for…" that column name

Click to clear filter

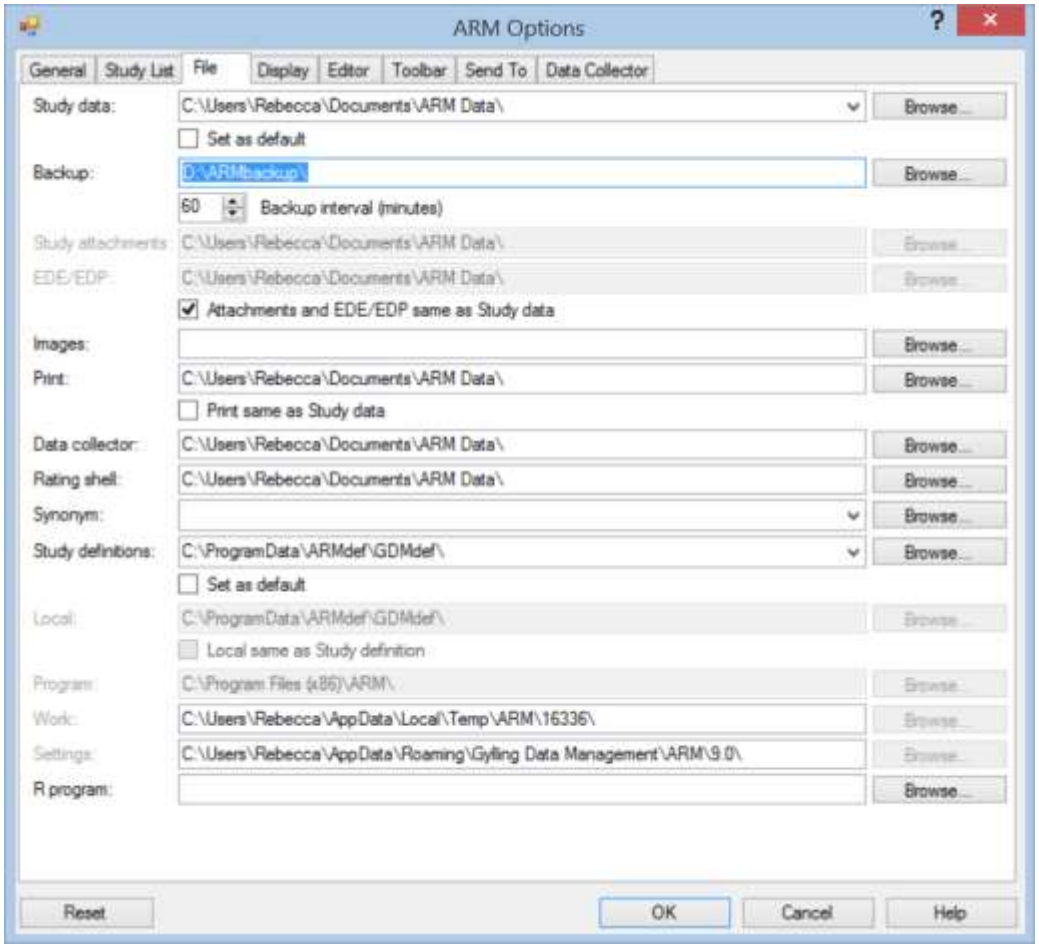
Study List – Previous Versions



Right-click and select Previous Versions to display listing of prior versions of a Protocol or Trial.

Use Previous Versions dialog to view or restore a previous saved version of the study from the backup folder.

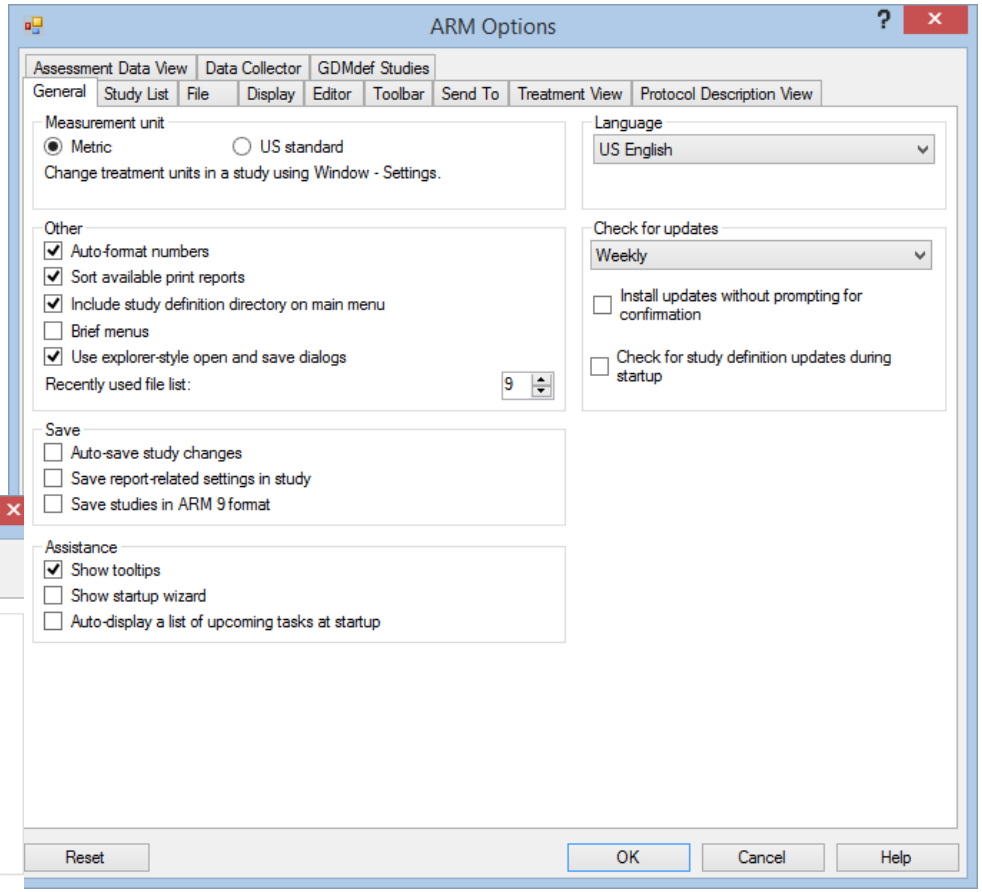
Backup

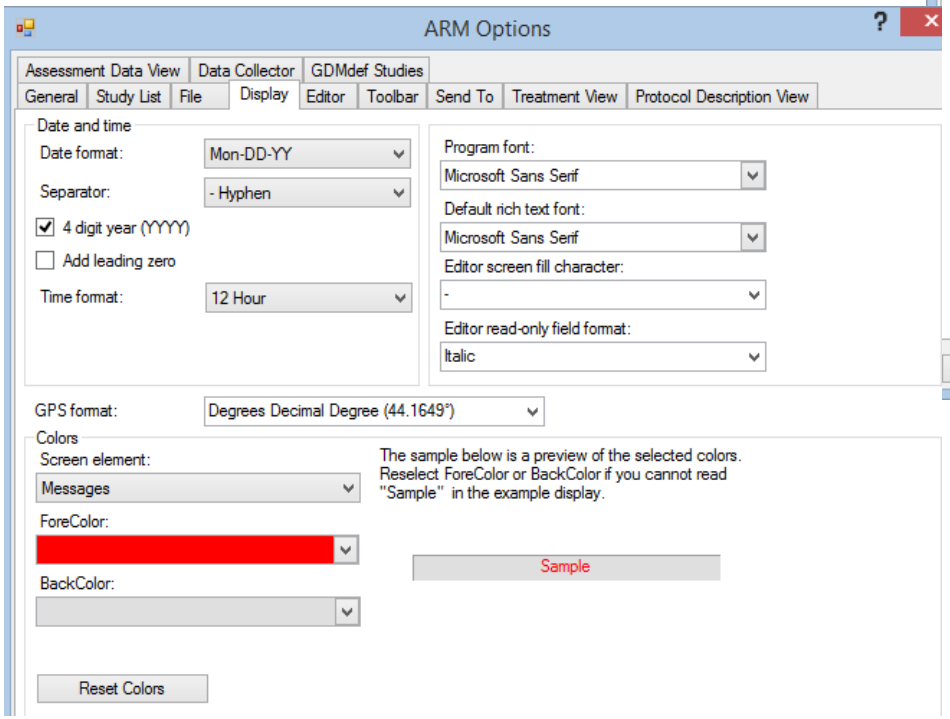


- Select a backup location to create backup copies of all ARM work; then determine the backup interval.
- Do NOT store to the same hard drive, even if drive is partitioned
- Stores automatic backup and histories of all changed studies.
- See Previous Versions

ARM Basic Options

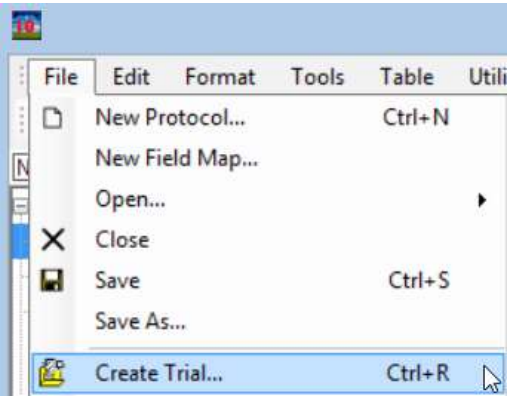
- ***Tools|Options***
- ***Languages***
- ***Settings:***
  - *Measurement units*
  - *Date formats*

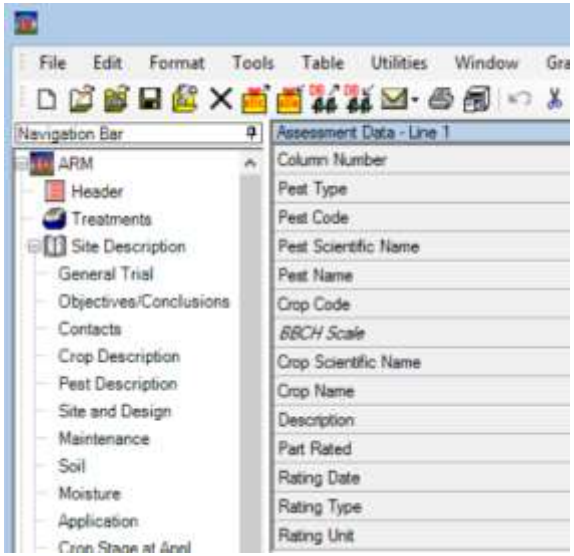


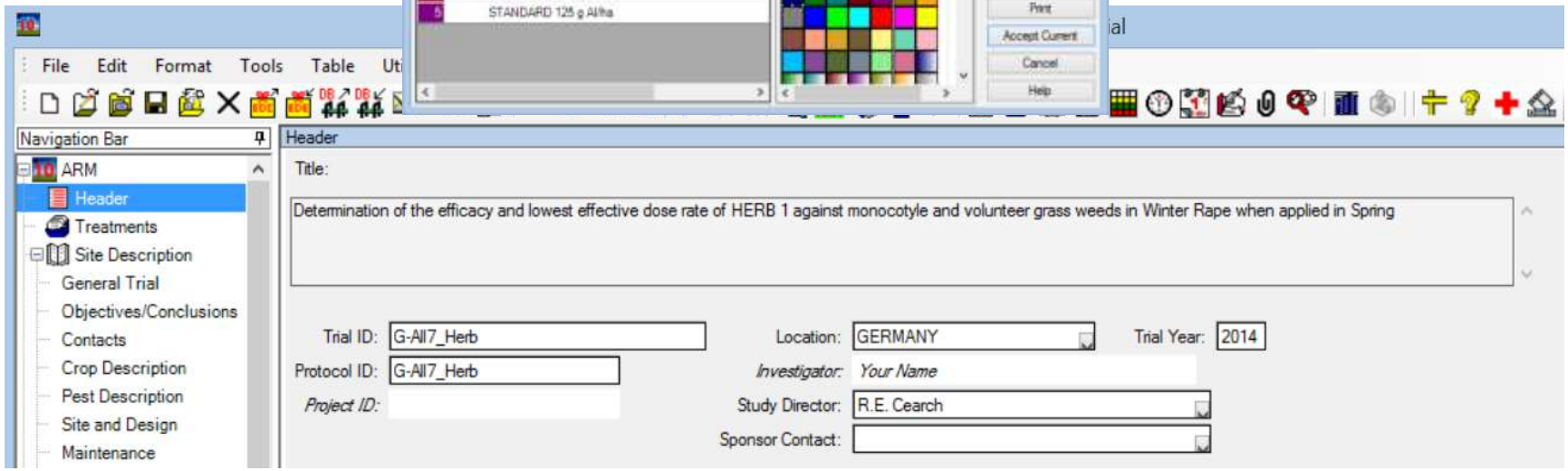


Create a trial

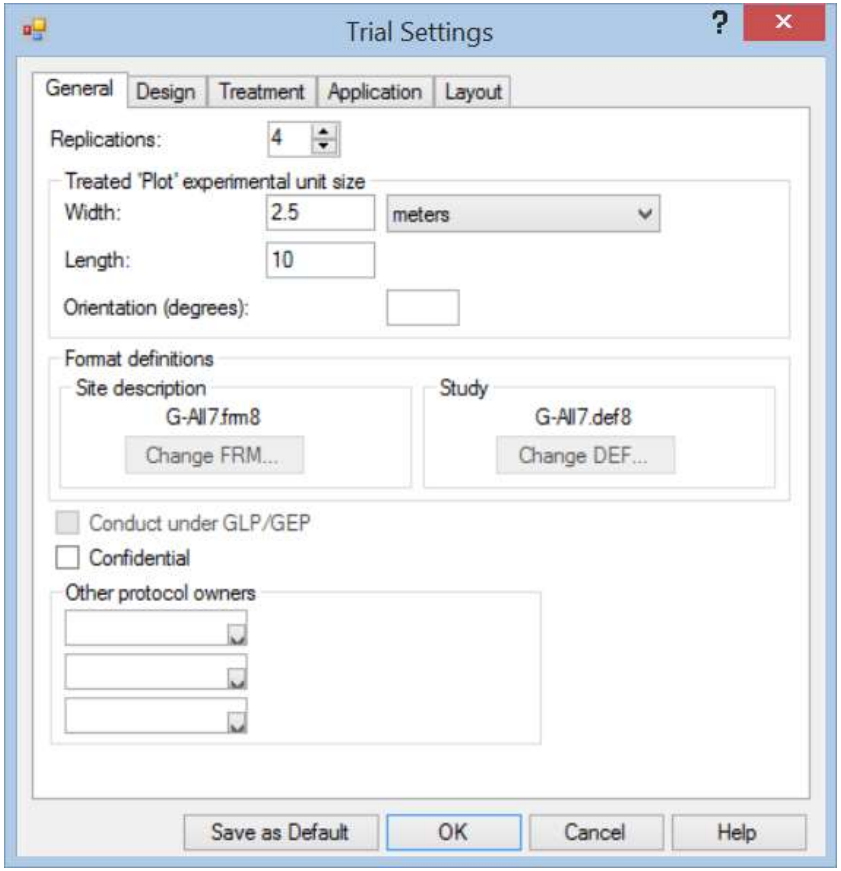
Sequence of steps used to create a new trial.





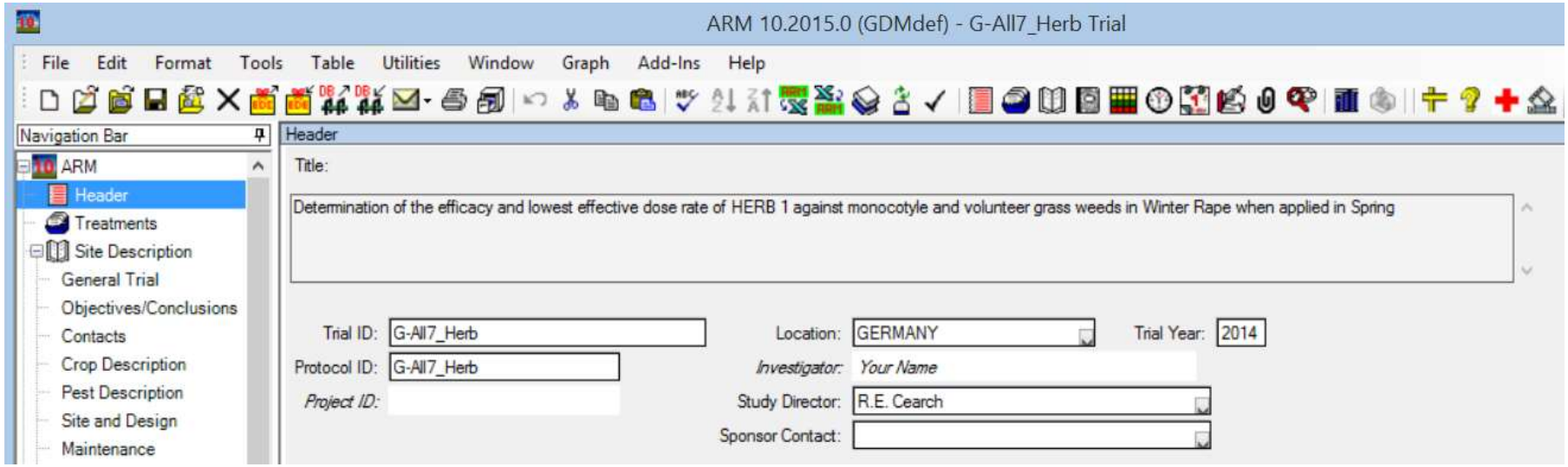


Trial - Settings

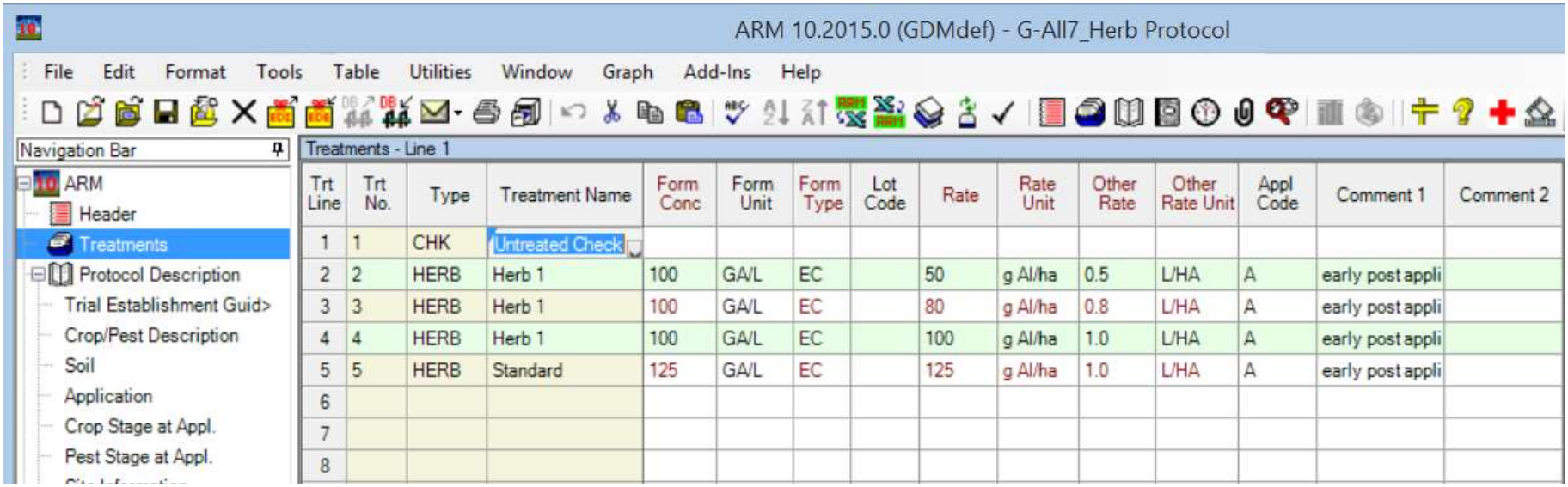


- Some information can no longer be edited
- If changes are necessary, often easier
  - to change at Protocol level
  - or before entering any data

Trial – Header



Trial - Treatments



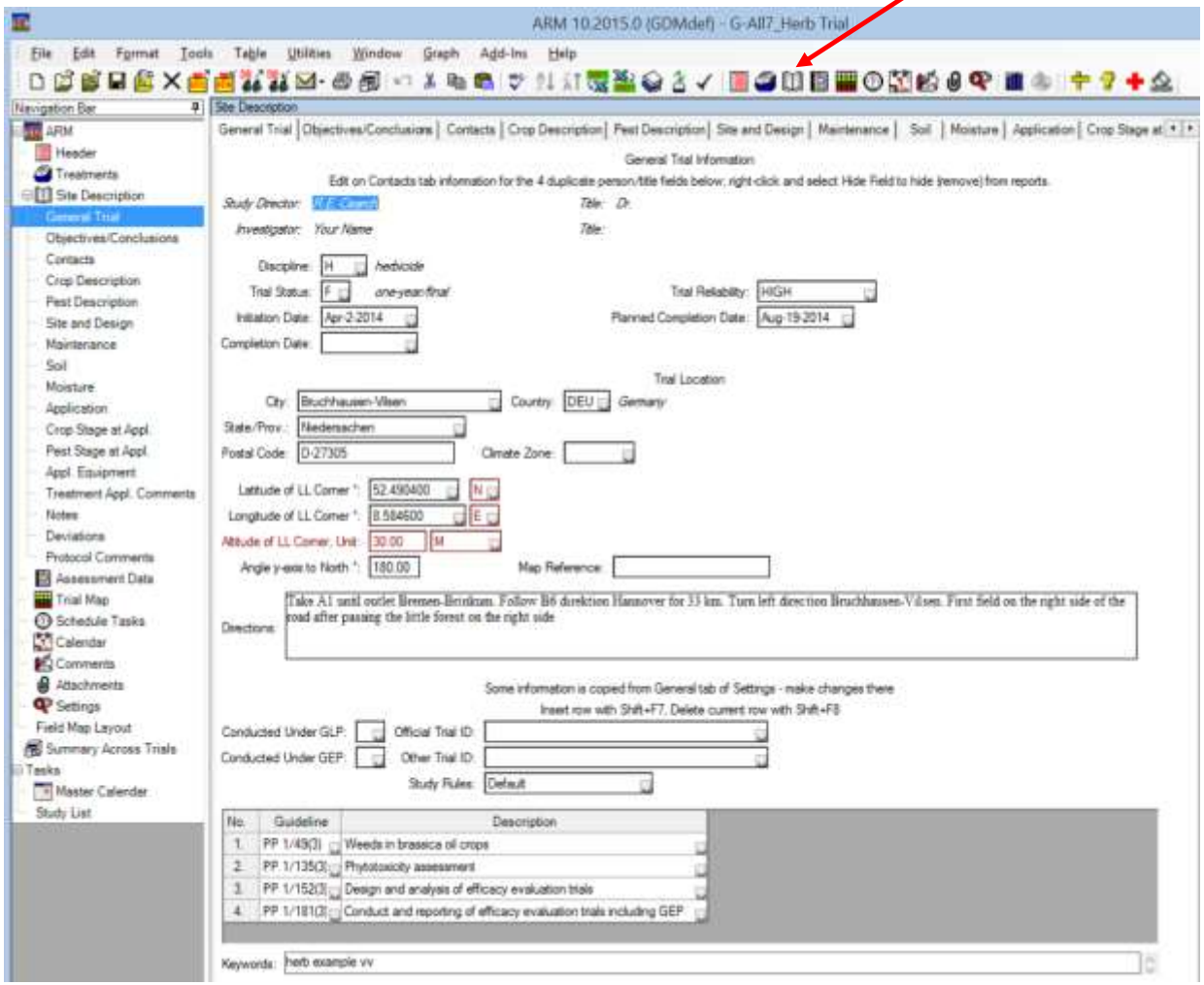
Trt Line	Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Lot Code	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	Comment 1	Comment 2
1	1	CHK	Untreated Check											
2	2	HERB	Herb 1	100	GA/L	EC		50	g AI/ha	0.5	L/HA	A	early post appli	
3	3	HERB	Herb 1	100	GA/L	EC		80	g AI/ha	0.8	L/HA	A	early post appli	
4	4	HERB	Herb 1	100	GA/L	EC		100	g AI/ha	1.0	L/HA	A	early post appli	
5	5	HERB	Standard	125	GA/L	EC		125	g AI/ha	1.0	L/HA	A	early post appli	
6														
7														
8														

- No need to type again
- Information can be edited, for example:
  - Standard replaced by commercial name
  - Add lot codes, etc..

Trial – Site description

Use to completely describe people, site, crop, pests, maintenance, weather, and treatment applications of one experiment

Site description



Enter status details, location, and guidelines followed while conducting one trial.

Site description – Contacts tab

Site Description

General Trial | Objectives/Conclusions | Contacts | Crop Description | Pest Description | Site and Design | Maintenance | Soil | Moisture | Application

Contacts

Study Director:	Debra Dooley	Title:	President
Organization:	Debra Dooley's Data, Inc.		
Address:	123 Anywhere Street	Phone No.:	555-555-1234
City+State/Prov:	Someplace, MO	Mobile No.:	555-555-5678
Postal Code:	63001	E-mail:	debradooley@yahoo.com
Country:	USA *United States*		
Investigator:	Rebecca Standish	Title:	Senior Researcher
Organization:	Debra Dooley's Data, Inc.		
Address:	2525 Mockingbird Lane	Phone No.:	555-555-2345
City+State/Prov:	Scarey, MO	Mobile No.:	555-555-6789
Postal Code:	67891	E-mail:	rstandish@yahoo.com
Country:	USA *United States*		
Sponsor:	Sponsor Name	Title:	CEO
Organization:	Sponsor Company, Inco.		
Address:	1234 Headquarter Lane	Phone No.:	544-555-9990
City+State/Prov:	Anywhere, AK	Mobile No.:	554-867-5309
Postal Code:	12345	E-mail:	ceo@sponsorco.com
Country:	USA *United States*		

Cooperator/Landowner

Cooperator:	Eddie Munster	Role:	DATMGR
Organization:	Munster's Mining and More	Org. Type:	Contractor
Address 1:	7271 Elm Street	Address 2:	
City:	Dijon	Phone No.:	33-3-55-55-56-78
State/Prov:	Bourgogne	Fax No.:	
Postal Code:	21231	Mobile No.:	
Country:	FRA *France*	E-mail:	mmm@yahoo.com

All people involved in planning conducting one trial.

Site description – Crop description tab

Site Description

General Trial | Objectives/Conclusions | Contacts | Crop Description | Pest Description | Site and Design | Maintenance | Soil | Moisture | Application

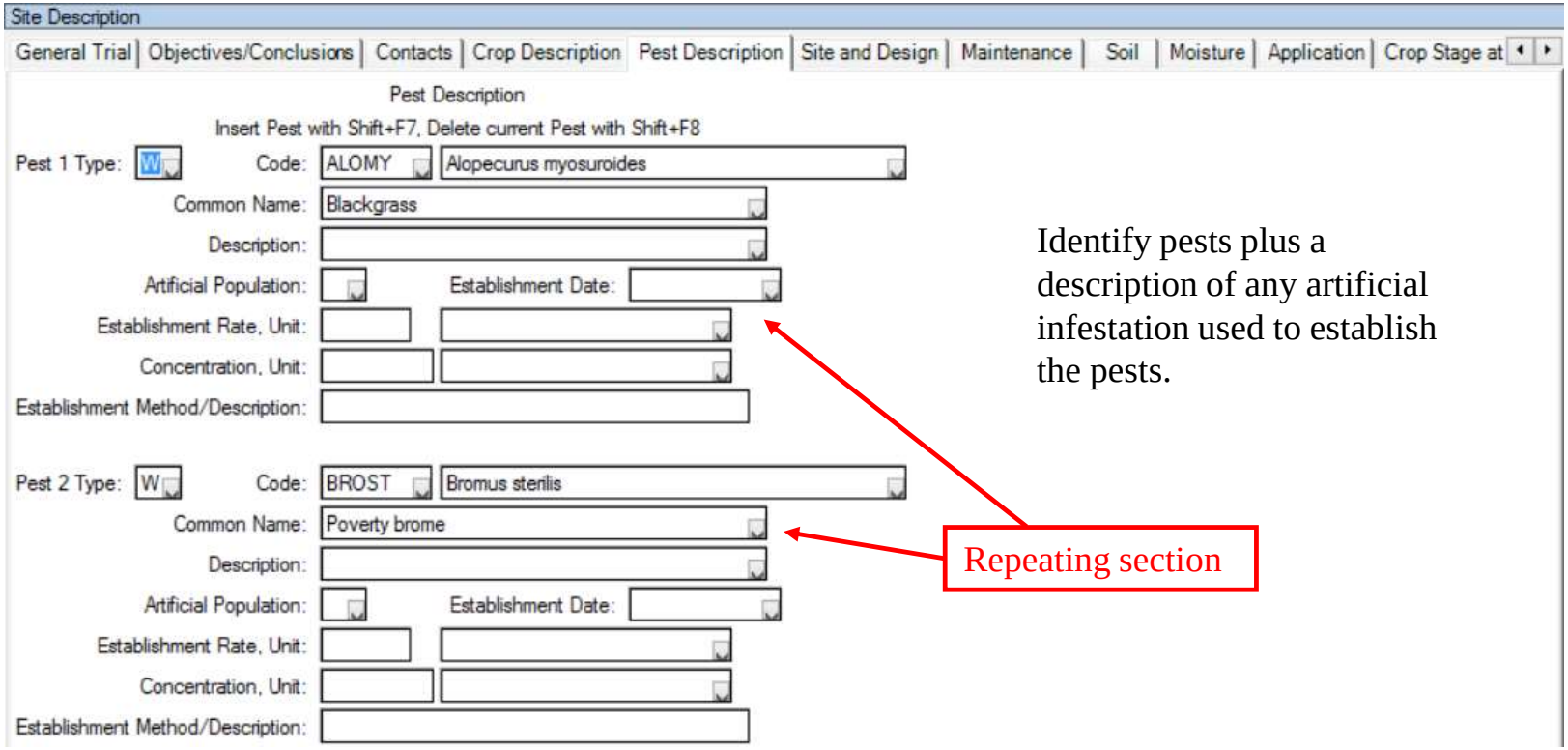
Crop Description

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

Crop 1:	BRSNW	Brassica napus (winter)		Winter rape	
Variety:	Hyola 50		*BBCH Scale:* *BRAP*	Crop Group:	20A
Description:			Maturity Group:	early-heading	
Seed Size, Unit:	2	mm	Nursery Date:		
Seed Shape:	SMALL		Planting Date:	03/16/2014	
Planting Rate, Unit:	5	LB/A	Planting Method:	DRILLE	*drilled*
Depth, Unit:	0.75	IN	Planting Equipment:	DD	*Disc Drill*
Row Spacing, Unit:	12	IN	Emergence Date:	03/31/2014	
Spacing Within Row, Unit:			Harvest Date:	07/08/2014	
Planting Density, Unit:	14	S/FT2	Harvested Width, Unit:	2	m
Soil Temperature, Unit:	35	F	Harvested Length, Unit:	8	m
Soil Moisture:	DAMP	*damp*	Harvest Equipment:	Case IH Harvester	
Seed Bed:	SMOOTH	*smooth*	% Standard Moisture:	8.0	
Perennial Age, Unit:			Moisture Meter:	NTEP Moisture Tester GAC2100B	
Rootstock:			Weighing Equipment:	Weigh Tronix XLR-12	
Scion:					

Crop identification, planting/transplanting, seedbed, and harvest information.

Site description – Pest description tab

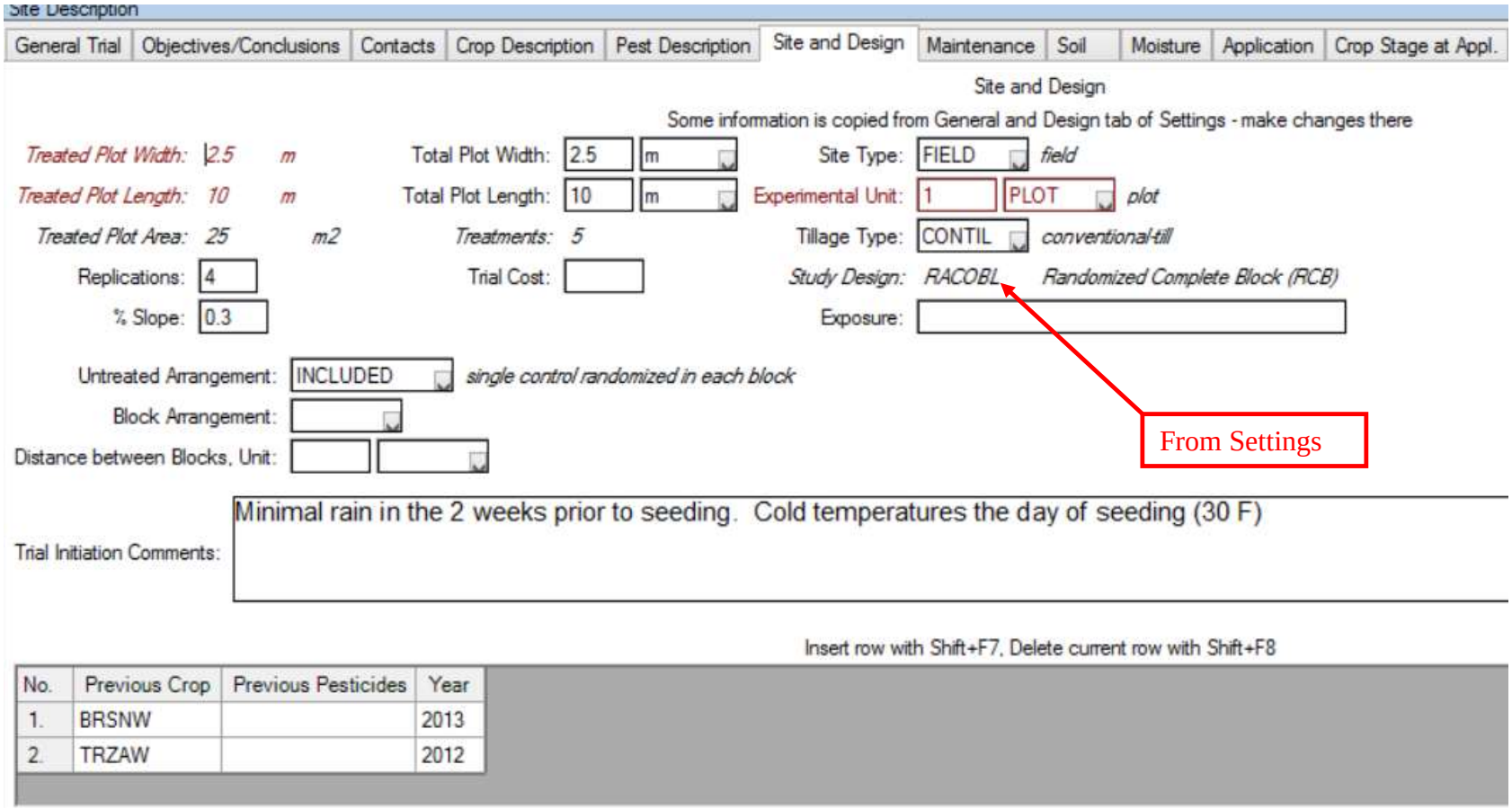


Identify pests plus a description of any artificial infestation used to establish the pests.

Repeating section

Site description – Site and Design tab

Trial site and experimental unit description



Site description – Application tab

Application description of applied treatments

Site Description

General Trial | Objectives/Conclusions | Contacts | Crop Description | Pest Description | Site and Design | Maintenance | Soil | Moisture | Application

Application Description

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

Appl. Code in Treatments links with Application Codes (A,B, . .) below

	A		B	
Application Date:	04/28/2014		05/17/2014	
Appl. Start Time:	10:45 am		3:00 pm	
Application Method:	SPRAY		SPRAY	
Application Timing:	PREPLA		POSPOS	
Application Placement:	BROSOI		SURFAC	
Applied By:	EMJ		Jenkins, B.	
Air Temperature, Unit:	8	C	22	C
% Relative Humidity:	60		48	
Wind Velocity, Unit:	1	KPH	7	KPH
Wind Direction:	SW		W	
Dew Presence (Y/N):	N	*no*	N	*no*
Soil Temperature, Unit:	7	C	17	C
Soil Moisture:	ADEQUATE		ADEQUATE	
% Cloud Cover:	80		20	

Trial – Assessment data

Assessment Data - Line 33

Column Number	1	2	3	4	5	6
Pest Type					W Weed	W Weed
Pest Code					ALOMY	BROST
Pest Scientific Name					Alopecurus myo	Bromus sterilis
Pest Name					Blackgrass	Poverty brome
Crop Code	BRSNW	BRSNW	BRSNW	BRSNW	BRSNW	BRSNW
BBCH Scale	*BRAP*	*BRAP*	*BRAP*	*BRAP*	*BRAP*	*BRAP*
Crop Scientific Name	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus
Crop Name	Winter rape	Winter rape	Winter rape	Winter rape	Winter rape	Winter rape
Part Rated	PLANT C	PLANT C	PLANT C	PLANT C	PLAGRA P	PLAGRA P
Rating Date	Apr-18-2014	Apr-24-2014	May-10-2014	Jul-8-2014	Apr-11-2014	Apr-11-2014
Rating Type	PHYGEN	PHYGEN	PHYGEN	PHYGEN	GROUND	GROUND
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Crop Stage Scale	BBCH	BBCH	BBCH	BBCH	BBCH	BBCH
Pest Stage Majority					28/29	25/26
Pest Density, Unit					7.25 PERCEN	11.5 PERCEN
Assessed By	techn 1	techn 1	techn 1	techn 1	techn 1	techn 1
Days After First/Last Applic.	*7 7*	*13 13*	*29 1*	*88 60*	*0 0*	*0 0*
Trt-Eval Interval	7 DA-A	13 DA-A	29 DA-A	95 DA-A	0 DA-A	0 DA-A
Plant-Eval Interval	229 DP-1	235 DP-1	251 DP-1	310 DP-1	222 DP-1	222 DP-1
ARM Action Codes	P	P	P	P	P ES	P ES
Number of Decimals	2	2	2	2	2	2

Sub	Rep	Blk	Col	Plot	Trt	1	2	3	4	5	6
1	1	1	1	101	4	0.00	0.00	0.00	0.00		
1	1	1	2	102	2	0.00	0.00	0.00	0.00		
1	1	1	3	103	5	0.00	0.00	0.00	0.00		
1	1	1	4	104	3	0.00	0.00	0.00	0.00		
1	1	1	5	105	1	0.00	0.00	0.00	0.00	6.00	8.00
1	2	2	1	201	5	0.00	0.00	0.00	0.00		
1	2	2	2	202	4	0.00	0.00	0.00	0.00		
1	2	2	3	203	3	0.00	0.00	0.00	0.00		
1	2	2	4	204	1	0.00	0.00	0.00	0.00	8.00	12.00
1	2	2	5	205	2	0.00	0.00	0.00	0.00		
1	3	3	1	301	3	0.00	0.00	0.00	0.00		
1	3	3	2	302	2	0.00	0.00	0.00	0.00		

Description of all measurements for every plot experimental unit

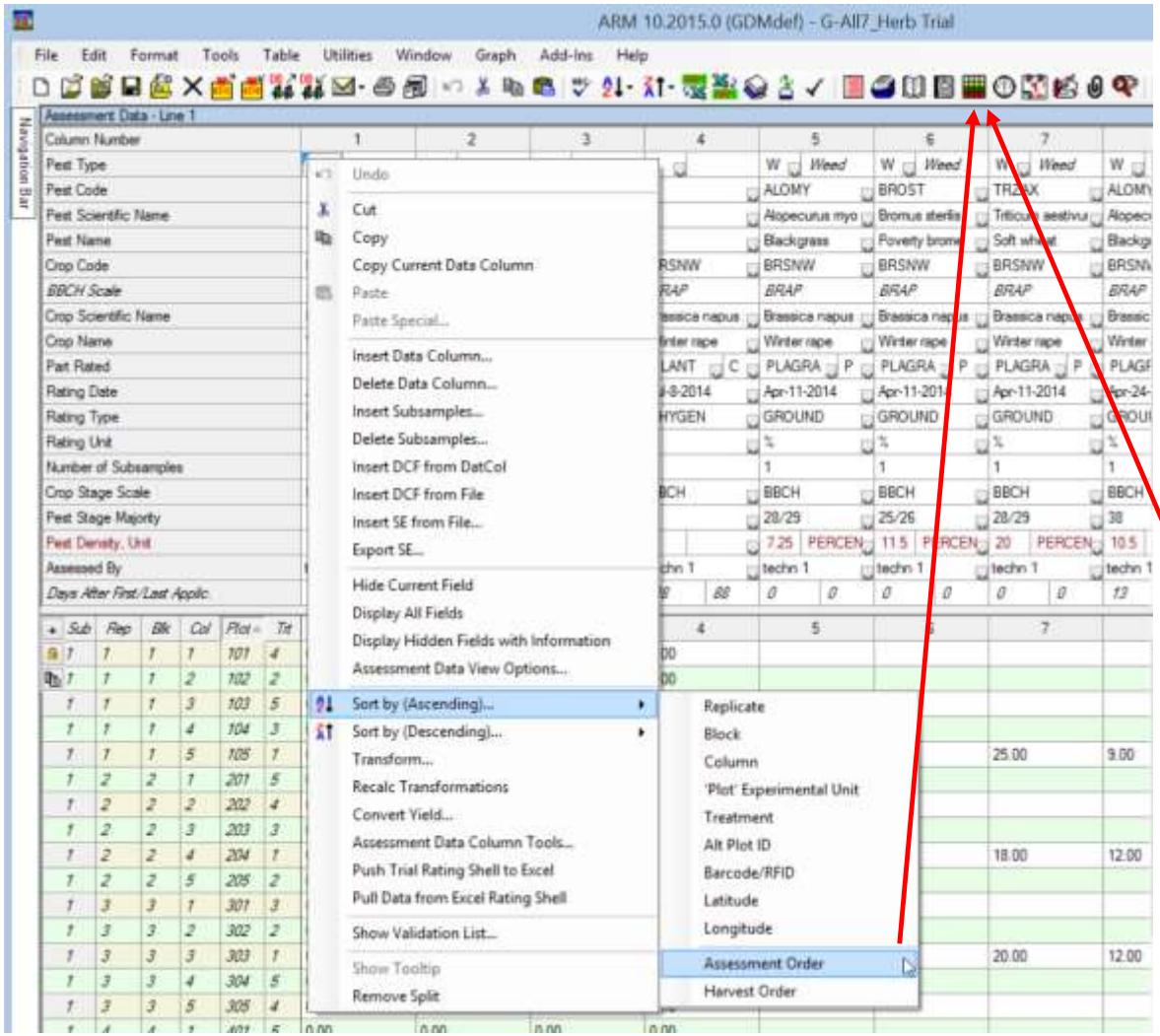
Trial – Assessment data – Headers from Protocol

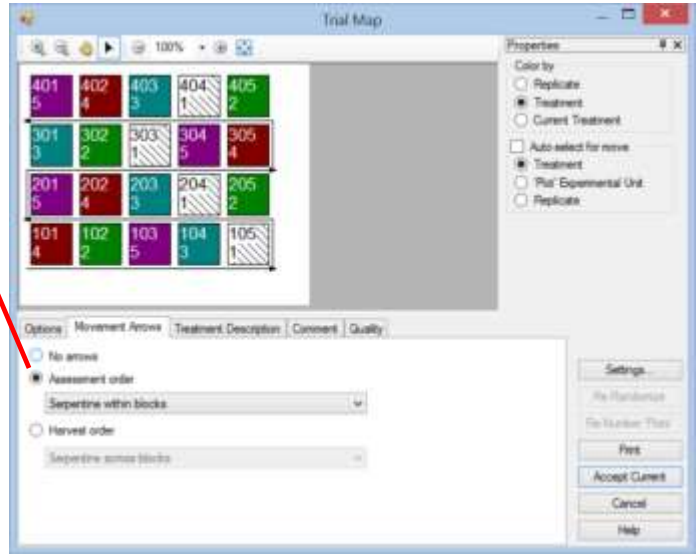
Assessment Data - Line 1

Column Number	1	2	3	4	5	6
Pest Type					W *Weed*	W *Weed*
Pest Code					GGGAN	GGGAN
Pest Scientific Name					Annual grasses	Annual grasses
Pest Name					Annual grasses	Annual grasses
Crop Code	BRSNN	BRSNN	BRSNN	BRSNN	BRSNN	BRSNN
BBCH Scale	*BRAP*	*BRAP*	*BRAP*	*BRAP*	*BRAP*	*BRAP*
Crop Scientific Name	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus
Crop Name	Rapeseed	Rapeseed	Rapeseed	Rapeseed	Rapeseed	Rapeseed
Part Rated	PLANT C	PLANT C	PLANT C	PLANT C	PLAGRA P	PLAGRA P
Rating Date						
Rating Type	PHYGEN	PHYGEN	PHYGEN	PHYGEN	GROUND	GROUND
Rating Unit	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1
Crop Stage Scale	BBCH	BBCH	BBCH	BBCH	BBCH	BBCH
Pest Stage Majority						
Pest Density, Unit					PERCEN	PERCEN
Assessed By						
Days After First/Last Applic.						
Trt-Eval Interval	3	7	14	21	0	3
Plant-Eval Interval						
ARM Action Codes	P	P	P	P	P ES	P ES
Number of Decimals	2	2	2	2	2	2

- If Protocol contains Assessment data headers, these are automatically included
- Add new columns

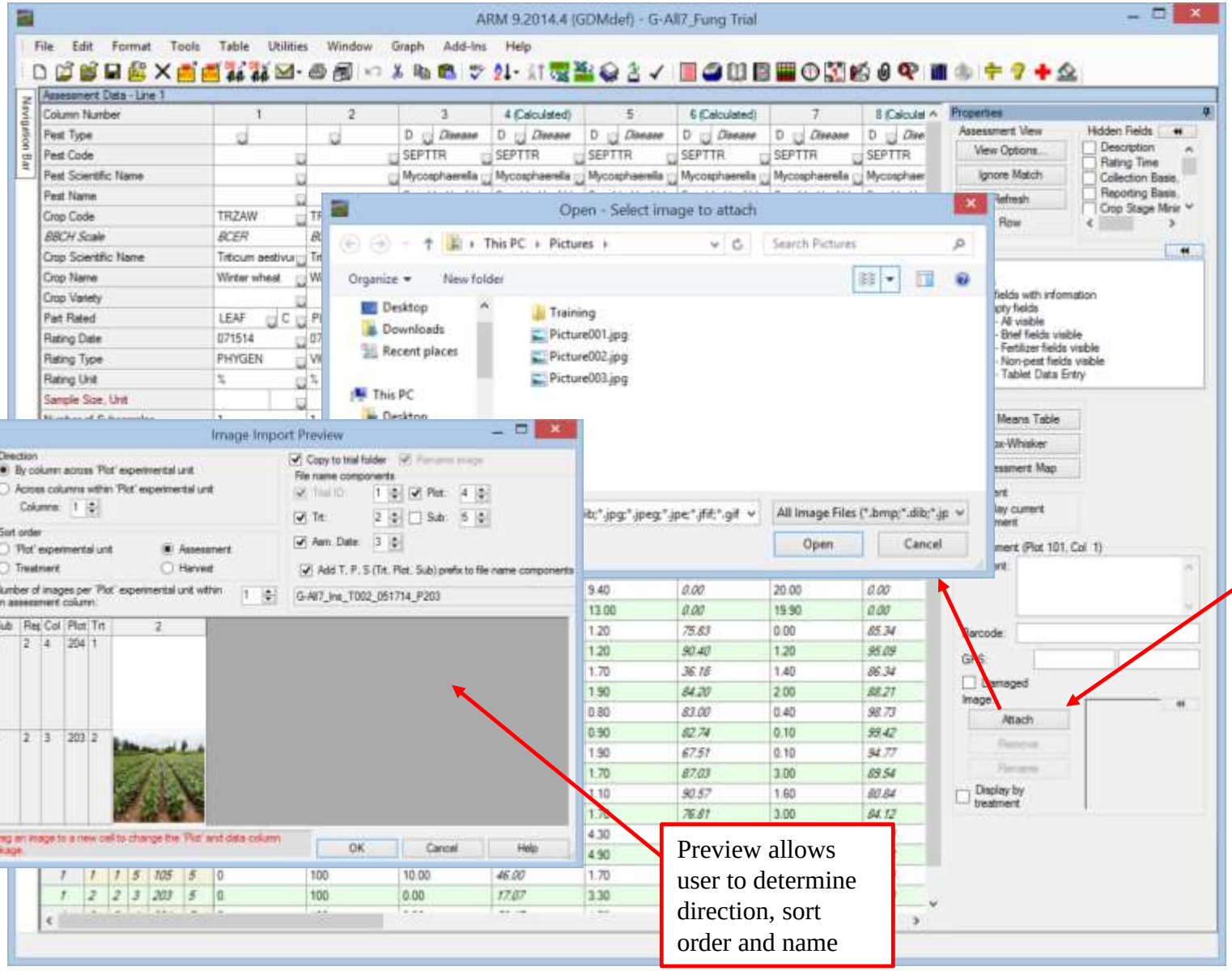
Trial – Assessment data – Data





- Data can be sorted ascending or descending by Replicate, Block, Column, Plot, Treatment, etc.
- Assessment and Harvest order are defined in the plot map

Trial – Assessment data – Attach pictures



Use Attach to attach images to plots

Alternatively, drag/drop picture directly to plot/column

Preview allows user to determine direction, sort order and name

Trial – Assessment data – Attach pictures continued

Sub	Rep	Blk	Col	Plot	Trt	1	2	3	4	5	6 (Calculated)
1	1	1	2	102	1	0.0	165.0	0.0	135.0	93.0	0.0
1	2	2	4	204	1	0.0	205.0	0.0	139.0	118.0	0.0
1	3	3	1	301	1	0.0	209.0	0.0	148.0	107.0	0.0
1	4	4	2	402	1	0.0	161.0	0.0	153.0	151.0	0.0
1	1	1	1	101	2	0.0	~~108.0~~	0.0	15.0	13.0	34.5
1	2	2	3	203	2	0.0	103.0	0.0	15.0	8.0	49.8
1	3	3	4	304	2	0.0	101.0	0.0	34.0	13.0	51.7
1	4	4	5	405	2	0.0	142.0	0.0	26.0	18.0	11.8
1	1	1	3	103	3	0.0	70.0	0.0	0.0	0.0	57.6
1	2	2	5	205	3	0	51.0	0.0	0.0		
1	3	3	2	302	3	0.0	45.0	0.0	1.0		
1	4	4	1	401	3	0.0	40.0	0.0	2.0		
1	1	1	4	104	4	0.0	55.0	0.0	1.0		
1	2	2	2	202	4	0.0	64.0	0.0	3.0		
1	3	3	3	303	4	0.0	50.0	0.0	0.0		
1	4	4	4	404	4	0.0	54.0	0.0	0.0		
1	1	1	5	105	5	0.0	12.0	0.0	0.0		
1	2	2	1	201	5	0.0	14.0	0.0	1.0		

Assessment (Plot 104, Col 2)

Comment: Plot was mis-planted

Barcode:

GPS:

☑ Damaged

Image:

Attach

Remove

Rename

☐ Display by treatment

Red triangle in the corner indicates a picture has been attached

Click in plot data to view picture

Mark plots as damaged to remove assessment from statistical analysis. Red line drawn through assessment as well.

Attach additional files, or Remove or Rename

Subsamples

Assessment Data - Line 1

Column Number	7	8 (Calculated)	9
Pest Type	D Disease	D Disease	D Disease
Pest Code	SEPTTR	SEPTTR	ZZYYFY
Pest Scientific Name	Mycosphaerella	Mycosphaerella	Complex, diff. fu
Pest Name	Speckled leaf bl	Speckled leaf bl	Complex, dif. fur
Crop Code	TRZAW	TRZAW	TRZAW
BBCH Scale	*BCER*	*BCER*	*BCER*
Crop Scientific Name	Triticum aestivu	Triticum aestivu	Triticum aestivu
Crop Name	Winter wheat	Winter wheat	Winter wheat
Part Rated	LEAF2 P	LEAF2 P	LEAGRE P
Rating Date	Jul-2-2014	Jul-2-2014	Jul-15-2014
Rating Type	PESSEV	PESSEV	AREA
Rating Unit	%	%UNCK	%AREA
Number of Subsamples	10	1	5
Crop Stage Majority	70	70	84
Crop Stage Minimum/Maximum			
Crop Stage Scale	BBCH	BBCH	BBCH
Pest Stage Majority			
Pest Density, Unit	15.5 PERCEN	15.5 PERCEN	1.75 PERCEN
Footnote Number			2
Assessed By			
Rating Timing	3	3	4
Days After First/Last Applic.	*78 29*	*78 29*	*91 7*
Trt-Eval Interval	29 DA-B	29 DA-B	11 DA-C
Plant-Eval Interval	275 DP-1	275 DP-1	288 DP-1
ARM Action Codes		TAB[7]	
Number of Decimals	2	2	2

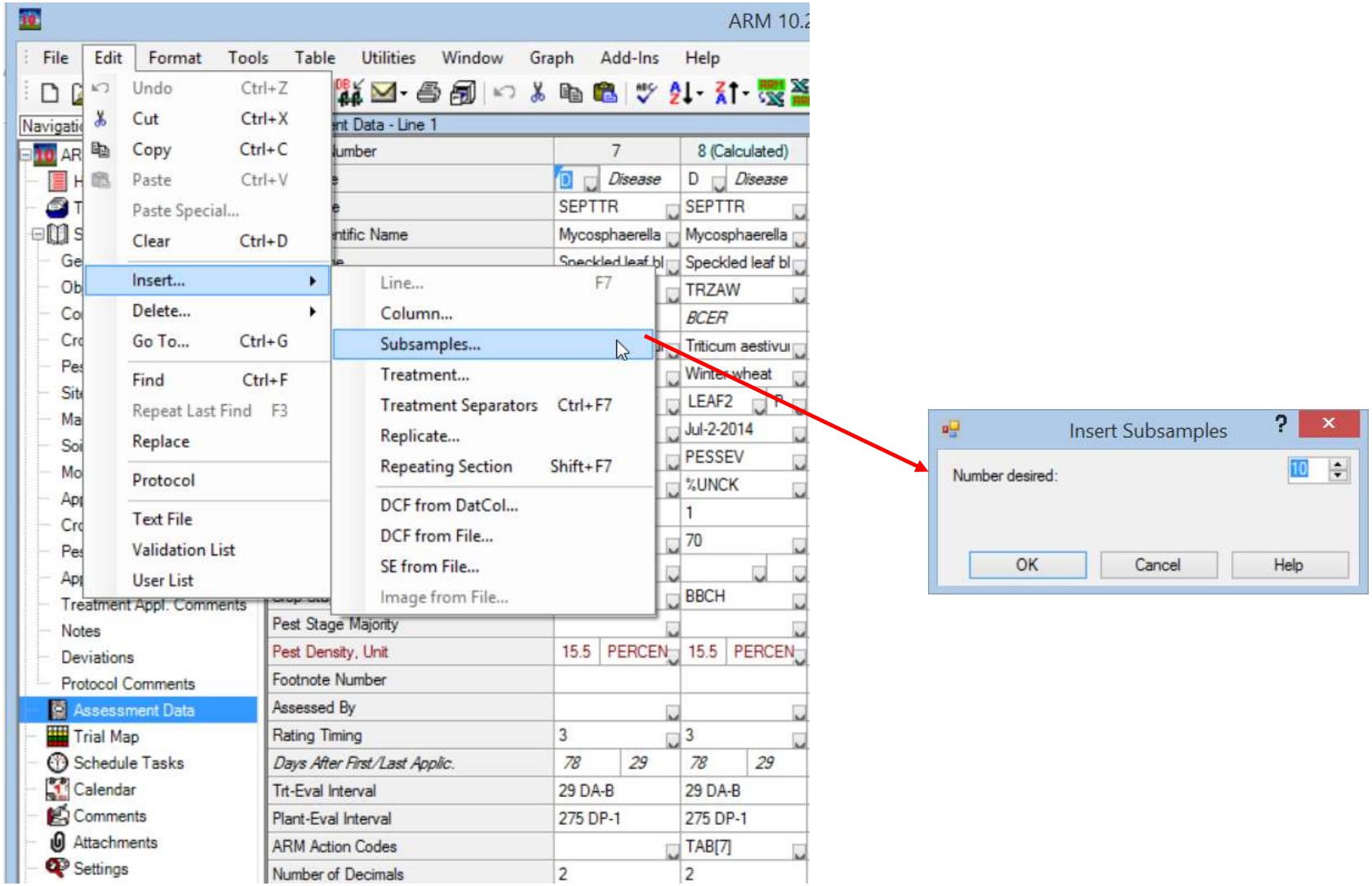
Sub	Rep	Blk	Col	Plot	Trt	7	8 (Calculated)	9
1	1	1	2	102	1	9.90	0.00	10.00
2	1	1	2	102	1	10.00		5.00
3	1	1	2	102	1	11.00		0.00
4	1	1	2	102	1	8.00		0.00
5	1	1	2	102	1	8.90		0.00
6	1	1	2	102	1	11.00		
7	1	1	2	102	1	11.50		
8	1	1	2	102	1	12.00		
9	1	1	2	102	1	10.20		
10	1	1	2	102	1	9.80		
1	2	2	5	205	1	16.00	0.00	0.00
2	2	2	5	205	1	11.00		0.00

- Subsamples
  - Collect more than one data point by plot
  - Organize subsamples to make data entry and use easier.

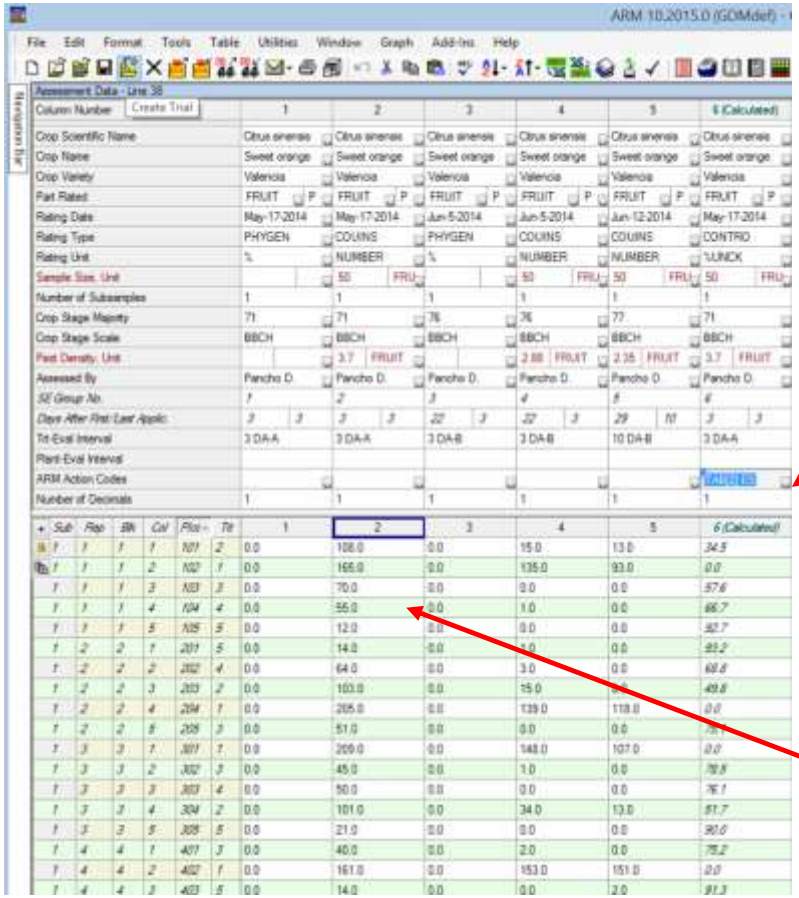
10 subsamples in this trial

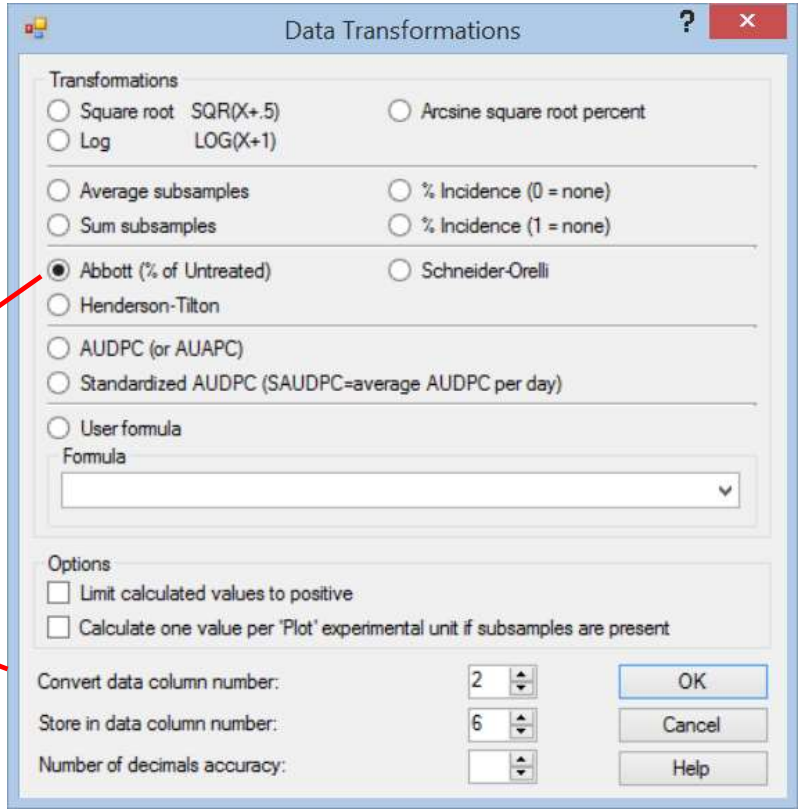
- 10 in column 7
- 5 in column 9
- 1 in column 8

Subsamples


ARM 10.2
File
Edit
Format
Tools
Table
Utilities
Window
Graph
Add-Ins
Help
Undo Ctrl+Z
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Paste Special...
Clear Ctrl+D
Insert...
Delete...
Go To... Ctrl+G
Find Ctrl+F
Repeat Last Find F3
Replace
Protocol
Text File
Validation List
User List
Line... F7
Column...
Subsamples...
Treatment...
Treatment Separators Ctrl+F7
Replicate...
Repeating Section Shift+F7
DCF from DatCol...
DCF from File...
SE from File...
Image from File...
Insert Subsamples
Number desired:
10
OK
Cancel
Help
Treatment Appl. Comments
Notes
Deviations
Protocol Comments
Assessment Data
Trial Map
Schedule Tasks
Calendar
Comments
Attachments
Settings
Pest Stage Majority
Pest Density, Unit
Footnote Number
Assessed By
Rating Timing
Days After First/Last Applic.
Trt-Eval Interval
Plant-Eval Interval
ARM Action Codes
Number of Decimals

Transform data





- Menu **Tools|Transform**
- Standard transformations available
- User-defined formula, eventually stored in a list (F9)
- Relative or Absolute column number

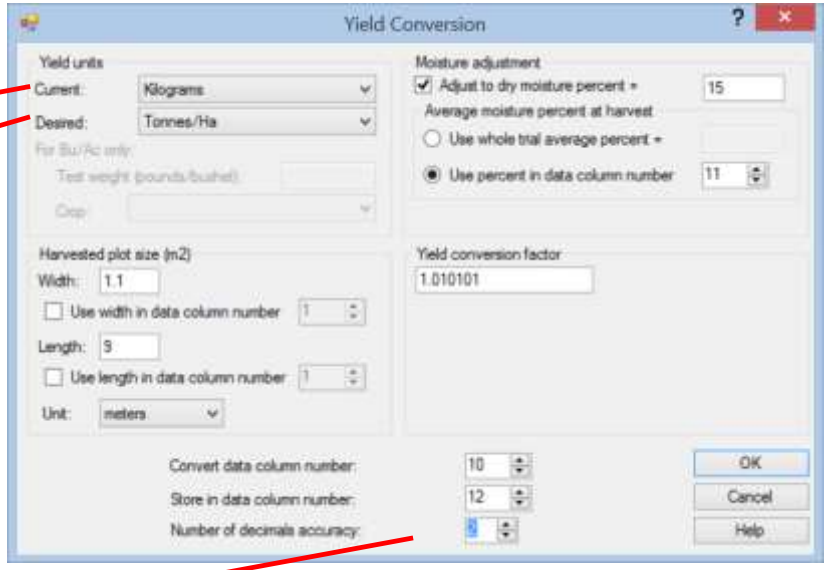
Convert Yield

Menu | Tools | Convert Yield

Assessment Data - Line 1

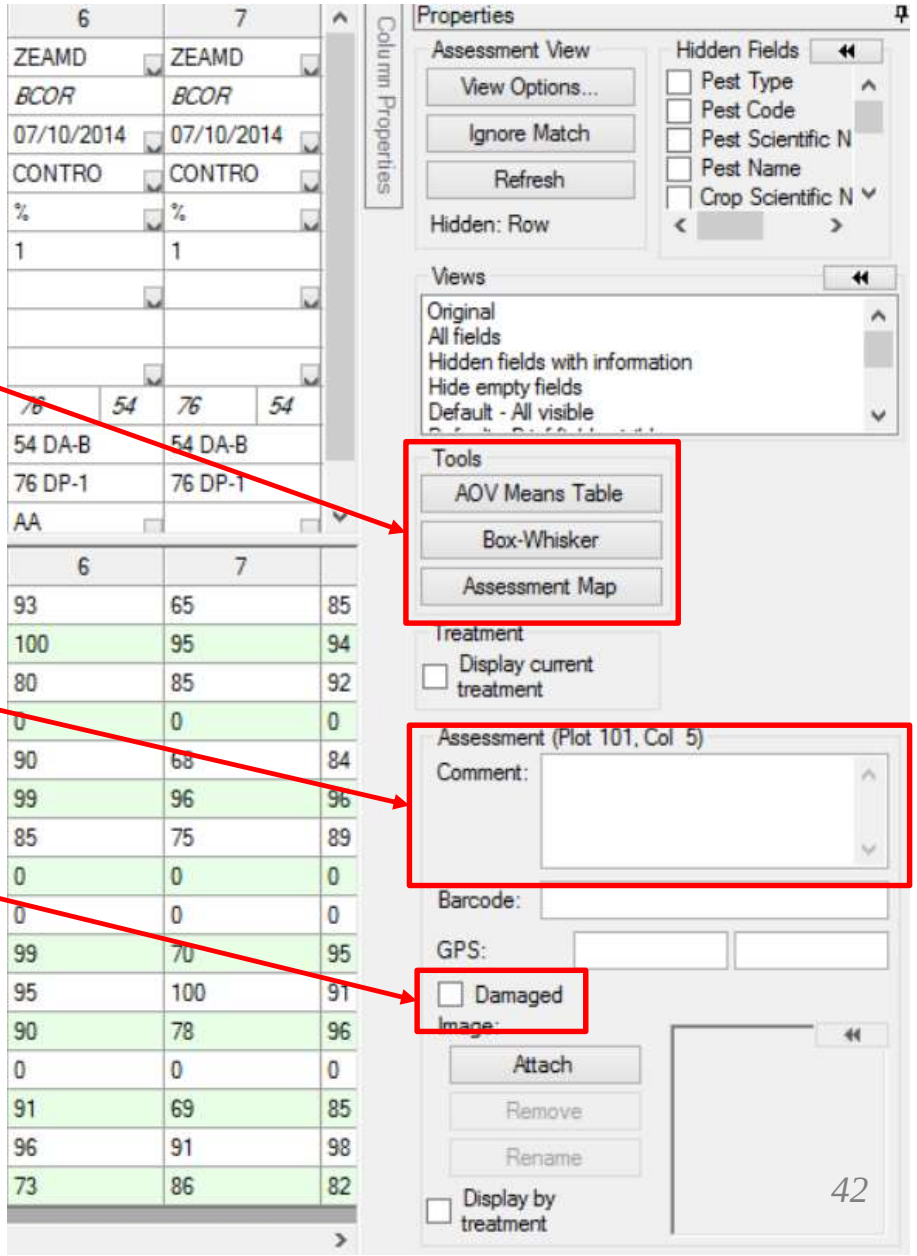
Column Number	10		11		12 (Calculated)		13 (Calculated)	
Pest Type								
Pest Code								
Pest Scientific Name								
Pest Name								
Crop Code	TRZAW		TRZAW		TRZAW		TRZAW	
BBCH Scale	*BCER*		*BCER*		*BCER*		*BCER*	
Crop Scientific Name	Triticum aestivu		Triticum aestivu		Triticum aestivu		Triticum aestivu	
Crop Name	Winter wheat		Winter wheat		Winter wheat		Winter wheat	
Part Rated	GRAIN	C	GRAIN	C	GRAIN	C	GRAIN	C
Rating Date	Aug-7-2014		Aug-7-2014		Aug-7-2014		Aug-7-2014	
Rating Type	YIELD		MOICON		YIELD		YIELD	
Rating Unit	KG		%		T-MET		%UNCK	
Number of Subsamples	1		1		1		1	
Crop Stage Majority	99		99		99		99	
Pest Density, Unit								
Days After First/Last Applic.	*114*	*30*	*114*	*30*	*114*	*30*	*114*	*30*
Trt-Eval Interval	30 DA-C		30 DA-C		30 DA-C		30 DA-C	
Plant-Eval Interval	311 DP-1		311 DP-1		311 DP-1		311 DP-1	
ARM Action Codes					TY1		@UPOCR	
Number of Decimals	2		1		2		2	

+	Sub	Rep	Blk	Col	Plot	Trt	10	11	12 (Calculated)	13 (Calculated)
	1	1	1	1	101	3	8.70	13.0	8.99	104.37
	1	1	1	2	102	1	8.25	12.1	8.62	100.00
	1	1	1	3	103	4	8.50	11.7	8.92	103.50
	1	1	1	4	104	2	8.95	11.2	9.44	109.60
	1	1	1	5	105	5	9.10	15.0	9.19	106.66
	1	2	2	1	201	2	8.15	11.6	8.56	108.07
	1	2	2	2	202	3	8.10	12.3	8.44	106.56
	1	2	2	3	203	5	8.55	11.1	9.03	114.01
	1	2	2	4	204	4	8.40	13.3	8.65	109.24
	1	2	2	5	205	1	7.55	11.7	7.92	100.00
	1	3	3	1	301	3	8.10	12.2	8.45	109.83
	1	3	3	2	302	2	7.95	11.3	8.38	108.90
	1	3	3	3	303	1	7.30	11.3	7.69	100.00
	1	3	3	4	304	5	7.60	11.6	7.98	103.76
	1	3	3	5	305	4	8.20	11.8	8.59	111.70

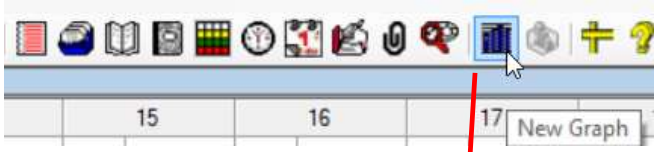


Quality Control your data

- Quality Control data from Assessment screen
  - AOV Means Table
  - Box-Whisker
  - Assessment map
- Comment on individual plots
- Mark a plot as damaged



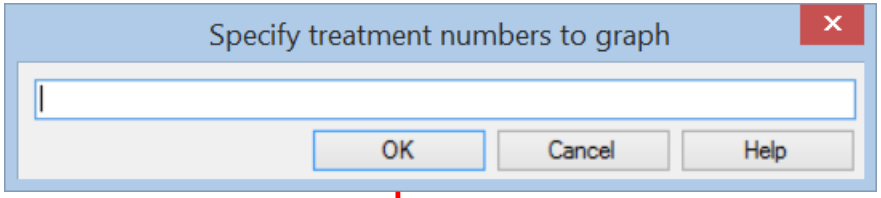
Graph

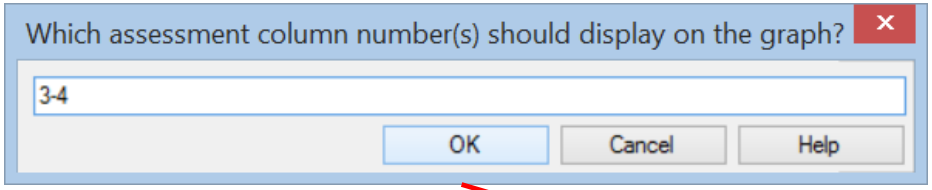


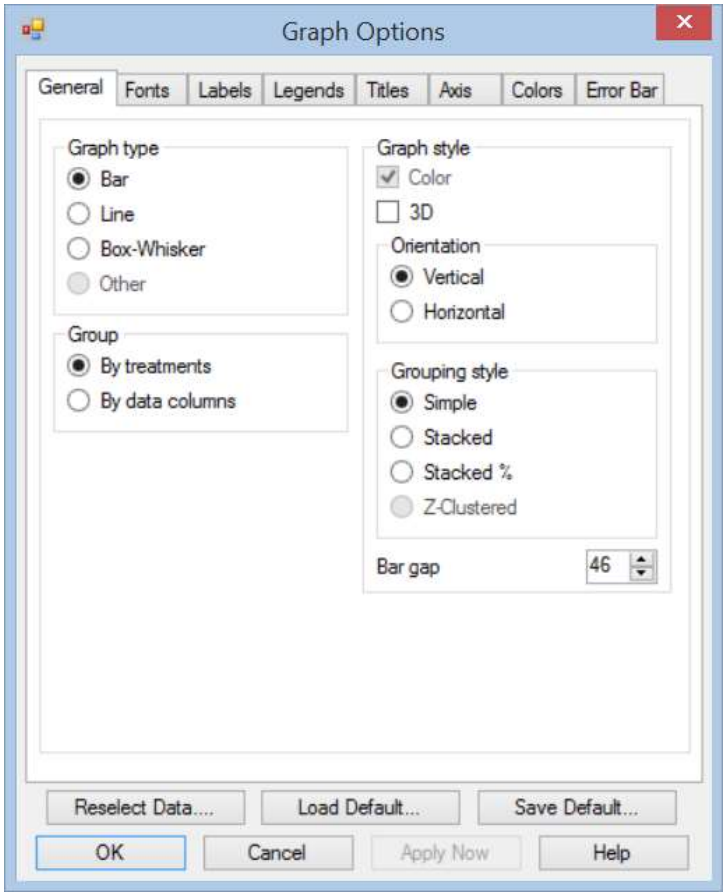
+ Menu *Graph*

New graph

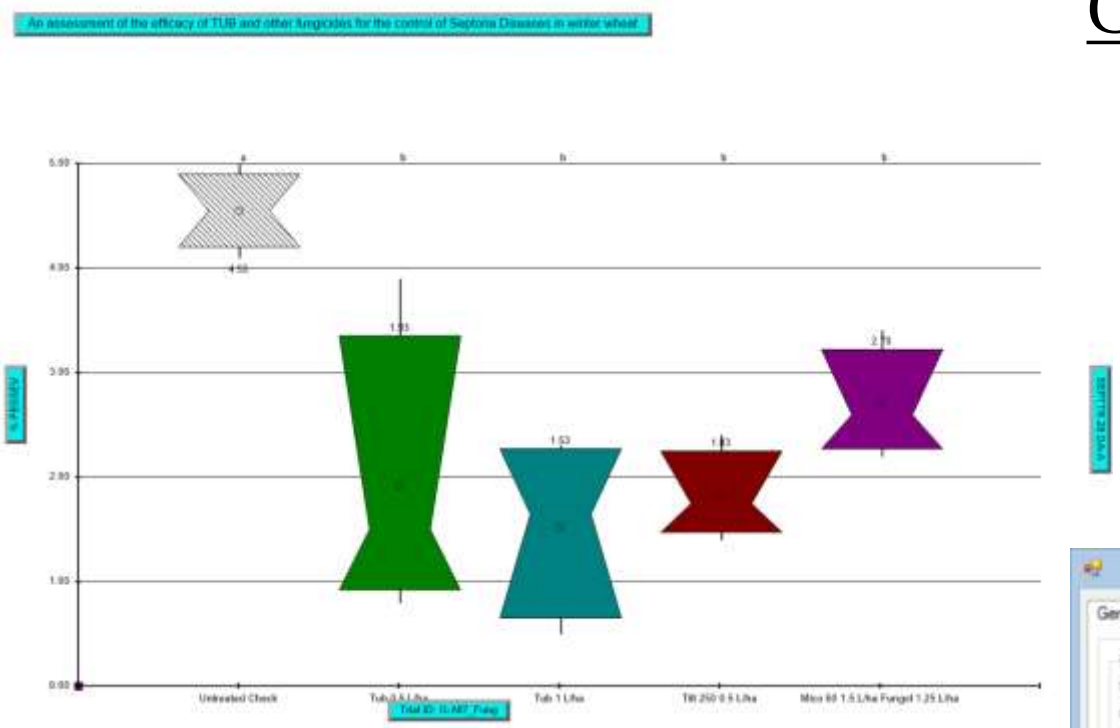
View graph







Graph- Box-Whisker



Box-whisker: indication of
- the treatment mean
- the assessment variability

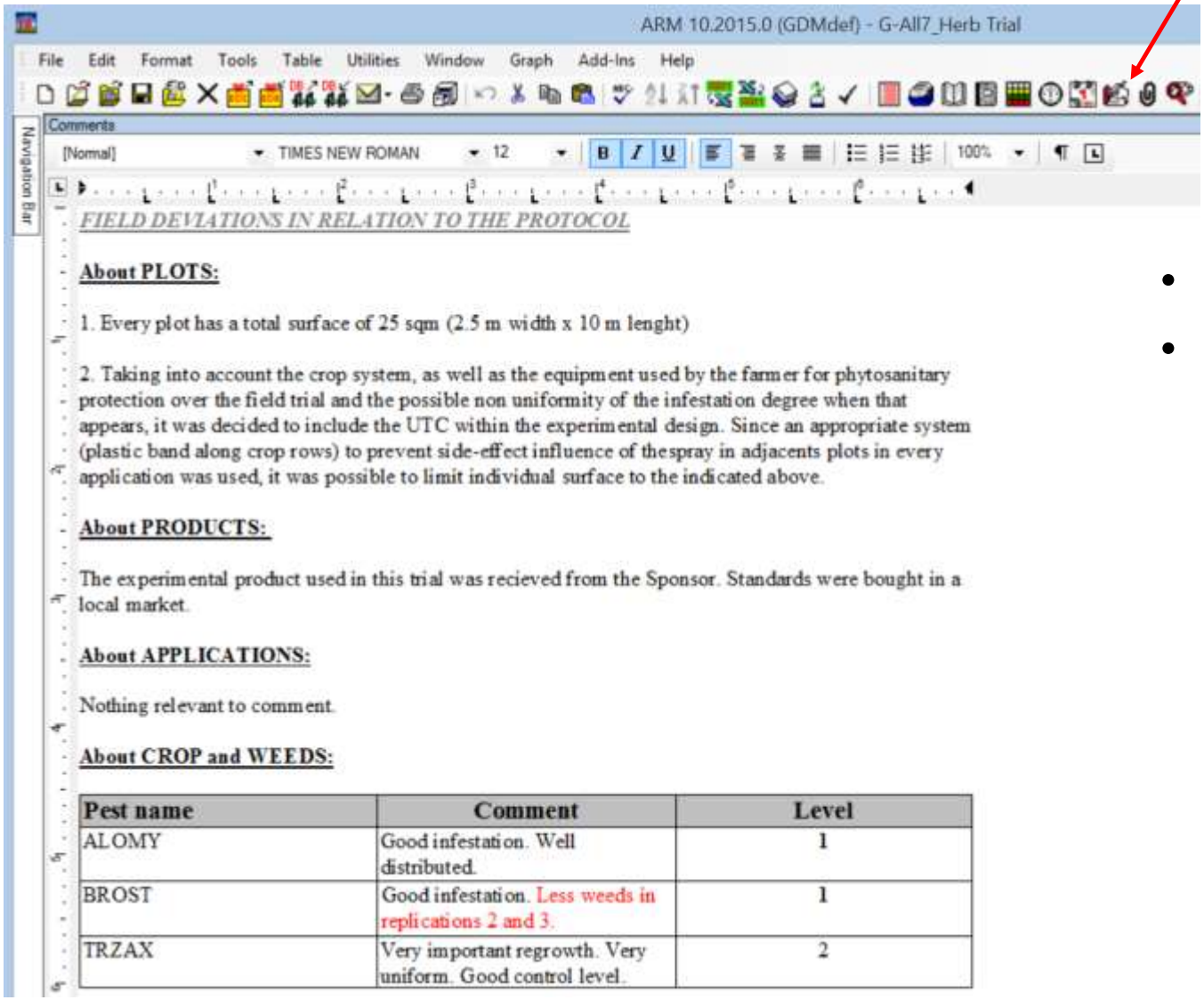
It requires 3 or more replicates.

Options:

- Check for outliers
- Review all data by columns
- Export to clipboard and then paste into PowerPoint® to transfer graphs.

Trial – Comments

Comments

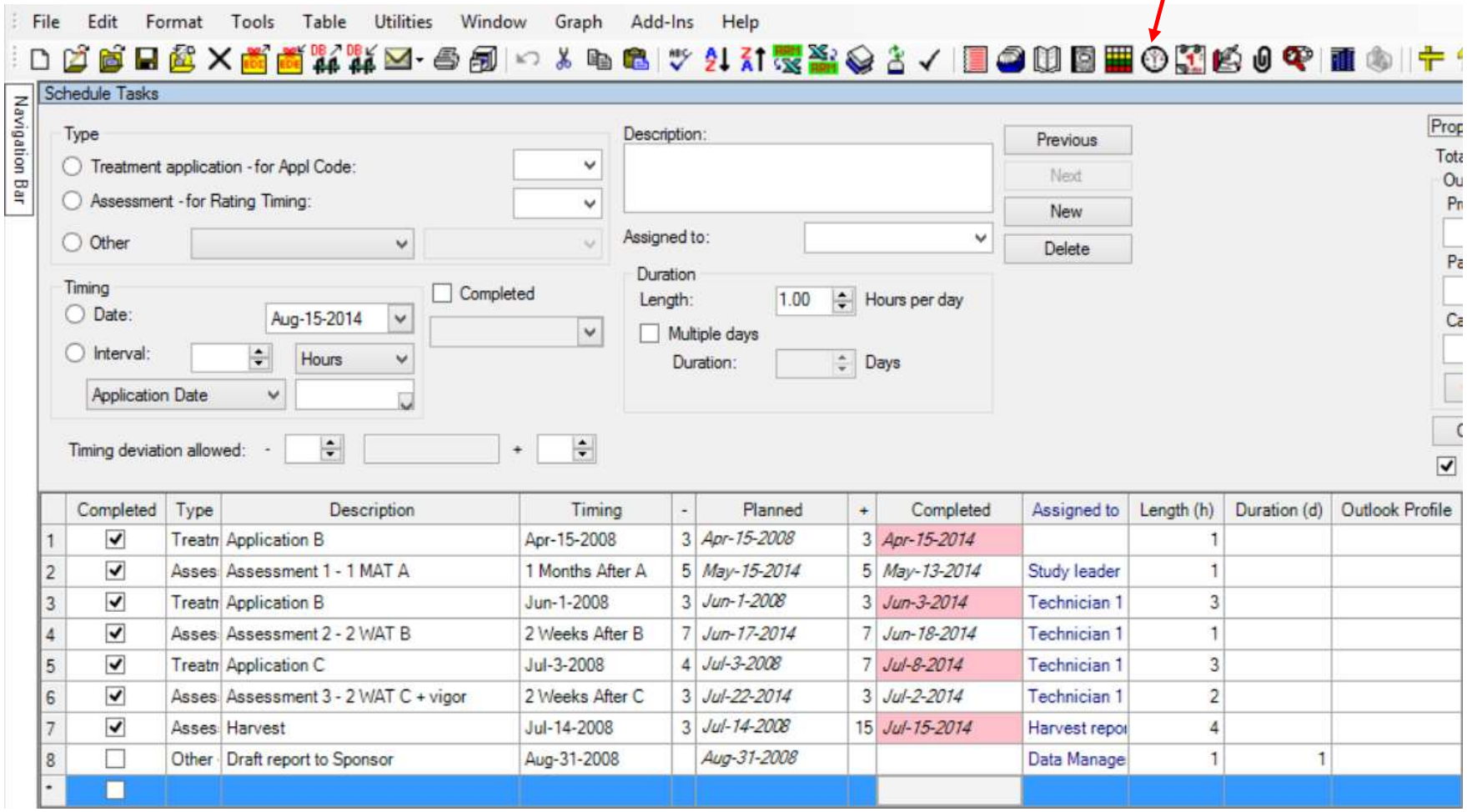


- Rich Text Format
- Tables or enhanced font options

Trial – Schedule

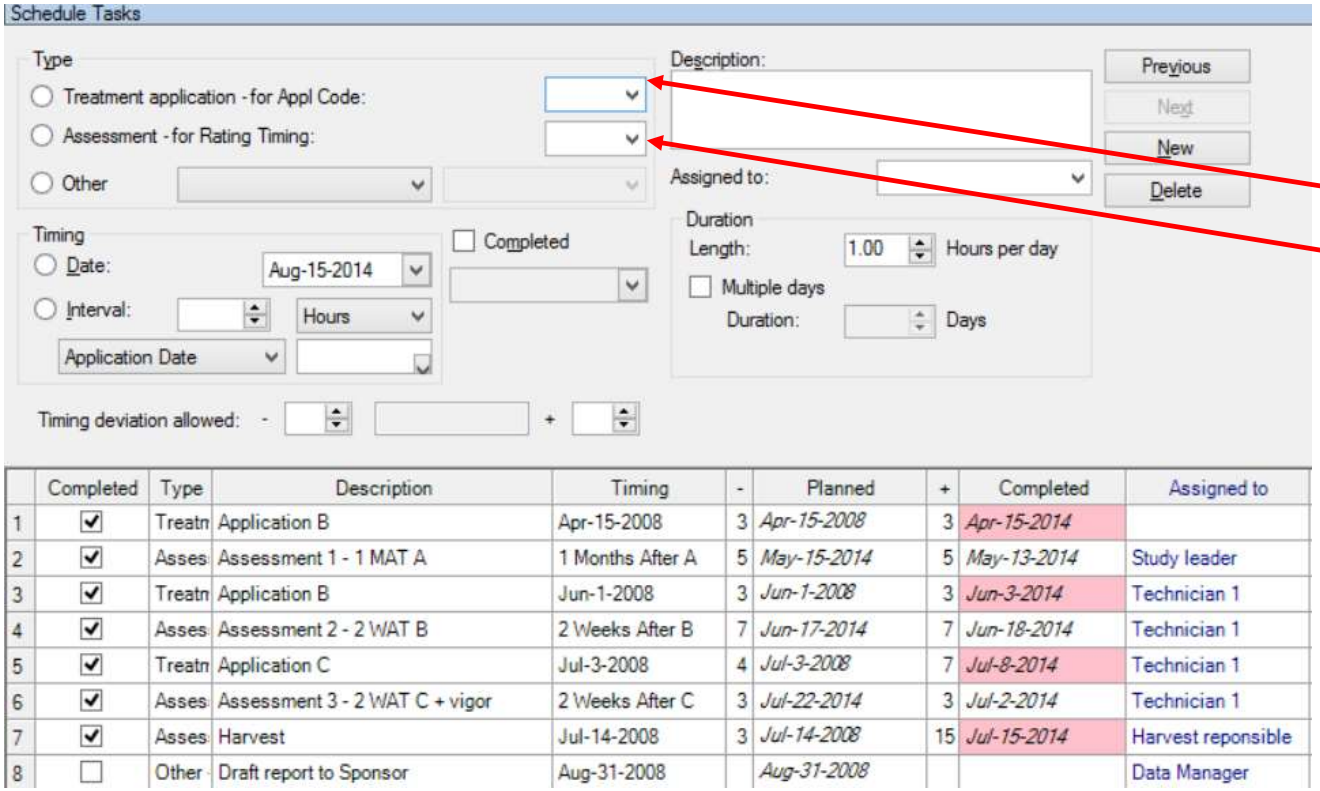
List of tasks, planned and actual task timing, and task assignments

Schedule tasks



	Completed	Type	Description	Timing	-	Planned	+	Completed	Assigned to	Length (h)	Duration (d)	Outlook Profile
1	☑	Treatm	Application B	Apr-15-2008	3	Apr-15-2008	3	Apr-15-2014		1		
2	☑	Asses	Assessment 1 - 1 MAT A	1 Months After A	5	May-15-2014	5	May-13-2014	Study leader	1		
3	☑	Treatm	Application B	Jun-1-2008	3	Jun-1-2008	3	Jun-3-2014	Technician 1	3		
4	☑	Asses	Assessment 2 - 2 WAT B	2 Weeks After B	7	Jun-17-2014	7	Jun-18-2014	Technician 1	1		
5	☑	Treatm	Application C	Jul-3-2008	4	Jul-3-2008	7	Jul-8-2014	Technician 1	3		
6	☑	Asses	Assessment 3 - 2 WAT C + vigor	2 Weeks After C	3	Jul-22-2014	3	Jul-2-2014	Technician 1	2		
7	☑	Asses	Harvest	Jul-14-2008	3	Jul-14-2008	15	Jul-15-2014	Harvest repo	4		
8	☐	Other	Draft report to Sponsor	Aug-31-2008		Aug-31-2008			Data Manage	1	1	
*	☐											

Trial – Schedule

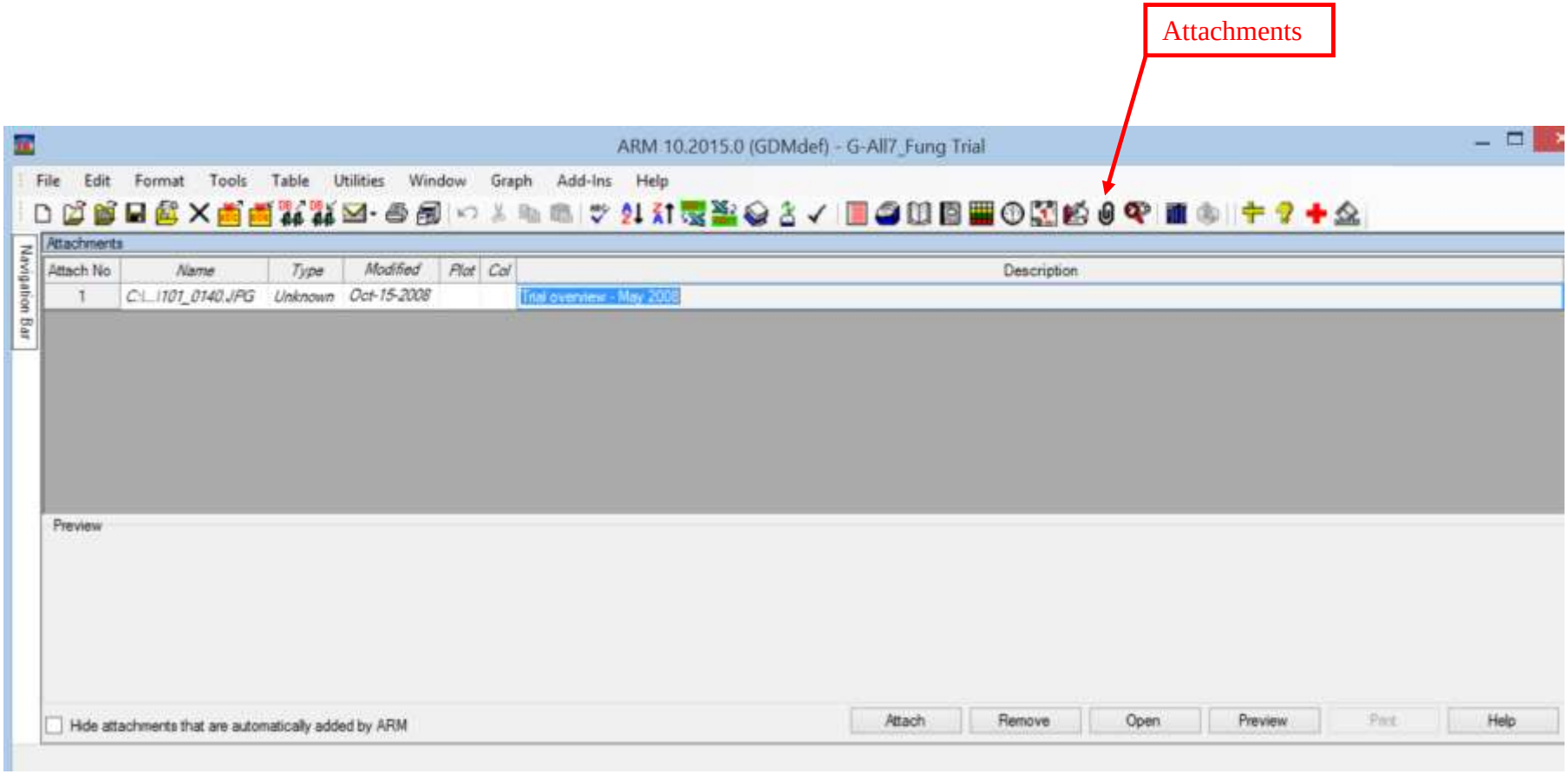


	Completed	Type	Description	Timing	-	Planned	+	Completed	Assigned to
1	☑	Treatn	Application B	Apr-15-2008	3	*Apr-15-2008*	3	*Apr-15-2014*	
2	☑	Asses	Assessment 1 - 1 MAT A	1 Months After A	5	*May-15-2014*	5	*May-13-2014*	Study leader
3	☑	Treatn	Application B	Jun-1-2008	3	*Jun-1-2008*	3	*Jun-3-2014*	Technician 1
4	☑	Asses	Assessment 2 - 2 WAT B	2 Weeks After B	7	*Jun-17-2014*	7	*Jun-18-2014*	Technician 1
5	☑	Treatn	Application C	Jul-3-2008	4	*Jul-3-2008*	7	*Jul-8-2014*	Technician 1
6	☑	Asses	Assessment 3 - 2 WAT C + vigor	2 Weeks After C	3	*Jul-22-2014*	3	*Jul-2-2014*	Technician 1
7	☑	Asses	Harvest	Jul-14-2008	3	*Jul-14-2008*	15	*Jul-15-2014*	Harvest reponsible
8	☐	Other	Draft report to Sponsor	Aug-31-2008		*Aug-31-2008*			Data Manager

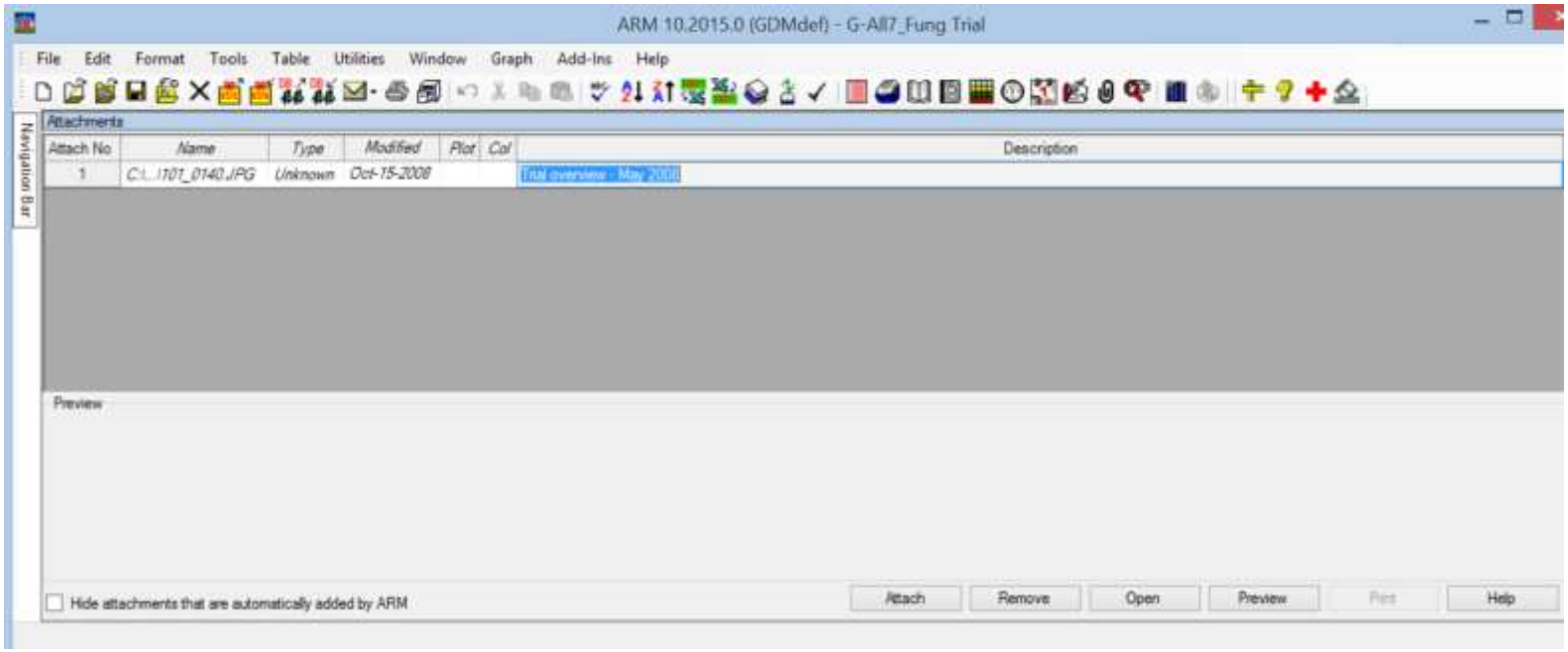
- Schedule
  - Application
  - Assessment based on date or on application
  - Print or export in batch
- Tasks can be set up in Protocol or merged from one trial to another.

Trial – Attachments

Index of all related documents that are associated with one trial



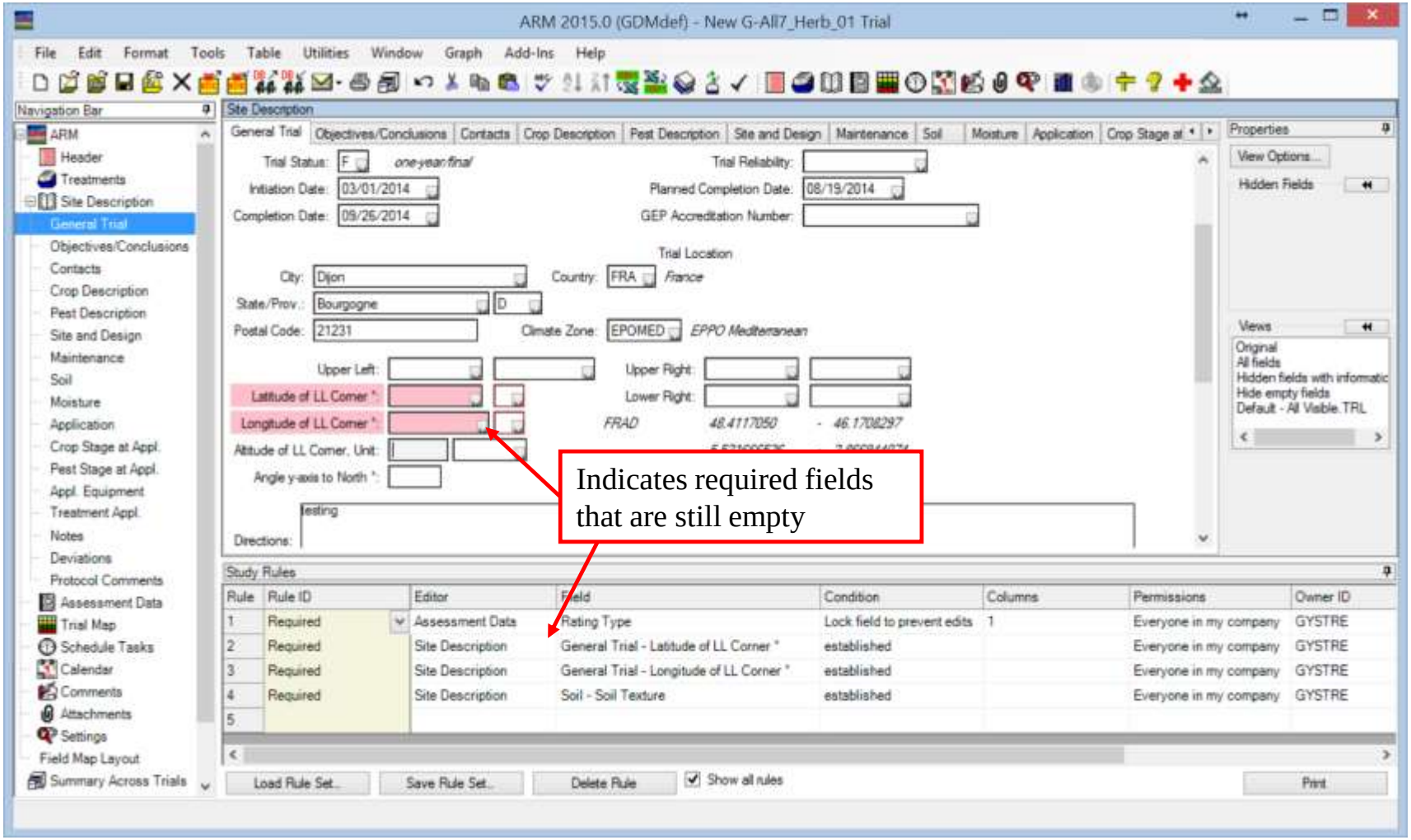
Trial – Attachments



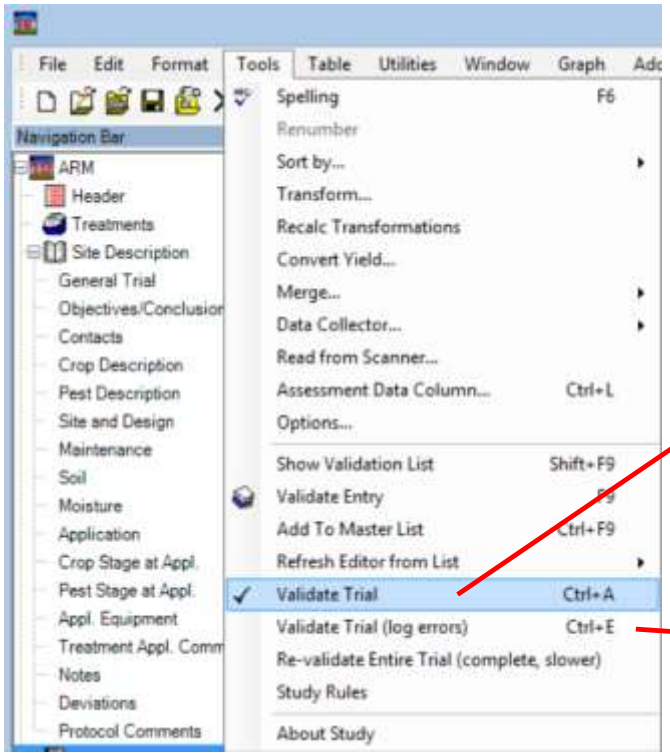
- Only hyperlinks are stored
  - No duplication or risk of errors
- Files can be open from the attachments screen.
- With the menu **File|Send to**, ARM file + selected attachments are automatically added in a new message. Different options available.

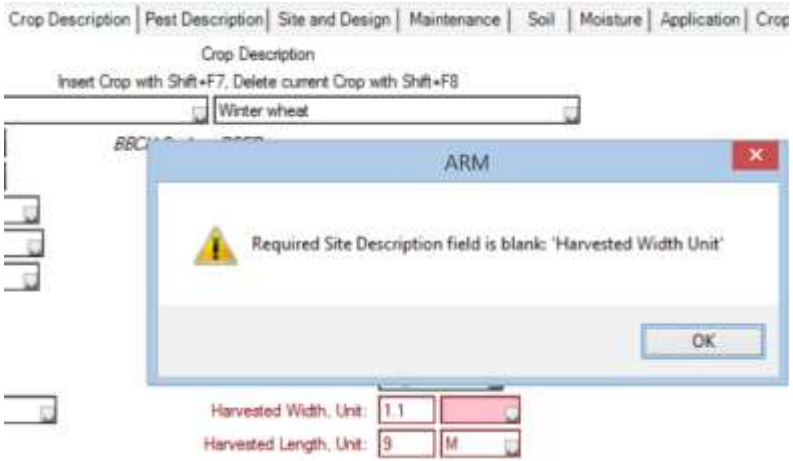
Trial - Study Rules Panel

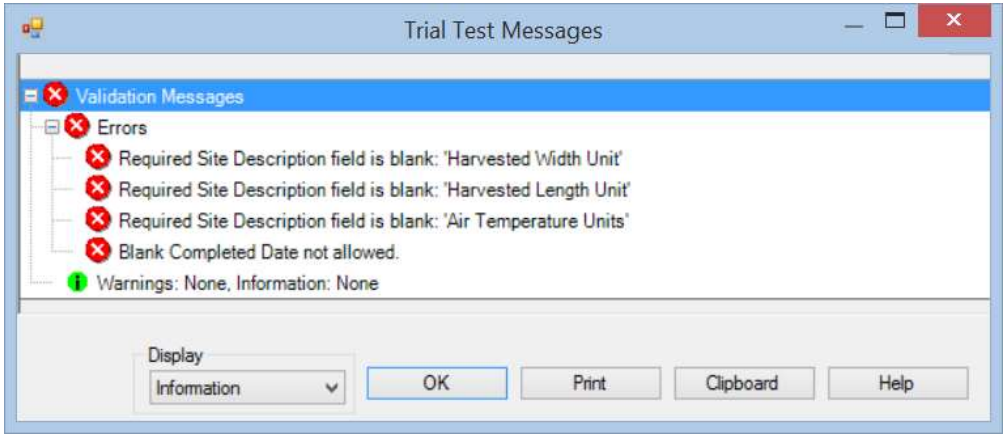
Always displays in trial, optionally show as tab



Validation







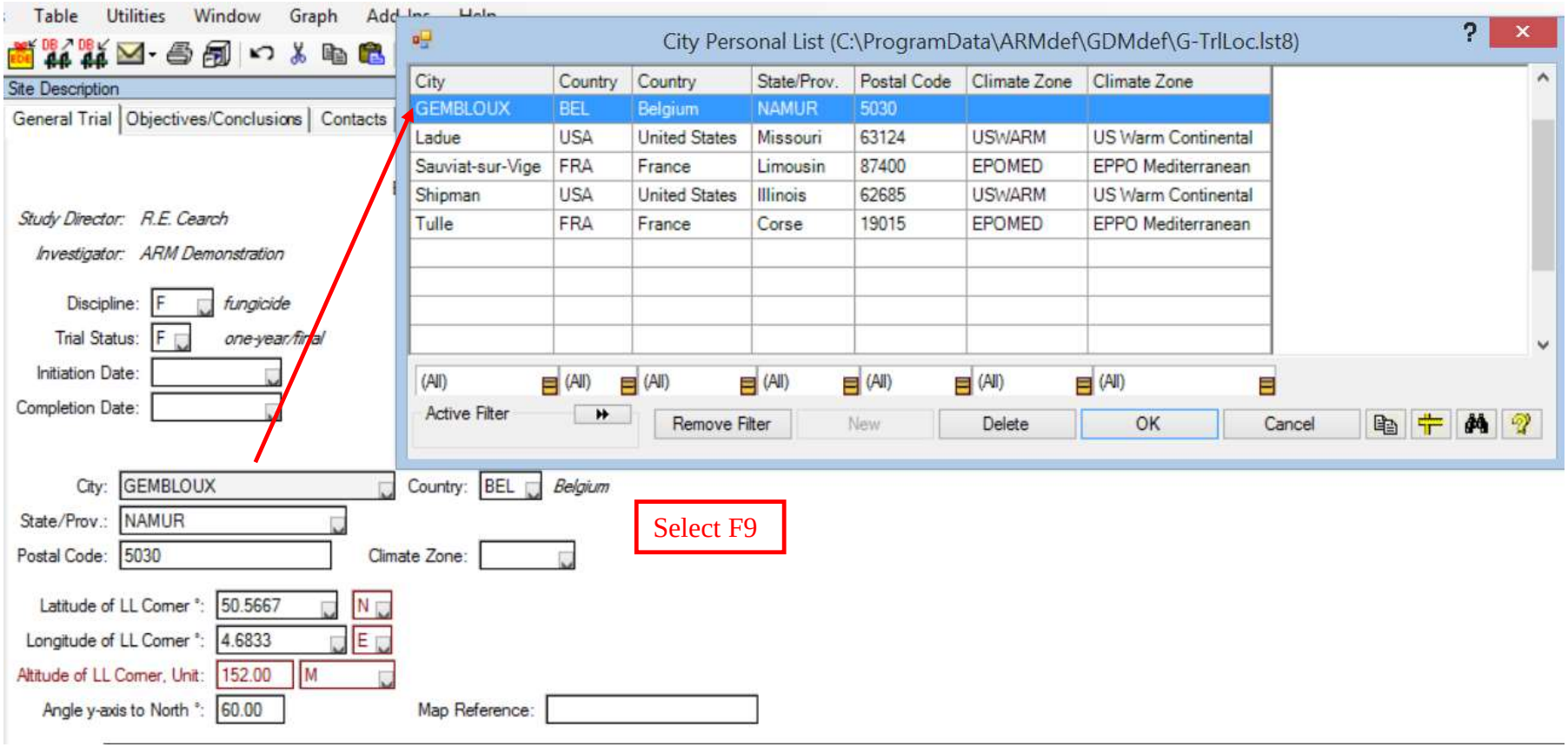
ARM checks for errors, missing units and inconsistencies

Files must be valid to be exported as .EDE

More validation rules might exist in customized formats

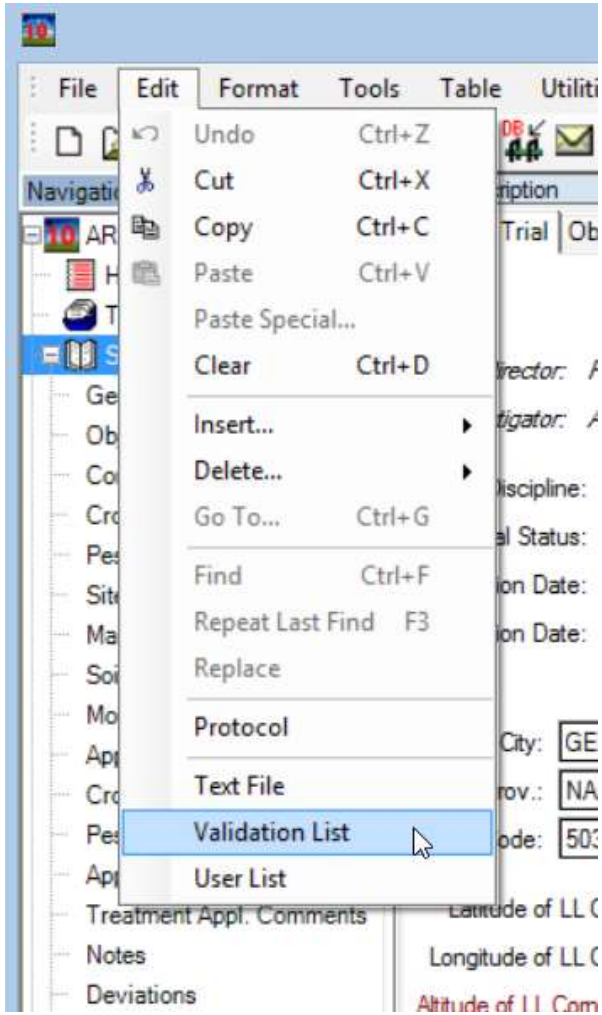
List – Personal list

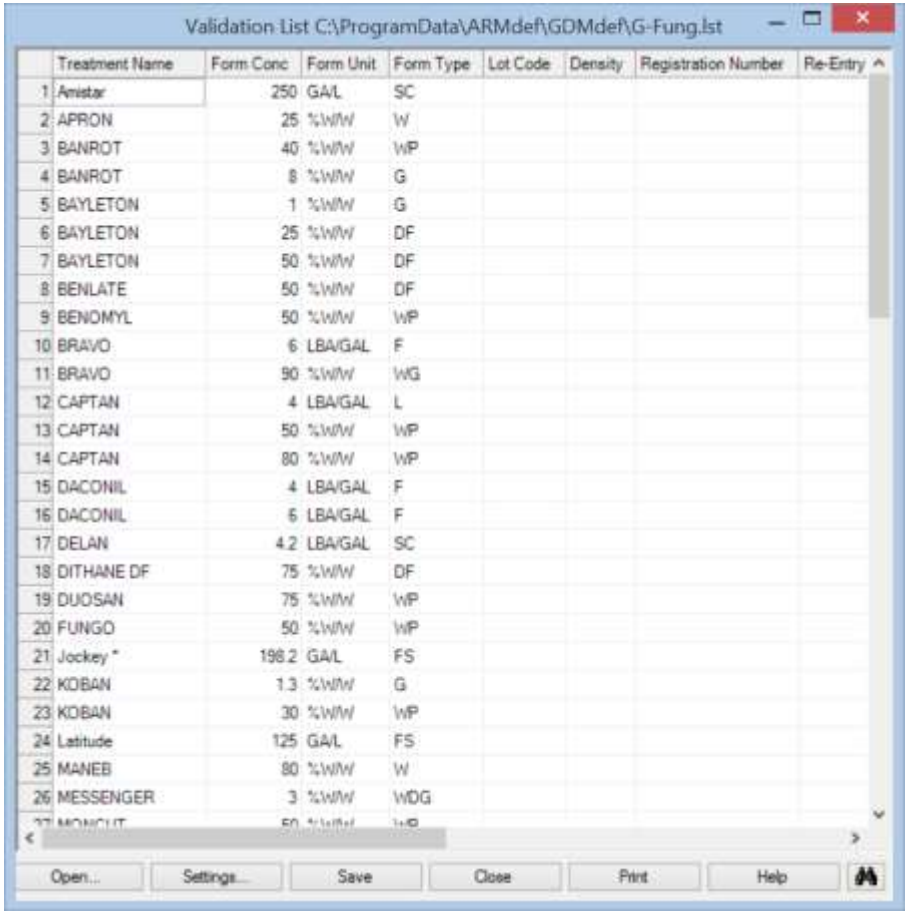
Your personal dictionary, used to quickly fill a series of linked data entry fields



List – Edit Personal list

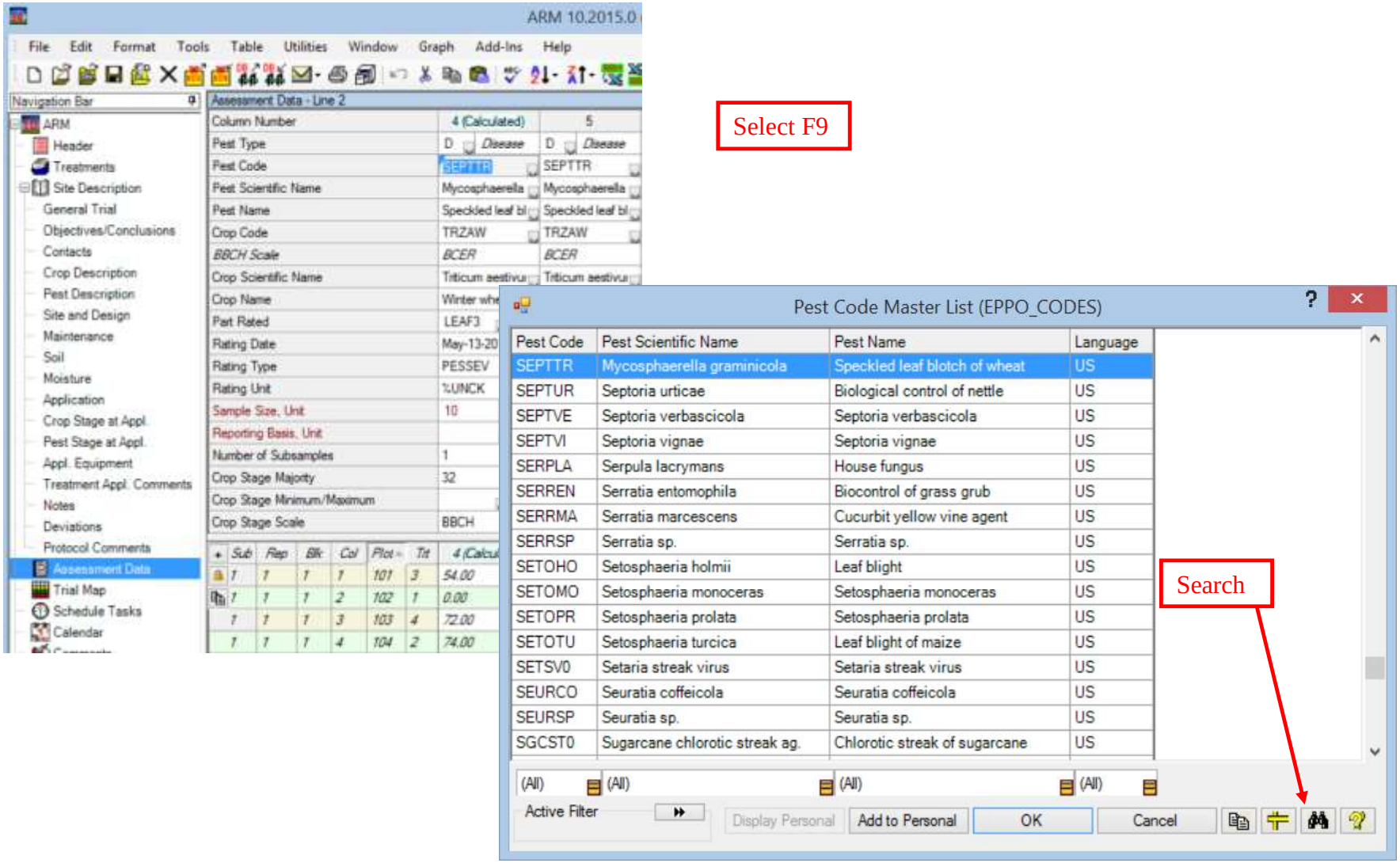
One method to make changes to a personal list



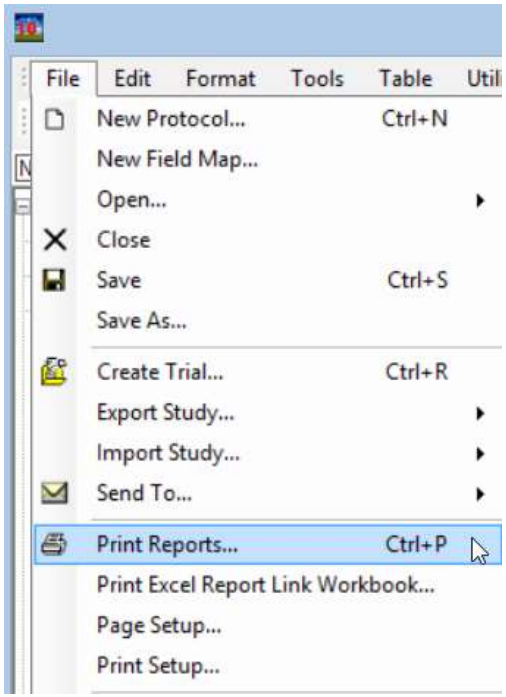


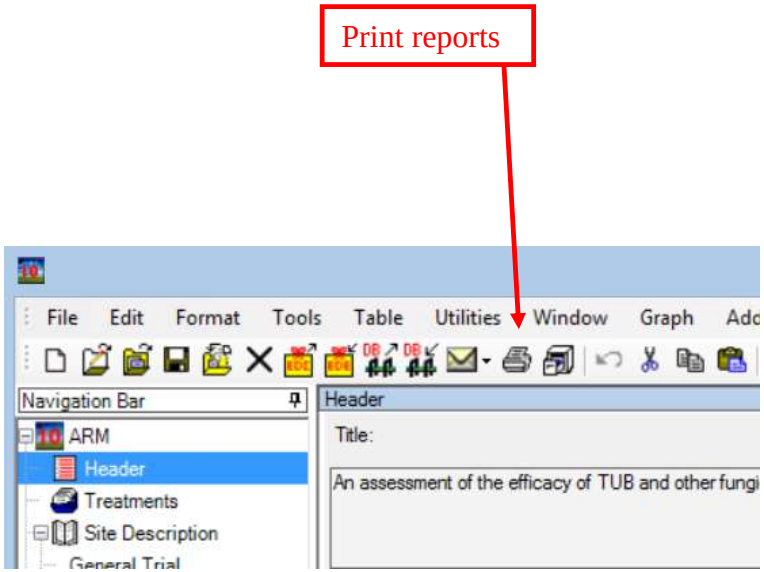
	Treatment Name	Form Conc	Form Unit	Form Type	Lot Code	Density	Registration Number	Re-Entry
1	Amistar	250	GA/L	SC				
2	APRON	25	%W/W	W				
3	BANROT	40	%W/W	WP				
4	BANROT	8	%W/W	G				
5	BAYLETON	1	%W/W	G				
6	BAYLETON	25	%W/W	DF				
7	BAYLETON	50	%W/W	DF				
8	BENLATE	50	%W/W	DF				
9	BENOMYL	50	%W/W	WP				
10	BRAVO	6	LBA/GAL	F				
11	BRAVO	90	%W/W	WG				
12	CAPTAN	4	LBA/GAL	L				
13	CAPTAN	50	%W/W	WP				
14	CAPTAN	80	%W/W	WP				
15	DACONIL	4	LBA/GAL	F				
16	DACONIL	6	LBA/GAL	F				
17	DELAN	4.2	LBA/GAL	SC				
18	DITHANE DF	75	%W/W	DF				
19	DUOSAN	75	%W/W	WP				
20	FUNGO	50	%W/W	WP				
21	Jockey *	198.2	GA/L	FS				
22	KOBAN	1.3	%W/W	G				
23	KOBAN	30	%W/W	WP				
24	Latitude	125	GA/L	FS				
25	MANEB	80	%W/W	W				
26	MESSENGER	3	%W/W	WDG				

List – Master List



Print reports





- Some reports are linked to Protocol, some to Trial.
- It is not possible to print with a demo version.

Print reports – Main screen

Report set

= customised reports selected and printed together

• Can be saved, reloaded, emailed

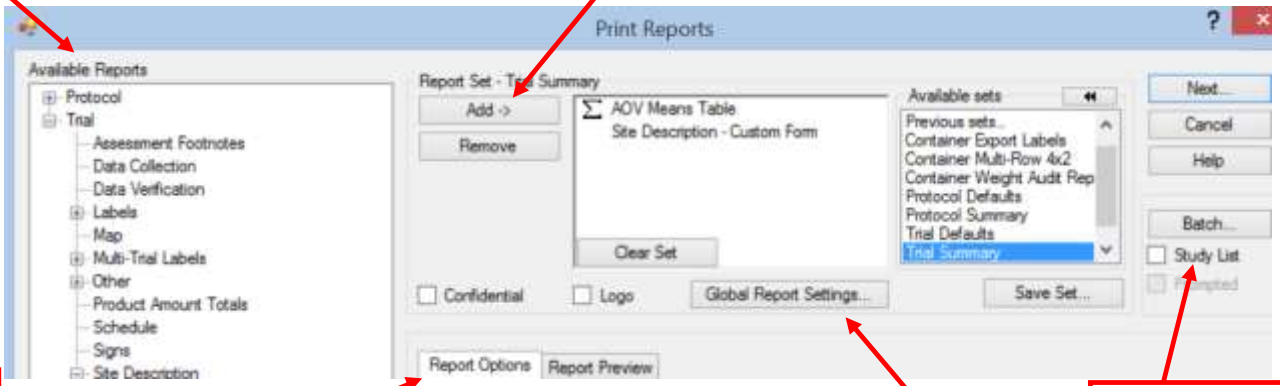
Available reports

• Protocol or Trial

• Subcategories

• Double Click to include

• Right Click to select options



Options

• Are specific for each report

• Display current options (report spec.)

• To modify, select report within the set and Right Click

Preview

• Report specific

Batch = possibility to select several files

Global settings

= all settings related to

• Headers and Footer

• Date to be printed

• Page number

• Borders

Print reports – Setup

Preview

Page Setup

- Margins
- Labels format
- Primary Font

Print Setup

- Paper size
- Portrait or Landscape
- Select printer
- Printer Properties

Previous

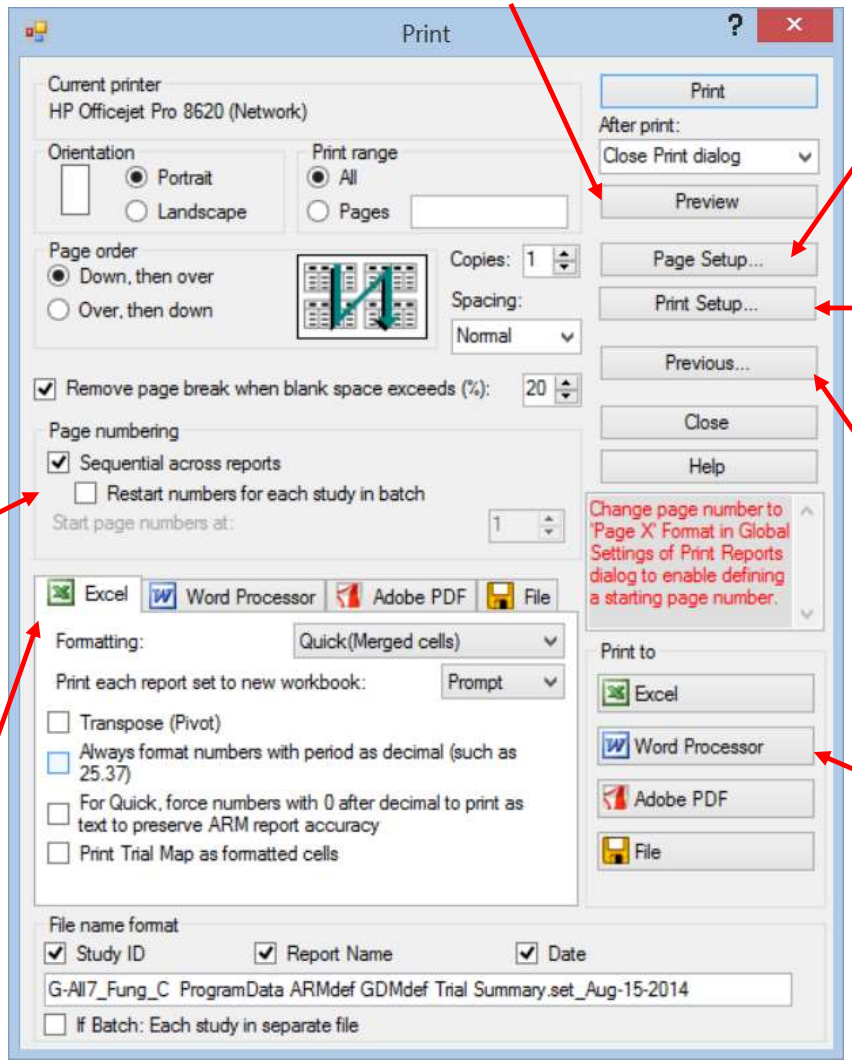
Back to Main screen

Page numbering

ARM will automatically Print to Excel

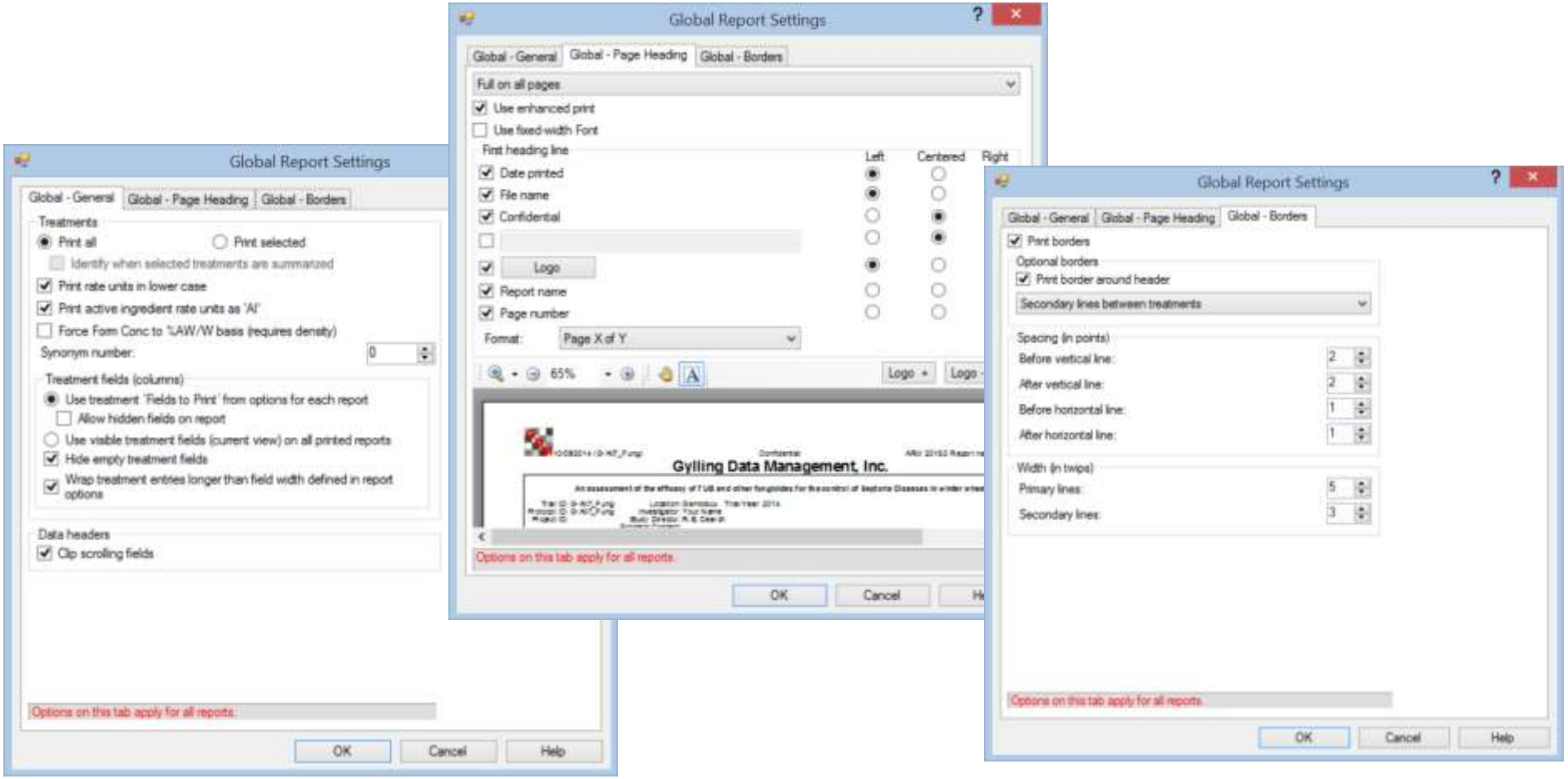
- One sheet by report
- More or less formatting available to allow fast export.

ARM will automatically print to Word and launch one document with similar name.

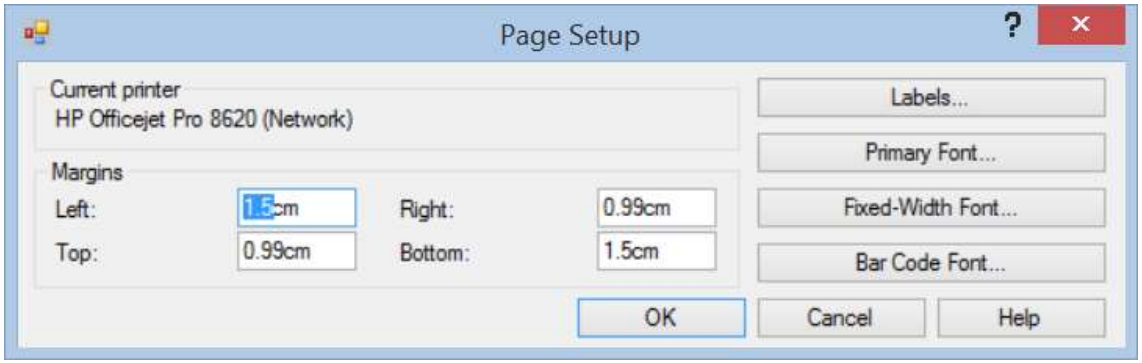


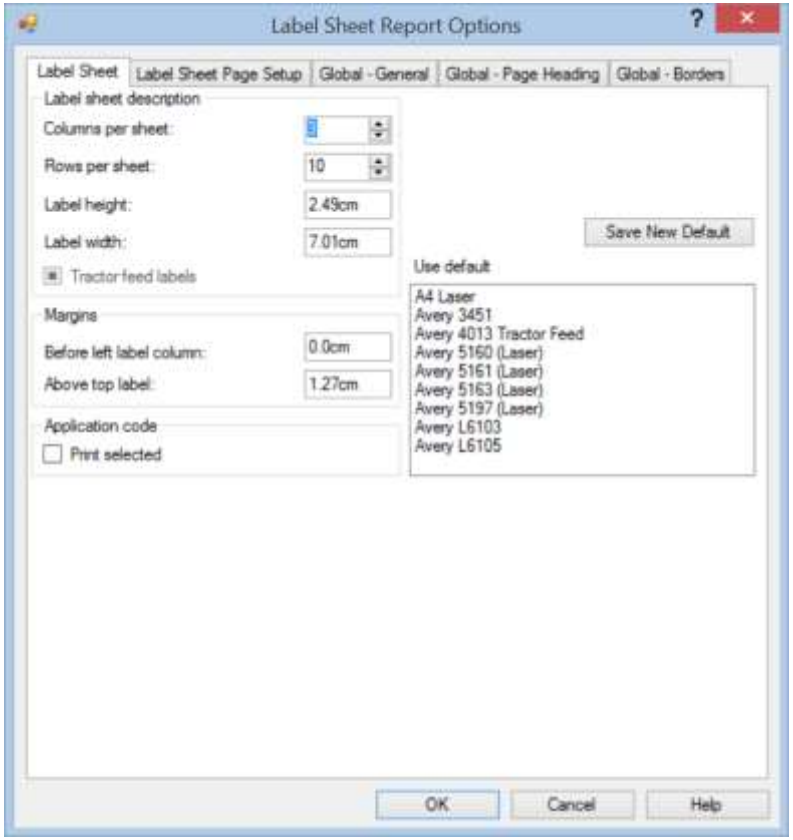
Global report settings

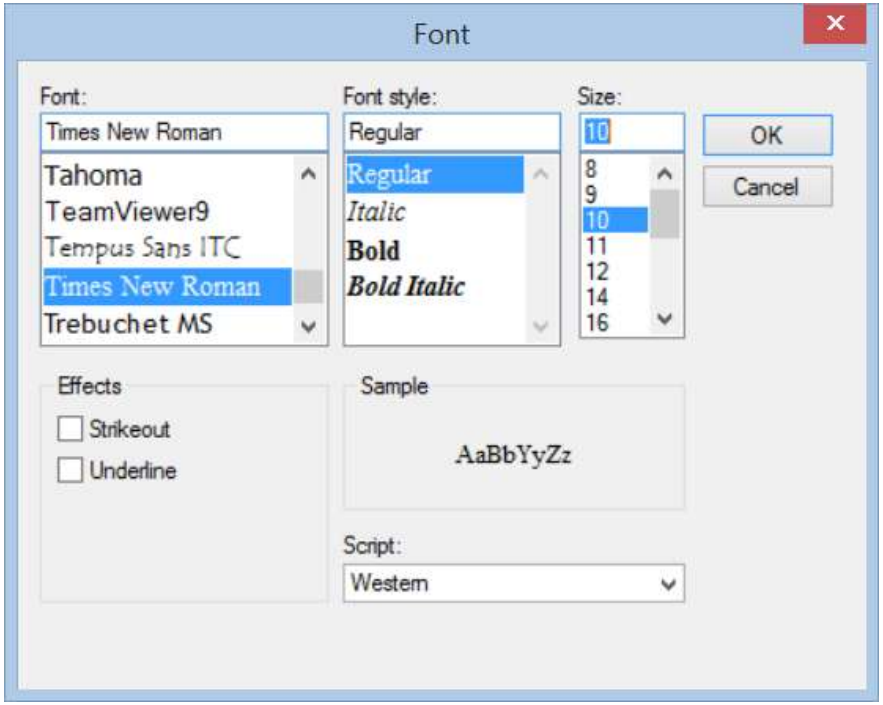
"Global Options" apply to all reports



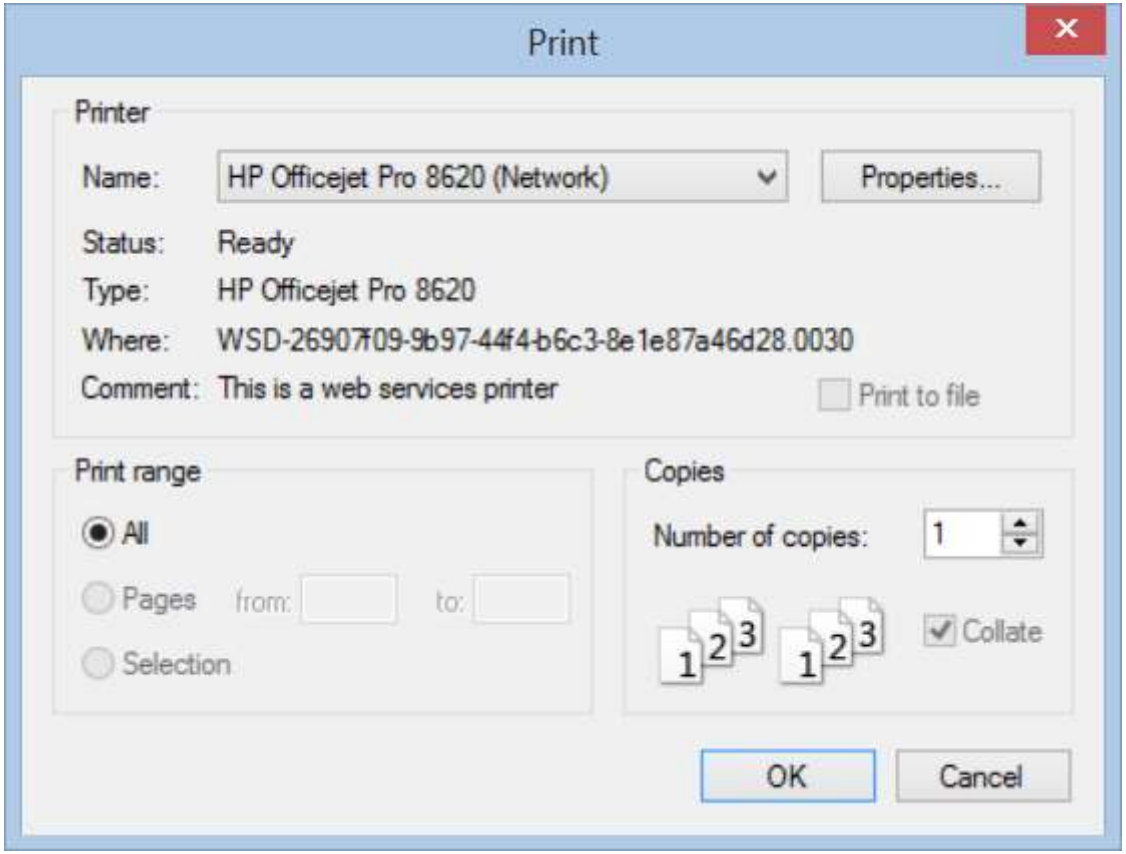
Print – Page Setup (Labels)



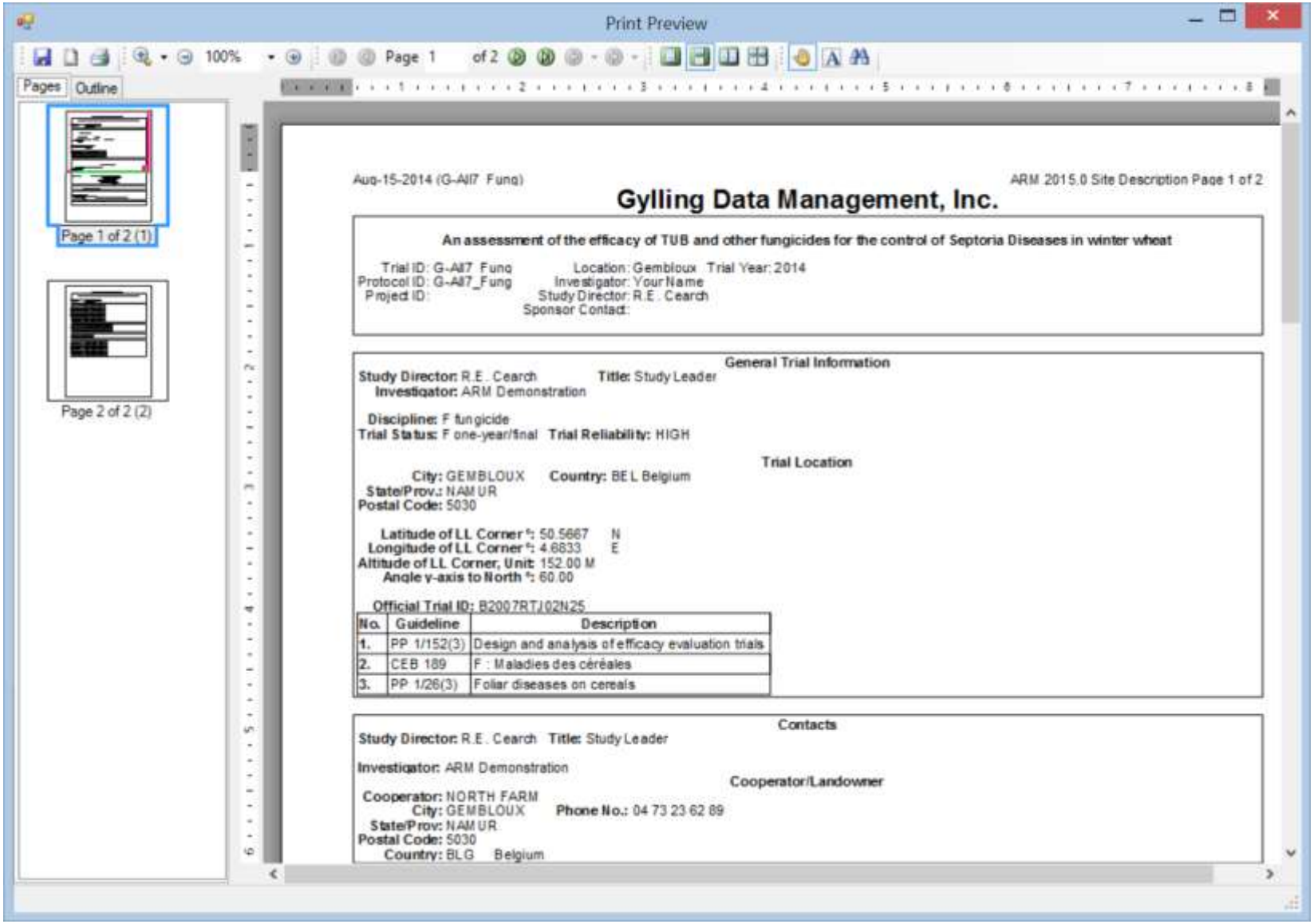




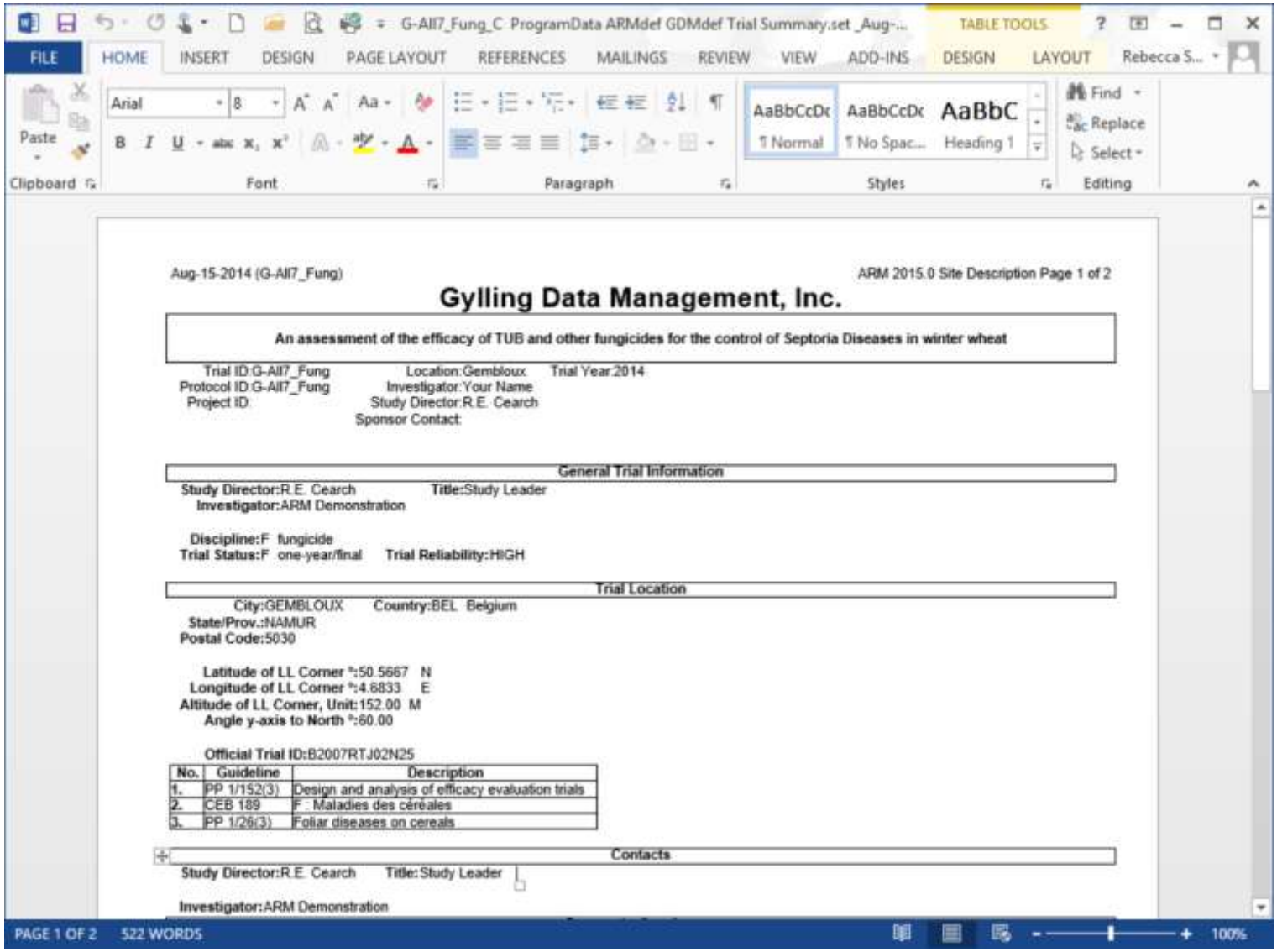
Print – Print Setup



Print - Preview



Print – Print to Word



Aug-15-2014 (G-All7_Fung) ARM 2015.0 Site Description Page 1 of 2

Gylling Data Management, Inc.

An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wheat

Trial ID:G-All7_Fung Location:Gembloux Trial Year:2014
Protocol ID:G-All7_Fung Investigator:Your Name
Project ID: Study Director:R.E. Cearch
Sponsor Contact:

General Trial Information

Study Director:R.E. Cearch **Title:**Study Leader
Investigator:ARM Demonstration

Discipline:F fungicide
Trial Status:F one-year/final **Trial Reliability:**HIGH

Trial Location

City:GEMBLOUX **Country:**BEL Belgium
State/Prov.:NAMUR
Postal Code:5030

Latitude of LL Corner °:50.5667 N
Longitude of LL Corner °:4.6833 E
Altitude of LL Corner, Unit:152.00 M
Angle y-axis to North °:60.00

Official Trial ID:B2007RTJ02N25

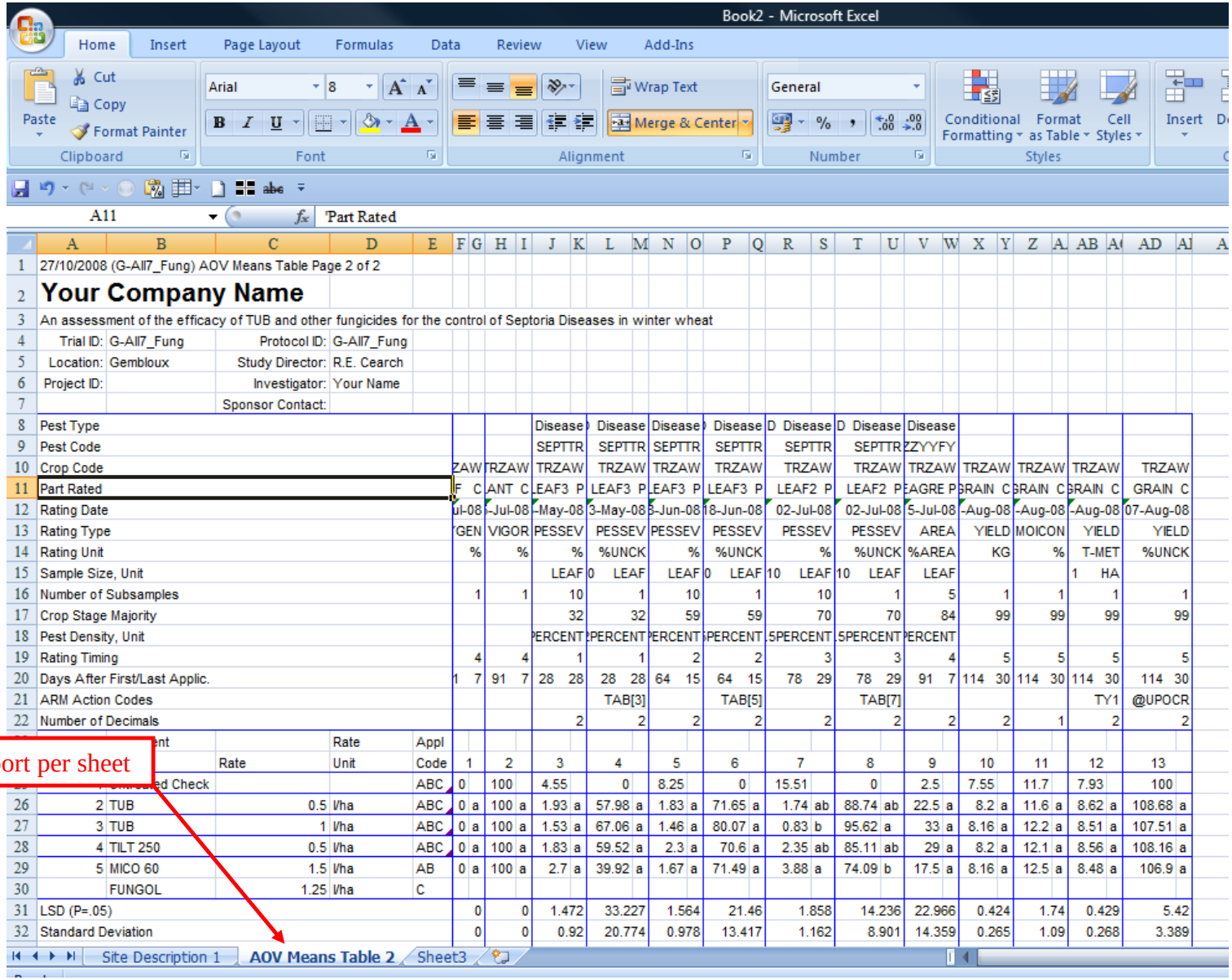
No.	Guideline	Description
1.	PP 1/152(3)	Design and analysis of efficacy evaluation trials
2.	CEB 189	F : Maladies des céréales
3.	PP 1/26(3)	Foliar diseases on cereals

Contacts

Study Director:R.E. Cearch **Title:**Study Leader

Investigator:ARM Demonstration

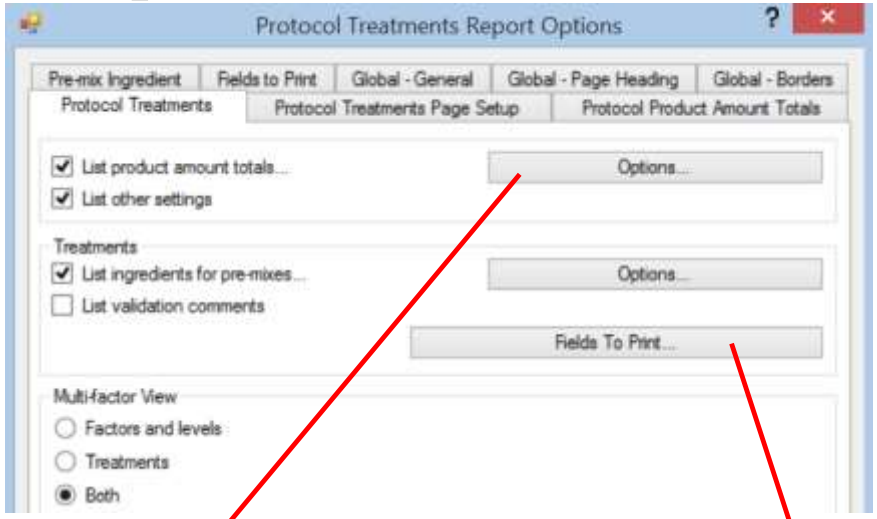
Print – Print to Excel

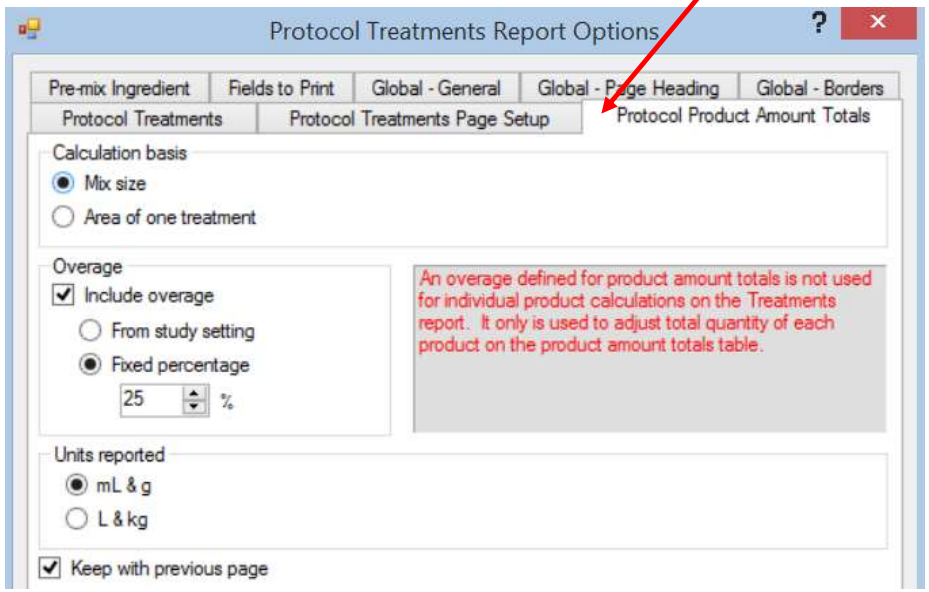


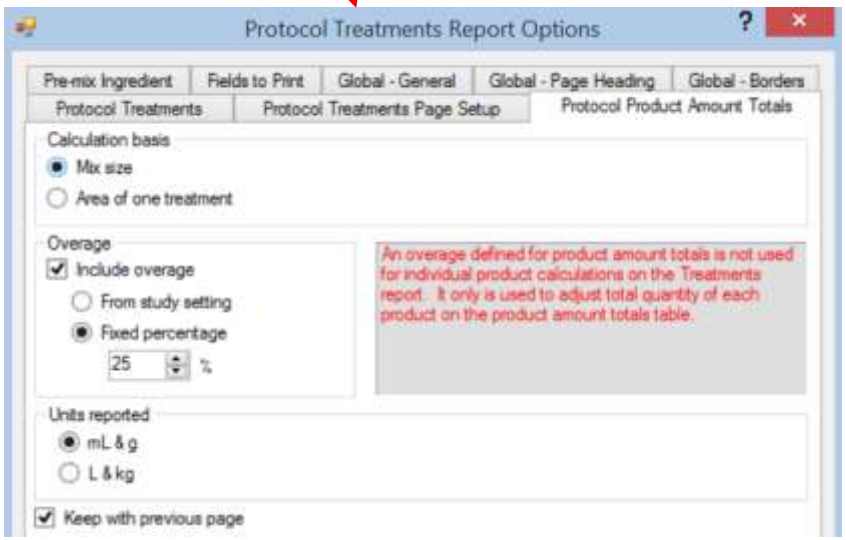
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	AB	A	AD	A
1	27/10/2008 (G-All7_Fung) AOV Means Table Page 2 of 2																														
2	**Your Company Name**																														
3	An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wheat																														
4	Trial ID:	G-All7_Fung	Protocol ID:	G-All7_Fung																											
5	Location:	Gembloux	Study Director:	R.E. Cearch																											
6	Project ID:		Investigator:	Your Name																											
7			Sponsor Contact:																												
8	Pest Type									Disease		Disease		Disease		Disease		D Disease		D Disease		Disease									
9	Pest Code									SEPTTR		SEPTTR		SEPTTR		SEPTTR		SEPTTR		SEPTTR		ZZYYFY									
10	Crop Code					ZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW	
11	Part Rated					F	C	ANT	C	LEAF3	P	LEAF3	P	LEAF3	P	LEAF3	P	LEAF2	P	LEAF2	P	EAGRE	P	GRAIN	C	GRAIN	C	GRAIN	C	GRAIN	C
12	Rating Date					ul-08		-Jul-08		-May-08		3-May-08		3-Jun-08		18-Jun-08		02-Jul-08		02-Jul-08		5-Jul-08		-Aug-08		-Aug-08		-Aug-08		07-Aug-08	
13	Rating Type					GEN		VIGOR		PESSEV		PESSEV		PESSEV		PESSEV		PESSEV		PESSEV		AREA		YIELD		MOICON		YIELD		YIELD	
14	Rating Unit					%		%		%		%UNCK		%		%UNCK		%		%UNCK		%AREA		KG		%		T-MET		%UNCK	
15	Sample Size, Unit									LEAF	0	LEAF		LEAF	0	LEAF	10	LEAF	10	LEAF		LEAF					1	HA			
16	Number of Subsamples					1		1		10		1		10		1		10		1		5		1		1		1		1	
17	Crop Stage Majority									32		32		59		59		70		70		84		99		99		99		99	
18	Pest Density, Unit									PERCENT		PERCENT		PERCENT		PERCENT		SPERCENT		SPERCENT		PERCENT									
19	Rating Timing					4		4		1		1		2		2		3		3		4		5		5		5		5	
20	Days After First/Last Applic.					1 7		91 7		28 28		28 28		64 15		64 15		78 29		78 29		91 7		114 30		114 30		114 30		114 30	
21	ARM Action Codes											TAB[3]				TAB[5]				TAB[7]								TY1		@UPOCR	
22	Number of Decimals									2		2		2		2		2		2		2		2		1		2		2	
		ent		Rate	Appl																										
			Rate	Unit	Code	1		2		3		4		5		6		7		8		9		10		11		12		13	
		ed Check			ABC	0		100		4.55		0		8.25		0		15.51		0		2.5		7.55		11.7		7.93		100	
26	2	TUB	0.5	l/ha	ABC	0	a	100	a	1.93	a	57.98	a	1.83	a	71.65	a	1.74	ab	88.74	ab	22.5	a	8.2	a	11.6	a	8.62	a	108.68	a
27	3	TUB	1	l/ha	ABC	0	a	100	a	1.53	a	67.06	a	1.46	a	80.07	a	0.83	b	95.62	a	33	a	8.16	a	12.2	a	8.51	a	107.51	a
28	4	TILT 250	0.5	l/ha	ABC	0	a	100	a	1.83	a	59.52	a	2.3	a	70.6	a	2.35	ab	85.11	ab	29	a	8.2	a	12.1	a	8.56	a	108.16	a
29	5	MICO 60	1.5	l/ha	AB	0	a	100	a	2.7	a	39.92	a	1.67	a	71.49	a	3.88	a	74.09	b	17.5	a	8.16	a	12.5	a	8.48	a	106.9	a
30		FUNGOL	1.25	l/ha	C																										
31	LSD (P=.05)					0		0		1.472		33.227		1.564		21.46		1.858		14.236		22.966		0.424		1.74		0.429		5.42	
32	Standard Deviation					0		0		0.92		20.774		0.978		13.417		1.162		8.901		14.359		0.265		1.09		0.268		3.389	

One report per sheet

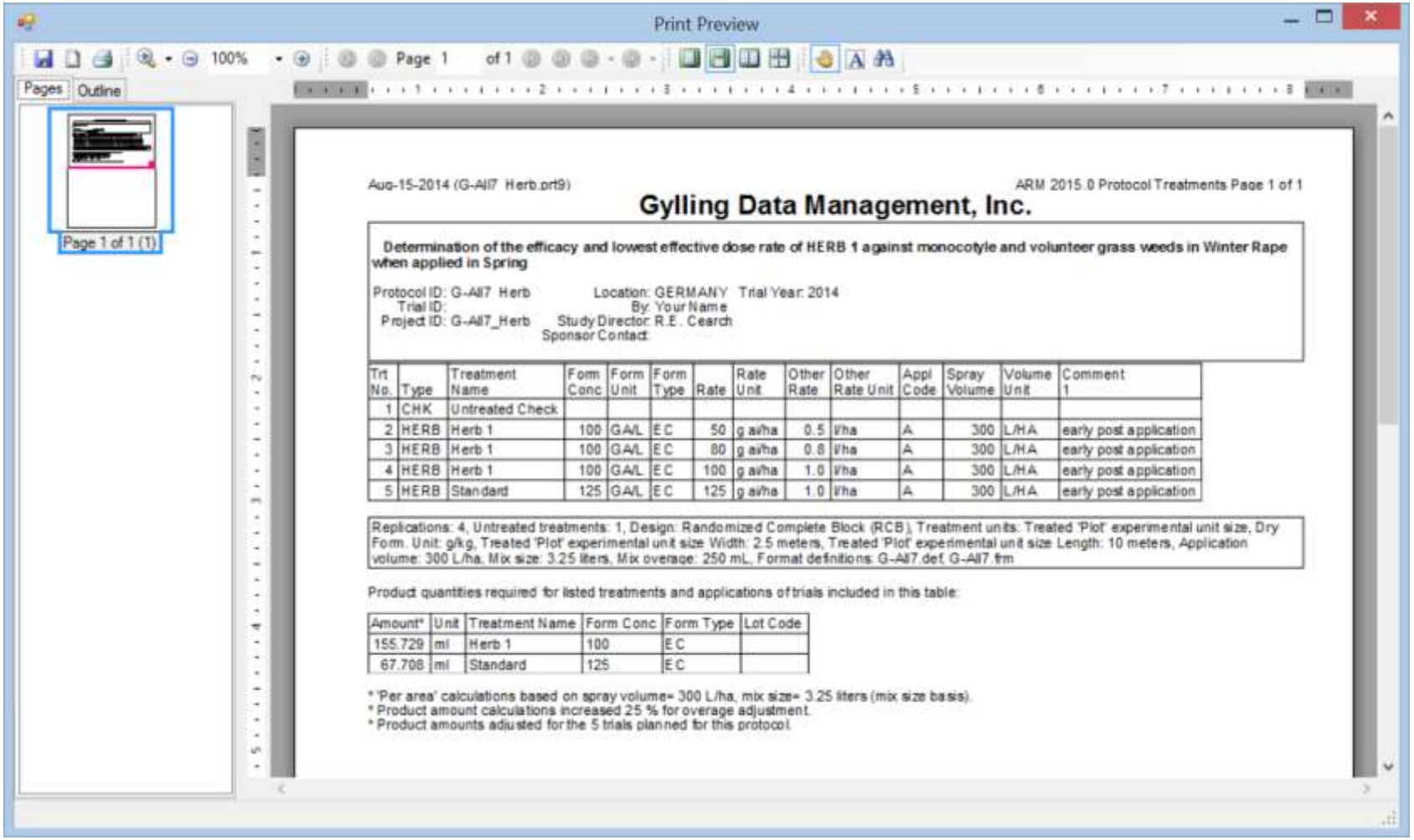
Print reports - Protocol Treatments







Print reports - Protocol Treatments



Print Preview

Page 1 of 1 (1)

Aug-15-2014 (G-All7 Herb.prt9)

ARM 2015.0 Protocol Treatments Page 1 of 1

Gylling Data Management, Inc.

Determination of the efficacy and lowest effective dose rate of HERB 1 against monocotyle and volunteer grass weeds in Winter Rape when applied in Spring

Protocol ID: G-All7 Herb
Trial ID:
Project ID: G-All7_Herb

Location: GERMANY Trial Year: 2014
By: Your Name
Study Director: R.E. Cearch
Sponsor Contact:

Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	Spray Volume	Volume Unit	Comment 1
1	CHK	Untreated Check											
2	HERB	Herb 1	100	GA/L	EC	50	g ai/ha	0.5	l/ha	A	300	L/HA	early post application
3	HERB	Herb 1	100	GA/L	EC	80	g ai/ha	0.8	l/ha	A	300	L/HA	early post application
4	HERB	Herb 1	100	GA/L	EC	100	g ai/ha	1.0	l/ha	A	300	L/HA	early post application
5	HERB	Standard	125	GA/L	EC	125	g ai/ha	1.0	l/ha	A	300	L/HA	early post application

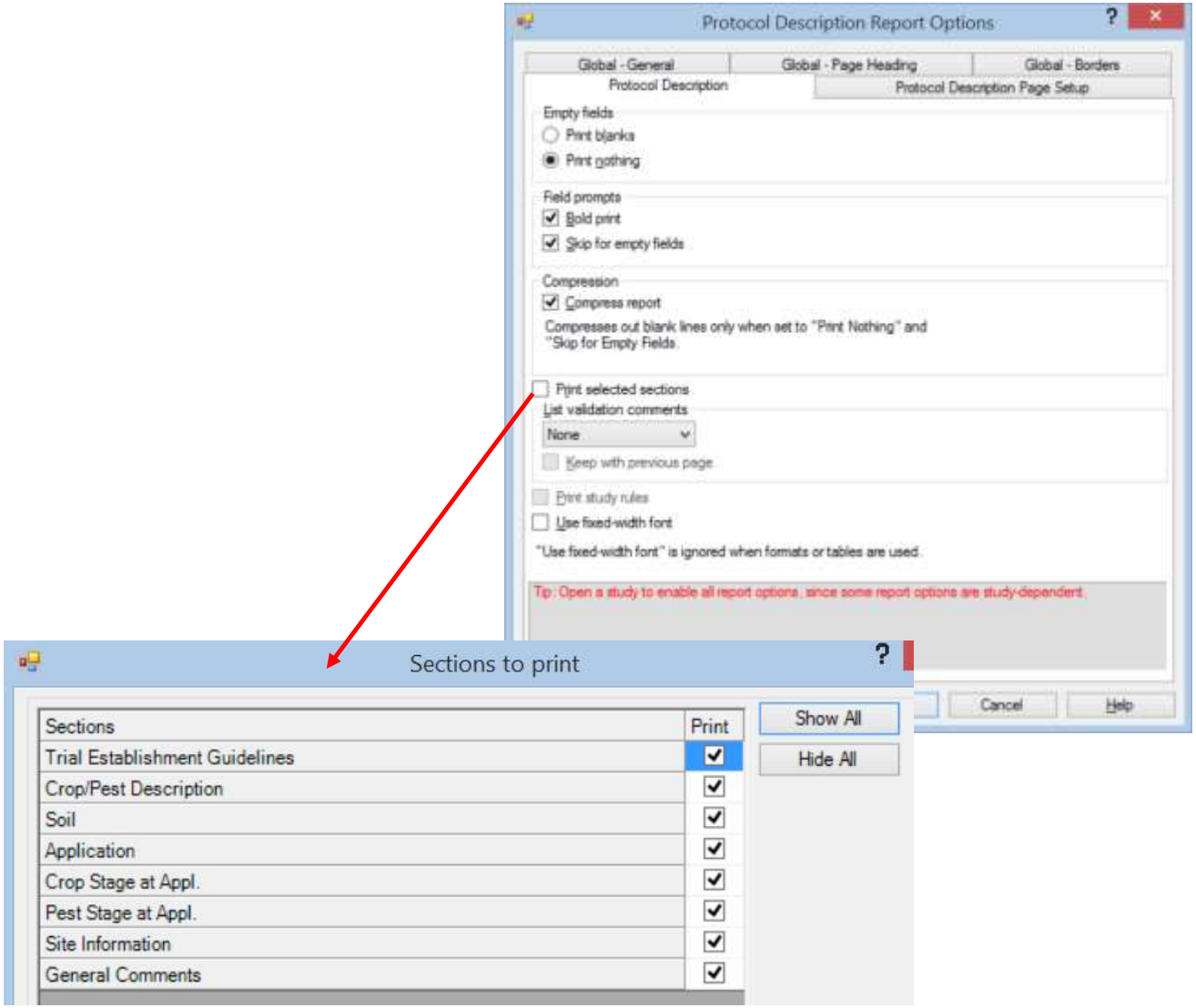
Replications: 4, Untreated treatments: 1, Design: Randomized Complete Block (RCB), Treatment units: Treated 'Plot' experimental unit size, Dry Form. Unit: g/kg, Treated 'Plot' experimental unit size Width: 2.5 meters, Treated 'Plot' experimental unit size Length: 10 meters, Application volume: 300 L/ha, Mix size: 3.25 liters, Mix overage: 250 mL, Format definitions: G-All7.def, G-All7.frm

Product quantities required for listed treatments and applications of trials included in this table:

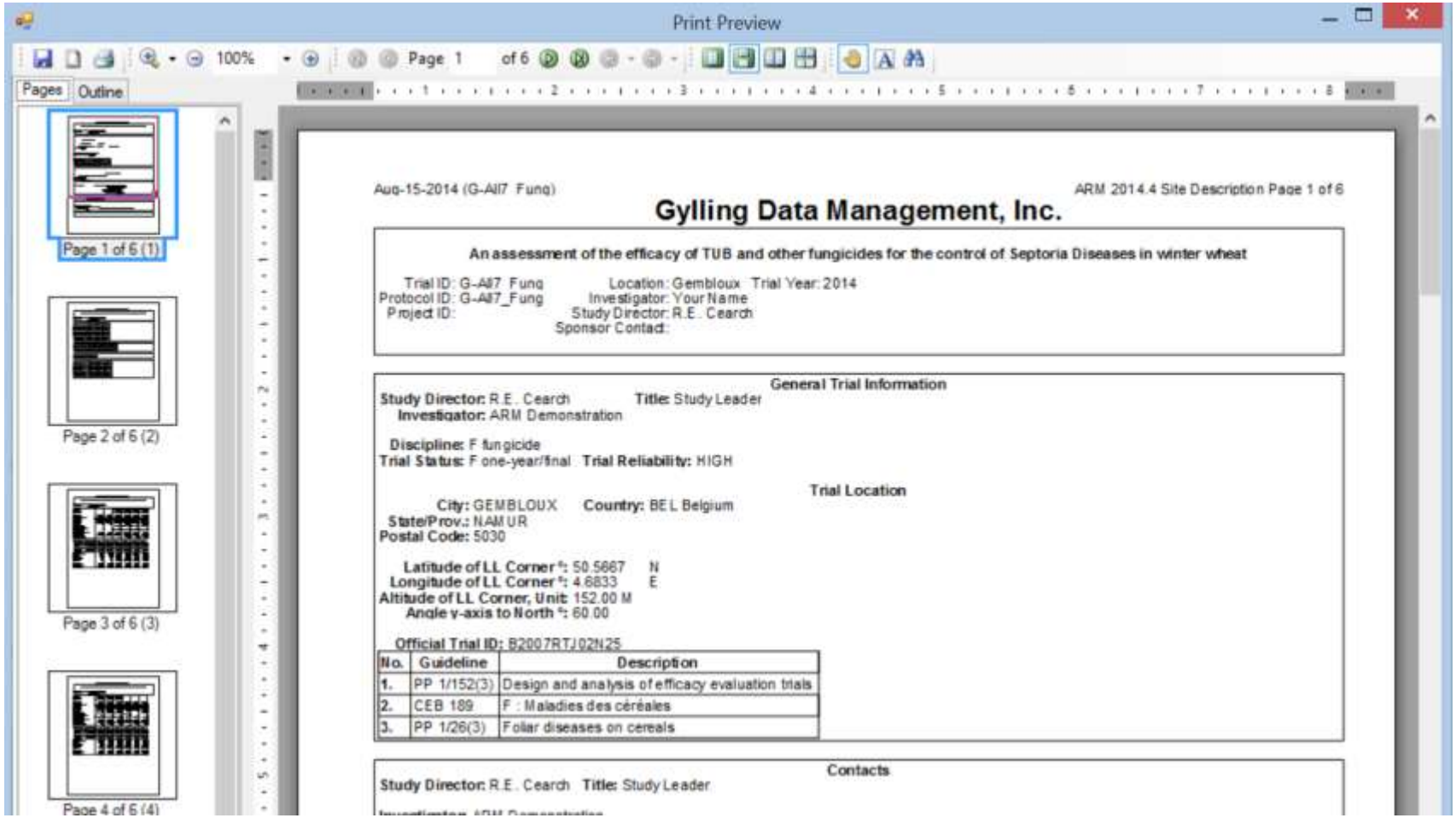
Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
155.729	ml	Herb 1	100	EC	
67.708	ml	Standard	125	EC	

* 'Per area' calculations based on spray volume= 300 L/ha, mix size= 3.25 liters (mix size basis).
* Product amount calculations increased 25 % for overage adjustment.
* Product amounts adjusted for the 5 trials planned for this protocol.

Print reports - Protocol Description



Print reports - Protocol Description



Print Preview

Page 1 of 6

Aug-15-2014 (G-All7_Fung)

ARM 2014.4 Site Description Page 1 of 6

Gylling Data Management, Inc.

An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wheat

Trial ID: G-All7_Fung
Protocol ID: G-All7_Fung
Project ID:

Location: Gembloux Trial Year: 2014
Investigator: Your Name
Study Director: R.E. Cearch
Sponsor Contact:

General Trial Information

Study Director: R.E. Cearch **Title:** Study Leader
Investigator: ARM Demonstration

Discipline: Fungicide
Trial Status: Done-year/final **Trial Reliability:** HIGH

Trial Location

City: GEMBLOUX **Country:** BEL Belgium
State/Prov.: NAMUR
Postal Code: 5030

Latitude of LL Corner °: 50.5667 N
Longitude of LL Corner °: 4.6833 E
Altitude of LL Corner, Unit: 152.00 M
Angle y-axis to North °: 60.00

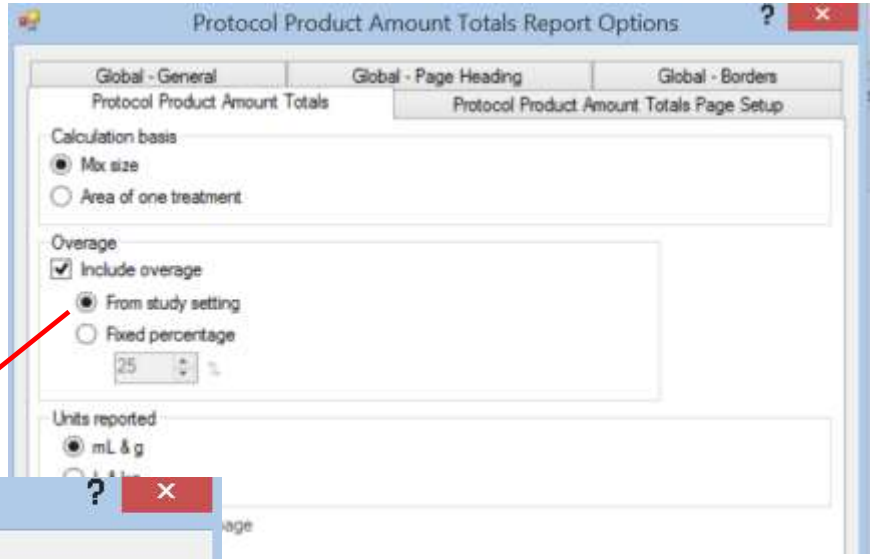
Official Trial ID: B2007RTJ02N25

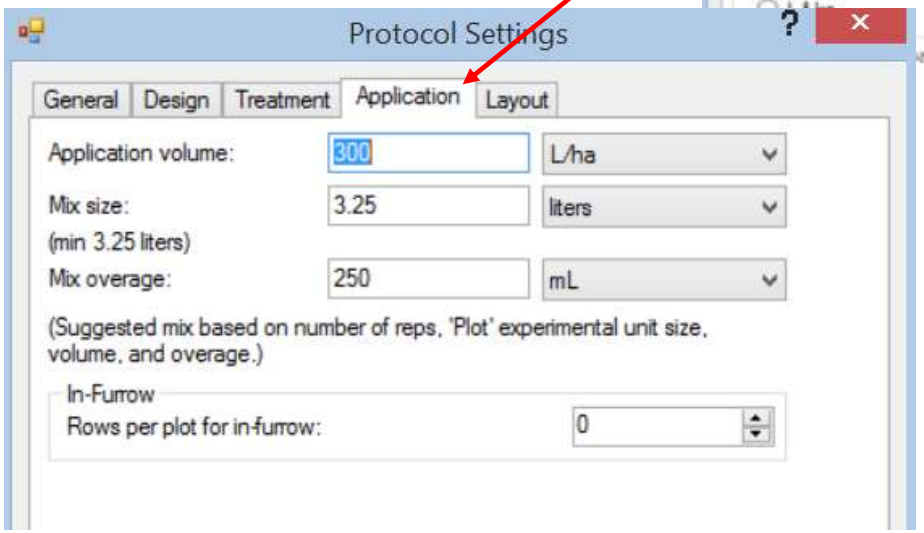
No.	Guideline	Description
1.	PP 1/152(3)	Design and analysis of efficacy evaluation trials
2.	CEB 189	F : Maladies des céréales
3.	PP 1/26(3)	Foliar diseases on cereals

Contacts

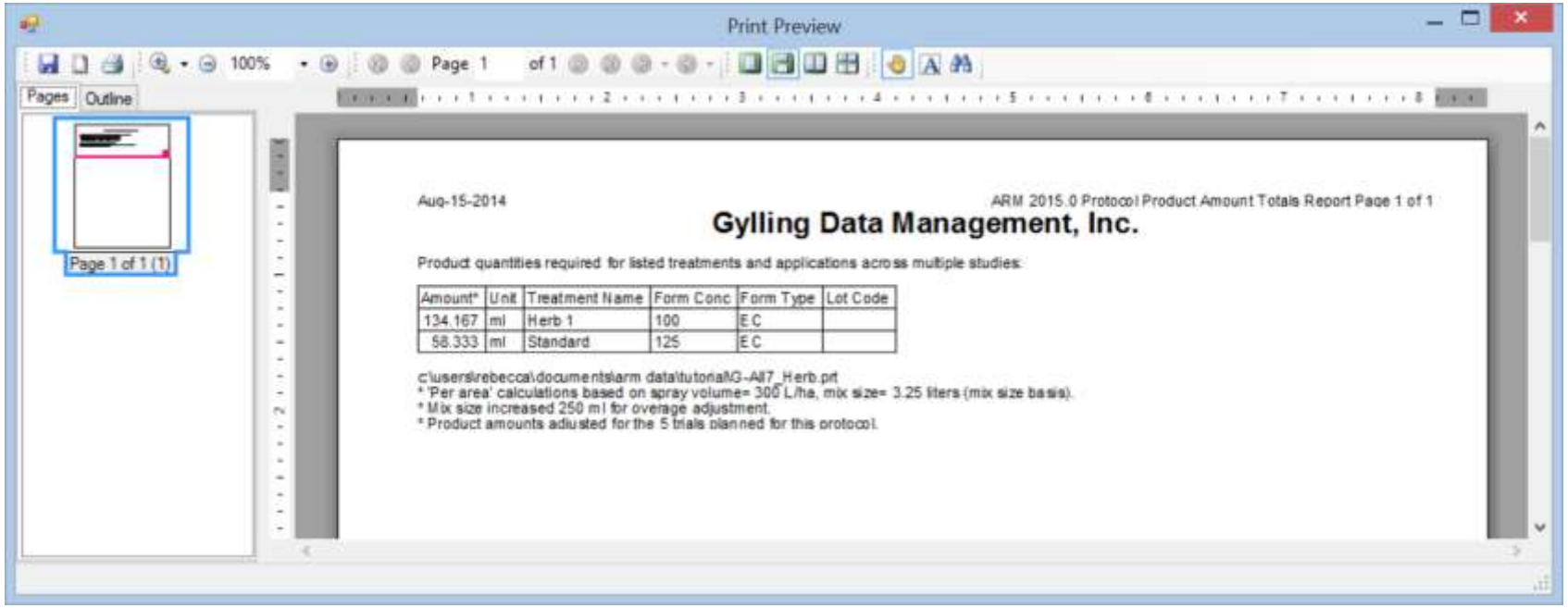
Study Director: R.E. Cearch **Title:** Study Leader

Print reports - Protocol Product Amount Total

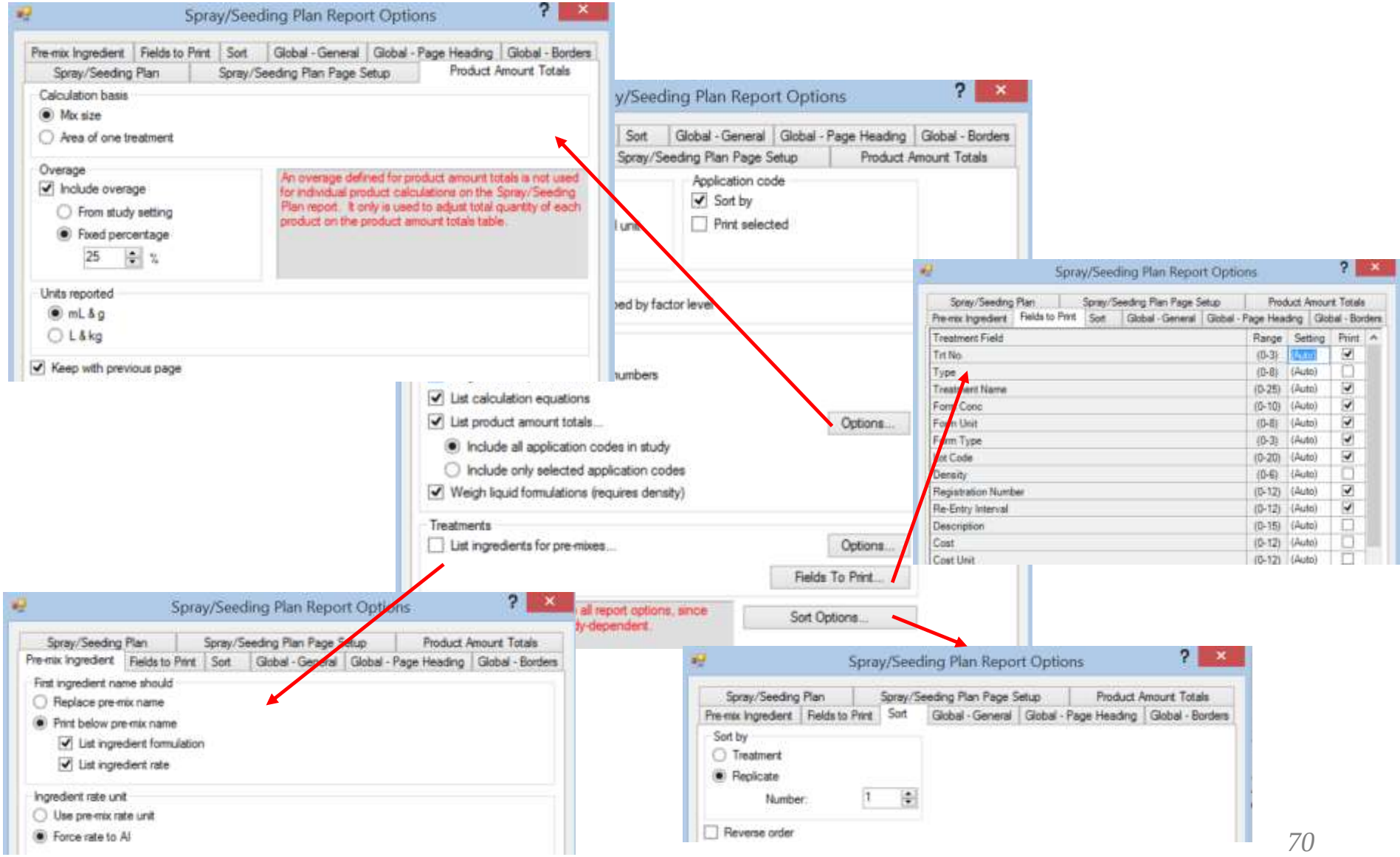




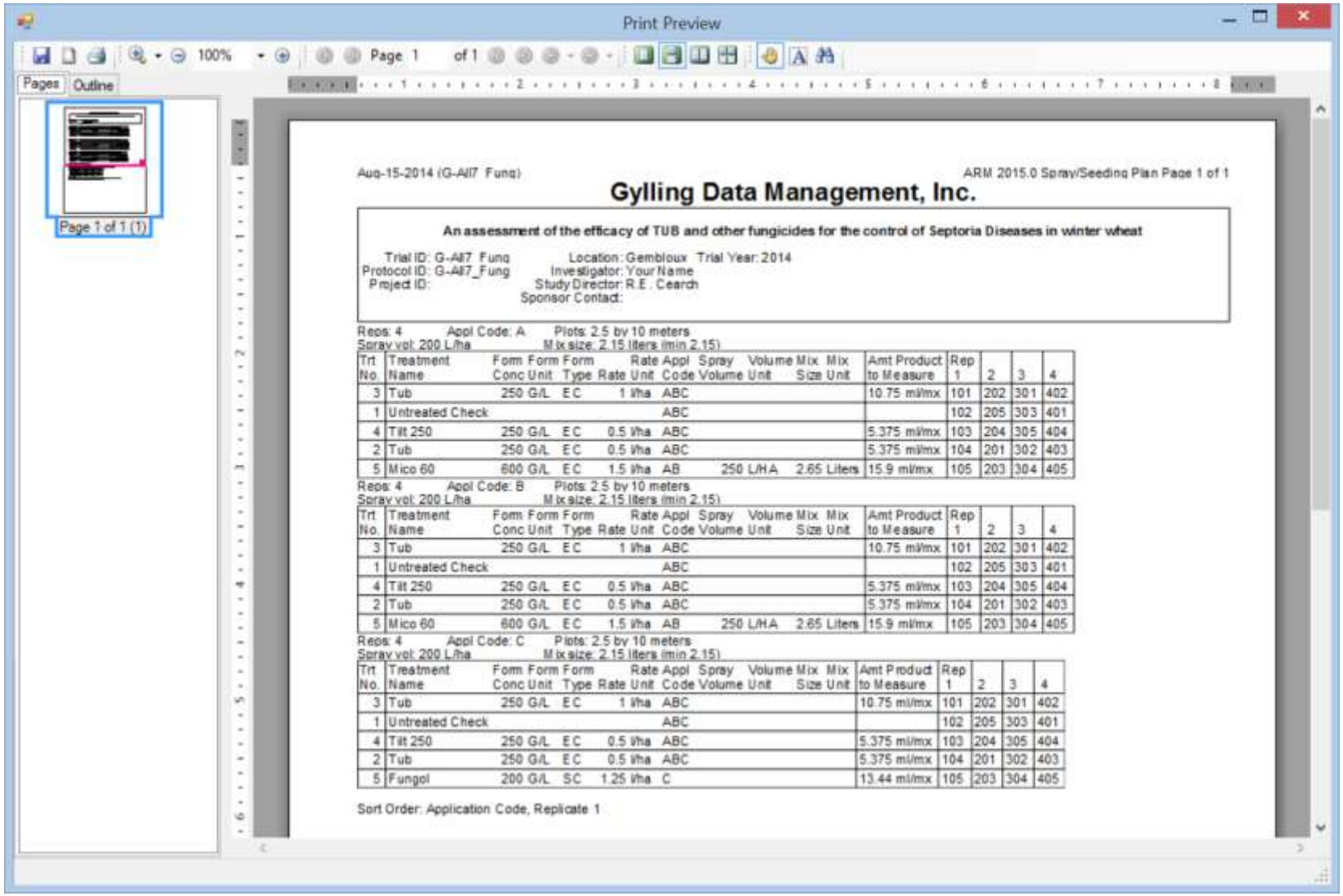
Print reports - Protocol Product Amount Total



Print reports - Trials - Spray/Seeding plan



Print reports - Trials - Spray/Seeding plan



Aug-15-2014 (G-All7 Fung)

ARM 2015.0 Spray/Seeding Plan Page 1 of 1

Gylling Data Management, Inc.

An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wheat

Trial ID: G-All7 Fung
Protocol ID: G-All7_Fung
Project ID:
Location: Gembloux Trial Year: 2014
Investigator: Your Name
Study Director: R.E. Cearch
Sponsor Contact:

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	Volume Unit	Mix Size	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)

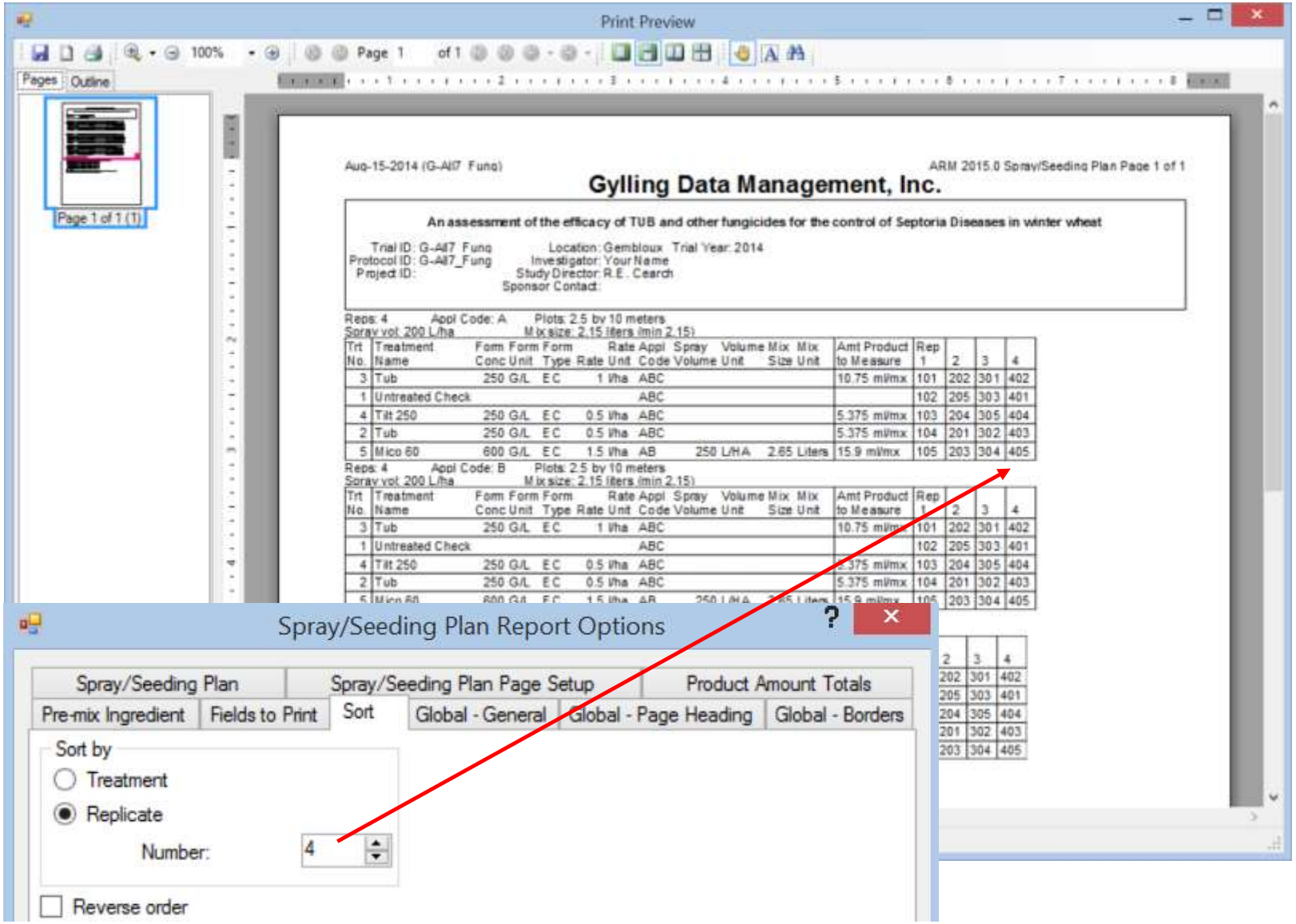
Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit	Mix Size	Mix Unit	Amt Product to Measure	Rep 1	2	3	4
3	Tub	250	G/L	EC	1	l/ha	ABC					10.75 ml/mx	101	202	301	402
1	Untreated Check						ABC						102	205	303	401
4	Tilt 250	250	G/L	EC	0.5	l/ha	ABC					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: C Plots: 2.5 by 10 meters
Spray vol: 200 L/ha Mix size: 2.15 liters (min 2.15)

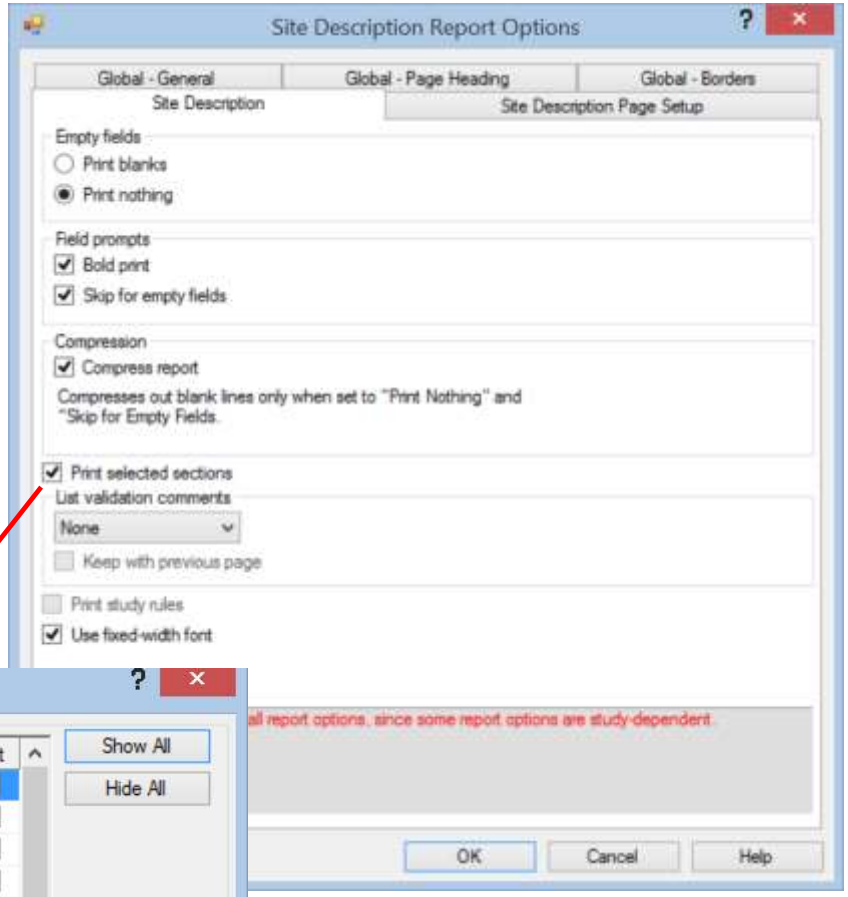
Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Spray Volume	Volume Unit	Mix Size	Mix Unit	Amt Product to Measure	Rep 1	2	3	4
3	Tub	250	G/L	EC	1	l/ha	ABC					10.75 ml/mx	101	202	301	402
1	Untreated Check						ABC						102	205	303	401
4	Tilt 250	250	G/L	EC	0.5	l/ha	ABC					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	Fungol	200	G/L	SC	1.25	l/ha	C					13.44 ml/mx	105	203	304	405

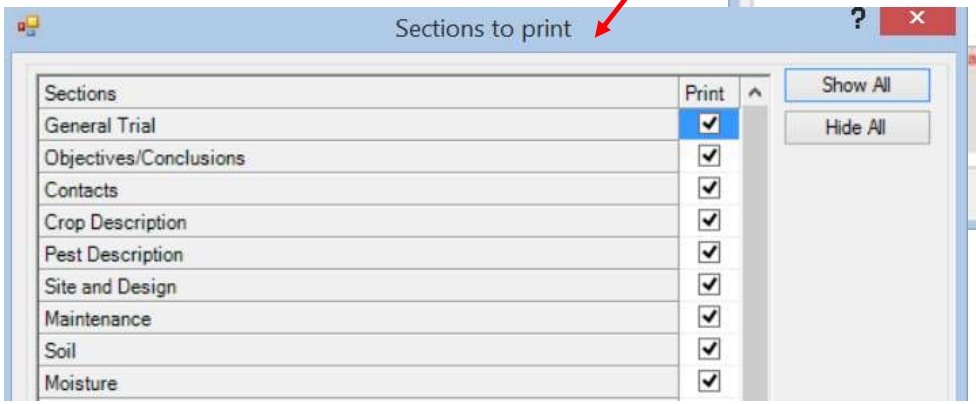
Sort Order: Application Code, Replicate 1

Print reports - Trials - Spray/Seeding plan

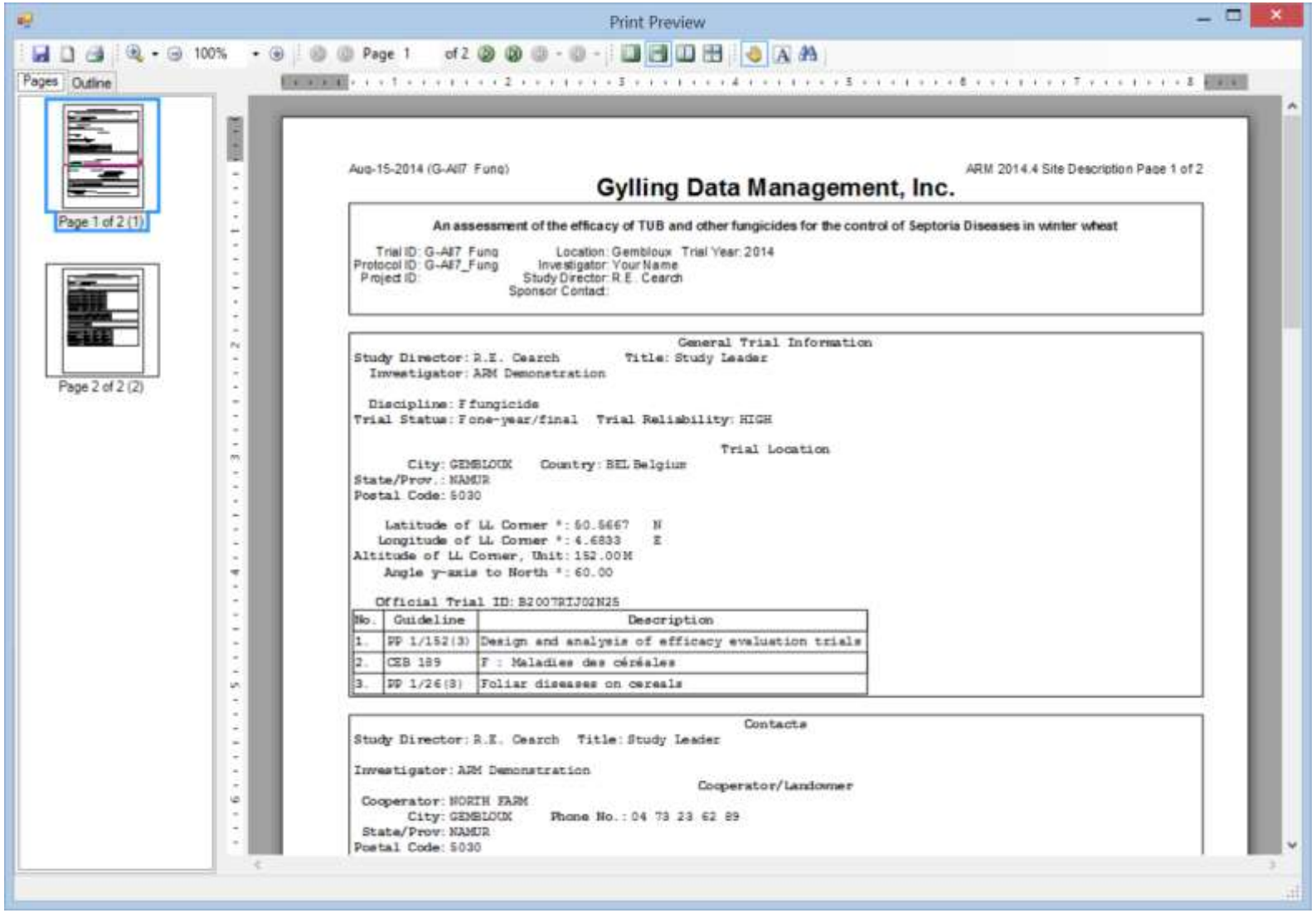


Print reports - Trials - Site Description





Print reports - Trials - Site Description



Print Preview

Page 1 of 2

Aug-15-2014 (G-All7 Fung)

ARM 2014.4 Site Description Page 1 of 2

Gylling Data Management, Inc.

An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wheat

Trial ID: G-All7 Fung
Protocol ID: G-All7_Fung
Project ID:

Location: Gembloux Trial Year: 2014
Investigator: Your Name
Study Director: R.E. Cearch
Sponsor Contact:

General Trial Information

Study Director: R.E. Cearch Title: Study Leader
Investigator: ARM Demonstration

Discipline: F fungicide
Trial Status: F one-year/final Trial Reliability: HIGH

Trial Location

City: GEMBLOUX Country: BEL Belgium
State/Prov.: NAMUR
Postal Code: 5030

Latitude of LL Corner °: 50.5667 N
Longitude of LL Corner °: 4.6833 E
Altitude of LL Corner, Unit: 152.00M
Angle y-axis to North °: 60.00

Official Trial ID: B2007RIJ02N25

No.	Guideline	Description
1.	PP 1/152(3)	Design and analysis of efficacy evaluation trials
2.	CEB 189	F : Maladies des céréales
3.	PP 1/26(3)	Foliar diseases on cereals

Contacts

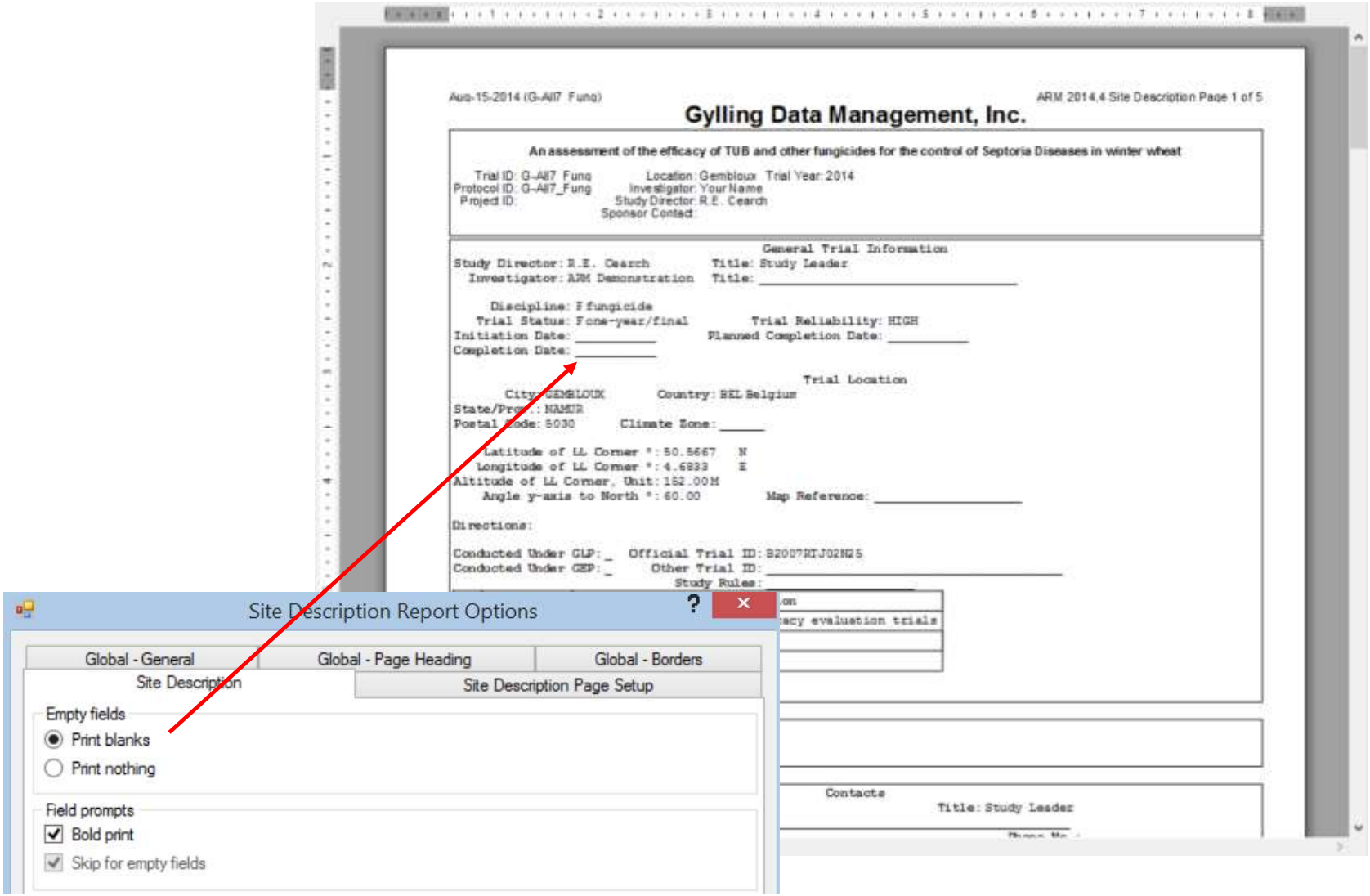
Study Director: R.E. Cearch Title: Study Leader

Investigator: ARM Demonstration

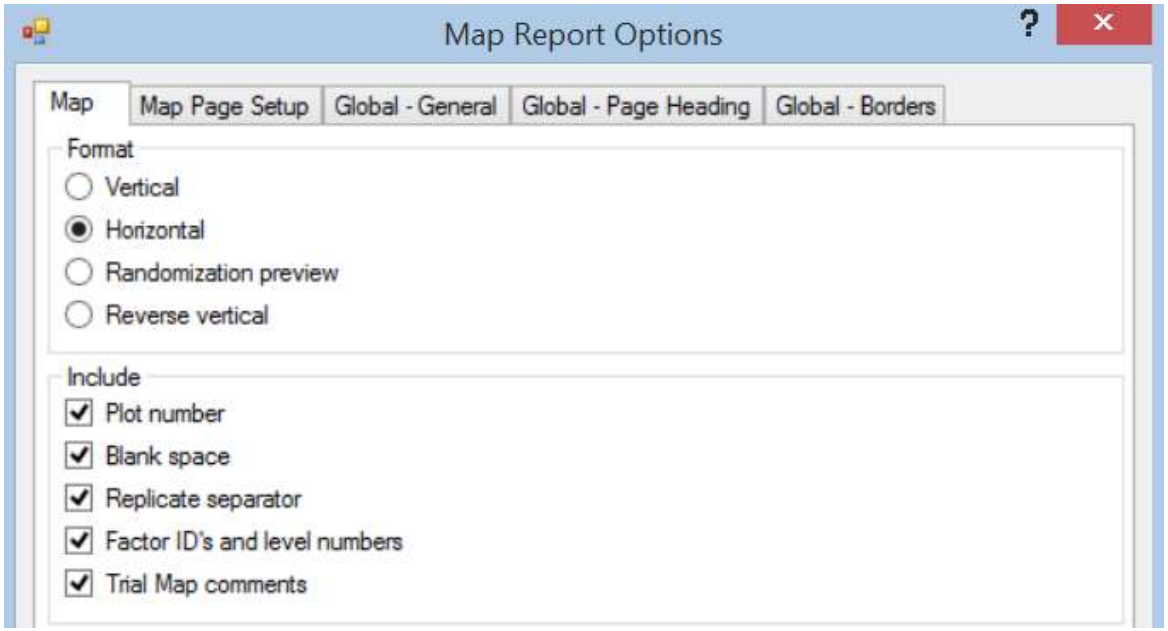
Cooperator/Landowner

Cooperator: NORTH FARM
City: GEMBLOUX Phone No.: 04 73 23 62 89
State/Prov: NAMUR
Postal Code: 5030

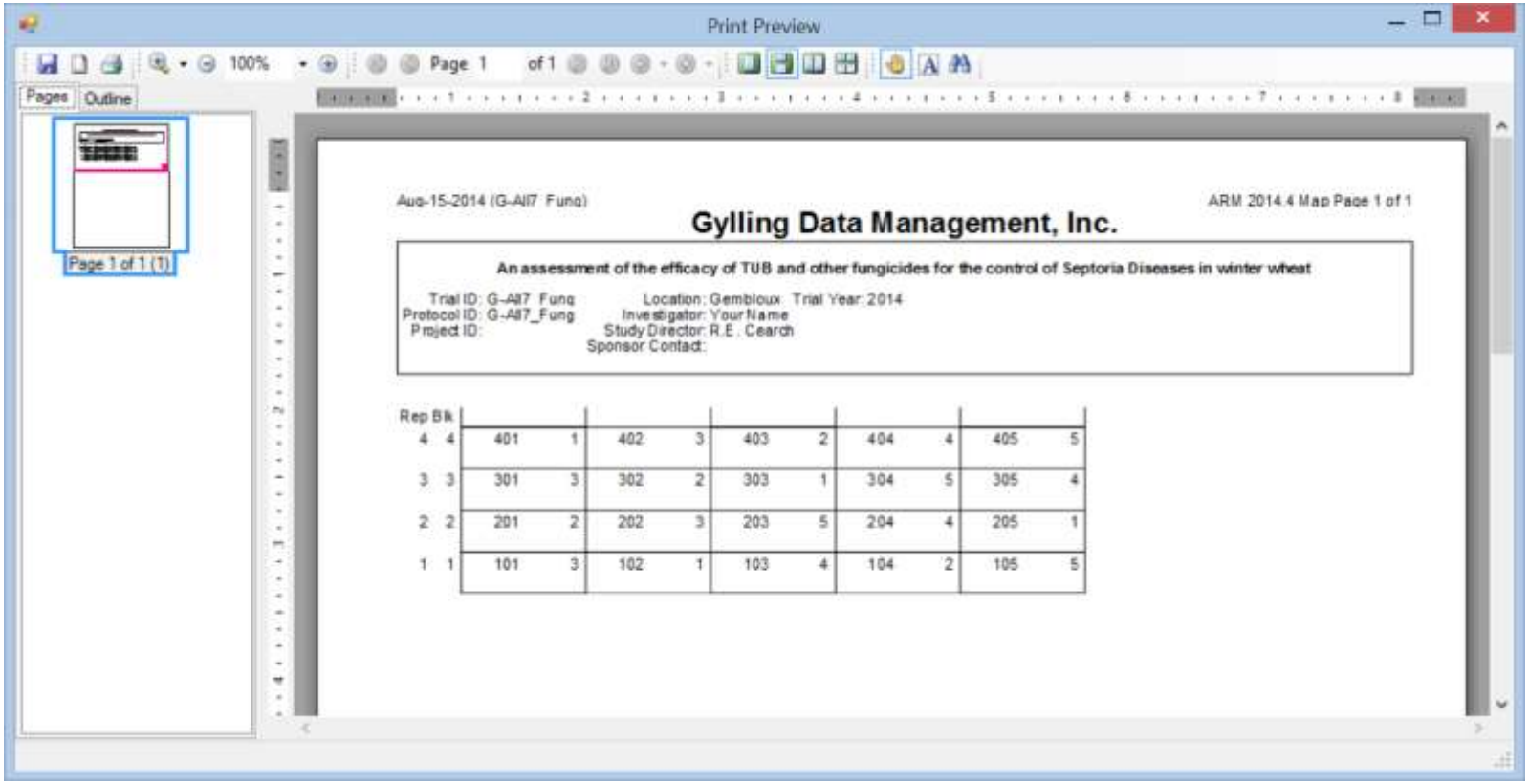
Print reports - Trials - Site Description



Print reports - Trials - Plot Map



Print reports - Trials - Plot Map



Print reports - Trials - Data Collection

Data headers

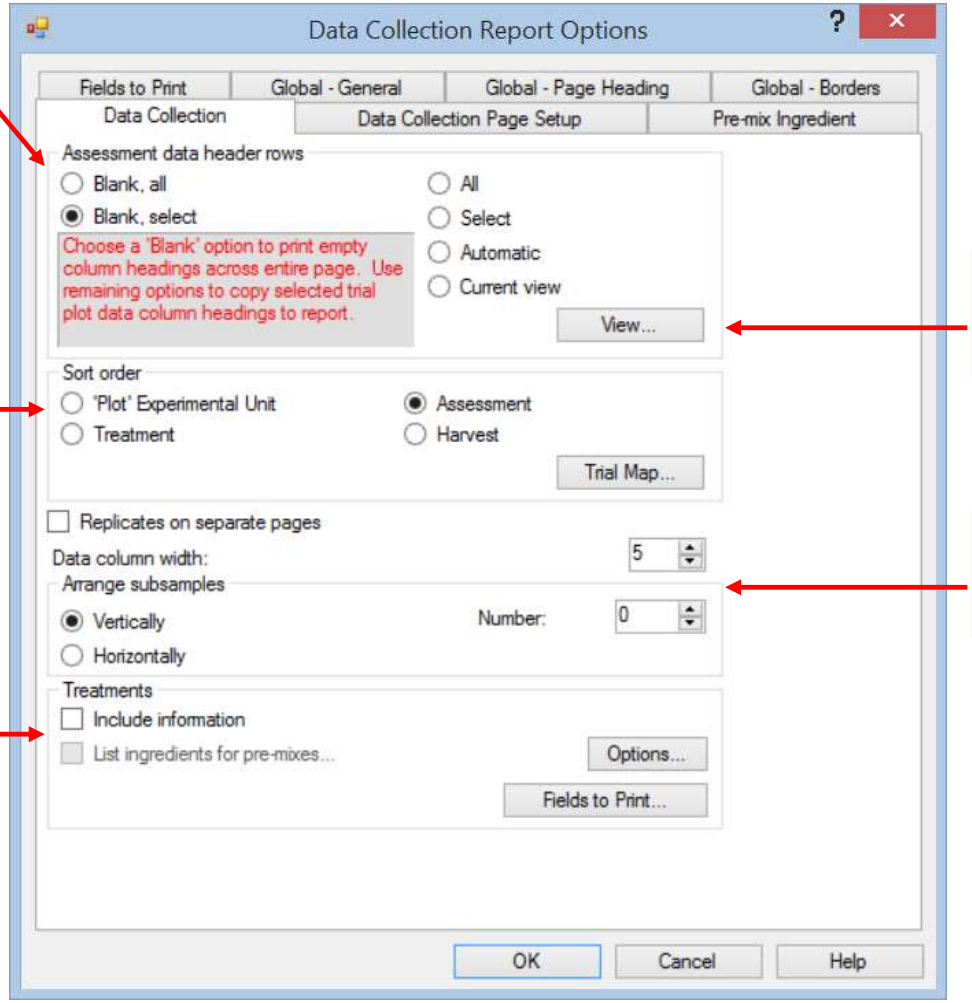
- Blank = place to enter the info
- All lines (SE)
- Selected = Prompt

Sort order

- Defined in Settings

Treatments

- Blind Assessment
- Active ingredients



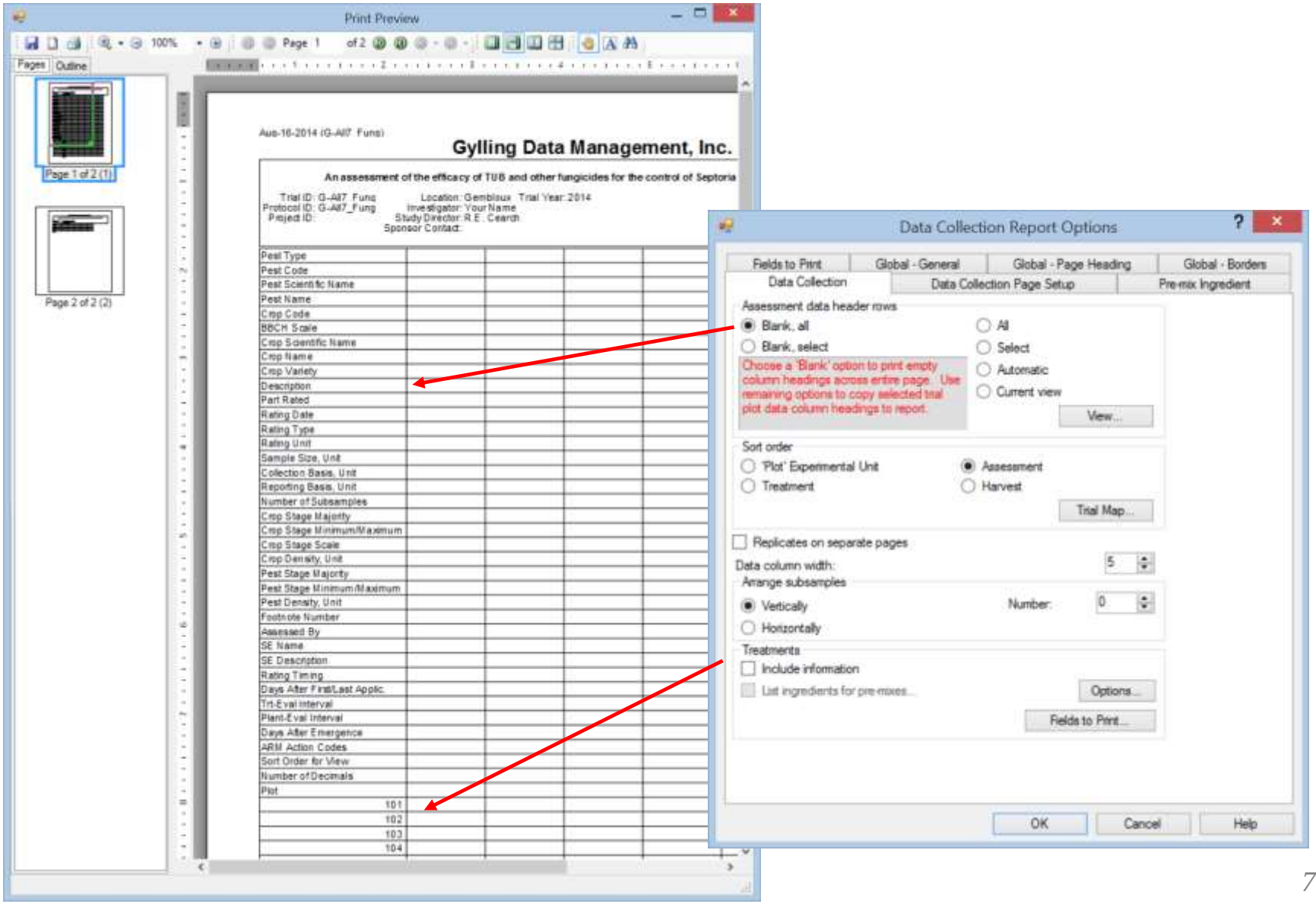
View

More on Plot data view

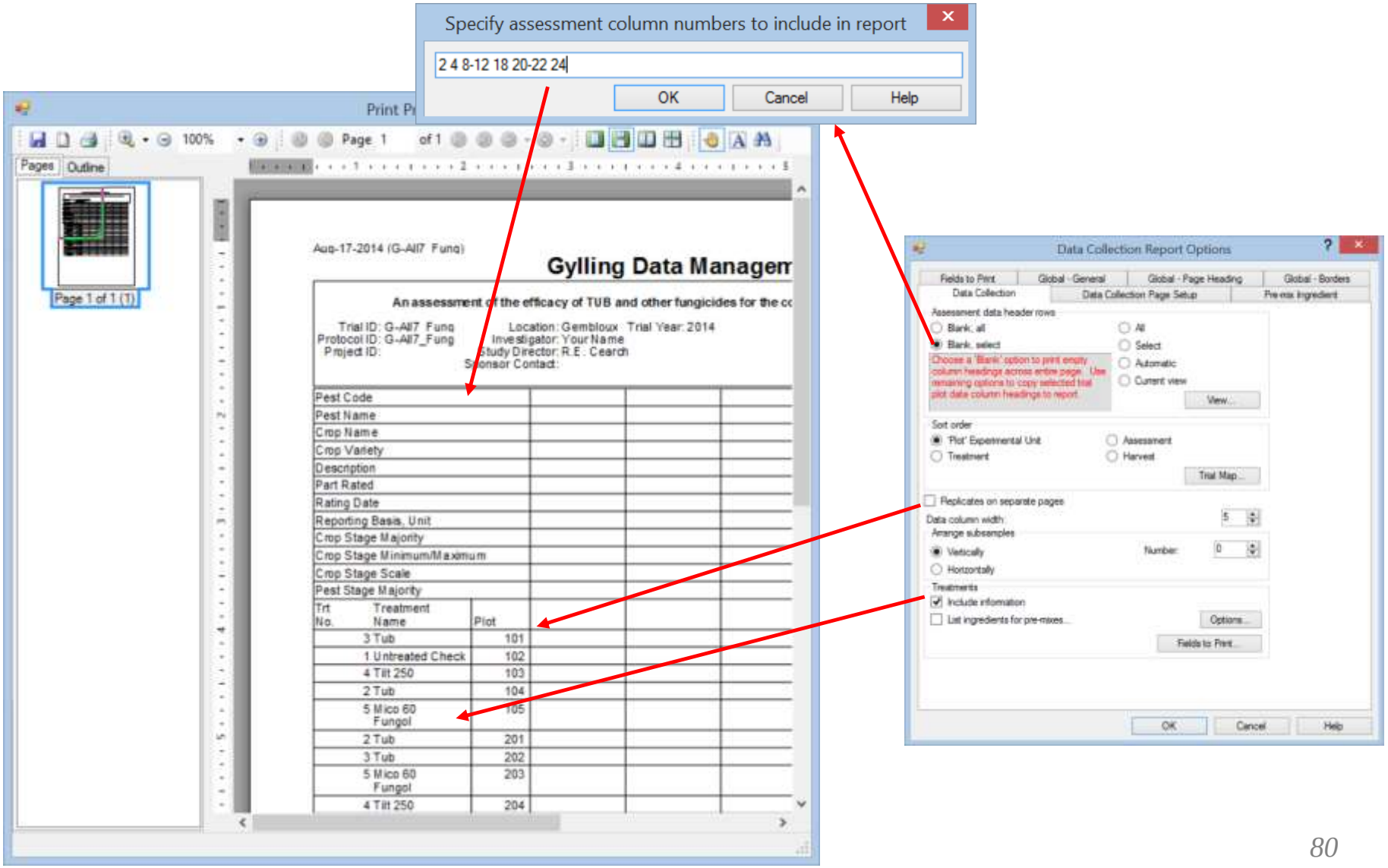
Subsamples

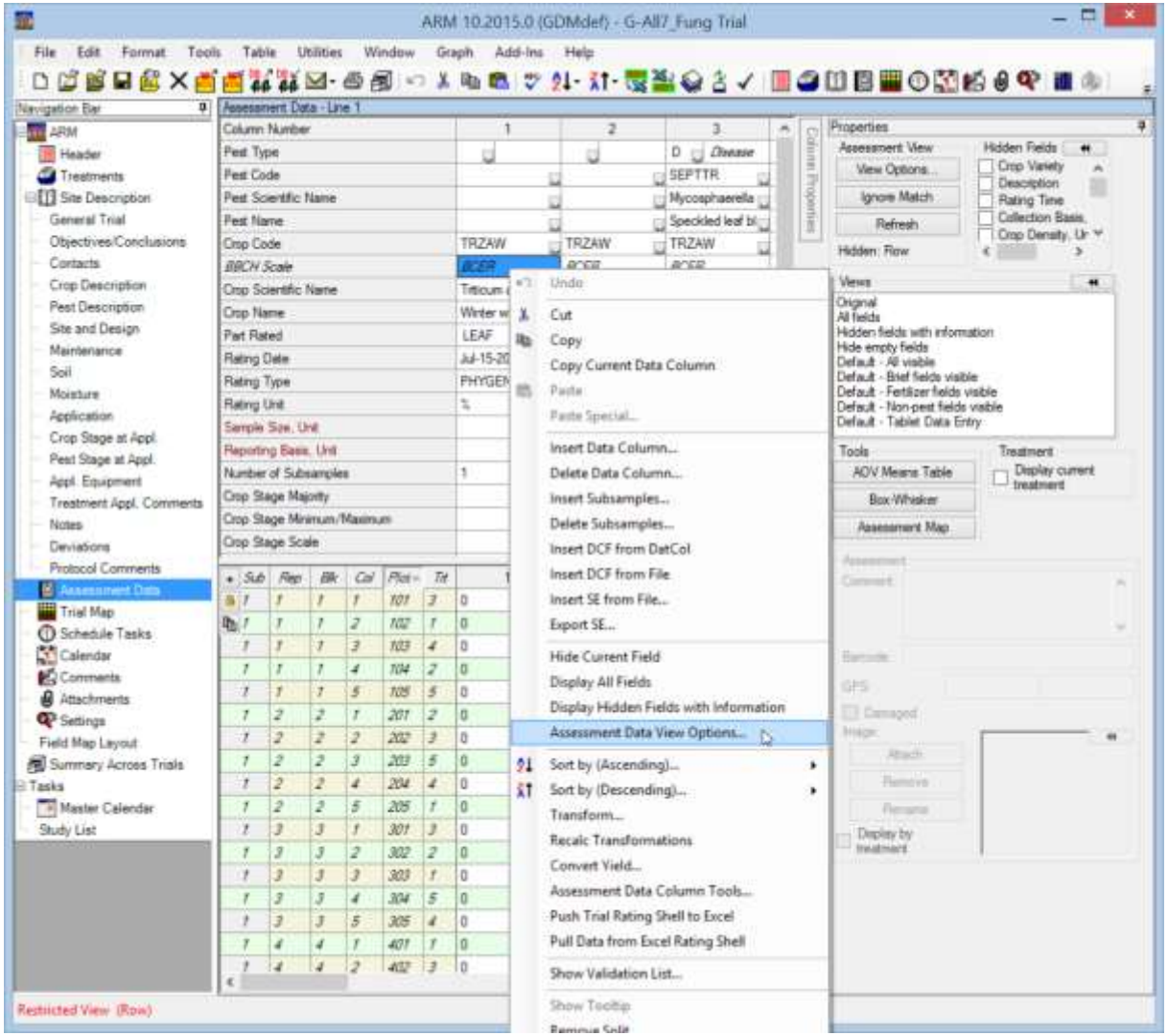
More on Subsamples

Print reports - Trials - Data Collection



Print reports - Trials - Data Collection





Assessment data - View

- Assessment Data View options control how plot subsamples and data columns display on the Assessment Data editor
- Right-Click on the Assessment Data editor or Properties panel on right

Assessment data - View

Match

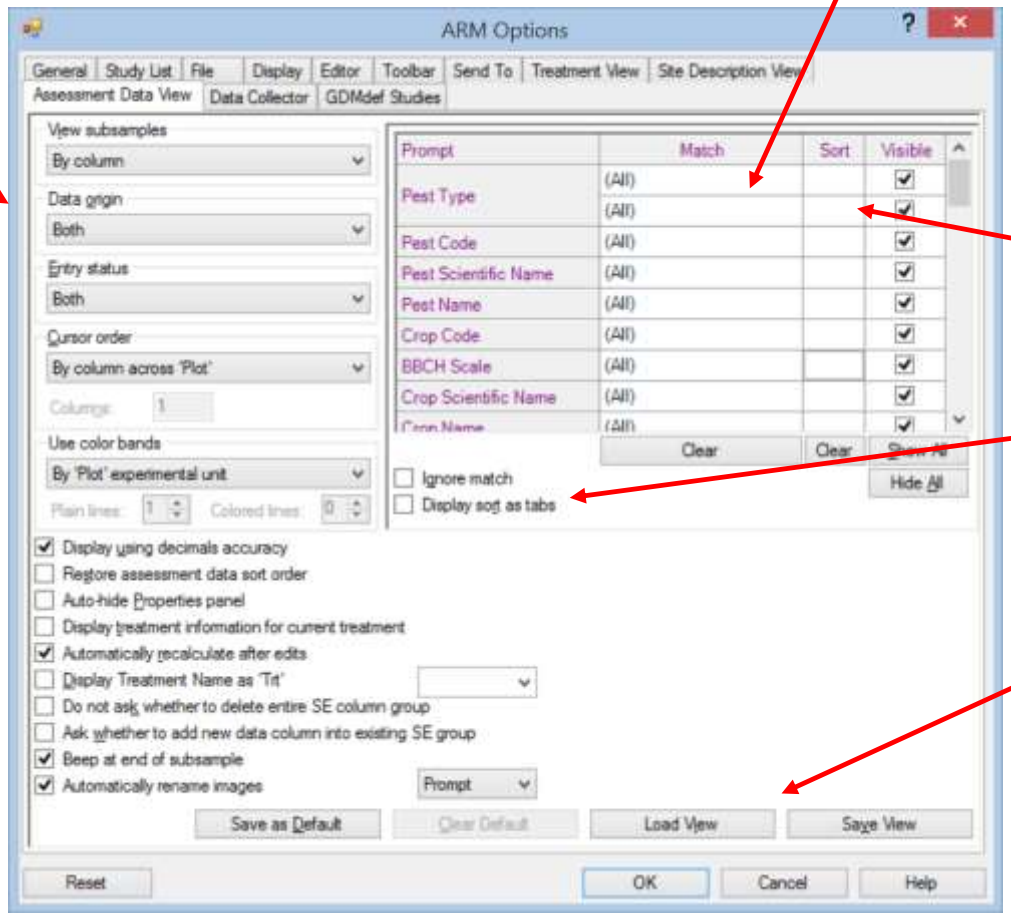
•Filter

View Subsamples

•By columns

•All

•Plot means



Sort

•Put 1 for first key, etc…

•Tabs based on first key

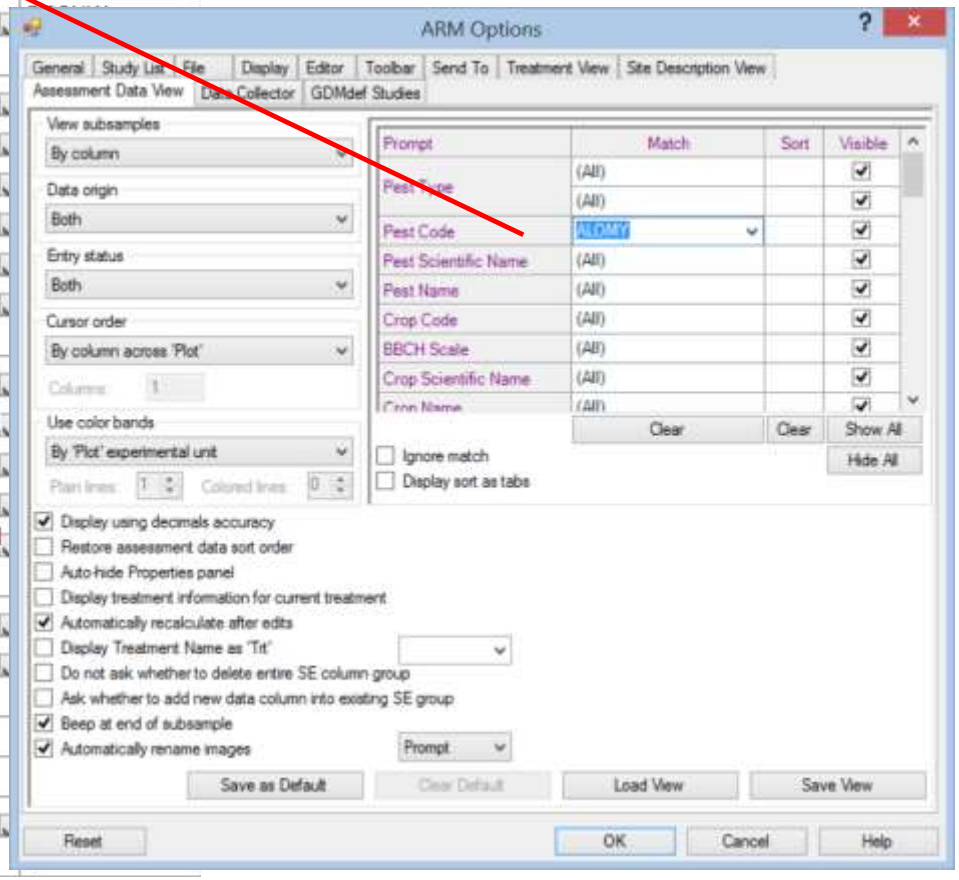
View

•Ability to Save and re-load view

Assessment data – View - Match

Assessment Data - Line 19

Column Number	5	8	9
Pest Type	W *Weed*	W *Weed*	W *Weed*
Pest Code	ALOMY	ALOMY	ALOMY
Pest Scientific Name	Alopecurus myo	Alopecurus myo	Alopecurus myo
Pest Name	Blackgrass	Blackgrass	Blackgrass
Crop Code	BRSNW	BRSNW	
BBCH Scale	*BRAP*	*BRAP*	
Crop Scientific Name	Brassica napus	Brassica napus	
Crop Name	Winter rape	Winter rape	
Part Rated	PLAGRA P	PLAGRA P	
Rating Date	Apr-11-2014	Apr-24-2014	
Rating Type	GROUND	GROUND	
Rating Unit	%	%	
Number of Subsamples	1	1	
Crop Stage Majority	39	54	
Crop Stage Minimum/Maximum		53 55	
Crop Stage Scale	BBCH	BBCH	
Pest Stage Majority	28/29	38	
Pest Density, Unit	7.25 PERCEN	10.5 PERCEN	
Footnote Number			
Assessed By	techn 1	techn 1	
Rating Timing		2	
Days After First/Last Applic.	*0 0*	*13 13*	
Trt-Eval Interval	0 DA-A	13 DA-A	
Plant-Eval Interval	222 DP-1	235 DP-1	
ARM Action Codes	P ES	P ES	
Number of Decimals	2	2	

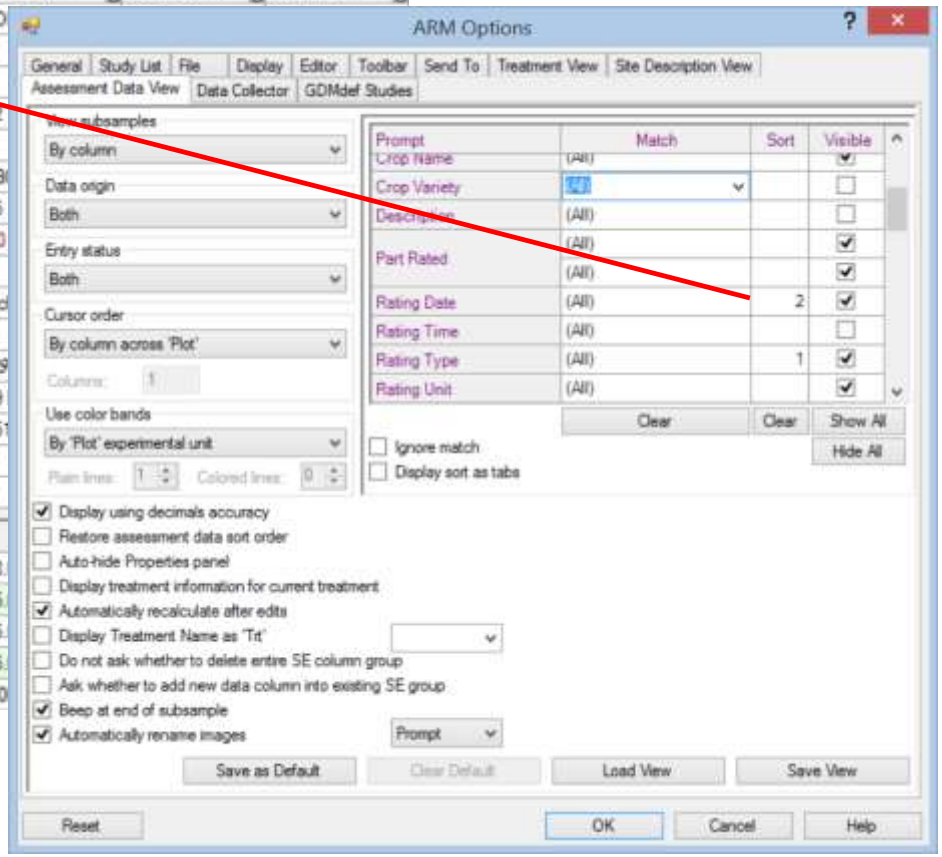


Assessment data – View - Sort

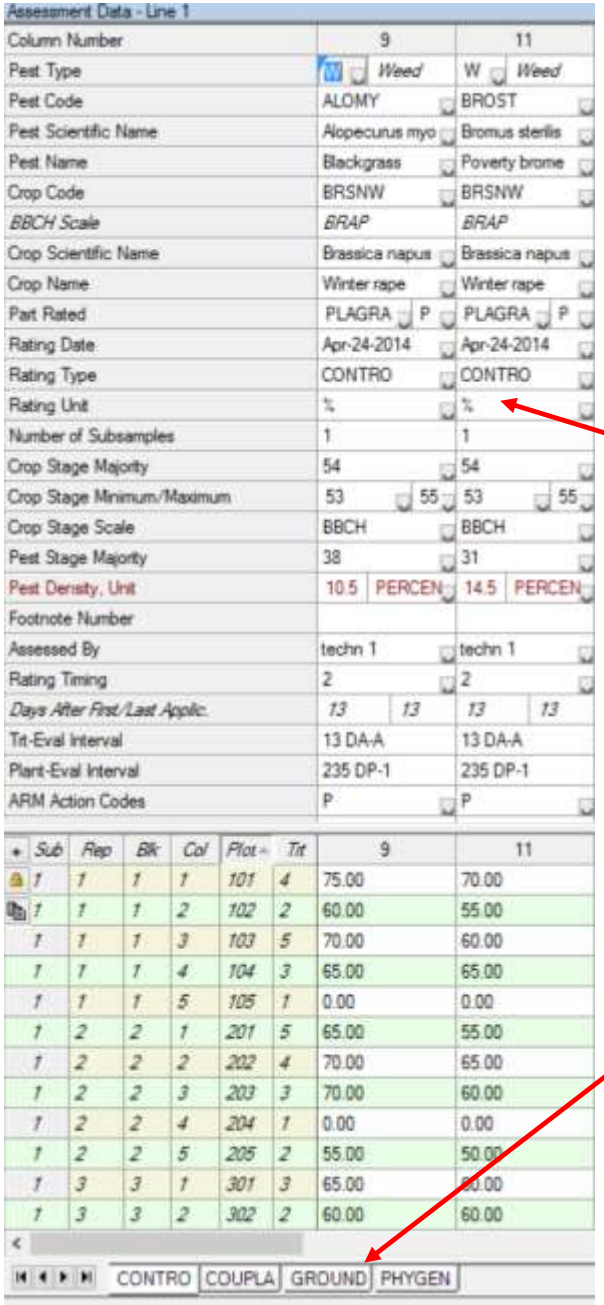
Assessment Data - Line 5

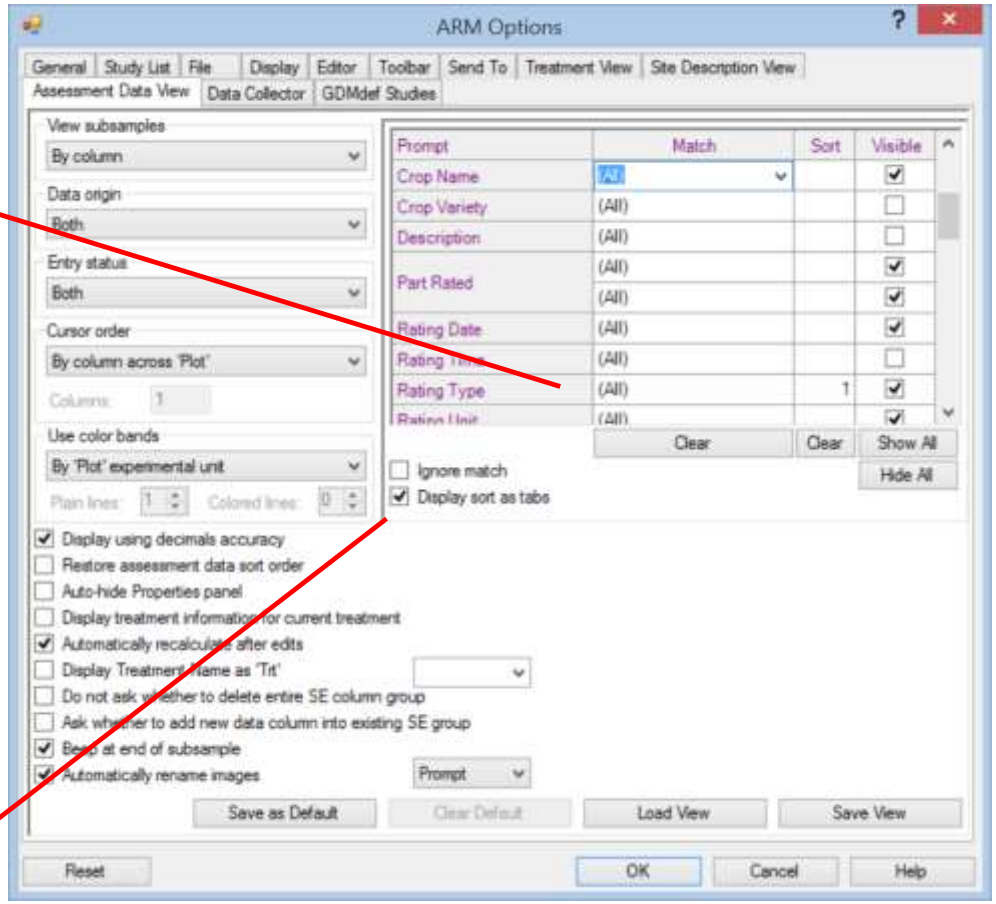
Column Number	9	11	13	15	17	19
Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ALOMY	BROST	TRZAX	ALOMY	BROST	TRZAX
Pest Scientific Name	Alopecurus myo	Bromus sterilis	Triticum aestivu	Alopecurus myo	Bromus sterilis	Triticum aestivu
Pest Name	Blackgrass	Poverty brome	Soft wheat	Blackgrass	Poverty brome	Soft wheat
Crop Code	BRSNW	BRSNW	BRSNW	BRSNW	BRSNW	BRSNW
BBCH Scale	*BRAP*	*BRAP*	*BRAP*	*BRAP*	*BRAP*	*BRAP*
Crop Scientific Name	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus	Brassica napus
Crop Name	Winter rape	Winter rape	Winter rape	Winter rape	Winter rape	Winter rape
Part Rated	PLAGRA P	PLAGRA P	PLAGRA P	PLAGRA P	PLAGRA P	PLAGRA P
Rating Date	Apr-24-2014	Apr-24-2014	Apr-24-2014	May-10-2014	May-10-2014	May-10-2014
Rating Type	CONTRO	CONTRO	CONTRO	CO		
Rating Unit	%	%	%	%		
Number of Subsamples	1	1	1	1		
Crop Stage Majority	54	54	54	62		
Crop Stage Minimum/Maximum	53 55	53 55	53 55			
Crop Stage Scale	BBCH	BBCH	BBCH	BB		
Pest Stage Majority	38	31	36	65		
Pest Density, Unit	10.5 PERCEN	14.5 PERCEN	24.0 PERCEN	40		
Footnote Number						
Assessed By	techn 1	techn 1	techn 1	tec		
Rating Timing	2	2	2	3		
Days After First/Last Applic.	*13 13*	*13 13*	*13 13*	*29*		
Trt-Eval Interval	13 DA-A	13 DA-A	13 DA-A	29		
Plant-Eval Interval	235 DP-1	235 DP-1	235 DP-1	251		
ARM Action Codes	P	P	P	P		
Number of Decimals	2	2	2	2		

Sub	Rep	Blk	Col	Plot	Trt	9	11	13	
1	1	1	1	101	4	75.00	70.00	75.00	98.
1	1	1	2	102	2	60.00	55.00	65.00	85.
1	1	1	3	103	5	70.00	60.00	70.00	95.
1	1	1	4	104	3	65.00	65.00	75.00	95.
1	1	1	5	105	1	0.00	0.00	0.00	0.0



Assessment data – View – Sort – Display Sort as Tabs





Print reports - Trials – Summary – Assessment data summary

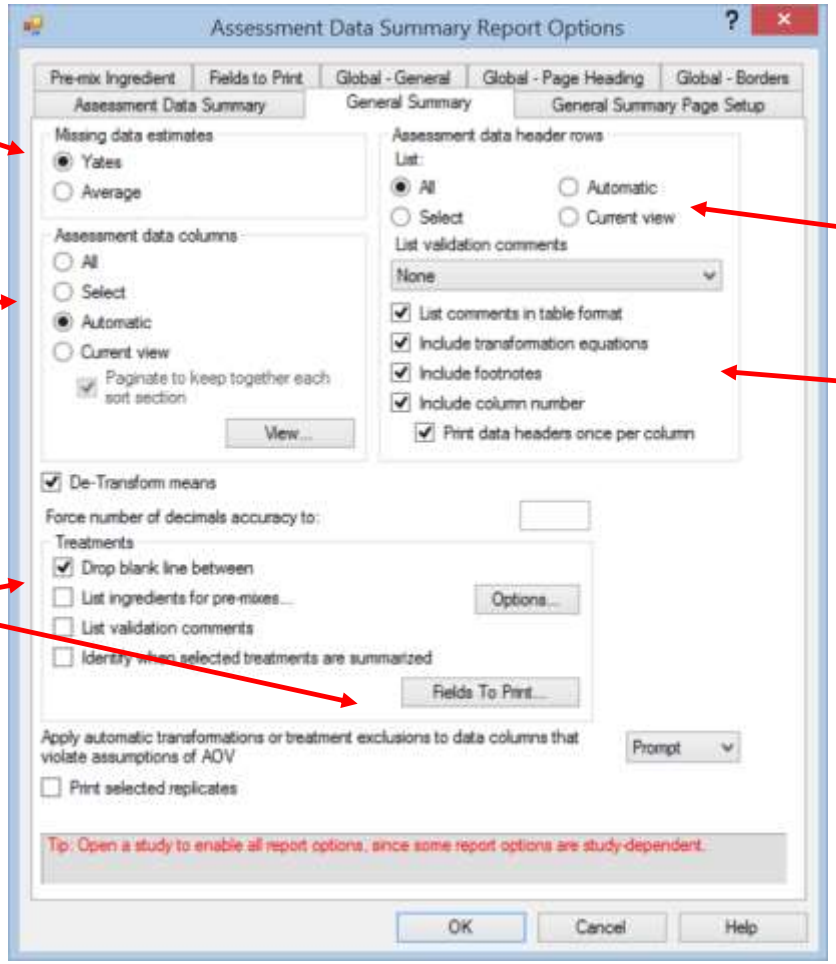
Method for missing data

Assessment columns

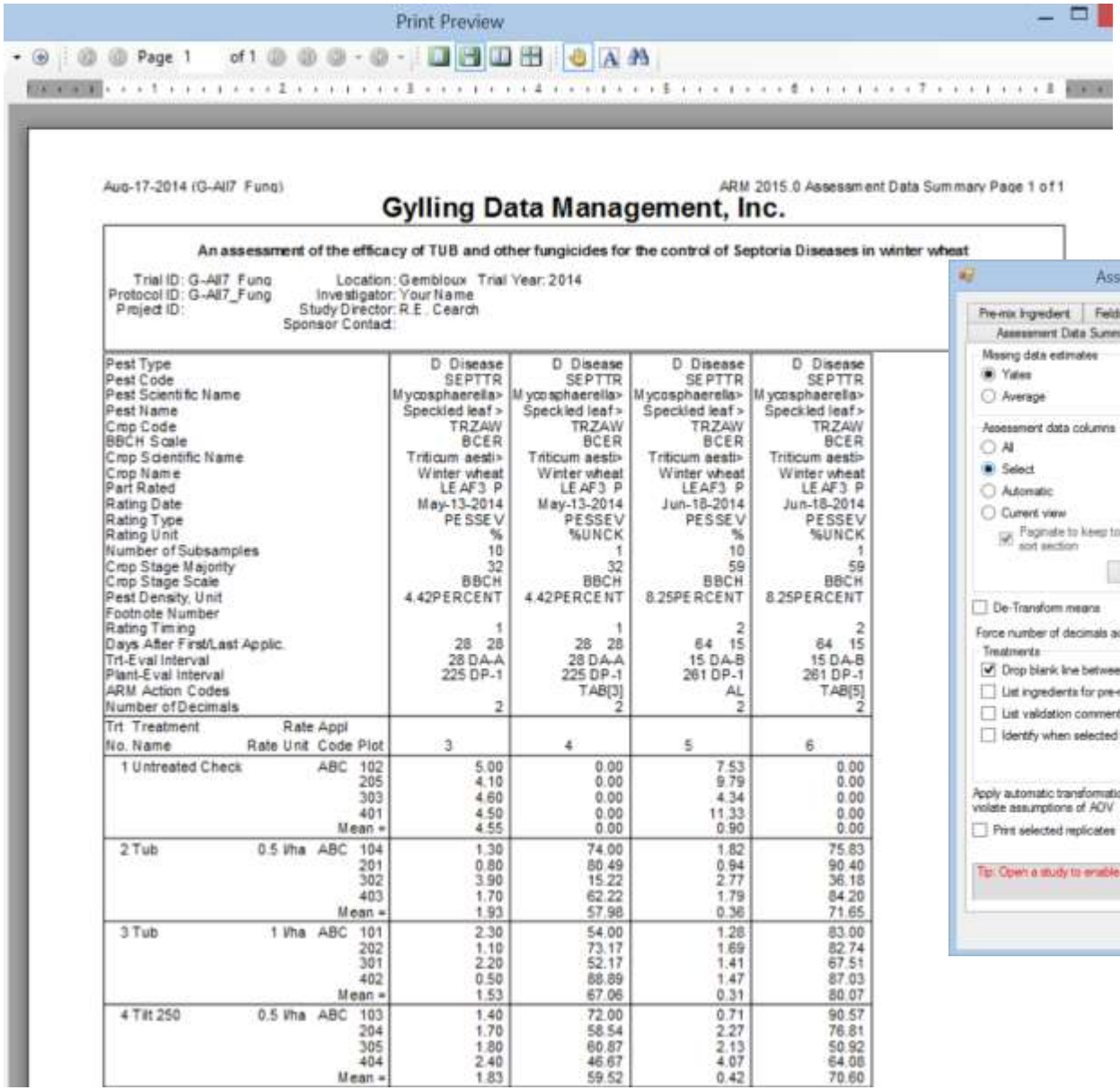
Way to present Treatments

Data Headers

Miscellaneous



Print reports - Trials – Summary – Assessment data summary



Aug-17-2014 (G-All7 Fung)

ARM 2015.0 Assessment Data Summary Page 1 of 1

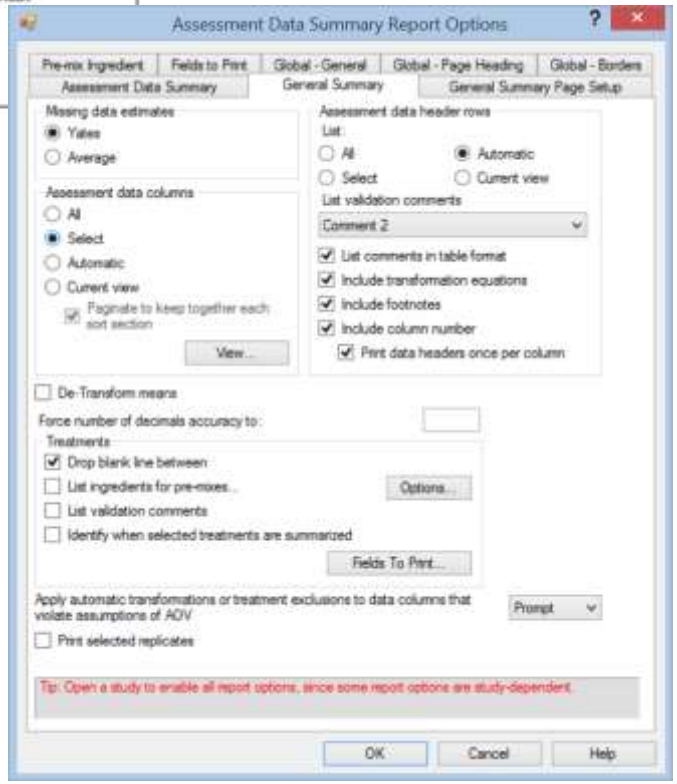
Gylling Data Management, Inc.

An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wheat

Trial ID: G-All7 Fung
Protocol ID: G-All7_Fung
Project ID:

Location: Gembloux Trial Year: 2014
Investigator: Your Name
Study Director: R.E. Cearch
Sponsor Contact:

Pest Type		D Disease	D Disease	D Disease	D Disease
Pest Code		SEPTTR	SEPTTR	SEPTTR	SEPTTR
Pest Scientific Name		Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Pest Name		Speckled leaf >	Speckled leaf >	Speckled leaf >	Speckled leaf >
Crop Code		TRZAW	TRZAW	TRZAW	TRZAW
BBCH Scale		BCER	BCER	BCER	BCER
Crop Scientific Name		Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
Crop Name		Winter wheat	Winter wheat	Winter wheat	Winter wheat
Part Rated		LEAF3 P	LEAF3 P	LEAF3 P	LEAF3 P
Rating Date		May-13-2014	May-13-2014	Jun-18-2014	Jun-18-2014
Rating Type		PESSEV	PESSEV	PESSEV	PESSEV
Rating Unit		%	%UNCK	%	%UNCK
Number of Subsamples		10	1	10	1
Crop Stage Majority		32	32	59	59
Crop Stage Scale		BBCH	BBCH	BBCH	BBCH
Pest Density, Unit		4.42PERCENT	4.42PERCENT	8.25PERCENT	8.25PERCENT
Footnote Number					
Rating Timing		1	1	2	2
Days After First/Last Applic.		28 28	28 28	64 15	64 15
Trt-Eval Interval		28 DA-A	28 DA-A	15 DA-B	15 DA-B
Plant-Eval Interval		225 DP-1	225 DP-1	261 DP-1	261 DP-1
ARM Action Codes			TAB[3]	AL	TAB[5]
Number of Decimals		2	2	2	2
Trt Treatment No. Name	Rate Appl Rate Unit Code Plot	3	4	5	6
1 Untreated Check	ABC 102	5.00	0.00	7.53	0.00
	205	4.10	0.00	9.79	0.00
	303	4.60	0.00	4.34	0.00
	401	4.50	0.00	11.33	0.00
	Mean =	4.55	0.00	0.90	0.00
2 Tub	0.5 l/ha ABC 104	1.30	74.00	1.82	75.83
	201	0.80	80.49	0.94	90.40
	302	3.90	15.22	2.77	36.18
	403	1.70	62.22	1.79	84.20
	Mean =	1.93	57.98	0.36	71.65
3 Tub	1 l/ha ABC 101	2.30	54.00	1.28	83.00
	202	1.10	73.17	1.69	82.74
	301	2.20	52.17	1.41	67.51
	402	0.50	88.89	1.47	87.03
	Mean =	1.53	67.06	0.31	80.07
4 Tilt 250	0.5 l/ha ABC 103	1.40	72.00	0.71	90.57
	204	1.70	58.54	2.27	76.81
	305	1.80	60.87	2.13	50.92
	404	2.40	46.67	4.07	64.08
	Mean =	1.83	59.52	0.42	70.60



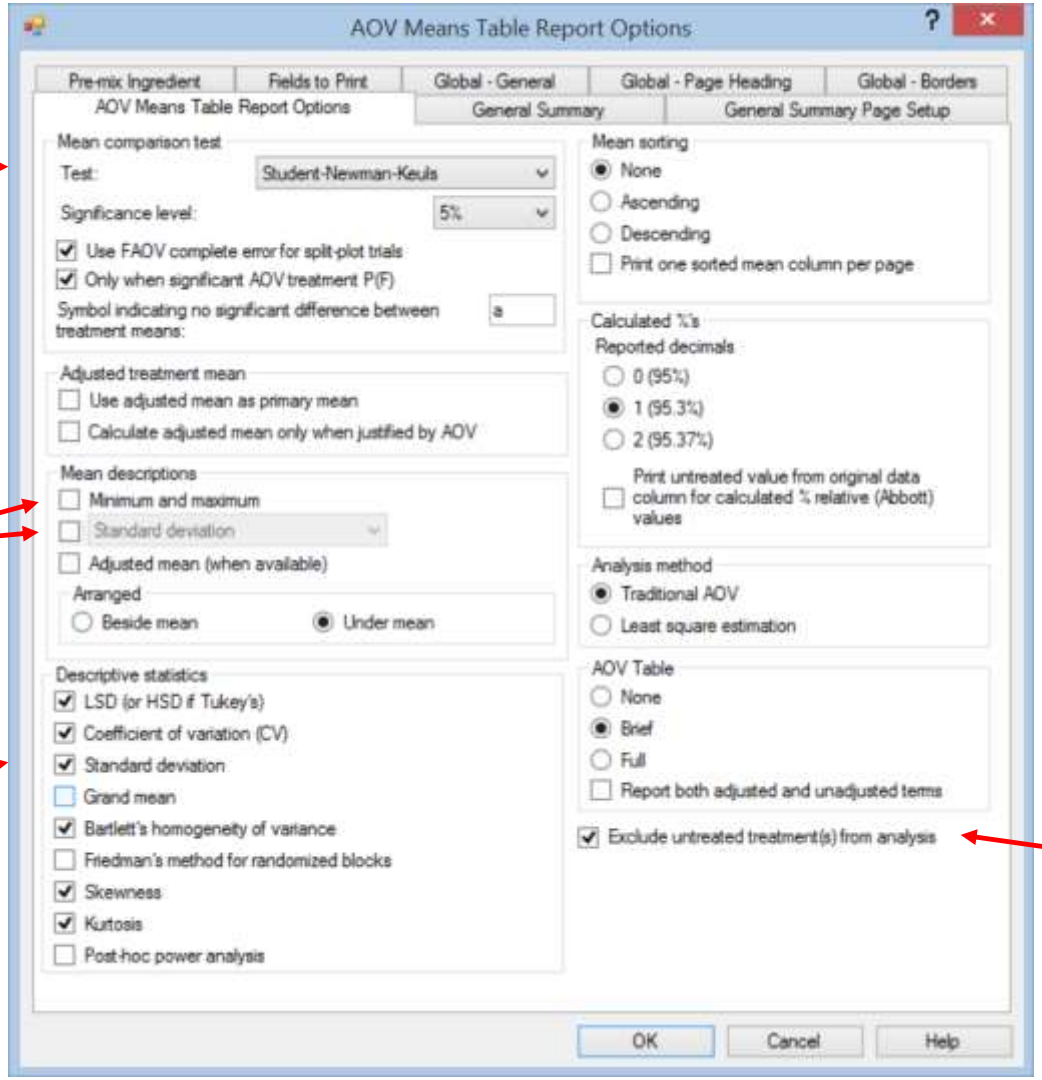
Print reports - Trials – Summary – AOV Means Table

Main tests

- LSD
- Duncan
- Student-Newman-Keuls

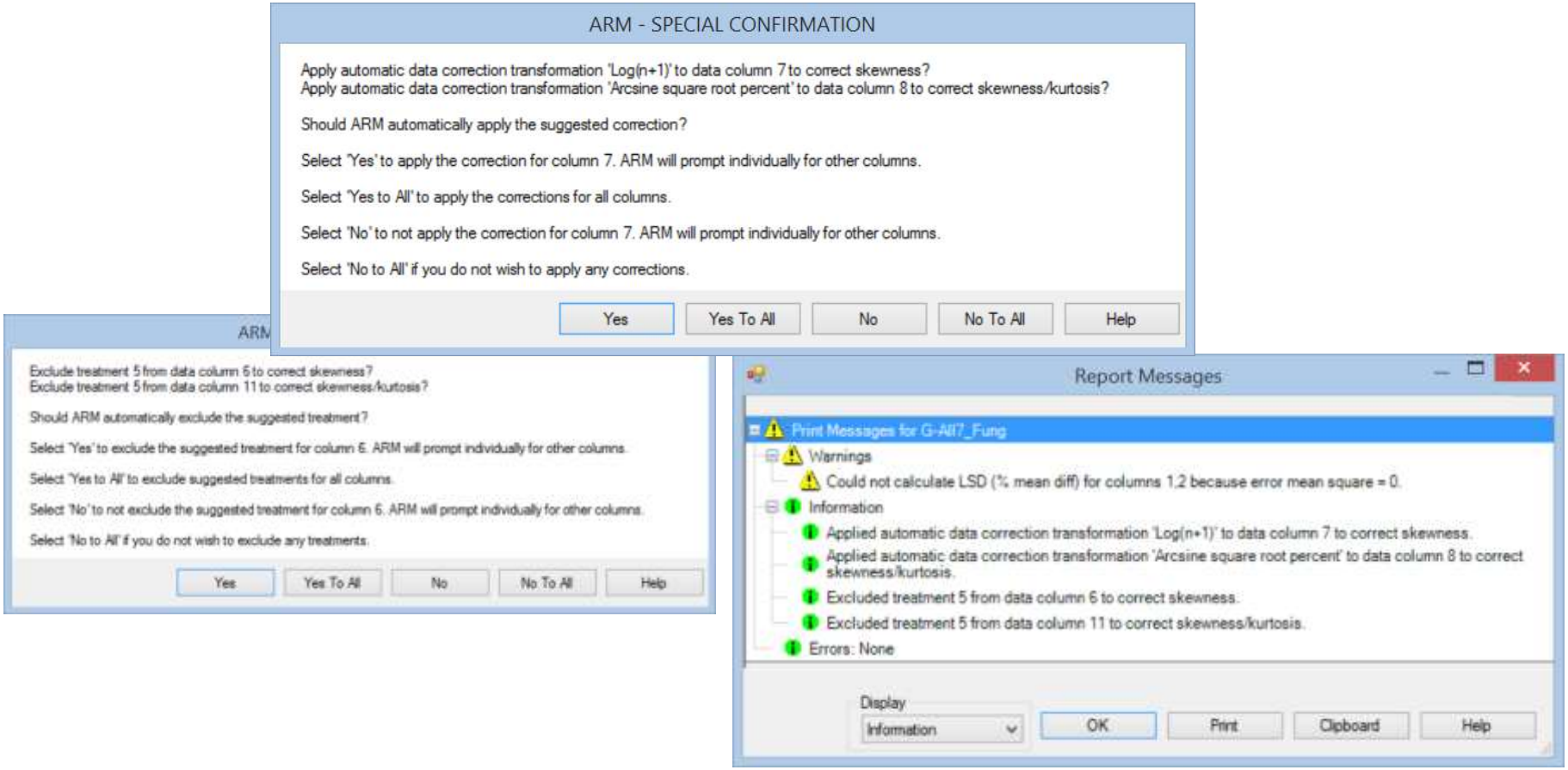
Display min Max, Std deviation

Various Statistical tests



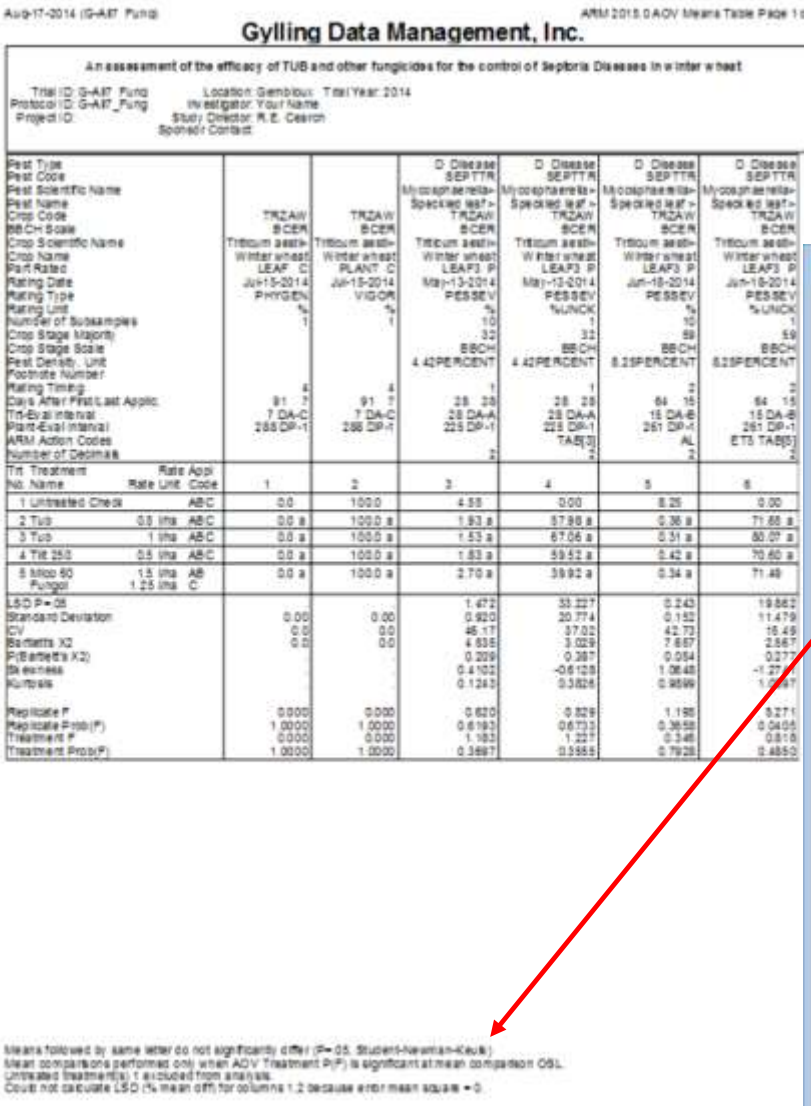
Exclude the Untreated treatments defined in Settings

Print reports - Trials – Summary – AOV Means Table



- ARM indicates if data need to be transformed to correct skewness/kurtosis.

Print reports - Trials – Summary – AOV Means Table



Aug-17-2014 (G-A87 Fung) ARM 2015.0 AOV Means Table Page 1

Gylling Data Management, Inc.

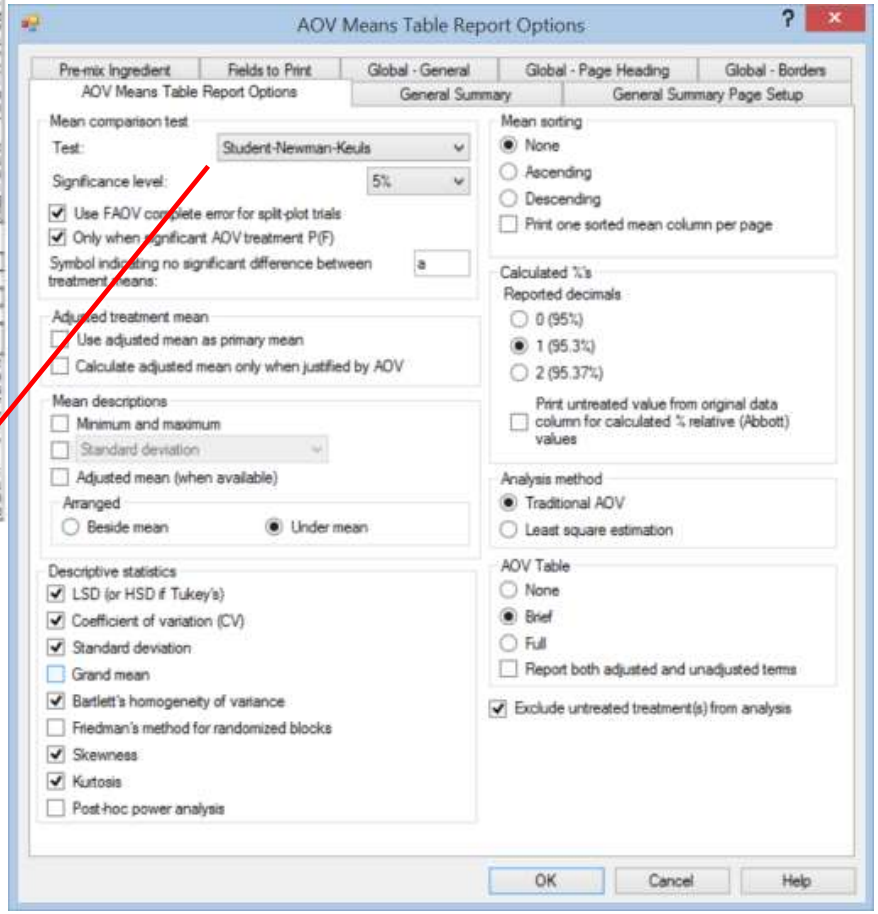
An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wheat

Trial ID: G-A87 Fung Location: Gembloux Trial Year: 2014
Protocol ID: G-A87_Fung Investigator: Your Name
Project ID: Study Director: R.E. Cesroh
Sponsor Contact:

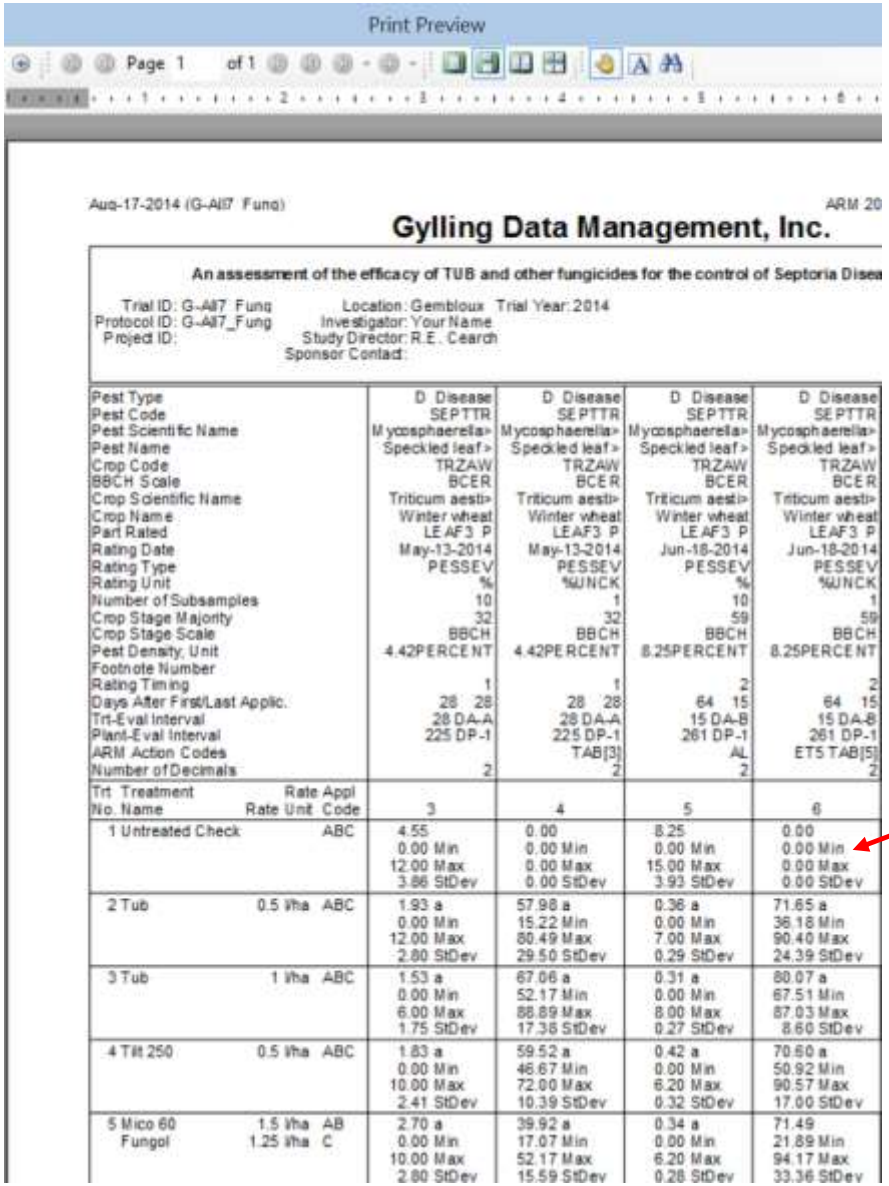
Pest Type			D Disease	D Disease	D Disease	D Disease
Pest Code			SEPTTR	SEPTTR	SEPTTR	SEPTTR
Pest Scientific Name			Mycosphaerella-	Mycosphaerella-	Mycosphaerella-	Mycosphaerella-
Pest Name			Speckled leaf -	Speckled leaf -	Speckled leaf -	Speckled leaf -
Crop Code	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW	TRZAW
BBCH Scale	BCER	BCER	BCER	BCER	BCER	BCER
Crop Scientific Name	Triticum aestiv-	Triticum aestiv-	Triticum aestiv-	Triticum aestiv-	Triticum aestiv-	Triticum aestiv-
Crop Name	Winter wheat	Winter wheat	Winter wheat	Winter wheat	Winter wheat	Winter wheat
Part Rated	LEAF C	PLANT C	LEAF3 P	LEAF3 P	LEAF3 P	LEAF3 P
Rating Date	Jul-15-2014	Jul-15-2014	May-13-2014	May-13-2014	Jun-18-2014	Jun-18-2014
Rating Type	PHYGEN	VIGOR	PESSEV	PESSEV	PESSEV	PESSEV
Rating Unit	%	%	%	%UNCK	%	%UNCK
Number of Subsamples	1	1	10	1	10	1
Crop Stage Majority			32	32	69	69
Crop Stage Scale			BBCH	BBCH	BBCH	BBCH
Pest Density, Unit			4.42PERCENT	4.42PERCENT	8.25PERCENT	8.25PERCENT
Footnote Number						
Rating Timing	4	4	1	1	2	2
Days After First/Last Applic	91 7	91 7	28 28	28 28	64 15	64 15
Trt-Eval Interval	7 DA-C	7 DA-C	28 DA-A	28 DA-A	15 DA-B	15 DA-B
Plant-Eval Interval	288 DP-1	288 DP-1	225 DP-1	225 DP-1	261 DP-1	261 DP-1
ARM Action Codes				TAB[3]	AL	ETS TAB[5]
Number of Decimals			2	2	2	2

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1	2	3	4	5	6
1	Untreated Check			ABC	0.0	100.0	4.58	0.00	8.25	0.00
2	Tub	0.5	l/ha	ABC	0.0 a	100.0 a	1.93 a	37.98 a	0.36 a	71.68 a
3	Tub	1	l/ha	ABC	0.0 a	100.0 a	1.53 a	67.06 a	0.31 a	80.07 a
4	Tilt 250	0.5	l/ha	ABC	0.0 a	100.0 a	1.83 a	59.52 a	0.42 a	70.60 a
5	Mitos 60	1.5	l/ha	AB	0.0 a	100.0 a	2.70 a	39.92 a	0.34 a	71.49
	Fungol	1.25	l/ha	C						
LSD P=.05							1.472	33.227	0.243	19.862
Standard Deviation					0.00	0.00	0.920	20.774	0.152	11.479
CV					0.0	0.0	46.17	37.02	42.73	16.49
Bartlett's X2					0.0	0.0	4.535	3.029	7.667	2.567
P(Bartlett's X2)							0.209	0.387	0.054	0.277
Skewness							0.4102	-0.6125	1.0648	-1.27
Kurtosis							0.1243	0.3826	0.9599	1.0987
Replicate F					0.000	0.000	0.620	0.829	1.195	0.271
Replicate Prob(F)					1.0000	1.0000	0.6193	0.6703	0.3658	0.0405
Treatment F					0.000	0.000	1.183	1.227	0.346	0.818
Treatment Prob(F)					1.0000	1.0000	0.3697	0.3565	0.7928	0.4850

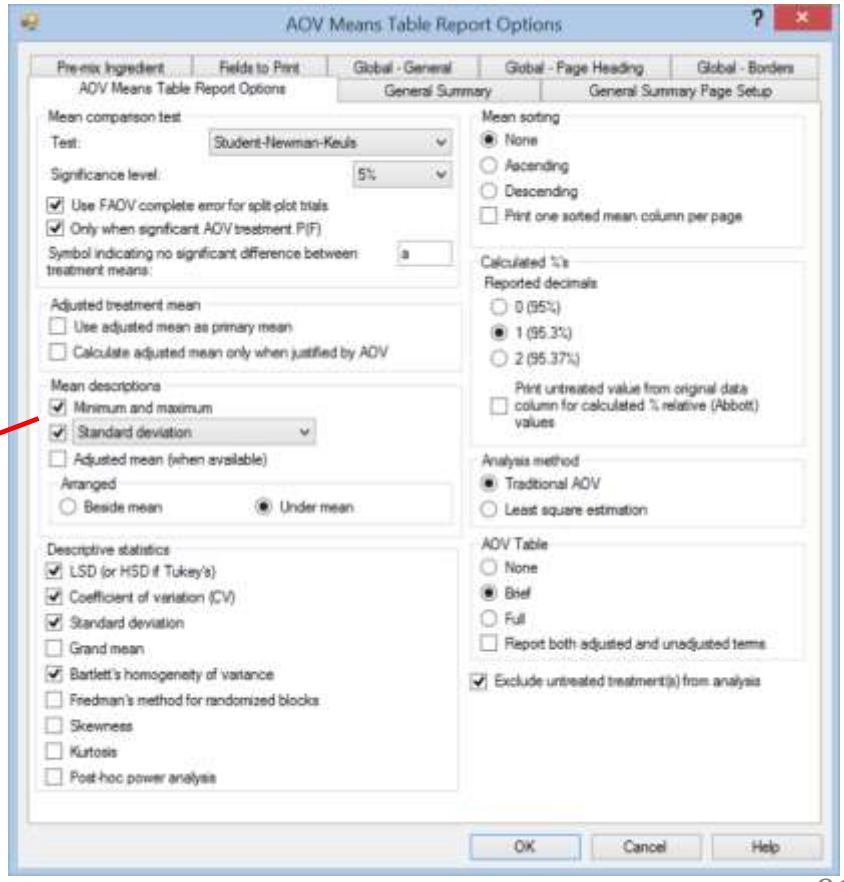
Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison 0.5L
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 1,2 because error mean square = 0.



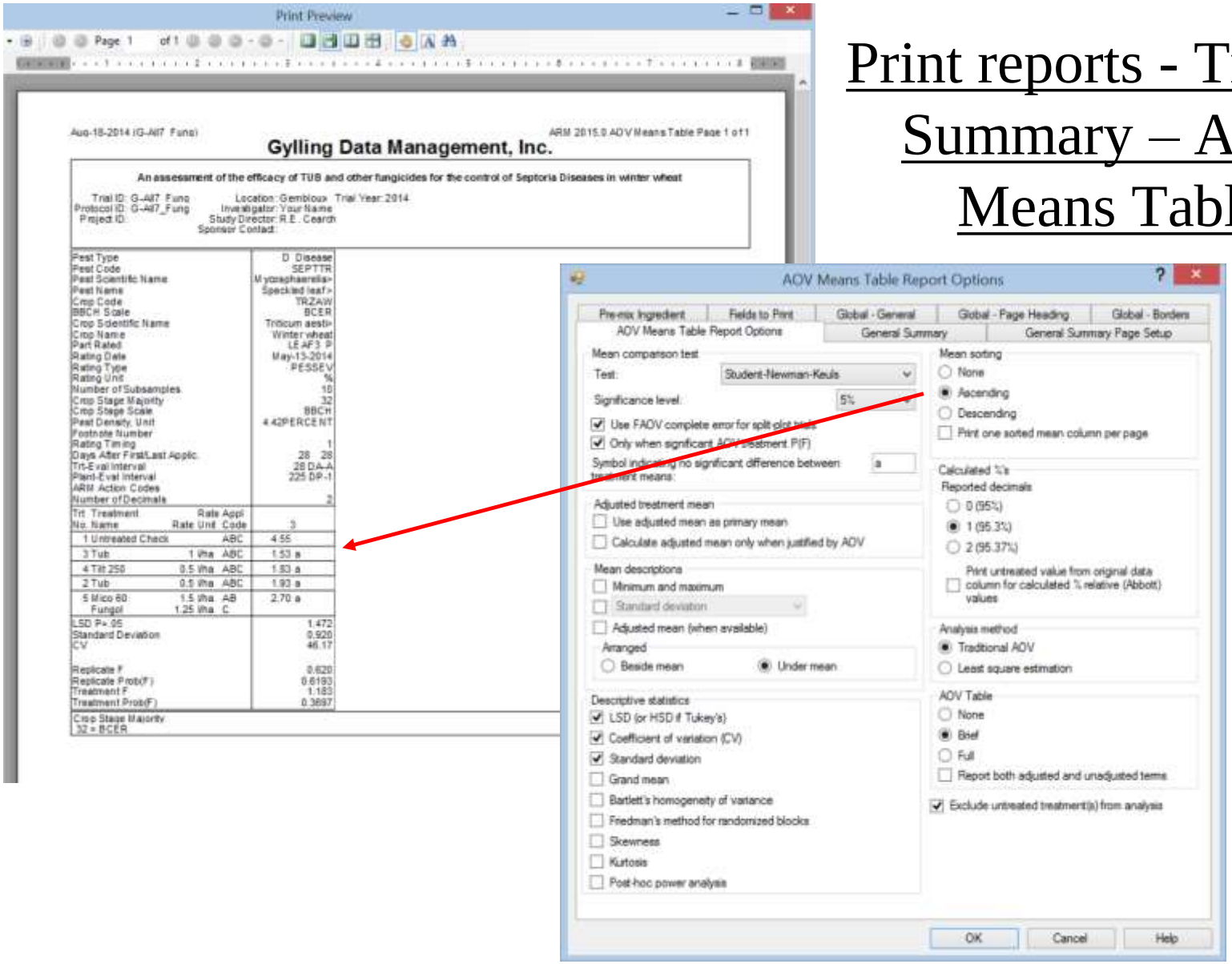
Print reports - Trials – Summary – AOV Means Table



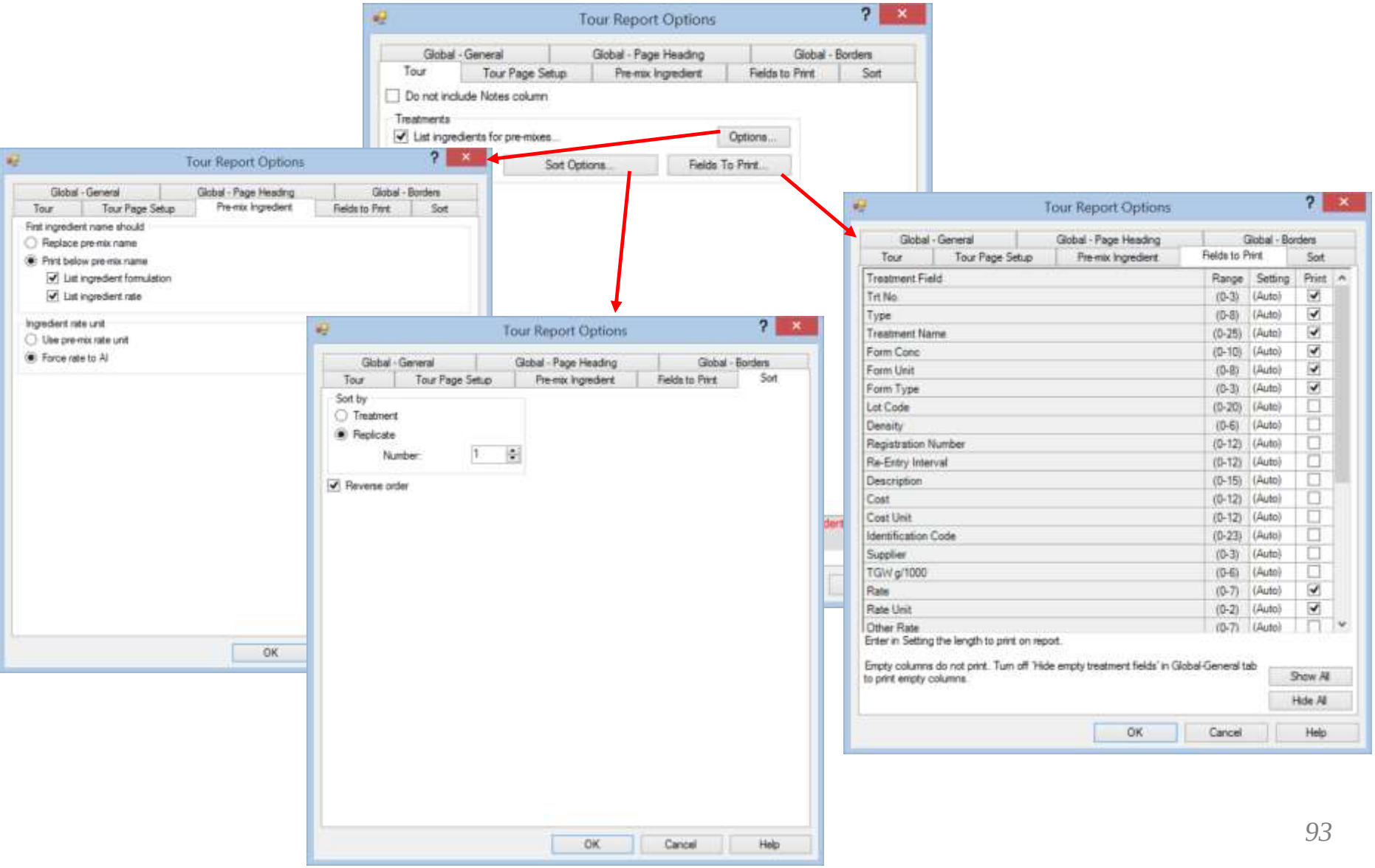
Pest Type	D Disease	D Disease	D Disease	D Disease
Pest Code	SEPTTR	SEPTTR	SEPTTR	SEPTTR
Pest Scientific Name	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Pest Name	Speckled leaf >	Speckled leaf >	Speckled leaf >	Speckled leaf >
Crop Code	TRZAW	TRZAW	TRZAW	TRZAW
BBCH Scale	BCER	BCER	BCER	BCER
Crop Scientific Name	Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
Crop Name	Winter wheat	Winter wheat	Winter wheat	Winter wheat
Part Rated	LEAF3 P	LEAF3 P	LEAF3 P	LEAF3 P
Rating Date	May-13-2014	May-13-2014	Jun-18-2014	Jun-18-2014
Rating Type	PESSEV	PESSEV	PESSEV	PESSEV
Rating Unit	%	%UNCK	%	%UNCK
Number of Subsamples	10	1	10	1
Crop Stage Majority	32	32	59	59
Crop Stage Scale	BBCH	BBCH	BBCH	BBCH
Pest Density, Unit	4.42PERCENT	4.42PERCENT	8.25PERCENT	8.25PERCENT
Footnote Number				
Rating Timing	1	1	2	2
Days After First/Last Applic.	28 28	28 28	64 15	64 15
Trt-Eval Interval	28 DA-A	28 DA-A	15 DA-B	15 DA-B
Plant-Eval Interval	225 DP-1	225 DP-1	261 DP-1	261 DP-1
ARM Action Codes		TAB[3]	AL	ETS TAB[5]
Number of Decimals	2	2	2	2
Trt Treatment No. Name / Rate Unit	Rate Appl Code			
	3	4	5	6
1 Untreated Check	ABC	4.55 0.00 Min 12.00 Max 3.86 StDev	0.00 0.00 Min 0.00 Max 0.00 StDev	8.25 0.00 Min 15.00 Max 3.93 StDev	0.00 0.00 Min 0.00 Max 0.00 StDev
2 Tub 0.5 l/ha	ABC	1.93 a 0.00 Min 12.00 Max 2.80 StDev	57.98 a 15.22 Min 80.49 Max 29.50 StDev	0.36 a 0.00 Min 7.00 Max 0.29 StDev	71.65 a 36.18 Min 90.40 Max 24.39 StDev
3 Tub 1 l/ha	ABC	1.53 a 0.00 Min 6.00 Max 1.75 StDev	67.06 a 52.17 Min 88.89 Max 17.38 StDev	0.31 a 0.00 Min 8.00 Max 0.27 StDev	80.07 a 67.51 Min 87.03 Max 8.60 StDev
4 Tilt 250 0.5 l/ha	ABC	1.83 a 0.00 Min 10.00 Max 2.41 StDev	59.52 a 46.67 Min 72.00 Max 10.39 StDev	0.42 a 0.00 Min 6.20 Max 0.32 StDev	70.60 a 50.92 Min 90.57 Max 17.00 StDev
5 Mico 60 1.5 l/ha Fungol 1.25 l/ha	AB C	2.70 a 0.00 Min 10.00 Max 2.80 StDev	39.92 a 17.07 Min 52.17 Max 15.59 StDev	0.34 a 0.00 Min 6.20 Max 0.28 StDev	71.49 21.89 Min 94.17 Max 33.36 StDev



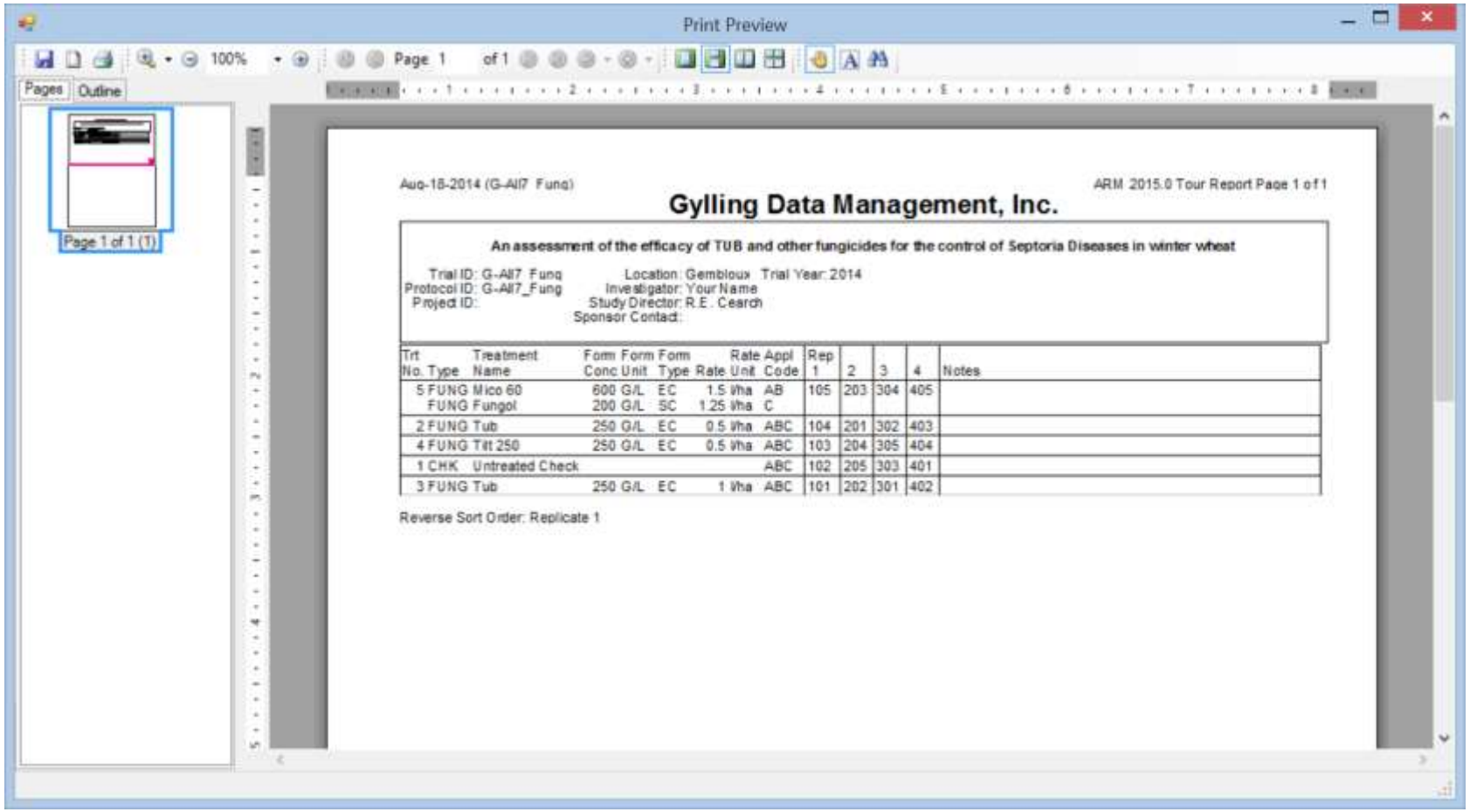
Print reports - Trials – Summary – AOV Means Table



Print reports - Trials – Tour Report



Print reports - Trials – Tour Report



Aug-18-2014 (G-All7 Fung)

ARM 2015.0 Tour Report Page 1 of 1

Gylling Data Management, Inc.

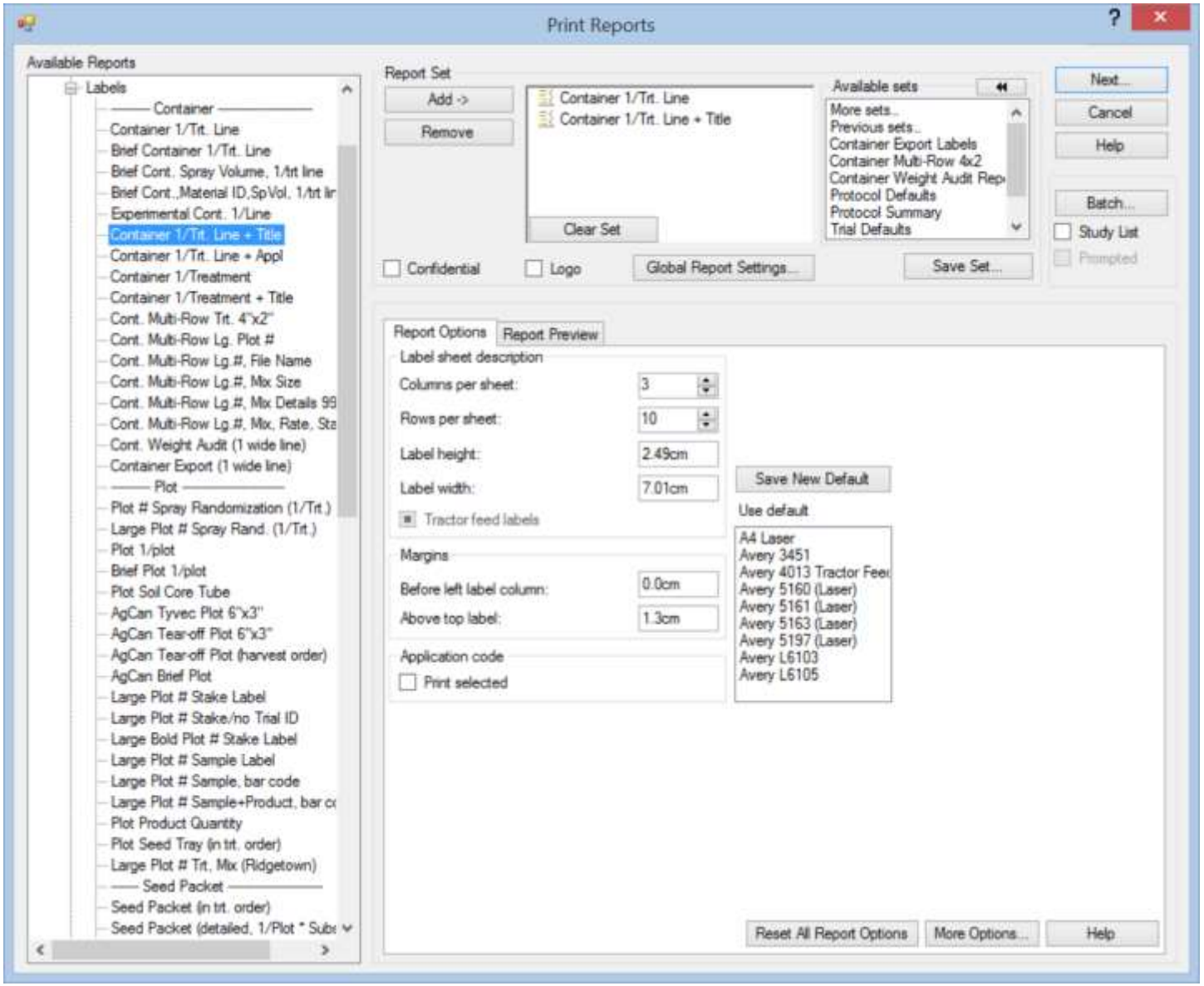
An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wheat

Trial ID: G-All7 Fung Location: Gembloux Trial Year: 2014
Protocol ID: G-All7_Fung Investigator: Your Name
Project ID: Study Director: R.E. Cearch
Sponsor Contact:

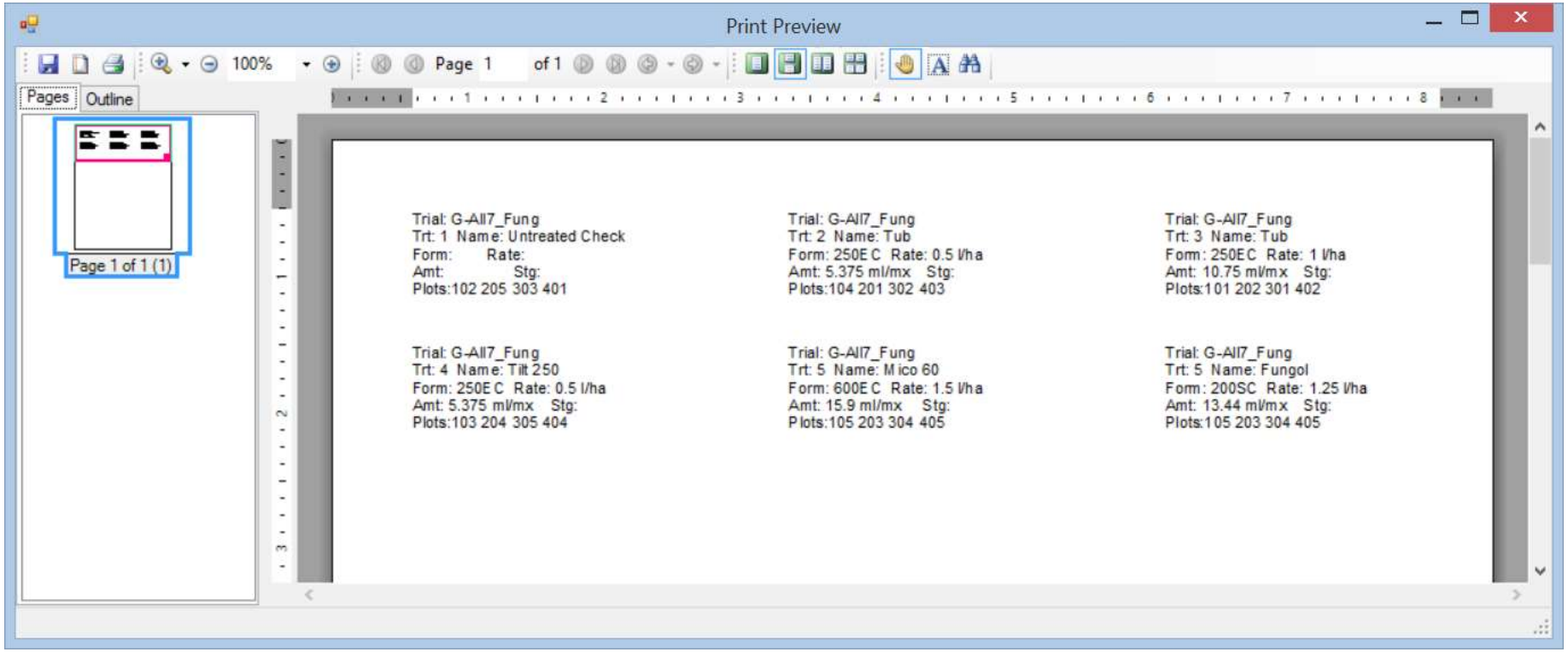
Trt No.	Type	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Rep 1	2	3	4	Notes
5	FUNG	Mico 60	600	G/L	EC	1.5	l/ha	AB	105	203	304	405	
	FUNG	Fungol	200	G/L	SC	1.25	l/ha	C					
2	FUNG	Tub	250	G/L	EC	0.5	l/ha	ABC	104	201	302	403	
4	FUNG	Tit 250	250	G/L	EC	0.5	l/ha	ABC	103	204	305	404	
1	CHK	Untreated Check						ABC	102	205	303	401	
3	FUNG	Tub	250	G/L	EC	1	l/ha	ABC	101	202	301	402	

Reverse Sort Order: Replicate 1

Print reports - Trials – Labels



Print reports - Trials – Labels



How to get Help in ARM?

- Context-sensitive Help for dialog boxes
  button or F1
- For overviews of features and help with specific tasks in the study definition
  button or F5
- Tutorials or description of new features
  - Menu Help|How to Topics
- GDM web site at http://www.gdmdata.com/
  - FAQ – Customer support – News and Scheduled Training
- Local experts available at http://www.gdmdata.com/About%20Us/Representatives/
  - Check their web sites for FAQs and customer support

Distribution and use
> 8000 Licenses in more than 80 countries

- Arysta LifeScience *
- Adama
- BASF *
- Bayer CropScience *
- Chemtura Agrosolutions
- Dow AgroSciences *
- FMC Ag Products Group
- Gowan Company
- Helena Chemical Company *
- Monsanto Agricultural Group*
- Novozymes Biologicals
- Nufarm
- Sumitomo Chemical Company and Valent *
- Syngenta *
- The Mosaic Company
- The Scotts Company
- United Phosphorus (UPI/UPL)
- Winfield Solutions
- Zelam

* Global use

Benefits of using ARM

- For the trial technician, ARM is much more than an organized data storage
- ARM supports planning and management of trials:
  - Printout of all tasks to be performed in all trials for the next days
  - Spray sheets
    - Product calculation
    - For which plots, by application code
  - Sample orders
  - Plot or bottle labels
  - Data capture tables
  - Trial tour sheets

Benefits of using ARM - *Continued*

- Different languages supported for Menus and Screens:
  - English
  - German
  - French
  - Spanish
  - Italian
  - Portuguese
  - Polish
  - Japanese
  - Korean
- Data can be entered in one language, and read or printed in another
- Integrated graphics package including Box-Whisker charts
- Large lists manageable through master database
- Entry support in many fields: for example application technology, addresses, ...

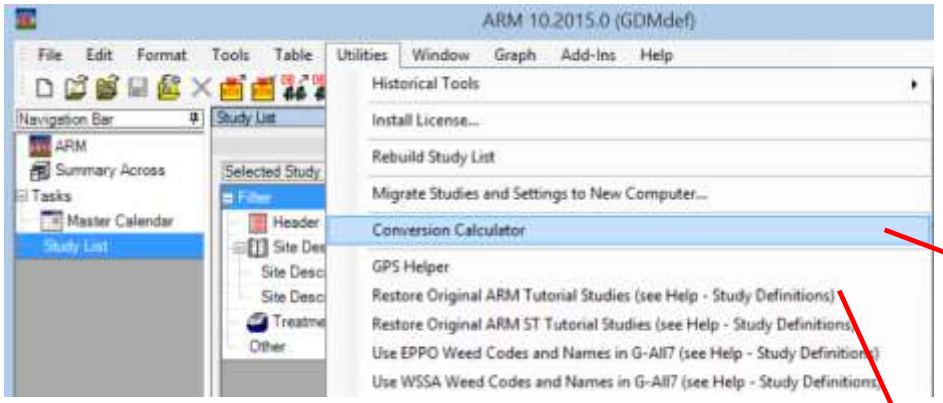
Benefits of using ARM - *Continued*

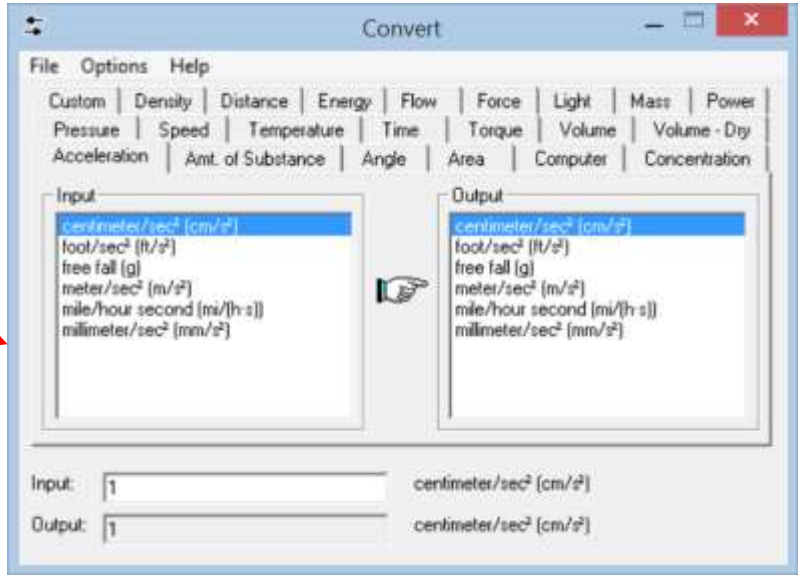
- Integrated statistics package
  - analysis of variance
  - several mean separation tests
  - dose response analysis
  - correlation analysis
- Integrated functions for data transformation on nonhomogeneous data (Log, square root, Arcsin)
- Several integrated calculation formulas
  - yield area, relative yields
  - Henderson & Tilton, Abbott
  - area under disease development curve
  - user-defined calculations

Benefits of using ARM - *Continued*

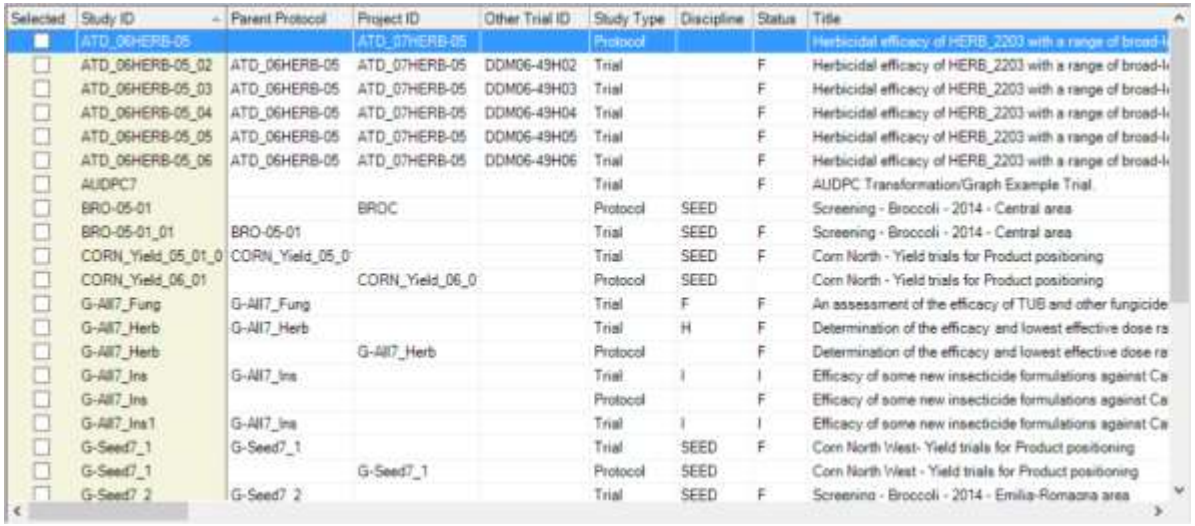
- Export and import data to Excel®
- Printing to Excel® and Word®
- ARM graphs can be exported to PowerPoint®
- Automatic backup of data
- Data exchange via .EDE (Electronic Data Exchange)
- Safe and easy use of standard evaluation files (.SE)
- Customizable reports
- Easily enter subsamples
- Report sets of several report modules can be combined and saved for later use in other trials
- Extensive help including context sensitive help

Utilities



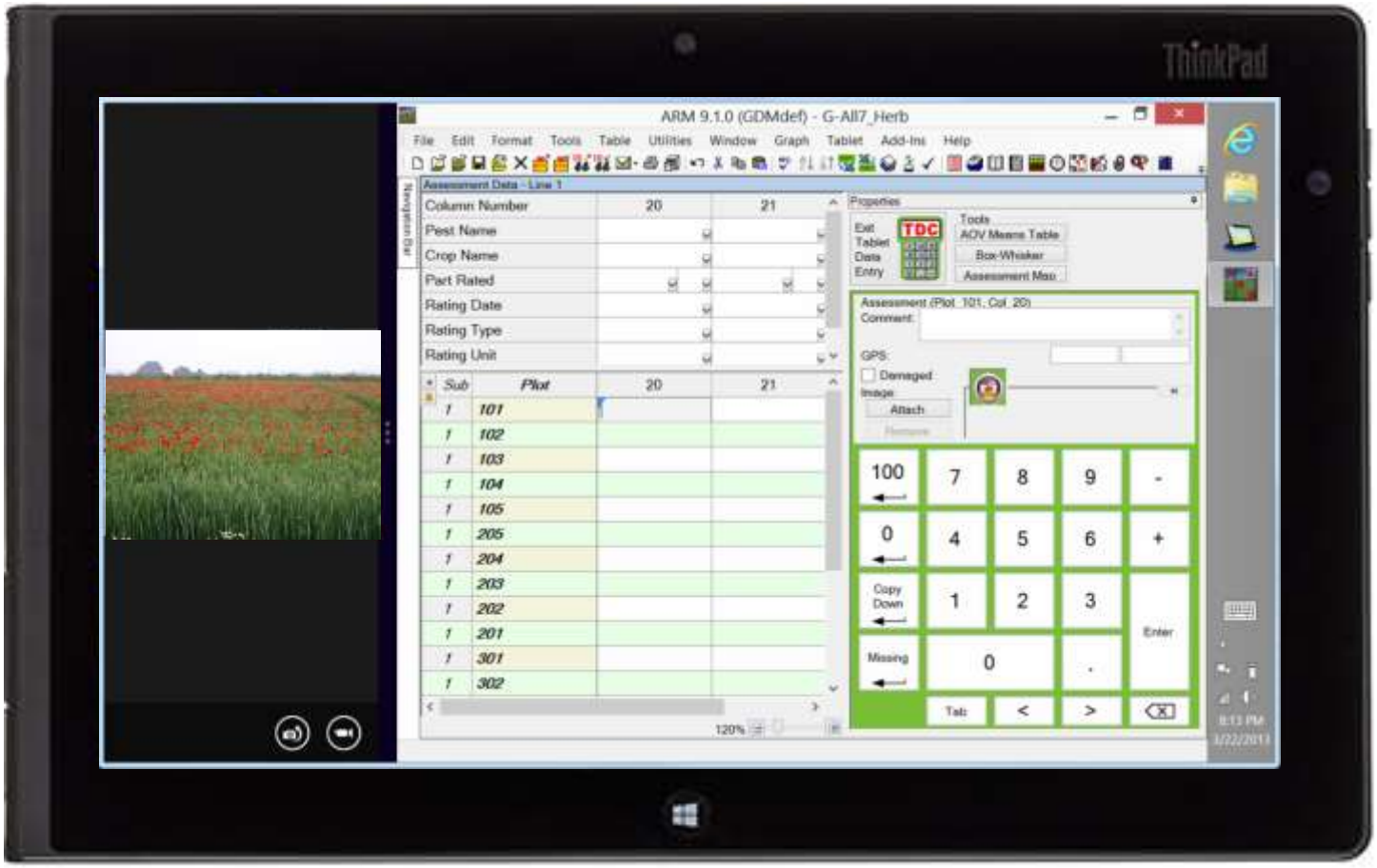


- Convert any unit using conversion calculator. Visible tabs customizable.
- Restore Original ARM Tutorials studies into *My Documents\ARM Data\ARMTutor* (for example after a training or after practicing with this Tutorial)



Selected	Study ID	Parent Protocol	Project ID	Other Trial ID	Study Type	Discipline	Status	Title
	ATD_06HERB-05		ATD_07HERB-05		Protocol			Herbicidal efficacy of HERB_2203 with a range of broad-l
	ATD_06HERB-05_02	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H02	Trial		F	Herbicidal efficacy of HERB_2203 with a range of broad-l
	ATD_06HERB-05_03	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H03	Trial		F	Herbicidal efficacy of HERB_2203 with a range of broad-l
	ATD_06HERB-05_04	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H04	Trial		F	Herbicidal efficacy of HERB_2203 with a range of broad-l
	ATD_06HERB-05_05	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H05	Trial		F	Herbicidal efficacy of HERB_2203 with a range of broad-l
	ATD_06HERB-05_06	ATD_06HERB-05	ATD_07HERB-05	DDM06-49H06	Trial		F	Herbicidal efficacy of HERB_2203 with a range of broad-l
	AUDPC7				Trial		F	AUDPC Transformation/Graph Example Trial
	BRO-05-01		BROC		Protocol	SEED		Screening - Broccoli - 2014 - Central area
	BRO-05-01_01	BRO-05-01			Trial	SEED	F	Screening - Broccoli - 2014 - Central area
	CORN_Yield_05_01_0	CORN_Yield_05_0			Trial	SEED	F	Corn North - Yield trials for Product positioning
	CORN_Yield_06_01		CORN_Yield_06_0		Protocol	SEED		Corn North - Yield trials for Product positioning
	G-All7_Fung	G-All7_Fung			Trial	F	F	An assessment of the efficacy of TUB and other fungicide
	G-All7_Herb	G-All7_Herb			Trial	H	F	Determination of the efficacy and lowest effective dose ra
	G-All7_Herb		G-All7_Herb		Protocol		F	Determination of the efficacy and lowest effective dose ra
	G-All7_Ins	G-All7_Ins			Trial	I	I	Efficacy of some new insecticide formulations against Ca
	G-All7_Ins				Protocol		F	Efficacy of some new insecticide formulations against Ca
	G-All7_Ins1	G-All7_Ins			Trial	I	I	Efficacy of some new insecticide formulations against Ca
	G-Seed7_1	G-Seed7_1			Trial	SEED	F	Corn North West- Yield trials for Product positioning
	G-Seed7_1		G-Seed7_1		Protocol	SEED		Corn North West - Yield trials for Product positioning
	G-Seed7_2	G-Seed7_2			Trial	SEED	F	Screening - Broccoli - 2014 - Emilia-Romagna area

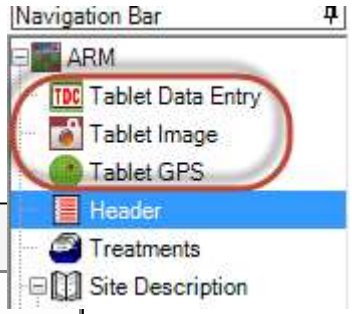
Appendix A - TDC (Tablet Data Collector)

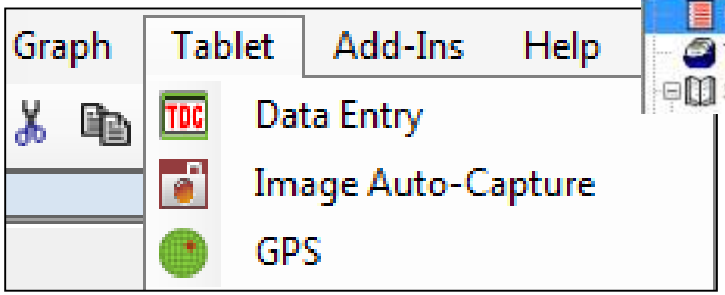


Windows 10 Professional tablet such as HarvestMaster Mesa2
ARM software + your ARM license installed on tablet
SD backup card and USB transfer cable
GDM adds ***unique features*** available ***only*** in Tablet Data Collector

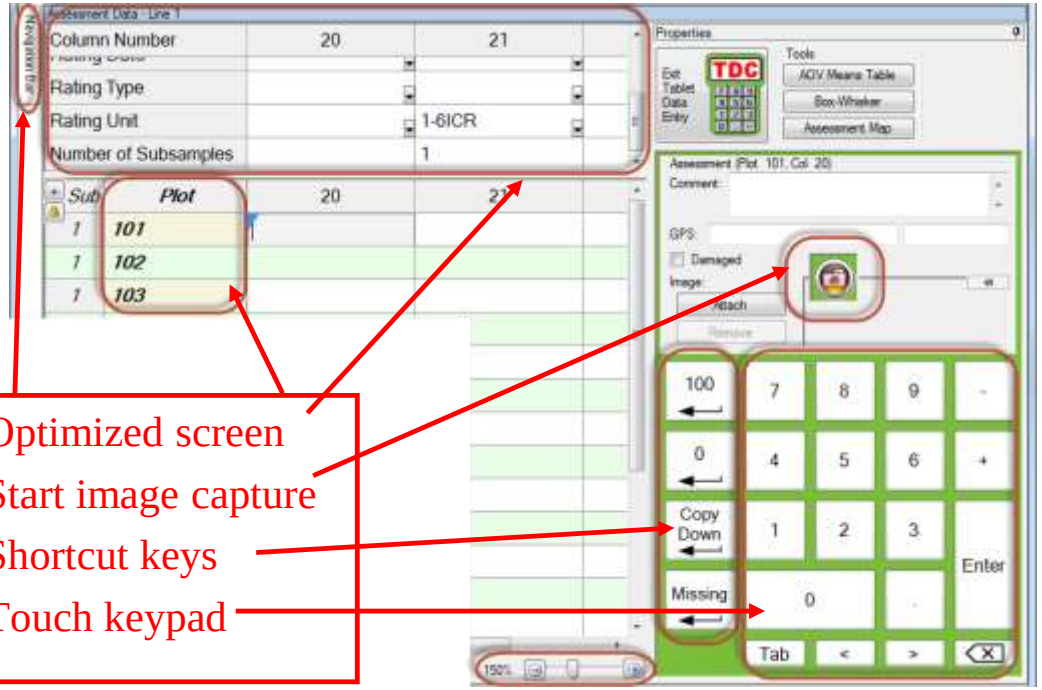
Unique Features in a Licensed Tablet Data Collector (TDC)

Tablet Data Entry
Tablet Image Capture
Tablet GPS





For more information about TDC, visit the GDM website here



Optimized screen
Start image capture
Shortcut keys
Touch keypad

Appendix B – ARM ST

- ST is used to summarize ARM trials across locations and years. It is an Add-in and cannot run without ARM
- Criteria tells ST what to summarize
- Summaries can be incorporated in reports
- Same interface and statistics as ARM.

ST 10.2015.

File Edit Format Tools Table Utilities Window

Navigation Bar

Assessment Data - Line 27

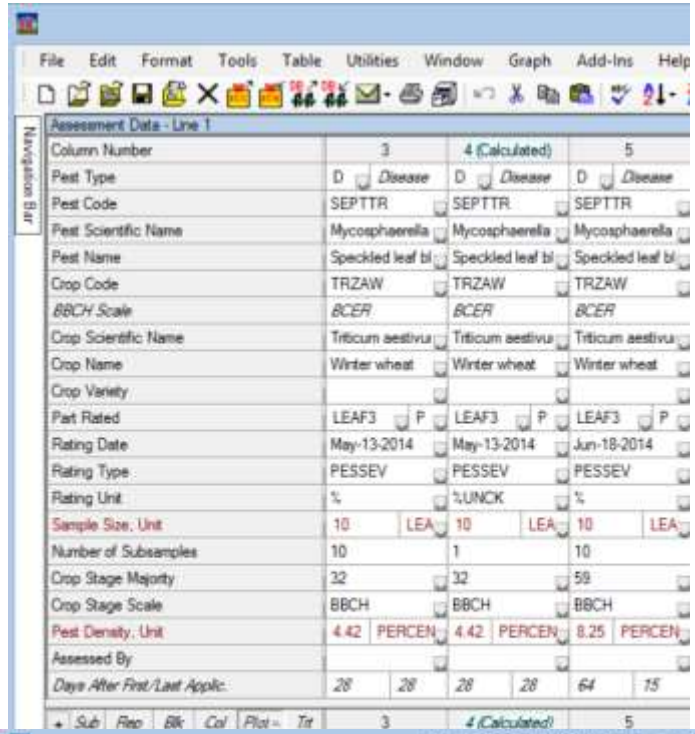
Column Number	1	2
Pest Type	- -	- -
Pest Code	S@	S@
Crop Code	@	@
BBCH Scale	-	-
Description	-	-
Part Rated	- -	- -
Rating Date	-	-
Rating Type	CONTRO	CONTRO
Rating Unit	@	@
Sample Size, Unit	- -	- -
Footnote Number	-	-
Days After First/Last Applic.	- -	- -
Trt-Eval Interval	10-30	31-60
Plant-Eval Interval	-	
ARM Action Codes	-	
Number of Decimals	2	

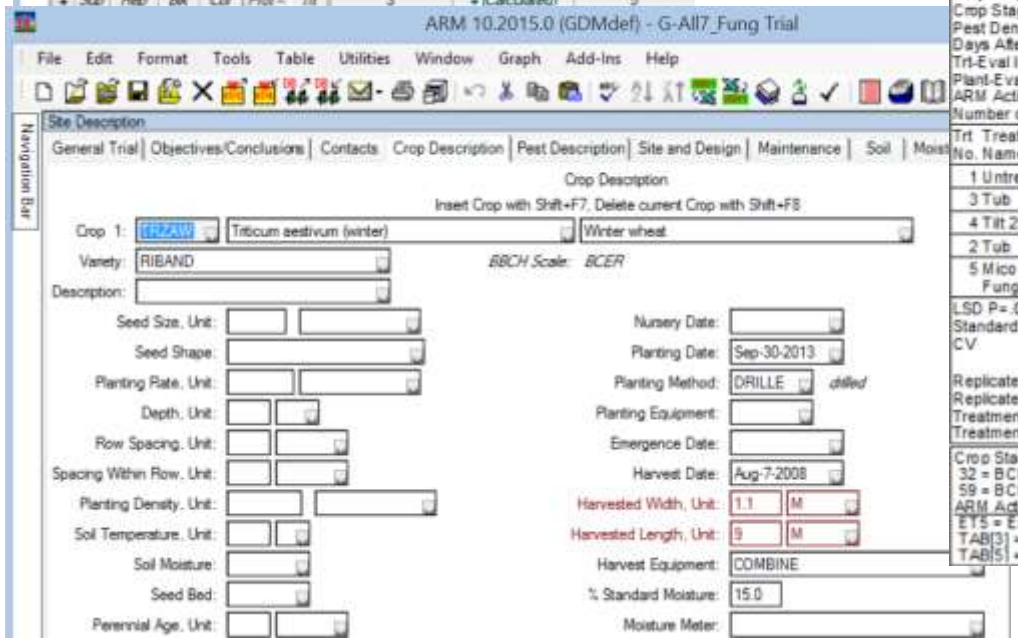
Print ST Summary

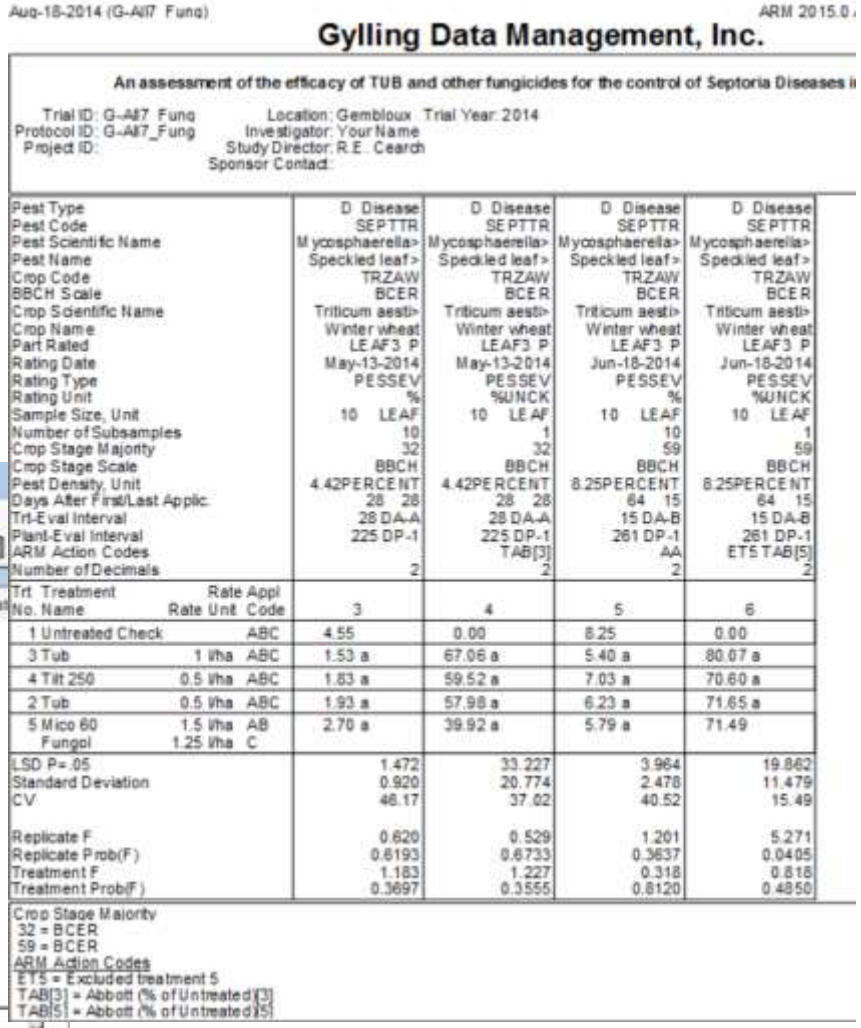
				1		St-Exam2	St-Exam3	St-Exam4	2		St-Exam2	St-Exam3	St-Exam4
Summary properties				Every		☐ Exclude	☐ Exclude	☐ Exclude	Every		☐ Exclude	☐ Exclude	☐ Exclude
2	Pest Code			SETVI		SETVI	SETVI	SETVI	SOLNI		SOLNI	SOLNI	SOLNI
5	Crop Code			ZEAMD		ZEAMD	ZEAMD	ZEAMD	ZEAMD		ZEAMD	ZEAMD	ZEAMD
14	Rating Type			CONTRO		CONTRO	CONTRO	CONTRO	CONTRO		CONTRO	CONTRO	CONTRO
15	Rating Unit			%		%	%	%	%		%	%	%
34	Trt-Eval Interval			10-30		10 DA-B	15 DA-B	16 DA-B	10-30		10 DA-B	15 DA-B	16 DA-B
38	ARM Action Codes			-					-				
Trt	Treatment		Rate										
No.	Name	Rate	Unit	Mean*	Count				Mean*	Count			
1	Super Stomp	1.5	l/ha	91.83 a	(12)	91.75 a	91.75 a	92.00 a	89.58 a	(12)	90.25 a	89.50 a	89.00 a
				87.00	Min				79.00	Min			
				96.00	Max				98.00	Max			
				3.41	StDev				6.68	StDev			
2	Stamper	4	l/ha	94.83 a	(12)	94.25 a	95.00 a	95.25 a	96.58 a	(12)	96.75 a	95.50 a	97.50 a
	C50220	0.5	l/ha	90.00	Min				91.00	Min			
				100.00	Max				100.00	Max			
				3.07	StDev				2.68	StDev			
3	Sure Kill	2	l/ha	86.67 b	(12)	85.25 a	86.25 a	88.50 a	67.67 b	(12)	53.75 a	74.50 a	74.75 a
	C50220	1	l/ha	80.00	Min				15.00	Min			
				93.00	Max				95.00	Max			
				4.54	StDev				20.18	StDev			

Appendix C – Supported Languages

English







Aug-18-2014 (G-All7 Fung) ARM 2015.0

Gylling Data Management, Inc.

An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases i

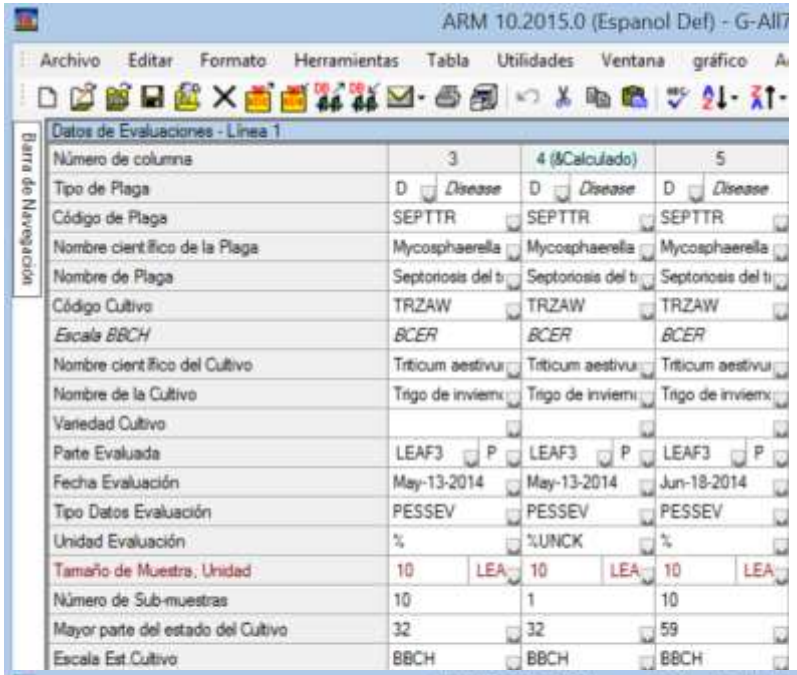
Trial ID: G-All7 Fung Location: Gembloux Trial Year: 2014
Protocol ID: G-All7_Fung Investigator: Your Name
Project ID: Study Director: R.E. Cearch
Sponsor Contact:

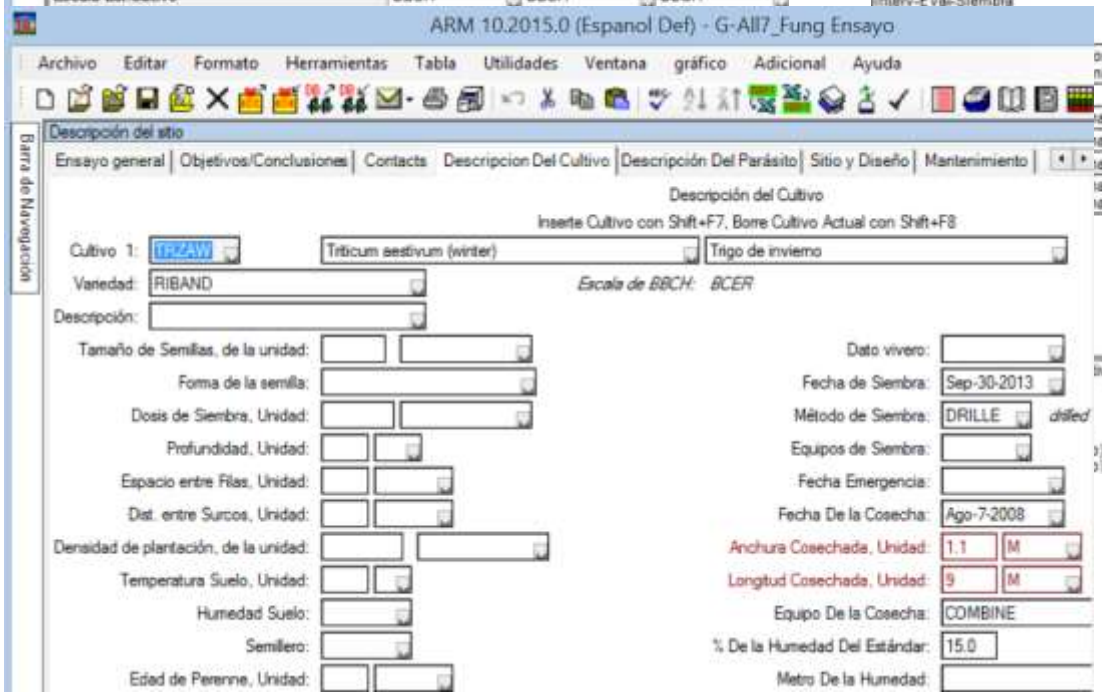
Pest Type	D Disease	D Disease	D Disease	D Disease
Pest Code	SEPTTR	SEPTTR	SEPTTR	SEPTTR
Pest Scientific Name	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Pest Name	Speckled leaf>	Speckled leaf>	Speckled leaf>	Speckled leaf>
Crop Code	TRZAW	TRZAW	TRZAW	TRZAW
BBCH Scale	BCER	BCER	BCER	BCER
Crop Scientific Name	Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
Crop Name	Winter wheat	Winter wheat	Winter wheat	Winter wheat
Part Rated	LEAF3 P	LEAF3 P	LEAF3 P	LEAF3 P
Rating Date	May-13-2014	May-13-2014	Jun-18-2014	Jun-18-2014
Rating Type	PESSEV	PESSEV	PESSEV	PESSEV
Rating Unit	%	%UNCK	%	%UNCK
Sample Size, Unit	10 LEAF	10 LEAF	10 LEAF	10 LEAF
Number of Subsamples	10	1	10	1
Crop Stage Majority	32	32	59	59
Crop Stage Scale	BBCH	BBCH	BBCH	BBCH
Pest Density, Unit	4.42PERCENT	4.42PERCENT	8.25PERCENT	8.25PERCENT
Days After First/Last Applic.	28 28	28 28	64 15	64 15
Trt-Eval Interval	28 DA-A	28 DA-A	15 DA-B	15 DA-B
Plant-Eval Interval	225 DP-1	225 DP-1	261 DP-1	261 DP-1
ARM Action Codes		TAB[3]	AA	ET5 TAB[5]
Number of Decimals	2	2	2	2

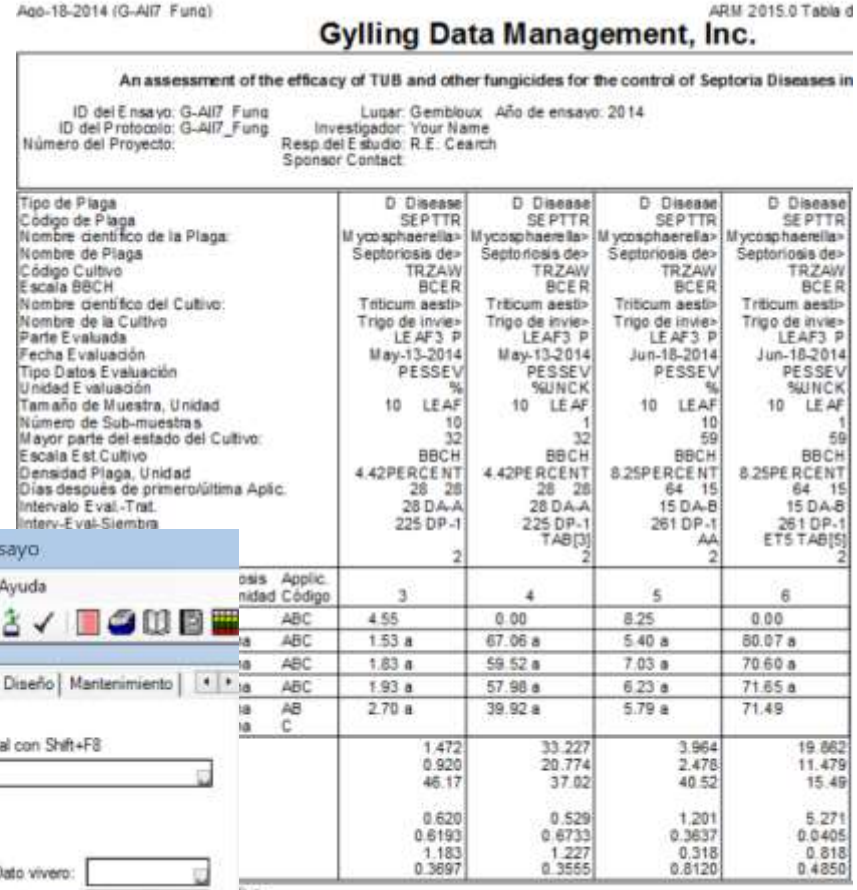
Trt No.	Treatment Name	Rate	Unit	Appl Code	3	4	5	6
1	Untreated Check			ABC	4.55	0.00	8.25	0.00
3	Tub	1	l/ha	ABC	1.53 a	67.06 a	5.40 a	80.07 a
4	Tilt 250	0.5	l/ha	ABC	1.83 a	59.52 a	7.03 a	70.60 a
2	Tub	0.5	l/ha	ABC	1.93 a	57.98 a	6.23 a	71.65 a
5	Mico 60	1.5	l/ha	AB	2.70 a	39.92 a	5.79 a	71.49
	Fungol	1.25	l/ha	C				
LSD P=.05					1.472	33.227	3.964	19.862
Standard Deviation					0.920	20.774	2.478	11.479
CV					46.17	37.02	40.52	15.49
Replicate F					0.620	0.529	1.201	5.271
Replicate Prob(F)					0.6193	0.6733	0.3637	0.0405
Treatment F					1.183	1.227	0.318	0.818
Treatment Prob(F)					0.3697	0.3555	0.8120	0.4850

Crop Stage Majority
32 = BCER
59 = BCER
ARM Action Codes
ET5 = Excluded treatment 5
TAB[3] = Abbott (% of Untreated)[3]
TAB[5] = Abbott (% of Untreated)[5]

Espanol


ARM 10.2015.0 (Espanol Def) - G-All7
Archivo Editar Formato Herramientas Tabla Utilidades Ventana gráfico
Datos de Evaluaciones - Linea 1
Número de columna 3 4 (&Calculado) 5
Tipo de Plaga D Disease D Disease D Disease
Código de Plaga SEPTTR SEPTTR SEPTTR
Nombre cientifico de la Plaga Mycosphaerella Mycosphaerella Mycosphaerella
Nombre de Plaga Septoriosis del t Septoriosis del t Septoriosis del t
Código Cultivo TRZAW TRZAW TRZAW
Escala BBCH BCER BCER BCER
Nombre cientifico del Cultivo Triticum aestivu Triticum aestivu Triticum aestivu
Nombre de la Cultivo Trigo de invierno Trigo de invierno Trigo de invierno
Variedad Cultivo
Parte Evaluada LEAF3 P LEAF3 P LEAF3 P
Fecha Evaluación May-13-2014 May-13-2014 Jun-18-2014
Tipo Datos Evaluación PESSEV PESSEV PESSEV
Unidad Evaluación % %UNCK %
Tamaño de Muestra, Unidad 10 LEA 10 LEA 10 LEA
Número de Sub-muestras 10 1 10
Mayor parte del estado del Cultivo 32 32 59
Escala Est.Cultivo BBCH BBCH BBCH


ARM 10.2015.0 (Espanol Def) - G-All7_Fung Ensayo
Archivo Editar Formato Herramientas Tabla Utilidades Ventana gráfico Adicional Ayuda
Descripción del sitio
Ensayo general | Objetivos/Conclusiones | Contacts | Descripcion Del Cultivo | Descripción Del Parásito | Sitio y Diseño | Mantenimiento
Descripción del Cultivo
Inserte Cultivo con Shift+F7, Borre Cultivo Actual con Shift+F8
Cultivo 1: TRZAW Triticum aestivum (winter) Trigo de invierno
Variedad: RIBAND
Escala de BBCH: BCER
Descripción:
Tamaño de Semillas, de la unidad:
Forma de la semilla:
Dosis de Siembra, Unidad:
Profundidad, Unidad:
Espacio entre Filas, Unidad:
Dist. entre Surcos, Unidad:
Densidad de plantación, de la unidad:
Temperatura Suelo, Unidad:
Humedad Suelo:
Semillero:
Edad de Perenne, Unidad:
Dato vivero:
Fecha de Siembra: Sep-30-2013
Método de Siembra: DRILLE drilled
Equipos de Siembra:
Fecha Emergencia:
Fecha De la Cosecha: Ago-7-2008
Anchura Cosechada, Unidad: 1.1 M
Longitud Cosechada, Unidad: 9 M
Equipo De la Cosecha: COMBINE
% De la Humedad Del Estándar: 15.0
Metro De la Humedad:


Ago-18-2014 (G-All7 Fung)
ARM 2015.0 Tabla d
Gylling Data Management, Inc.
An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in
ID del Ensayo: G-All7 Fung
ID del Protocolo: G-All7_Fung
Número del Proyecto:
Lugar: Gembloux Año de ensayo: 2014
Investigador: Your Name
Resp.del Estudio: R.E. Cearch
Sponsor Contact:
Tipo de Plaga D Disease D Disease D Disease D Disease
Código de Plaga SEPTTR SEPTTR SEPTTR SEPTTR
Nombre cientifico de la Plaga: Mycosphaerella> Mycosphaerella> Mycosphaerella> Mycosphaerella>
Nombre de Plaga Septoriosis de> Septoriosis de> Septoriosis de> Septoriosis de>
Código Cultivo TRZAW TRZAW TRZAW TRZAW
Escala BBCH BCER BCER BCER BCER
Nombre cientifico del Cultivo: Triticum aesti> Triticum aesti> Triticum aesti> Triticum aesti>
Nombre de la Cultivo Trigo de invie> Trigo de invie> Trigo de invie> Trigo de invie>
Parte Evaluada LEAF3 P LEAF3 P LEAF3 P LEAF3 P
Fecha Evaluación May-13-2014 May-13-2014 Jun-18-2014 Jun-18-2014
Tipo Datos Evaluación PESSEV PESSEV PESSEV PESSEV
Unidad Evaluación % %UNCK % %UNCK
Tamaño de Muestra, Unidad 10 LEAF 10 LEAF 10 LEAF 10 LEAF
Número de Sub-muestras 10 1 10 1
Mayor parte del estado del Cultivo: 32 32 59 59
Escala Est.Cultivo BBCH BBCH BBCH BBCH
Densidad Plaga, Unidad 4.42PERCENT 4.42PERCENT 8.25PERCENT 8.25PERCENT
Dias después de primero/última Aplic. 28 28 28 28 64 15 64 15
Intervalo Eval.-Trat. 28 DA-A 28 DA-A 15 DA-B 15 DA-B
Interv.Eval-Siembra 225 DP-1 225 DP-1 261 DP-1 261 DP-1
TAB[3] AA ET5 TAB[5]
2 2 2 2
Applic. Código 3 4 5 6
ABC 4.55 0.00 8.25 0.00
ABC 1.53 a 67.06 a 5.40 a 80.07 a
ABC 1.83 a 59.52 a 7.03 a 70.60 a
ABC 1.93 a 57.98 a 6.23 a 71.65 a
AB C 2.70 a 39.92 a 5.79 a 71.49
1.472 33.227 3.964 19.862
0.920 20.774 2.478 11.479
46.17 37.02 40.52 15.49
0.620 0.529 1.201 5.271
0.6193 0.6733 0.3637 0.0405
1.183 1.227 0.318 0.818
0.3897 0.3555 0.8120 0.4850

Français

ARM 10.2015.0 (Francais Def) - G-A

Fichier Editer Format Outils Tableau Utilitaires Fenêtre Graphique Add-I

Barre de Navigation

Données de Notations - Ligne 1

Numéro Colonne	3	4 (Calculées)	5
Type de Parasite	D Disease	D Disease	D Disease
Code du Parasite	SEPTTR	SEPTTR	SEPTTR
Nom Scientifique du Parasite	Mycosphaerella	Mycosphaerella	Mycosphaerella
Nom du Parasite	Septoriose du bl	Septoriose du bl	Septoriose du bl
Code de Culture	TRZAW	TRZAW	TRZAW
Echelle BBCH	*BCER*	*BCER*	*BCER*
Nom Scientifique Culture	Triticum aestivu	Triticum aestivu	Triticum aestivu
Nom de Culture	Blé d'hiver	Blé d'hiver	Blé d'hiver
Variété			
Partie Evaluée	LEAF3 P	LEAF3 P	LEAF3 P
Date d'Evaluation	Mai-13-2014	Mai-13-2014	Jui-18-2014
Type d'Evaluation	PESSEV	PESSEV	PESSEV
Unité d'Evaluation	%	%UNCK	%

ARM 10.2015.0 (Francais Def) - G-All7_Fung Essai

Fichier Editer Format Outils Tableau Utilitaires Fenêtre Graphique Add-Ins Aide

Barre de Navigation

Description du site

Info. Générales | Objectifs/Conclusions | Contacts | Description Culture | Description Parasite | Emplacement et Dispositif | Entretien | Sol

Description Culture

Insérez une Culture avec Shift+F7, Supprimez la Culture courante avec Shift+F8

Culture 1: TRZAW | Triticum aestivum (winter) | Blé d'hiver

Variété: RIBAND — *Echelle BBCH: BCER*

Description:

Seed Size, Unit:
Seed Shape:
Dose/Population, Unité:
Profondeur, Unité:
Entre rangs, Unité:
Espacement, Unité:
Densité semis, Unité:
Temp. Sol, Unité:
Humidité sol:
Lit de semence:
Age (C. perenne), Unité:

Nursery Date:
Date Semis/Plantation: Sep-30-2013
Mode Semis/Plantation: DRILLE *drilled*
Planting Equipment:
Date Levée:
Date Récolte: Aou-7-2008
Largeur Récoltée, Unité: 1.1 M
Longueur Récoltée, Unité: 9 M
Equipement de Récolte: COMBINE
% d'Humidité de Référence: 15.0
Humidimètre:

Aou-18-2014 (G-All7_Fung) — ARM 2015.0 Tableau des moyen

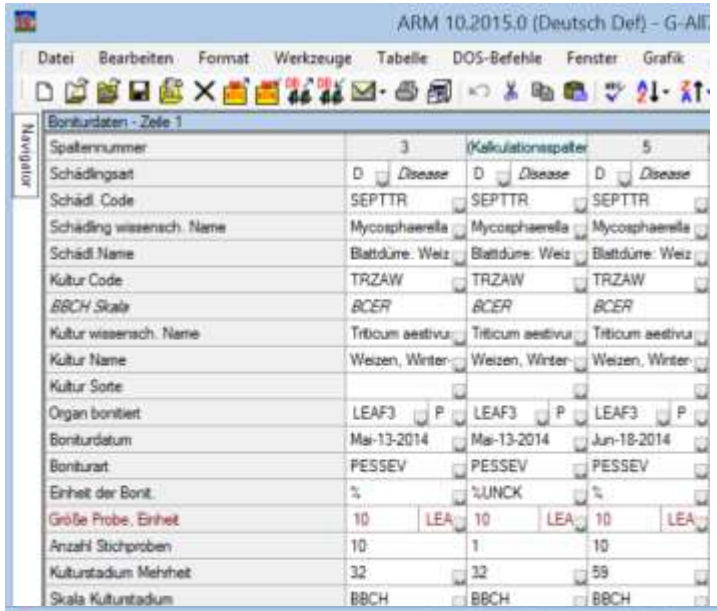
Gylling Data Management, Inc.

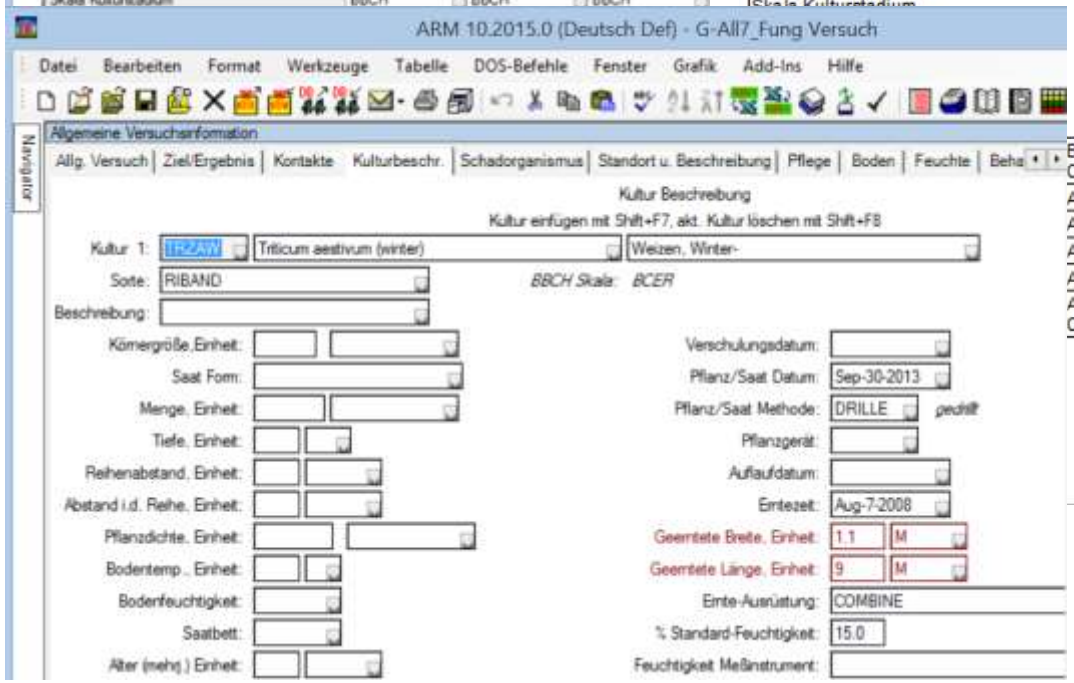
An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter

N° Essai: G-All7_Fung — Localisation: Gembloux — Année d'Essai: 2014
N° Protocole: G-All7_Fung — Expérimentateur: Your Name
N° Projet: — Directeur d'Etude: R.E. Cearch
Contact Sponsor:

Type de Parasite	D Disease	D Disease	D Disease	D Disease
Code du Parasite	SEPTTR	SEPTTR	SEPTTR	SEPTTR
Nom Scientifique du Parasite	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Nom du Parasite	Septoriose du >	Septoriose du >	Septoriose du >	Septoriose du >
Code de Culture	TRZAW	TRZAW	TRZAW	TRZAW
Echelle BBCH	BCER	BCER	BCER	BCER
Nom Scientifique Culture	Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
Nom de Culture	Blé d'hiver	Blé d'hiver	Blé d'hiver	Blé d'hiver
Partie Evaluée	LEAF3 P	LEAF3 P	LEAF3 P	LEAF3 P
Date d'Evaluation	Mai-13-2014	Mai-13-2014	Jui-18-2014	Jui-18-2014
Type d'Evaluation	PESSEV	PESSEV	PESSEV	PESSEV
Unité d'Evaluation	%	%UNCK	%	%UNCK
Taille de l'Echantillon, Unité	10 LEAF	10 LEAF	10 LEAF	10 LEAF
Nb. Sous-Echantillons	10	1	10	1
Stade Culture Majorité	32	32	59	59
	BBCH	BBCH	BBCH	BBCH
	4.42PERCENT	4.42PERCENT	8.25PERCENT	8.25PERCENT
	28 28	28 28	64 15	64 15
	28 DA-A	28 DA-A	15 DA-B	15 DA-B
	225 DP-1	225 DP-1	261 DP-1	261 DP-1
		TAB[3]	AA	ETS TAB[5]
	2	2	2	2
Dose Unité / Code Appl.	3	4	5	6
ABC	4.55	0.00	8.25	0.00
l/ha ABC	1.53 a	67.06 a	5.40 a	80.07 a
l/ha ABC	1.83 a	59.52 a	7.03 a	70.60 a
l/ha ABC	1.93 a	57.98 a	6.23 a	71.65 a
l/ha AB l/ha C	2.70 a	39.92 a	5.79 a	71.49
gnificatif)	1.472	33.227	3.964	19.862
	0.920	20.774	2.478	11.479
	46.17	37.02	40.52	15.49
	0.620	0.529	1.201	5.271
	0.6193	0.6733	0.3637	0.0405
	1.183	1.227	0.318	0.818
	0.3697	0.3555	0.8120	0.4850

Deutsch





Aug-18-2014 (G-All7 Fung) ARM 2015.0 AOV Mit

Gylling Data Management, Inc.

An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in w

Versuchsbezeichn.: G-All7 Fung
Protokollbezeichn.: G-All7_Fung
Projekt ID:
Standort: Gembloux Versuchsjahr: 2014
Versuchsansteller: Your Name
Studiendirektor: R.E. Cearch
Kontakt Auftraggeber:

Schädlingsart	D Disease	D Disease	D Disease	D Disease
Schädl. Code	SEPTTR	SEPTTR	SEPTTR	SEPTTR
Schädling wissensch. Name	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Schädl.Name	Blattdürre: We>	Blattdürre: We>	Blattdürre: We>	Blattdürre: We>
Kultur Code	TRZAW	TRZAW	TRZAW	TRZAW
BBCH Skala	BCER	BCER	BCER	BCER
Kultur wissensch. Name	Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
Kultur Name	Weizen, Winter-	Weizen, Winter-	Weizen, Winter-	Weizen, Winter-
Organ bonitiert	LEAF3 P	LEAF3 P	LEAF3 P	LEAF3 P
Boniturdatum	Mai-13-2014	Mai-13-2014	Jun-18-2014	Jun-18-2014
Boniturart	PESSEV	PESSEV	PESSEV	PESSEV
Einheit der Bonit.	%	%UNCK	%	%UNCK
Größe Probe, Einheit	10 LEAF	10 LEAF	10 LEAF	10 LEAF
Anzahl Stichproben	10	1	10	1
Kulturstadium Mehrheit	32	32	59	59
	BBCH	BBCH	BBCH	BBCH
	4.42PERCENT	4.42PERCENT	8.25PERCENT	8.25PERCENT
	28 28	28 28	64 15	64 15
	28 DA-A	28 DA-A	15 DA-B	15 DA-B
	225 DP-1	225 DP-1	261 DP-1	261 DP-1
		TAB[3]	AA	ET5 TAB[5]
	2	2	2	2
Behandl. Code	3	4	5	6
ABC	4.55	0.00	8.25	0.00
ABC	1.53 a	67.06 a	5.40 a	80.07 a
ABC	1.83 a	59.52 a	7.03 a	70.60 a
ABC	1.93 a	57.98 a	6.23 a	71.65 a
AB C	2.70 a	39.92 a	5.79 a	71.49
	1.472	33.227	3.964	19.862
	0.920	20.774	2.478	11.479
	46.17	37.02	40.52	15.49
	0.620	0.529	1.201	5.271
	0.6193	0.6733	0.3637	0.0405
	1.183	1.227	0.318	0.818
	0.3697	0.3555	0.8120	0.4850

Portuguese

ARM 10.2015.0 (Portugues Def) - G-A

Arquivo Editar Formatar Ferramentas Tabela Utilitários Janela Gráfico Ad

Dados das Avaliações - Linha 1

Coluna Número	3	4 (Calculado)	5
Tipo do Pest	D Disease	D Disease	D Disease
Código do Pest	SEPTTR	SEPTTR	SEPTTR
Nome científico da Peste	Mycosphaerella	Mycosphaerella	Mycosphaerella
Nome do Pest	Mycosphaerella	Mycosphaerella	Mycosphaerella
Código da Colheita	TRZAW	TRZAW	TRZAW
Escala de BBCH	*BCER*	*BCER*	*BCER*
Crescer nome científico	Triticum aestivu	Triticum aestivu	Triticum aestivu
Nome da Colheita	Triticum aestivu	Triticum aestivu	Triticum aestivu
Variedade da Colheita			
A Parte Avaliou	LEAF3 P	LEAF3 P	LEAF3 P
Data da Avaliação	Mai-13-2014	Mai-13-2014	Jun-18-2014
Tipo de Dados da Avaliação	PESSEV	PESSEV	PESSEV
Unidade da Avaliação	%	%UNCK	%
Tamanho de Amostra, Unidade	10 LEA	10 LEA	10 LEA
Número dos sub-amostras	10	1	10

Ago-18-2014 (G-All7_Fung) ARM 2015.0 AOV Tabela

Gylling Data Management, Inc.

An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in wi

Exper. Id: G-All7_Fung Posição: Gembloux Teste ano: 2014
Protocol ID: G-All7_Fung Investigator: Your Name
Número do Projeto: Diretor do Estudo: R.E. Cearch
Rep:

Tipo do Pest	D Disease	D Disease	D Disease	D Disease
Código do Pest	SEPTTR	SEPTTR	SEPTTR	SEPTTR
Nome científico da Peste:	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Nome do Pest	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Código da Colheita	TRZAW	TRZAW	TRZAW	TRZAW
Escala de BBCH	BCER	BCER	BCER	BCER
Crescer nome científico:	Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
Nome da Colheita	Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
A Parte Avaliou	LEAF3 P	LEAF3 P	LEAF3 P	LEAF3 P
Data da Avaliação	Mai-13-2014	Mai-13-2014	Jun-18-2014	Jun-18-2014
Tipo de Dados da Avaliação	PESSEV	PESSEV	PESSEV	PESSEV
Unidade da Avaliação	%	%UNCK	%	%UNCK
Tamanho de Amostra, Unidade	10 LEAF	10 LEAF	10 LEAF	10 LEAF
Número dos sub-amostras	10	1	10	1
Estágio da Colheita	32	32	59	59
Escala do Estágio da Colheita	BBCH	BBCH	BBCH	BBCH
Densidade do Pest, Unidade	4.42PERCENT	4.42PERCENT	8.25PERCENT	8.25PERCENT
	28 28	28 28	64 15	64 15
	28 DA-A	28 DA-A	15 DA-B	15 DA-B
	225 DP-1	225 DP-1	261 DP-1	261 DP-1
		TAB[3]	AA	ET5 TAB[5]
	2	2	2	2

icação digo	3	4	5	6
C	4.55	0.00	8.25	0.00
C	1.53 a	67.06 a	5.40 a	80.07 a
C	1.83 a	59.52 a	7.03 a	70.60 a
C	1.93 a	57.98 a	6.23 a	71.65 a
	2.70 a	39.92 a	5.79 a	71.49
	1.472	33.227	3.964	19.862
	0.920	20.774	2.478	11.479
	46.17	37.02	40.52	15.49
	0.620	0.529	1.201	5.271
	0.6193	0.6733	0.3637	0.0405
	1.183	1.227	0.318	0.818
	0.3697	0.3555	0.8120	0.4850

ARM 10.2015.0 (Portugues Def) - G-All7_Fung Ensaio

Arquivo Editar Formatar Ferramentas Tabela Utilitários Janela Gráfico Adicionar-Ins Ajuda

Descrição Local

Ensayo general | Objectivos/Conclusiones | Contacts | Descripcion do Cultivo | Descripcion del Parasito | Sitio y Diseño | Manutenção | S

Descrição sa Colheita

Introduza a cultivo com Shift+F7, colheita atual da supressão com Shift+F8

Cultivo 1: TRZAW — Triticum aestivum (winter) — Triticum aestivum (winter)

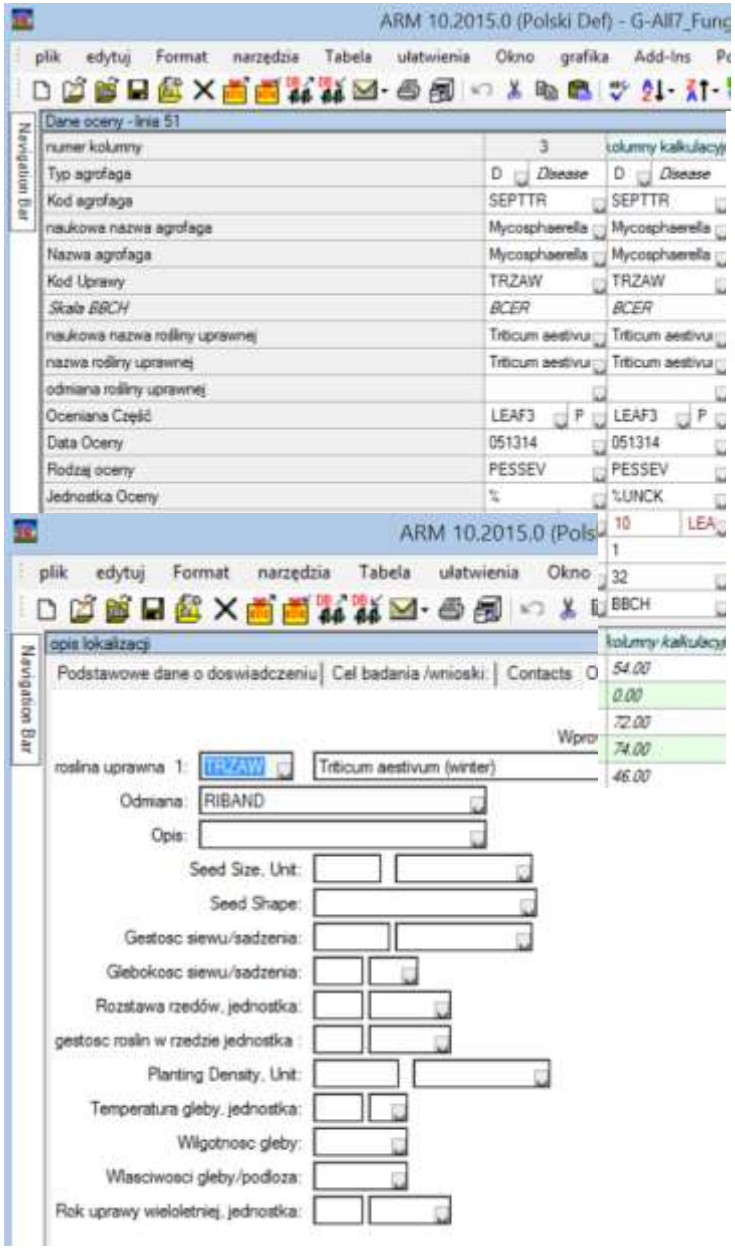
Variedade: RIBAND — *Escala de BBCH: BCER*

Descrição:

O tamanho da semente da unidade:
Forma da semente:
Taxa, Unidade:
Profundidade, Unidade:
Afastamento da Fileira, Unidade:
Afastamento dentro da Fileira, Unidade:
A densidade de plantio da unidade:
Temperatura do solo, Unidade:
Umidade do Solo:
Cama da Semente:
Idade Perennial, Unidade:

Dato berçário:
Data Plantando: Set-30-2013
Plantando o Método: DRILLE *drilled*
Equipamentos de semeadura:
Data do Emergence:
Data De Colheita: Ago-7-2008
Largura Colhida, Unidade: 1.1 M
Comprimento Colhido, Unidade: 9 M
Equipamento Da Colheita: COMBINE
% Da Umidade Do Padrão: 15.0
Medidor Da Umidade:

Polski



081814 (G-All7 Fung) ARM 2015.0 analiza wa

Gylling Data Management, Inc.

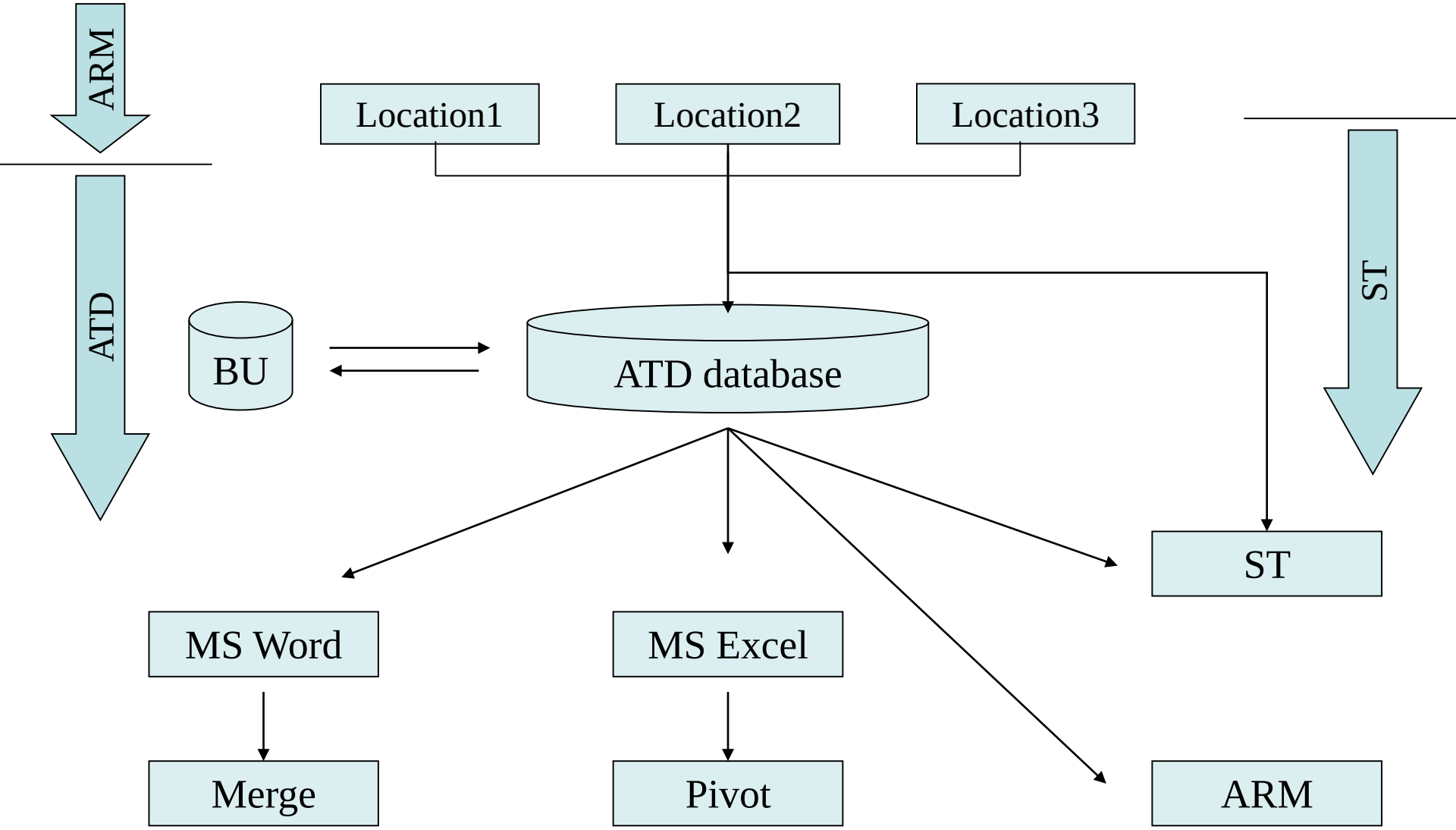
An assessment of the efficacy of TUB and other fungicides for the control of Septoria Diseases in winter wh

identyfikator doświadczenia: G-All7 Fung
identyfikator protokołu: G-All7_Fung
identyfikator projektu:

Lokalizacja: Gembloux Trial Year: 2014
Badacz: Your Name
Kierownik doświadczenia: R.E. Cearch
zleceniodawca/sponsor:

Typ agrofaga			D Disease	D Disease	D Disease	D Disease
Kod agrofaga			SEPTTR	SEPTTR	SEPTTR	SEPTTR
naukowa nazwa agrofaga			Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Nazwa agrofaga			Mycosphaerella>	Mycosphaerella>	Mycosphaerella>	Mycosphaerella>
Kod Uprawy			TRZAW	TRZAW	TRZAW	TRZAW
Skala BBCH			BCER	BCER	BCER	BCER
naukowa nazwa rośliny uprawnej			Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
nazwa rośliny uprawnej			Triticum aesti>	Triticum aesti>	Triticum aesti>	Triticum aesti>
Oceniana Część			LEAF3 P	LEAF3 P	LEAF3 P	LEAF3 P
Data Oceny			051314	051314	061814	061814
Rodzaj oceny			PESSEV	PESSEV	PESSEV	PESSEV
Jednostka Oceny			%	%UNCK	%	%UNCK
Wielkość Próby, Jednostka			10 LEAF	10 LEAF	10 LEAF	10 LEAF
Liczba Podprób			10	1	10	1
większościowe stadium rozwoju roślin (BBCH)			32	32	59	59
Skala stadium Wzrostu Rośliny uprawnej			BBCH	BBCH	BBCH	BBCH
Jednostka nasilenia występowania agrofaga			4.42PERCENT	4.42PERCENT	8.25PERCENT	8.25PERCENT
Dni po Pierwszym/Ostatnim Zabiegu			28 28	28 28	64 15	64 15
Czas od Zabiegu do Oceny			28 DA-A	28 DA-A	15 DA-B	15 DA-B
Czas od Sadzenia do Oceny			225 DP-1	225 DP-1	261 DP-1	261 DP-1
Kody Czynności ARM				TAB[3]	AA	ET5 TAB[5]
Liczba Miejsc Dziesiętnych			2	2	2	2
Kombinacja Kombinacja No. nazwa	Dawka Dawka	Jednostka	Zabieg Kod	3	4	5	6
1 Untreated Check			ABC	4.55	0.00	8.25	0.00
3 Tub	1	l/ha	ABC	1.53 a	67.06 a	5.40 a	80.07 a
4 Tilt 250	0.5	l/ha	ABC	1.83 a	59.52 a	7.03 a	70.60 a
2 Tub	0.5	l/ha	ABC	1.93 a	57.98 a	6.23 a	71.65 a
5 Mico 60	1.5	l/ha	AB	2.70 a	39.92 a	5.79 a	71.49
Fungol	1.25	l/ha	C				
LSD (P=.05)				1.472	33.227	3.964	19.862
Odchylenie standardowe				0.920	20.774	2.478	11.479
CV				46.17	37.02	40.52	15.49
powtórzenie F				0.620	0.529	1.201	5.271
powtórzenie Prob(F)				0.6193	0.6733	0.3637	0.0405
kombinacja F				1.183	1.227	0.318	0.818
kombinacja Prob(F)				0.3697	0.3555	0.8120	0.4850

Data flow with ARM and ATD



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