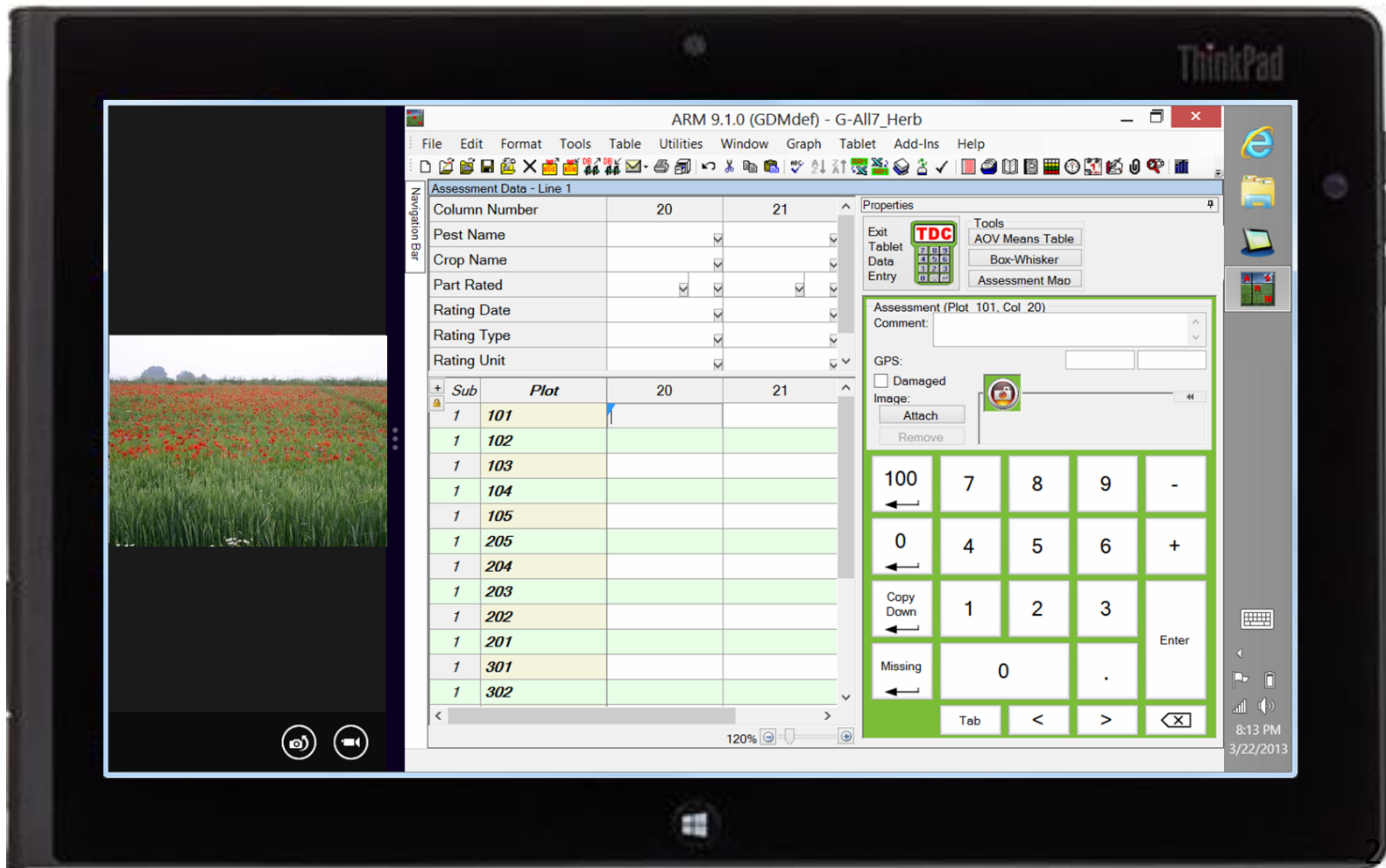# ARM Tablet Data Collector

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ARM Tablet Data Collector

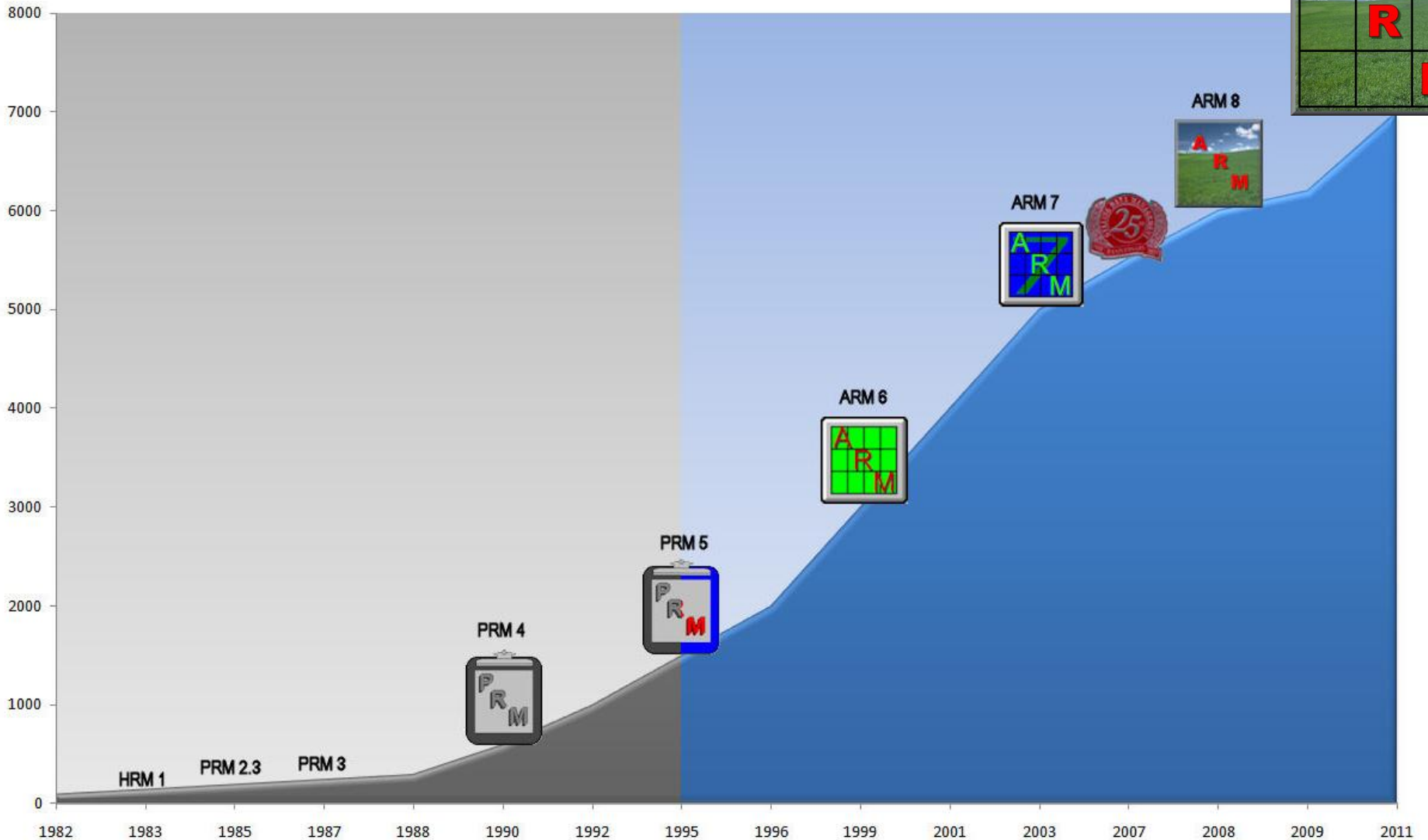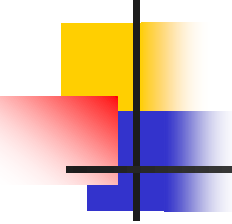Win 8 Pro tablet + ARM + special ARM tablet features

What is 'ARM'?

- Windows software for trial management
  - Enter treatments of interest, select design (RCB, CRD, Latin Square, 4 Lattices, Factorial RCB, Split-Plot, Strip-Block)
  - Randomize trial appropriately for design
  - Print trial management reports
  - Enter assessments and site information in structured format
  - Transform, statistically analyze, report, & graph results

ARM 9 – Evolution of ARM Software

Total ARM User Licenses Over Time

Actions that will Improve Assessment Quality

- Enter data only once to avoid transcription errors

- Employ appropriate range checking for assessed values

- Perform data quality checks before leaving trial site (analyze, graph)

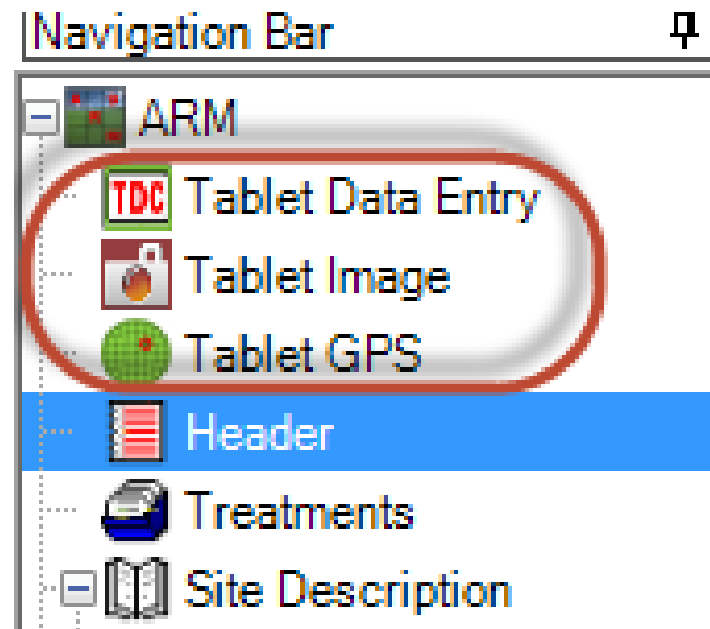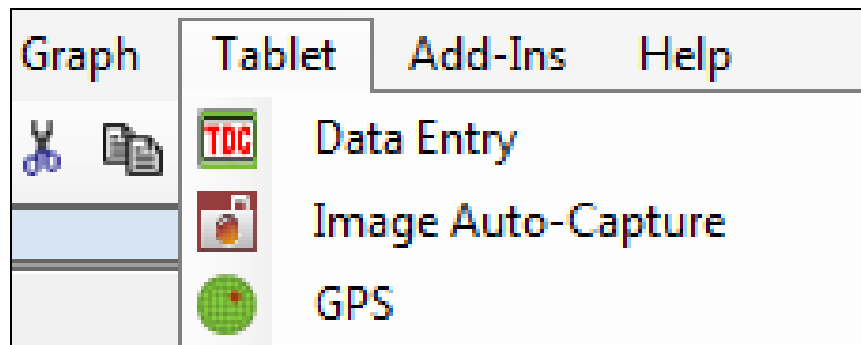- Include photographs that illustrate or support measurements & observations

Benefits of Using ARM Tablet Data Collector (TDC)

Use full ARM software at trial site on conveniently sized hardware that is readable in direct sunlight, plus:

- Optimized for collecting data
- Take photos directly into ARM trial file
- Record GPS coordinates into trial
- Perform data quality checks on-site
- Eliminates data transcription errors

Special TDC Features

- Tablet Data Entry
- Tablet Image Capture
- Tablet GPS

Tablet Data Entry

- Component of Assessment Data editor

- Optimizes editor use on a small touch tablet computer

- Optimized screen
- Start image capture
- Shortcut keys
- Touch keypad
- Zoom

Tablet Data Entry Features

- Automatically reads valid data range from assessment unit field

Assessment Data - Line 2	
Column Number	20
Rating Type	DAMINS
Rating Unit	1-6ICR
Number of Subsamples	1

Sub	Plot	20
1	101	3
1	102	

- For 1 digit scales from 0-9, cursor moves automatically to next assessment data cell (no pressing Enter)

Tablet Data Entry Features

- Automatic limit dialog displays for out-of-range data, for immediately correcting an entry mistake
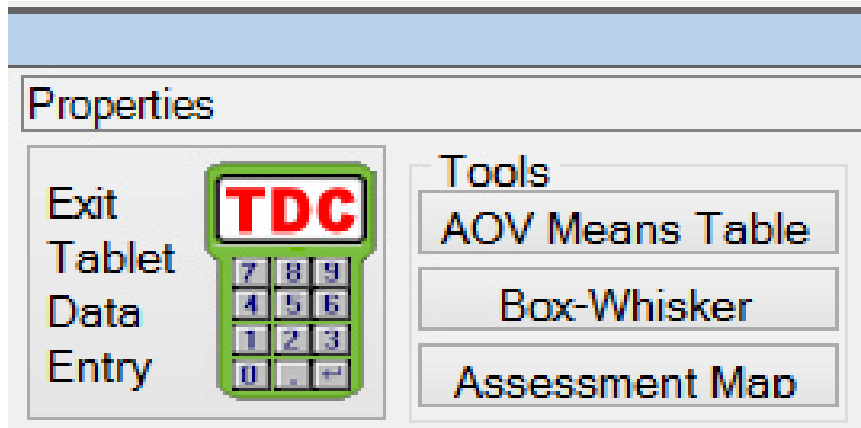
Tablet Data Review Tools

- Data analysis (Analysis of Variance)
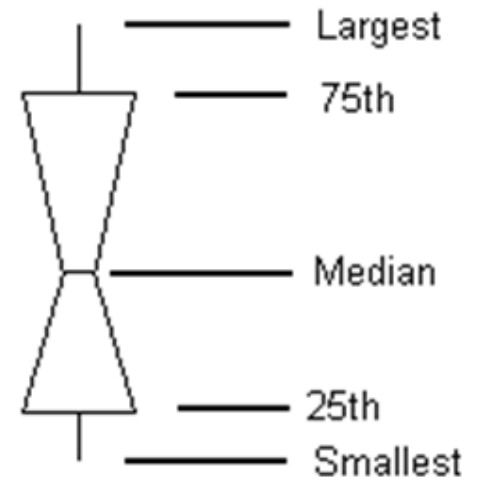- Box-Whisker Graph
- Assessment Map

AOV Means Table

Rating Type ARM Action Codes			COUINS APC
Trt No.	Treatment Name	Rate Rate Unit	1
1	Untreated Check		106.3 a (0.0%)
2	Sure Kill NIS	250 g ai/ha 0.5 % v/v	13.5 bc (87.3%)
3	Super Stomp NIS	250 g ai/ha 0.5 % v/v	17.0 bc (84.0%)
4	Sure Kill NIS	375 g ai/ha 0.5 % v/v	9.5 c (91.1%)
5	Super Stomp NIS	375 g ai/ha 0.5 % v/v	24.0 b (77.4%)
LSD (P=.05)			8.93
Standard Deviation			5.80
CV			17.03
Bartlett's X2			12.244
P(Bartlett's X2)			0.016*
Skewness			1.6078*
Kurtosis			1.0506
Replicate F			6.201
Replicate Prob(F)			0.0087
Treatment F			197.210
Treatment Prob(F)			0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
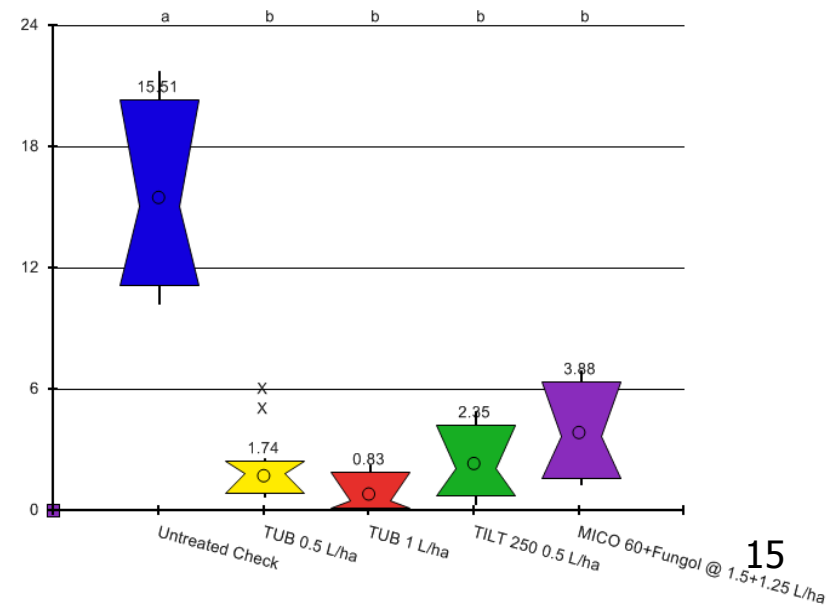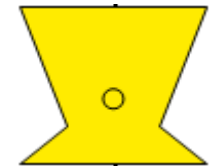Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL

- AOV=Analysis of Variance
- Treatment means
- Mean comparison test
- Descriptive statistics
- AOV assumption violations
- Evidence of significant treatment/rep. differences

July 2013

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Box-Whisker Description

- Shows treatment "spread" around median
- **Box** is from 25th to 75th percentile, around median
- **Whiskers** extend to largest and smallest non-outlier values
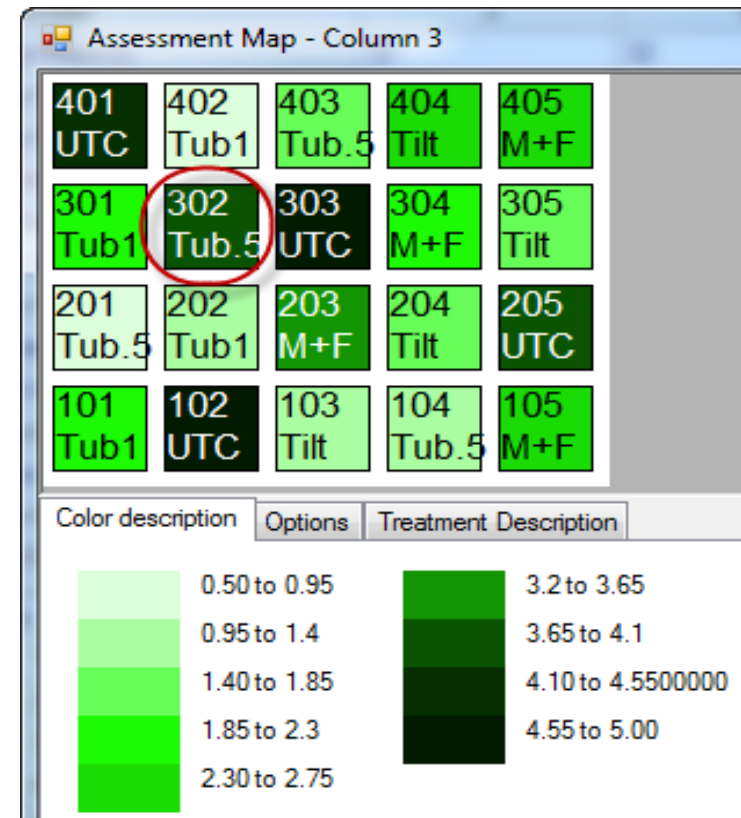- **Outliers** (X) are points outside of the box by more than 1.5 times box height

Box-Whisker Graph

- Box height shows treatment stability across replicates

- Skewed waist position shows a replicate difference

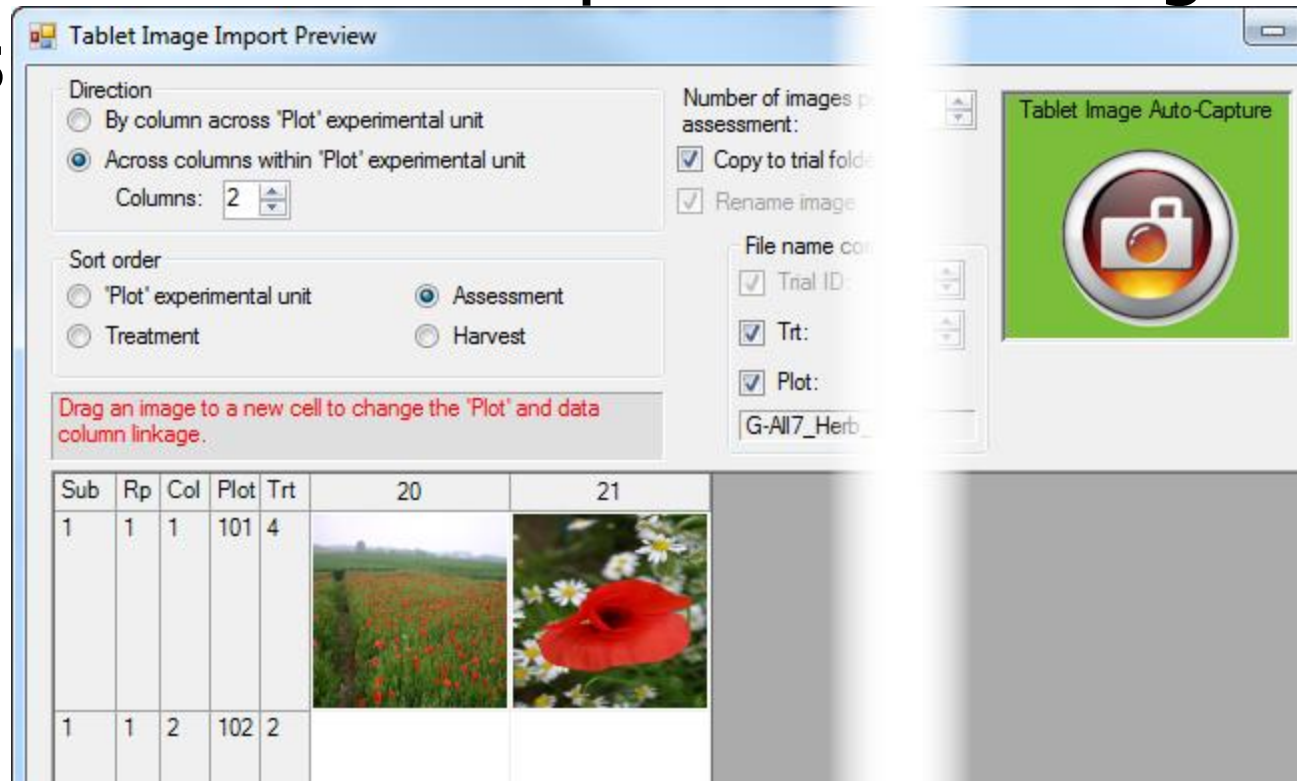- Simplest method to view treatment variance(s)

Assessment Map

- Displays assessment values on trial map
- Values are indicated by color intensity
- Lower values display in lighter colors
- Color description is key to value colors

Tablet Image Auto-Capture

- Take a picture. ARM "captures" the image and links it to the current plot

Suggested "Camera" Position
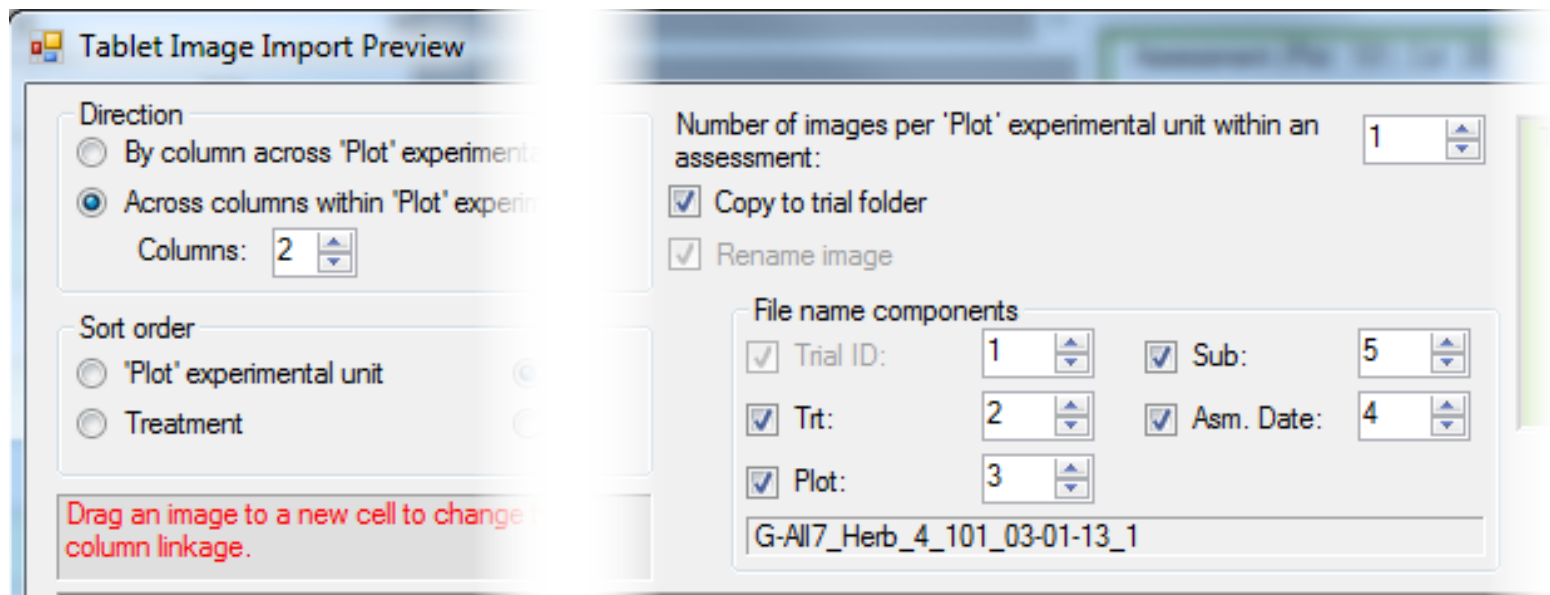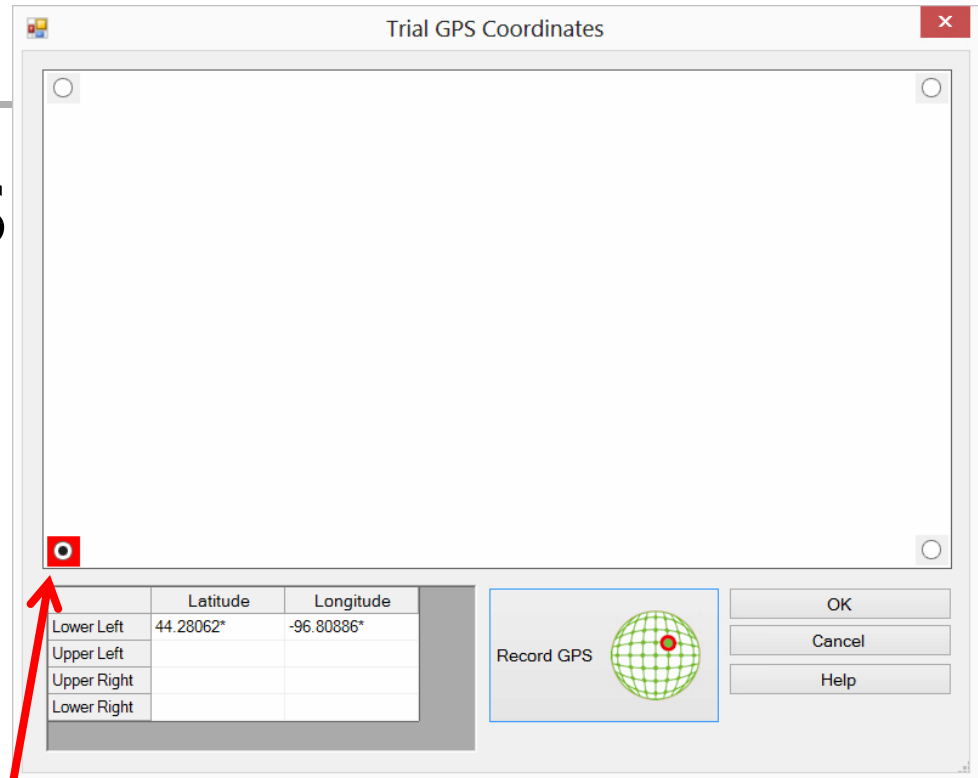
Tablet Image Auto-Capture

- Automatically rename attached image
- Copy image to folder where trial is saved

Tablet GPS

- Reads current GPS coordinates from tablet hardware into Latitude and Longitude site description fields

- Touch Tablet GPS button to read current position for indicated corner (e.g. LL)

Tablet Data Collector Inquiries

- Email your local GDM Representative, see http://gdmdata.com/distributors.htm or fran@gdmdata.com