

New Features in ARM ST Version 7 for Summarizing a Series of Research Trials

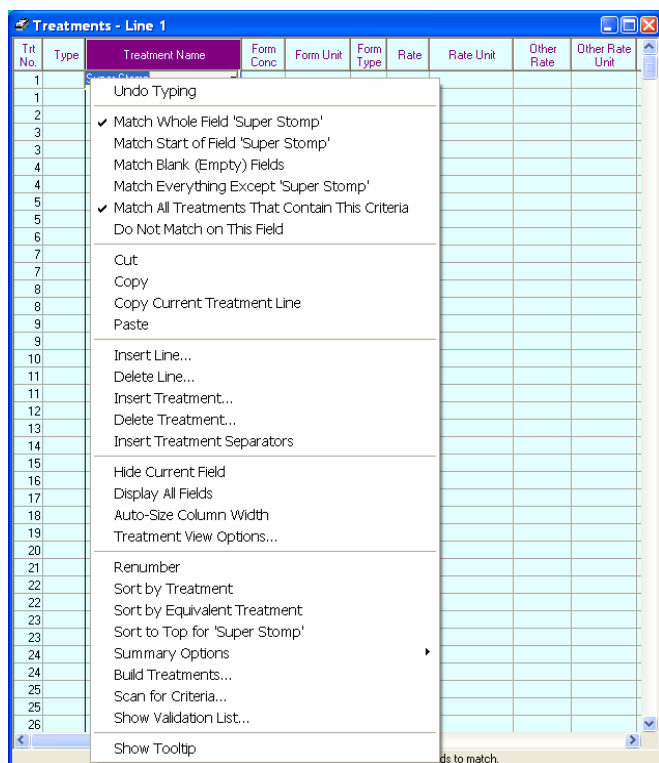
by Gylling Data Management, Inc.

What is New in ARM ST 7?

ARM ST Version 7 is a major upgrade of ARM ST (Summary Across Trials). ARM ST is an optional add-in program that fits into an installed ARM 7 program. As described in a separate brochure, ARM ST is a valuable tool that combines and averages similar assessments in ARM research trials across locations and years. Version 7 offers many new features to greatly expand the utility of ARM ST for summarizing trials.

New Criteria Editor Features

Each study criteria editor has a new right-click menu item. These menu choices provide an easy interface to set various summary options and matching wildcards. Below is the right-click menu for the treatment criteria editor.



A "cascading filter" option is available, so when scanning data header criteria ST can match other existing data header criteria entries during the scan. This offers a list of data header entries that are present only in trials matching existing data header criteria entries. For example, use this to obtain a list of assessment types for all assessments of a specified pest species.

Increased maximum number of criteria treatments from 999 to 9999, to support summarizing very large trial groups containing diverse treatments. As a result, ST 7 can summarize more than 1000 trials into one summary table.

When deleting a treatment for which equivalent treatments are defined, there is now an option to either delete the equivalent treatments or clear the equivalent treatment numbers. This

enforces the required linkage between equivalent treatments and their base treatment.

Match number ranges such as "6-8" or "7.2-7.7" in site descriptions, to match trials with soil pH within a define range.

Changed so automatic matching wildcards are assigned only in the first plot data header criteria column. The wildcards are required for column 1 so a new summary will run properly when a user does not enter plot data header match information.

Entries are now sorted in alphabetical order in the scan for criteria combo box on the ST toolbar.

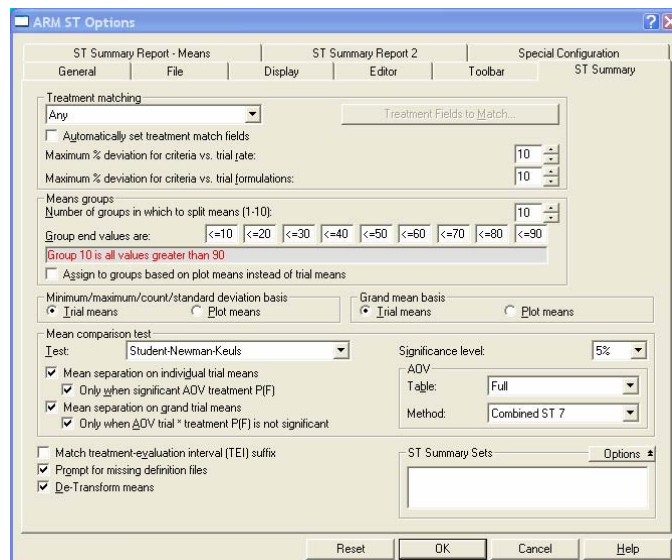
Apply user-defined product synonyms to criteria treatments to automatically assign equivalent treatments. This greatly simplifies summarizing across different product names that have the same active ingredient. Simply use Tools - Build Treatments to gather the list of all unique treatments across trials to summarize, and then apply synonyms to combine like treatments.

ST now supports the "match and separate" wildcard @ in site description information. ST creates one additional row in the assessment header for each match wildcard field in the site description, and uses entries in the additional match rows the same as "match and separate" wildcards in the assessment header. The result is separate summarized grand mean data columns for each different site description entry that occurs in the match and separate data entry fields. Note: If a match and separate wildcard @ is entered in a repeating section, ST matches only one instance of the repeating section per trial.

New Summary and Reporting Features

ST Summary Options

These are options telling ST how to summarize trials. Changing any of these options requires ST to re-summarize trials, because the options can change which trials are included in summary, or what information is gathered into a summary for each trial.



Whether to display percentage of total count on the ST Summary Report when groups are active. This value indicates the percent of plot means or trial means (depending on the summary option) from a summary column that are included in each group for the summary column.

Increased the maximum number of means groups from 3 to 10, to better support frequency reports.

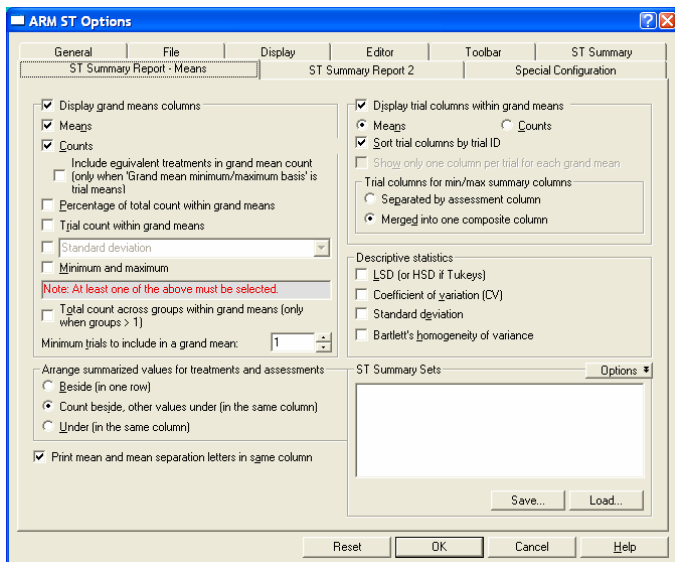
New Combined ST 7 AOV method, to better analyze:

- ◆ Multiple trial columns that are all read from one trial and included in a single grand mean column.
- ◆ Equivalent treatments.

This new option eliminates negative sums of squares which could sometimes occur with the "Classic ST 6-" method.

New Grand mean basis option to specify whether to calculate grand mean from plot means or treatment means. Thus grand mean basis can be different than minimum/maximum/count basis.

ST Summary Report Options for Means



New option to not print grand mean on a report, to better print frequency reports listing counts within groups.

Option to include the total count across groups within a grand mean when grand means are displayed and groups are active.

Whether to include the total count across groups within a grand mean when grand means are displayed and groups are active.

Whether to include trial count within grand means. When included, the trial count lists how many unique trials are included in the grand mean. Note that this count differs from the "Count" analysis column, which indicates the number of plot means or treatment means included in the grand mean.

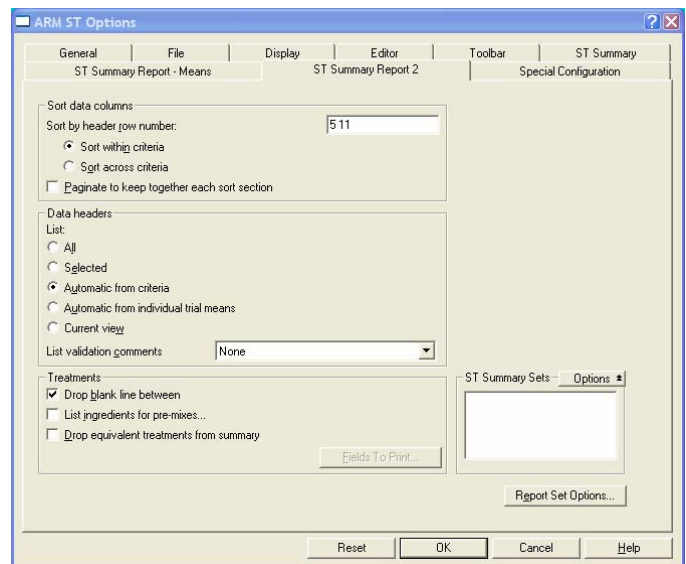
Arrange all count values (Count, % Total, and Trials) beside or under the grand mean. This removes the ST 6 requirement to always print count when minimum, maximum, or standard deviation is under, since all values can now print under the mean.

Include on ST Summary report the descriptive statistics of LSD, coefficient of variation, standard deviation, and Bartlett's homogeneity of variance for individual trial means columns.

Save and load ST options sets (*.sts) from ST Summary and ST Summary Report dialogs. Option sets allow defining summary settings for special purposes, such as a frequency summary.

Optionally print means and mean separation letters in separate columns, which is quite useful when printing reports to Excel.

ST Summary Report Options



Option to drop (or exclude) equivalent treatments, so equivalent treatments defined in treatment criteria are hidden on the report preview dialog and in reports. This option can greatly reduce report length when many equivalent treatments are defined, such as when combining different treatment products that all contain the same active ingredient.

The summary message viewer now identifies when trial columns are excluded from a summary, as a reminder when a user has removed some trial data columns from the criteria.

Additional Features

Whether to print ARM reports for trials matched in the last summary that was run, or for all trials searched during the last summary. ARM ST 6 always defaulted to the trials last matched. After selecting File - Print reports, a "Select trials to include dialog displays when a criteria file is open. The user may choose "Trials matched in last summary" or "Select trials to include".

Support for special customized reports that GDM can create for special purposes. For example, a trial location or soil information report gathering selected site description information per trial into a single summary table across all trials. These customized reports are only supported when the optional GDM trial database is licensed.

New ST raw data export, to export raw data for all summarized trials into a file that can readily be analyzed or graphed using another statistics package. Thus ST can perform the difficult task of selecting trials and gathering assessment data, with full flexibility in how the data is analyzed or presented.

How to Purchase ARM ST

Contact your GDM representative for pricing information to purchase a ST 7 license for your existing ARM program, or to upgrade an older ST license to version 7.