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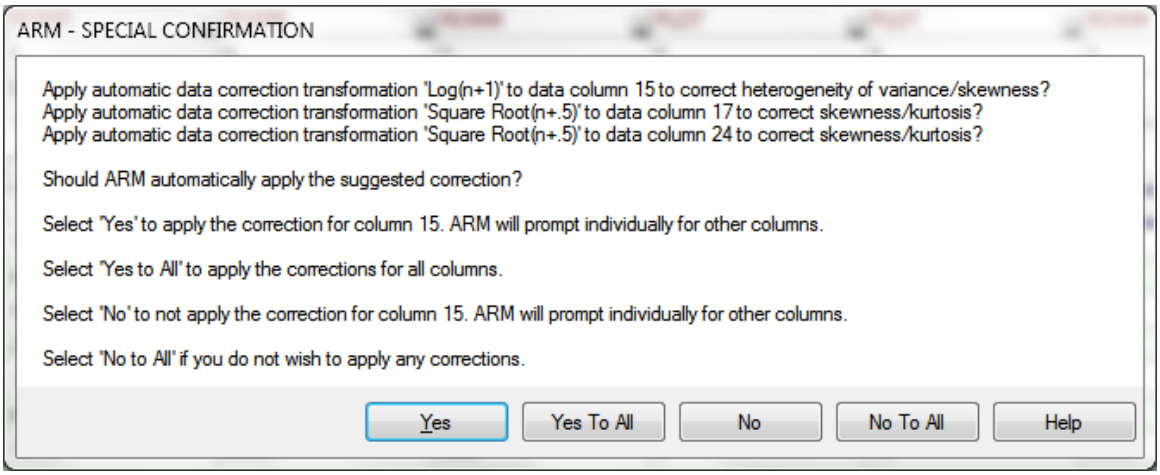
ARM Automatic Data Transformations

By default in ARM, when violations of AOV assumptions are detected, you will be prompted to apply automatic transformations:



If you choose “Yes” or “Yes to all” ARM will apply a data correction transformation to raw data in the *same* column as the data. The original, raw data is not altered but de-transformed means will be prints on all reports:

11 CANOLAWHITEMOLDCLAEU Canola Whitemold Severity Classes - EU 1 BRSNW Rape, Winter BRAP Brassica napus (Winter) MEDLEY D Disease 1 SCLESC Mold, White (S. sclerotiorum) Sclerotinia sclerotiorum 3 1 Jun-12-15 52 DA-A 52 52 277 DP-1 PLANT C PESINC % 50 PLANT 1 3 % Incidence T SEV AL TIO[2]
3
17,6 a
7,8 a
7,2 a
6,0 a
8,6 a
7,7 a

De-transformed mean (AL means Automatic Logarithm Transformation)

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What is the difference between the Non-transformed mean and De-transformed mean?

Let's have a look to the previous columns and do the comparison between the two means:

Non-transformed mean

11 CANOLAWHITEMOLDCLAEU Canola Whitemold Severity Classes - EU 1 BRSNW Rape, Winter BRAP Brassica napus (Winter) MEDLEY D Disease 1 SCLESC Mold, White (S. sclerotiorum) Sclerotinia sclerotiorum 3 1 Jun-12-15 52 DA-A 52 52 277 DP-1 PLANT C PESINC % 50 PLANT 1 3 % Incidence fr SEV TIO[2]
3
19,5 a
8,5 a
7,5 a
7,0 a
9,0 a
9,5 a

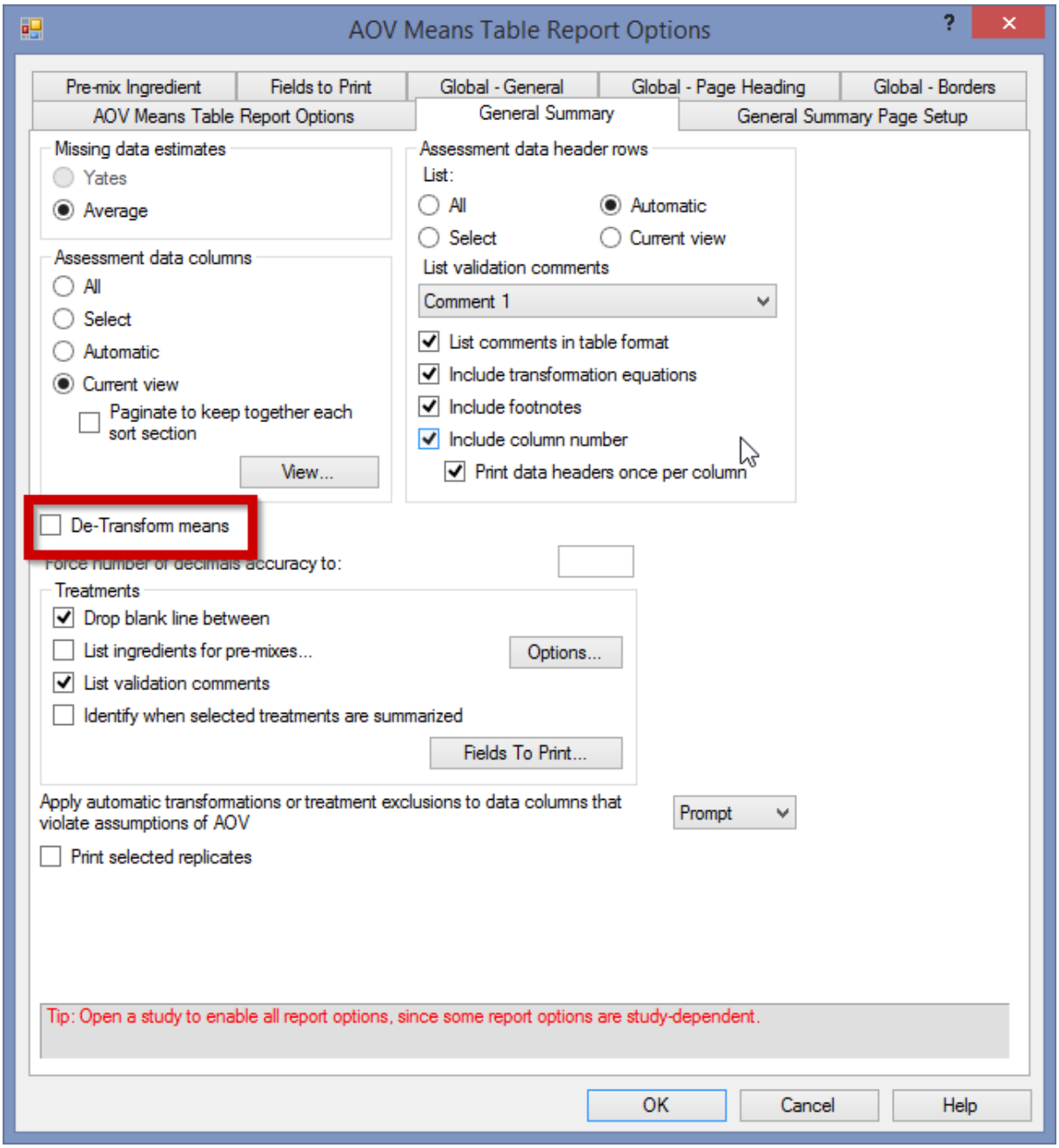
De-transformed mean

11 CANOLAWHITEMOLDCLAEU Canola Whitemold Severity Classes - EU 1 BRSNW Rape, Winter BRAP Brassica napus (Winter) MEDLEY D Disease 1 SCLESC Mold, White (S. sclerotiorum) Sclerotinia sclerotiorum 3 1 Jun-12-15 52 DA-A 52 52 277 DP-1 PLANT C PESINC % 50 PLANT 1 3 % Incidence fr SEV AL TIO[2]
3
17,6 a
7,8 a
7,2 a
6,0 a
8,6 a
7,7 a

As you can notice, for a same set of raw data, means are different.

How can I Print a Non-Transformed mean and keep the benefit of the transformation?

In your ARM Means Table report options, please uncheck the following option. This has to be done once, the setting will remain next time you will open ARM.



When you wish to perform a transformation, please add a transformed data column just next to the raw data column.

Non-transformed mean

11 CANOLAWHITEMOLDCLAEU Canola Whitemold Severity Classes - EU 1 BRSNW Rape, Winter BRAP Brassica napus (Winter) MEDLEY D Disease 1 SCLESC Mold, White (S. sclerotiorum) Sclerotinia sclerotiorum 3 1 Jun-12-15 52 DA-A 52 52 277 DP-1 PLANT C PESINC % 50 PLANT 1 3 % Incidence fr SEV TIO[2]	11 CANOLAWHITEMOLDCLAEU Canola Whitemold Severity Classes - EU 1 BRSNW Rape, Winter BRAP Brassica napus (Winter) MEDLEY D Disease 1 SCLESC Mold, White (S. sclerotiorum) Sclerotinia sclerotiorum 3 1 Jun-12-15 52 DA-A 52 52 277 DP-1 PLANT C PESINC % 50 PLANT 1 3 % Incidence fr SEV TL[3] 1
3	4
19,5 a	1,3 a
8,5 a	0,9 a
7,5 a	0,9 a
7,0 a	0,8 a
9,0 a	1,0 a
9,5 a	0,9 a

Transformed mean

In this case, you have the non-transformed mean and you can do the analysis concerning statistical groups on the transformed column.

Conclusion:

- Please avoid Automatic transformations (ARM action codes AA, AL and AS)
- Add a new column with classic transformations (ARM actin codes TA, TL and TS)