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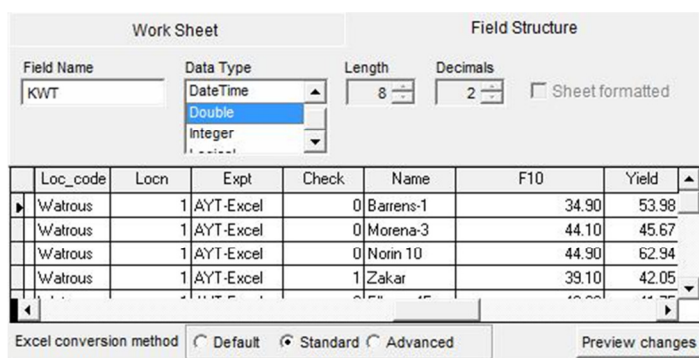
## Importing from MS-Excel® into AGROBASE Generation II® March, 2014



AGROBASE Generation II® has a number of import tools to facilitate the import of data from Excel sheets. You can import treatments, parents, populations, experiments, nurseries, data into experiments or nurseries, seed inventory information, and more. The Learning Centre on our web site ([www.agronomix.com/learning/](http://www.agronomix.com/learning/)) has a number of online tutorials on importing data from Excel. See the tutorial entitled "Importing Experiments" which covers the requirements for importing from MS-Excel® sheets. This document will cover the rules and requirements for "trouble free and efficient" data import. The most important rules and requirements are as follows:

1. **Close the Excel Sheet.** Ensure that the Excel sheet that you want to import is closed. Attempting to import an Excel sheet into Generation II that is open will cause a "sharing violation" error, which is a serious error. This is an all too common error, so please ensure that the Excel sheet is closed. Note that upon accessing the Excel sheet, Generation II will make a copy of the spreadsheet file and work with a temporary file. Your original file will remain unchanged.
2. **No hidden or calculated columns.** In the import, Generation II will attempt to convert the Excel sheet to a dBASE file. Often, any hidden or calculated columns cause problems during the conversion. Either get rid of the columns, or use Copy and "Paste Special" to save the entire sheet to another blank work sheet and save that file. If you have any calculated columns, you typically want to import the results of the calculations, which will be achieved with the "Paste Special" in Excel.
3. **Avoid foreign characters for worksheet tabs.** Upon import, you can choose which worksheet in the workbook should be imported. If the tabs at the bottom of the Excel sheet are in an entirely foreign script, such as Chinese characters, a conversion error may well occur. Ensure English or Latin text for the worksheet names.
4. **Avoid linking photos.** Excel sheets allow for linking digital photo files by file reference to items and rows in a spreadsheet. Those links will cause a serious error – remove those links, possibly via "Paste Special". The image display module in Generation II allows for linking digital photos to data, but this is never done via links found in an Excel sheet.
5. **Remove any blank records at the end of your data.** Sometimes, via the Enter key a blank record is added at the bottom of an Excel sheet. This will cause all numeric fields to appear as Character type upon import, causing a lot of extra work. A space is interpreted as a blank character, hence the conversion problem. Therefore, remove any blank or empty rows at the bottom of your work sheet.
6. **Remove any unnecessary records before the actual data.** There might be some blank records at the top of the sheet, or records with some title or other information before the actual data. While there is an option to select the row where the field names are found ("**Field names in row:**") and the data begins ("**Beginning:**"), in some cases this causes problems. If so, remove all those records from the sheet so that the first row (or record) has the field names.

7. **Avoid excessively long file reference names.** A Microsoft limitation on the length of file names can cause a problem right on the first step of import. Searching for a file many levels deep in folders and sub-folders and directories can cause this problem. Therefore, consider having a folder even where AGROBASE Generation II is installed, or some directory or folder one or two levels deep from a drive where the Excel sheets are copied and then accessed from within Generation II. Actually, you can save a lot of steps with **Tools->System Settings->Default import file directory**. Using this feature in Generation II will save a lot of clicking.
8. **Select the correct worksheet.** If the Excel workbook has several worksheets, select the correct one in Step 2 in the import.
9. **Field names all on one row.** Sometimes, field names are indicated across two or three records or rows. For example “Grams per Plot” might be across three rows. Ensure that the field names are all found on the one and same row or record.
10. **Preferably, no Double data types.** Choose and work with numeric data upon import, instead of double data types. The double precision of data confers no advantage over numeric, including storage in the SQL database. There are occasional data conversion problems during import. For virtually all agricultural data, the numeric data type offers sufficient precision.
11. **Use valid field names.** Field (“column”) names in Generation II follow those of dBASE.
  - a) Field names are at most 10 in length “MATURITY11” is OK, but “MATURITY\_11” is not.
  - b) Field names must start with an alphabetic character, so “FLOWER1” is OK, while “1FLOWER” is not.
  - c) Field names are comprised of alphabetic characters, 0 to 9, and the underscore “\_” character only. Field names like “No. plants”, “%Lodging”, “gm/plot” are invalid. However, “NUM\_PLANTS”, “LODGPCNT”, “GM\_PLOT” are valid field names.
  - d) When an invalid field name is imported, AGROBASE Generation II version 33 and later will



in some cases try to guess the correct field name. Or, the conversion of the field will not happen and you will see field names like “FLD1” and “FLD2” for the first two fields encountered with invalid (and unconvertible) field names or “F10” for a field name in the tenth column and having an invalid field name. However, field names can be changed upon import. In the screen

shot at the above left, the tenth field had a completely invalid field name and thus appeared as “F10”. The user then clicked “**Standard**” to allow for changes, then clicked “Field Structure” and then clicked in one of the cells in that column. The text “F10” appeared in the top left window under “Field Name” whereupon the user typed in the desired field name which then later appeared in the import. Clicking “**Preview Changes**” will show data with the new column (field) name. Preparing a worksheet with valid field names initially is a lot more efficient for the import process.

12. **Ensure field names are unique and not “reserved” field names.** Each field name can be used only for one field or column. Avoid using field names which are “reserved”, that is, used by Generation II’s programming language. Such words are often not known to the user, and will appear in red in an import process step and the user can select (or create in the import process) a substitute field name to complete the import process. Examples are “WHEN”, “IF”, “CLOSE”, “SELECT”, “JOIN”.
13. **Ensure data is in “database top down orientation”.** Some users have data “left to right” in a spreadsheet. For example, columns for replication (or block) one appear on the left of the sheet,

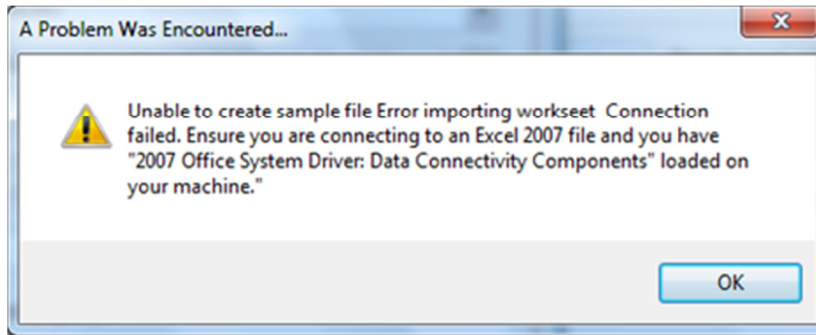
with data, and to the right are columns with data for replication two. This will not work for import. The data must be moved such that replications appear underneath each other. Each record must read and show data for one plot with one entry and replication number.

14. **Ensure all required fields.** To import an RCBD experiment, for example, you will need as minimum columns in the spreadsheet with entry numbers, names, and the replication or block

|   | A    | B     | C    | D          | E     |
|---|------|-------|------|------------|-------|
| 1 | bloc | entry | plot | name       | yield |
| 2 | 1    | 23    | 1001 | AC Baton   | 64.11 |
| 3 | 1    | 26    | 1002 | Centurk 78 | 61.4  |
| 4 | 1    | 11    | 1003 | Katepwa    | 61.9  |
| 5 | 1    | 22    | 1004 | Cody       | 61.6  |
| 6 | 1    | 12    | 1005 | Cheyenne   | 63.7  |
| 7 | 1    | 19    | 1006 | Maroon     | 65.6  |
| 8 | 1    | 13    | 1007 | Zagros     | 55.7  |

number. The example on the left has those fields, and also PLOT and YIELD, a field with data. The import process will indicate required fields with a small “red x” beside the pull-down menu for the field. See the Help system in Generation II for information on required fields for the various supported experimental designs.

15. **For Excel 2007 imports, ensure that the “Data Connectivity Component” tool is installed.**



Often, this is not an issue when everything has been installed correctly. However, when using the Excel 2007 sheet option, you might encounter the message as on the left. In this case, you need to download the missing component. You can Google “2007 Office Data Connectivity Components”

and download onto your computer or use this link directly:  
<http://www.microsoft.com/en-ca/download/details.aspx?id=23734>