

TMG Excels!

Every year, TMG users submit report requests to TMG user groups and online forums, such as the TMG-L. Many of these reports cannot be created using TMG alone, but they can be created by outputting a TMG report, or reports, to a spreadsheet. These TMG-Excel combination reports tend to fall into one of six categories. If your reporting problem fits one of those categories, Excel (or one of TMG's other spreadsheet-type outputs) is likely to solve it. Spreadsheets are important research tools, and every genealogist should become familiar with them.

This presentation covers the six report problem types and provides illustrations of example TMG-Excel combo reports that solve them. *This is not a how-to-do-Excel presentation!* If you're not familiar with spreadsheets, there are many good online tutorials that can be found with a simple *Google* search. If you are familiar with Excel, but some of the formulas or functions demonstrated in the presentation are unfamiliar, all are listed in this handout and a simple *Google* search will provide instructions on use and syntax.

Each example report, with a detailed description of its use and creation, has been placed online in a dedicated *GoogleDrive* folder (<https://drive.google.com/open?id=1M3boMmiaJh3qvi13om2CBLYOpeWMx6Z3>). I would suggest you download the spreadsheet files and play with them in your program of choice. Remember that these reports are based on my personal database. You can recreate any of these reports, but the specific TMG report design will depend on your personal data entry protocols.

The Report You Want Is Screaming, "Send Me to a Spreadsheet!" If...

1. You want a list of ... report; you want to send it to a location other than the screen; like me, you think working with Word tables is irritating, at best. (soldiers_burialsA.xlsx)
2. You want a list of information you plan to examine in multiple ways (family_timeline_short.xlsx, soldiers_burialsB.xlsx, soldiers_burialsC.xlsx, census_events_dwelling.xlsx, loc_calendar_1558.xlsx)
 - Last, Given column allows easier sorting by surname and "Text to Columns" in Excel allows easy separation into Surname and Given Name columns, if desired.
 - If chronological sorting or date calculations are needed, consider outputting dates in three columns: YYYY, MM, DD. Given the prevalence of date qualifiers, I find it helpful to include a separate column for the date as entered.
 - If place sorting is planned, outputting the selected place elements works a little better than outputting selected place fields in a single column. The single column output is in the "smallest to largest" order. That makes it more difficult to sort in the order I usually desire, and it makes inconsistent data entry a little less obvious.
 - Note that memo fields are limited to 254 characters
3. You want a list of information that exceeds TMG's nine column output (family_timeline_rollinsA.xlsx, family_timeline_rollinsB.xlsx)
 - Use Book Manager to sequence your reports.
 - The sorts for each report *must* be identical. I usually sort on ID number only
 - All sort fields *must* be included in each report

4. You need data charts, tables, and/or calculations (ancestors_death_flagA.xlsx, ancestors_death_flagB.xlsx, battle_witnessesB.xlsx, timeline_rollinssw_cw.xlsx)
 - If a table is needed in a report, you have reasonable output choices: Word, RTF, Excel. Table formatting in Excel is easier for me, so that's my option of choice
 - Charts can be very useful when examining or illustrating data. Even Excel's standard chart options usually give good results. People more conversant in Excel's advanced options can create beautiful graphs and charts. TMG users who want these graphs and charts need to consider their data entry practices, flag options, etc.
 - Try creating a map from an Excel list of TMG events. Free online mapping programs that import spreadsheet data include *BatchGeo* (<https://batchgeo.com/>) and *Google Maps* (<https://www.google.com/maps/>).
 - Calculations using TMG data requires thoughtful and consistent data entry practices. Some of these reports may be more easily created with Excel alone, or with TMG data combined with a manually-created Excel worksheet.
5. You need an outside-the-box report (dic_generation_rollins.xlsx)
 - Only "List of..." TMG reports offer the option to export to a spreadsheet. Excel will import .txt files, however. Chart reports, such as the ahnentafel or descendant indented chart, can be output to a text file (or a Word .doc and saved as a text file) and the results imported to an Excel worksheet. These report outputs include extra information, such as generation number or ahnentafel number, that may be helpful in an outside-the-box report.
 - These reports include the option to print dates in yyyy.mm.dd format, a format that easily sorts chronologically.
6. You need a list of information that is not possible with one TMG report type – but is possible when you use Excel's functions or formulas to cross-reference two or more reports (marriage_parentage_compare_example.xlsx, soldiers_cemeteryD.xlsx, family_timeline_rollinsD.xlsx)
 - A comparison of parents (List of People report) with parent marriages (List of Events report)
 - A multi-generation family timeline (List of Witnesses report) that finds patterns within specific generations (Descendant Indented Chart), among siblings (List of People report), or events that feature a designated individual in any role (advanced filter)

Useful formula examples for these combined reports; note that more complicated possibilities exist, but these few options will produce many helpful reports

- =IF(ISERROR(MATCH(L2, list_of_marriages!J:J,FALSE)),"No marriage", "")
 For every value in Column L (ParentID#), this formula searches Column J (MarriageID#) in the list_of_marriages worksheet. If there is no match, the text "No marriage" is entered. If there is a match, the cell is left blank.
- =VLOOKUP(L2,list_of_marriages!J:L,3,FALSE)
 For every value in Column L, the ParentID#, Excel examines the data in Columns J (MarriageID#) through L in the list_of_marriages worksheet. If there is a match, Excel writes the corresponding Column L (MDate#) value in the cell. If there is no match,

Excel writes #N/A (value not available) in the cell. Remember that Excel cannot manipulate a formula output, so the values created by the formula must be copied into their own column (Column P, MDate). If a more visually pleasing list is desired, modify this formula: =IFERROR(VLOOKUP(L2,list_of_marriages!J:L,3,FALSE),"")

Additional helpful formula examples

- =CONCATENATE(D2," ",F2)

This formula writes a text string in the cell comprising the father's ID number (Column D), a space, and the mother's ID number (Column F). This Parent ID number is unique to each couple. The corresponding formula in the list_of_marriages worksheet creates a unique Marriage ID number for each couple in the original TMG report

- =IF(N2<P2,"PRE","")

This formula compares the value in Column N (date of birth) to the value in Column P (date of marriage). If N is less than P, e.g., the birthdate comes before the marriage date, PRE is entered in the cell. If not, the cell is left blank.

- =\$H2="W"

This is the conditional formatting formula used to highlight those soldiers who died in the conflict in which they served. This is a standard format used when you want to highlight a row based on values in a specific cell in that row. This conditional format is also used in the spreadsheet "family_timeline_rollinsD.xlsx" to highlight rows based on ID numbers.

- =IF(OR((B2=B3),(B2=B1)),"Dup","")

The "OR" part of this statement is great for identifying sequential duplicate values and applying conditional formatting. Not all spreadsheet programs can manipulate columns based on conditional formatting, though, so this statement writes "Dup" in the column for sequential duplicate values, and leaves the field blank if that statement is not true.

Additional helpful function examples

- "Text to Columns" – a necessity for splitting TMG columns into one or more data columns. Note that TMG's split memo indicator, the two vertical pipes (| |), makes a perfect delimiter in Excel.
- "Subtotal" – great for counting and calculating TMG data, if TMG data entry protocols allow
- "Conditional Formatting" – allows easy eyeballing for duplicate values or other selected conditions
- "Paste Values" – may be necessary when formula results must be manipulated
- "Paste Special" – is a helpful function when an Excel chart or table must be inserted in a Word .doc.

The Excel Date Dilemma

Day 1 in the Microsoft *Excel* world began on 1 January 1900, and it doesn't believe in earlier dates. That is a big problem for genealogists, since as it stands, *Excel* does not sort earlier dates or make calculations with them correctly. Choose among several options to solve this problem.

- If chronological sorting may be important in your report
 - Sort the TMG report first by date, and in Excel, insert a "Sort" column, number each field in that column sequentially, and use that column for chronological sorting. This is not a useful option, though, if date calculations are desired, or if the TMG report might be combined with other spreadsheet reports.
 - Output Year, Month, and Day columns, as well as the date column, and use these columns for chronologically sorting the data or creating calculation columns
- *LibreOffice*, *OpenOffice*, and *Google Sheets* all sort and calculate pre-1900 dates correctly. The user interface in the first two programs resembles the Microsoft Office 2003 interface, and the programs closely resemble each other and *Excel* 2003. All three programs will perform *most* of the functions genealogists might require. *TMG outputs dates as text, however*, so you may need to do some work to get these programs to understand that these text fields are actually dates.
- *Excel* treats pre-1900 dates as text, so enter them in a manner that will mimic chronological sorting; for example: `yyyymmdd`, `yyyy.mm.dd`, `yyyy/mm/dd`, `yyyy-mm-dd`. Note that the last two entry styles are easily recognized as dates in other programs, so if calculations involving these dates are required, one of these two styles should be preferred.
- Download and install John Walkenbach's *Excel* add-in, "Extended Date Functions" (http://spreadsheetpage.com/index.php/tip/extended_date_functions). This allows pre-1900 date calculations in *Excel*, and the add-in recognizes both `yyyy/mm/dd` and `yyyy-mm-dd` entries as dates

A Note on Free Spreadsheet Programs

I have used or played with these free spreadsheet programs. There are pros and cons to all of them. The biggest pro, of course, is that they are free. (listed in alphabetical order)

- *Apache OpenOffice*. Recognizes pre-1900 dates; feels like *LibreOffice*, but marginally less powerful.
- *Google Sheets*. Online only; recognizes pre-1900 dates; good for collaboration; clunky interface and not as powerful – but improving.
- *LibreOffice*. Recognizes pre-1900 dates; similar in appearance to *Excel 2003*; most functions are the same, but some formula handling is different.
- *WPS Spreadsheets*. Closely matches *Excel*; can change user interface to fit your favorite Excel interface; tabs for multiple open documents; like Excel, does not recognize pre-1900 dates.