



It never rains

An everyday story of Met Office folk, told by Stephen Wells. Plus, at last, some good moos about cows...

On the clifftop near where I live is a brightly-painted box on legs. Every day, a man on a bicycle arrives to open it up and take readings from the instruments inside. There are hundreds of these volunteers across the country, all feeding in valuable information to the Met Office. I received an email from one who runs a West Midlands co-operating station within the Met voluntary network.

Cedric Geoffrey Roberts wrote: "I have been watching comments in your column on importing SuperCalc data into Excel. I have been well satisfied with SuperCalc 5.5 for DOS. It has given me an ideal base for producing data analysis. But I have been increasingly worried about the eventual demise of DOS. I would like to move over to Excel which is extensively used by the Met Office but have been put off by the prospect of having to redo all of my spreadsheet files to comply with the new software. When I had to move over from BBC to PC, I had to re-plan the whole system.

"Each month I complete an 11-page spreadsheet with rows for each day. Pages 1 and 2 are the main data pages which are entered manually or filled with logged information imported from CSV files. The other nine pages analyse this data with scores of formulae. They calculate the MSL (Mean Sea Level) pressures from the station level barometer readings, humidity, dew points, and numbers of days of snow, sleet, frost and much more.

"As a pensioner, I'm dubious about spending over £200 on Excel if it will not work with most of the formula. I'm particularly concerned about SC5.5 DCOUNT formulas. Data for just one year is broken down into four seasons, and then every month has an 11-page spreadsheet."

I suggested that he send me a range of his spreadsheet including all the formulas which bothered him. I asked him which

version of Excel the Met is using and queried if they didn't have a technical support service or help group for their volunteer stations.

When the disk arrived — accompanied by the widest print-out I've ever seen, consisting of two pieces of 14.5in continuous listing paper stuck together — I ran it on my old 386SX which has SC5.5 loaded.

There were DCOUNT formulas like: DCOUNT(\$BB\$1:\$BB\$11,0,BE1:BE2)

A lot of AND statements, like: AND(BB2>=-15,BB2<=-10)

And some daunting IF statements like: IF(U17>=0,AN17-(.000799*1000*(T17-U17)),AN(17-(.00072*1000*(T17-U17)))

There were also a lot of formulas with ^ (to the power of) signs in them.

But it's seldom because of complex maths that you run into import/export problems. It's the translation of dates, some functions or names. And Mr Roberts is not using any date-formatted cells, unusual functions nor any range names.

Fig 1 shows an example of some of the categories, though I've moved things around and reformatted some revised data in Excel 7 because these days even the weather is probably copyrighted.

As documented in the CA-SuperCalc Version 5.1 User's Guide, you save in the normal way but, when the file name appears on the edit line say, JAN.CAL, you just edit it to JAN.WKS and press Enter. No special exporting: just a save with a different extension. SuperCalc on

QFE		QFF		Correction	
Barometer correction formulae					
1	992.60	2.60	1,009.33	19.33	WNW
2	1,008.70	2.70	1,025.83	19.83	NW
3	1,014.00	2.50	1,031.58	20.08	SE
4	1,005.40	2.30	1,022.57	19.47	SSE
5	996.60	2.30	1,013.39	19.09	SE
Frequencies for wind direction					
SUM					
MAX					
MIN					
AVG					
STDEV					
Calculations on visibility					
Visibility		Fog days		Dry Wet	
0.20		1.00		0.30 -0.10	
40.00				-2.30 -2.50	
0.80		1.00		-4.30 -4.60	
8.00				1.80 1.30	
0.40		1.00		4.70 4.50	

A tiny section of a very large spreadsheet used by someone who is trying to do something about the weather

its own initiative goes into Export mode and translates the file. Now it will be recognised by any version of Excel or Lotus 1-2-3.

Then I loaded the file into Excel Version 4 on my old machine and Excel 7 on my new one and checked that the formulas were producing the same results as before. No problem. As a reader has previously mentioned, the type comes out in blue, but it's easy to change that by selecting Format, Font, Color (sic), Black.

I was able to email back to Mr Roberts that I could foresee no translation problems other than that separate SC5 pages would have to be saved as individual files. But I suggested that his biggest expense was going to be the hardware for running the latest version of Excel. At the moment, apparently, the Met is using Excel 5 but, like the weather, I expect they'll change soon.

Anyway, the final word from Mr Roberts suggested he is moving on up. He said he

Date	Fat	Lact	Prot	FPD	Urea %	Cells	TBC	Anti-Biotic
1-Feb-96	3.63	4.71	3.36	543	0.0310	165	5	pass
8-Feb-96	3.75	4.65	3.35	538	0.0350	191	14	pass
12-Feb-96	3.52	4.67	3.43	544	0.0260	238	12	pass
23-Feb-96	3.62	4.69	3.37	546	0.0310	241	20	pass
28-Feb-96	3.47	4.70	3.35	544				
Ave	3.60	4.68	3.37	543				

Excel will automatically create a useful form for data entry. It can also be used for searching

has ordered Excel and looks forward to analysing the 40 years of data held at his station.

The cows came home

I blame myself for leading Farmer John astray. In the April column I talked about three ways of creating a custom dialogue box in Excel 7. All of them involved using VBA (Visual Basic for Applications).

I received an email from Mr JA Page asking how you persuade an Excel worksheet to display the data you've already entered in such a home-made dialogue box. "I have spent hours searching for the required command to no avail." Ah — the guilt one feels on receiving such heart-rending appeals.

Feb96

Date: 28/2/1996 6 of 6

Fat: 3.47 New

Lact: 4.7 Delete

Prot: 3.35 Restore

FPD: 544 Find Prev

Urea %: 0.032 Find Next

Cells: 180 Criteria

TBC: 7 Close

Anti-Biotic: pass

In a follow-up email he sent a listing for his macro and a further query: "How do I clear the data entry boxes, hopefully after the data has passed to the spreadsheet?"

Fortunately, John is on the Microsoft Network so I was able to get him to send me his complete Excel 7 workbook without posting a disk in.

The first page of his workbook gave the annual averages of eight different tests on his cows' milk. These were calculated from the next 30 pages which give the monthly results of those tests, all through

Down the wire

In the February issue, I illustrated the MS Excel 95 Forum page which you can access via the Help option in Excel 7, assuming you're on the Microsoft Network.

Time moves on. With Microsoft's Internet Explorer 2 (which you can download for free from MSN), or the Beta Version 3, you can now reach the Excel Web page which is just a click away from the MS Office Web site.

Finding the information you need is now so much easier, with clearer groupings and better indexing. Downloading is easier too. Icons we can all understand appear by each item. A document item is obviously one you can read online or download with the familiar File, Save As action. Free macros and things have a little disk-drive icon. Click one of those and the item is downloaded. Finally, comms is almost as easy as switching on a TV set.

You don't have to worry about paying BT for all those Web page graphics to come down the line. After the first time you view a page, you can save it in the Favourite Folders file (along with the PCW Web site) and open it up in a flash.

To think: all those years I never owned a modem and now I use it more often than my CD drive. I expect I'll be buying a microwave oven next.

The Excel Web page: just a click away



'94, '95 and to date in '96.

Then he had a series of DialogSheets showing graphic designs of individual dialogue boxes for each milk test item. And finally, some module pages with Show statements in them.

With further communication, I discovered that John had no real desire to start a DIY training scheme in VBA but just needed a quick solution for entering the milk samples to help in his everyday work. So, although to answer his specific questions, I told John about changing the Value property of the target cell, and defaults in the EditBox object, I also made him up a new sample workbook with the simple instructions for creating and using a Data Form.

Fig 2 shows John's basic table for February this year with a data entry form which Excel will create instantly for you. In Excel 4, you had to define a database before you could make a data entry form. But since Excel 5 you've been able to create one for an ordinary worksheet.

Assuming there is no blank row between the entered results and the heading labels, you can click in the first blank cell below the entered results and press Alt+d,o (or choose Data, Form on the menu bar). If there is a blank row below the labels, as in the illustration, just choose the first cell in that blank row. Not only does this immediately produce a data entry form with labels for each item, but it gives you some options which it would take you a long time to program on your own.

Now you can press Alt+w (or choose the New button) to enter a new record and press Ctrl+; (semi-colon) for today's date. Press Tab to go on to the next data item (Fat, here). And so on to end of the Form. Then click New. Enter the next date. And so on to the end. When you've finished entering the records you just click Close.

At any time you can show in the boxes the previous or next record. You can also click Criteria and enter a filtering formula like >15/2/96 in the Date box to just show those records dated after Feb. 15th.

As John said in his final email, "Why use a sledgehammer to crack a nut?" I could tell he was happy to get the good moos.

Weeding out

Speaking of writing unnecessary macros: I have received several emails on the theme of "How do I check an Excel database for duplicate records?"

If you have Excel 5 or 7, it's easy. All three of the following options start out by choosing Data, Filter.

TO FILTER OUT DUPLICATES you then

Another planet

Email from Stephen Kennedy. Subject: Split identity?
I'm a subscriber to PCW so I often see your name in print. I also read NME weeks and seeing your name always makes me wonder: you're not the same Stephen Wells (SWells) who writes for NME are you? :-) Please put me out of my misery...

To S.K. from S.W. Subject: Doppelgangers
In a word, no. But they are both common names. What is NME? New Microsoft Exchange? Nice Mothers of Ecuador?

To S.W. from S.K. Subject: Identities
NME is New Musical Express —what planet have you beamed in from? :-)

The logical response was the one word, Uranus. But I kept schtum, believing in turning the other cheek.

choose, "Advanced Filter", "Filter the List, in-place", and "Unique Records Only".

TO RETURN ALL RECORDS you choose "Show All".

TO TRANSFER A CLEAN LIST you choose "Copy to Another Location", "Unique Records Only", and insert a cell address in the "Copy to" box.

Putting it on the map

I'm going to make a prediction. At the time of writing, there are seven Hands On columns in the Applications group. I have no inside knowledge but I would bet in less than a year there will be one for mapping.

Both of the leading spreadsheets, Excel 7 for Windows 95 and Lotus 1-2-3 Release 5.01 for SmartSuite 96, include mapping features in their extensive packages. That's a logical marriage. To navigators of the sea or air, a map is called a chart. And charts have long been a way of graphically illustrating the tabular data in a spreadsheet.

In its simplest form, you might have a text list of the names of countries of Europe in one column, with the numerical values of the populations of each in the adjacent column. It's logical that a traditional atlas map could be drawn from this with colours used as a key, say red for countries of 50 - 55 million people, blue for 55-60 million, and so on.

Immediately, your mind will race ahead to many other possibilities. The map itself is a constant graphic. You might zoom in and out, but the shape of a continent, a country or a county must always remain the same. And yet there are so many things we can communicate with a map.

A travel agent could show her clients

the routes of different holiday packages. An advertising agent could show his clients which areas of a country have the biggest concentrations of particular target markets. A commercial radio station could illustrate its strongest reception area. A fast-food franchise could pinpoint its outlets on one map and on an overlay show the catchment area of each. A hospital authority could superimpose its defined service region over a map of actual or projected traffic accident blackspots and environmentally hazardous areas.

The fact is, a map can be just as important a tool for data analysis as a financial statement is. And it can be used in so many areas of endeavour. It has been estimated that almost 90% of business data contains reference to a location. That's what business growth is all about. One corner shop might provide six jobs and serve a village. A chain of shops might employ 6,000 and serve a country.

It doesn't have to be a huge company to do business over a wide area. A group of local newspapers could depict circulation trends and show where their concentrations of readership are. To project new subscription sales, they could have an overlay using demographic information about income, food sales and travel expenditures.

Mapped data not only allows you to visualise data in a geographic context, but to correlate the data threads that unify different regions.

There are two reasons why I think it will become an important application in its own right. One is that there is so much information which is affected by a geographic context. The other is that there is a huge potential for a wide variety of software publishers. Route information, demographic data, rates of employment, crime statistics and heritage sites are only some of the innumerable databases which could be supplied for map users.

Then there's the use of satellite imagery to show weather patterns or air pollution concentrations. And some vehicle navigation systems include a portable PC with a CD drive.

Until that new column appears, you can be sure your humble correspondent will be keeping an eye on this application for you and reporting developments.

PCW Contacts

Stephen Wells welcomes comments on spreadsheets, and solutions to be shared, via PCW Editorial at the usual address or **Stephen.Wells@msn.com**. Files can be attached if you're on MSN.