

## Practical Stats Newsletter for April 2006

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### 1. Upcoming Courses

Next week is our course on how to handle nondetect data. Unlike recent classes, there are still seats available if you can make arrangements last minute. A course outline is listed on the Practical Stats website.

#### Nondetects And Data Analysis May 4-5 San Jose, CA

The 2-day course on handling nondetect data using modern methods of survival analysis will be taught May 4-5 at the Hotel de Anza in San Jose, CA. This is the Thursday and Friday just prior to the National Water Quality Monitoring Conference, also in San Jose (see [www.nwqmc.org](http://www.nwqmc.org) for more detail). A great way to save some travel costs and come to both the course and conference in one trip! Registration for the course is found at: <http://www.practicalstats.com/Pages/lto.html>

There are also one-day workshops on handling nondetects coming this summer in Stockholm and Seattle. See the Practical Stats website for details.

### 2. Free Statistical Software: Dataplot

Dataplot is a free, public-domain, multi-platform (Unix, Linux, Windows and others) software program for scientific visualization and statistical analysis. Its target user is a scientist who is trying to view and make sense of their data. It was written by James Filliben and other scientists at the National Institute of Standards and Technology (NIST), part of the US Federal government. It is free to all, including those outside the US.

From its name, you would expect it to be strong in plotting data and exploratory graphics, and it certainly is. It also includes several parametric functions and tests, including Smoothing

t-tests and ANOVA

linear and nonlinear regression with residuals modeling

quality control methods

survival function plots

math functions

multivariate plots

multivariate statistics

Its biggest weakness is that it does not include nonparametric methods. But then, it would compete with commercial packages! Instead it will guide you to appropriate transformations of your data prior to using a parametric method. Dataplot includes a wide variety of plots useful for understanding your data that are not available in some commercial software. Macros can be written to extend Dataplot's capabilities. You can find more information and download Dataplot at:  
<http://www.itl.nist.gov/div898/software/dataplot/>

There is also a very good online handbook that discusses each of the methods found in Dataplot. The handbook may be accessed at:  
<http://www.itl.nist.gov/div898/handbook/>

The handbook can be linked to Dataplot software as a 'users guide' once Dataplot is installed on your computer. Or you can browse the handbook online without using the software, as a guide to graphical methods for understanding your data.

Dataplot was developed back in the late 1970s, I think. Some pdf files of scanned ancient documents are available to remind you of how bad it was to look at typed pages and line-printer plots "back in the day"! But the online text is right up to modern standards. Dataplot is, however, a DOS-like package originally built for DOS-type data entry and command line functions. It reads data files in text format.

Downloading Dataplot also requires download and installation of at least one other supporting software, Tcl, which allows Dataplot to attempt a GUI like interface. Two other programs are optional downloads -- Ghostview and Ghostscript to support printing to non-PostScript printers and for generating JPEG plots. It takes a little time and work to get the program going unless you've handled DOS style software before. Check with your IT staff if you need assistance in installing software.

If you're looking for free but powerful software to tell you much more about your data than Excel's exploding pie charts, try Dataplot.

In the Summer 06 newsletter we'll look at the free R statistical software, which is far more comprehensive than Dataplot. Soon after that we'll look at free statistical textbooks and other goodies available online.

### 3. Easter Eggs

Several people wrote to tell us after February's newsletter that fecal coli are not measured in ug/L, as (mis)stated in February. We want you to know that we know that. We often leave hidden 'Easter eggs', little errors lying around just to see if you can find them. See if you can find the hidden misSTEak in this month's newsletter.

'Til next time,

Practical Stats

<http://www.practicalstats.com>  
-- Make sense of your data