Protocol for creating planting sheets

This experiment, like almost all in the Tonsor lab, is a *randomized blind experiment*. This means that the RILs are planted in a randomized order that is different for each run and block of the experiment. We use a SAS (statistical analysis system inc) program to randomize the order. We also give each pot a tag number that is unique throughout the entire experiment but does not let the viewer know which RIL is planted in the pot. Hence we are blind to the RIL identities. Here's how to do the whole thing:

Go to the Favorites list within the finder icon on the menu bar. Look for the triangular icon that says "SAS" under it. Double-click it. This will first fire up Mac OS9.2, then it will fire up SAS within OS 9.2.

Fron the FILE pull-down in the SAS PROGRAM EDITOR window, choose OPEN, then navigate your way to this file and open it:
"Macintosh HD:Curly two:Tonsor Lab:Arabidopsis thaliana:Dev Stability:ex-wide programs:Proc plan DS.txt"

The program code will then appear in the PROGRAM EDITOR window.

SAS has a task bar in the upper left corner of the monitor screen. The left-most button is the Little SAS Guy. He stands for "execute program". Click on him and say "Run Little SAS Guy, Run!".

Check the SAS LOG window. Look through the log file that appears there.
You *should not* see any lines printed in red.
You *should* see the following at the bottom of the log file:

```
NOTE: The file "macintosh HD:Curly two:Tonsor Lab:Arabidopsis thaliana:Dev
      Stability:ex-wide programs:temps:planting sheet" is:

      File Name=macintosh HD:Curly two:Tonsor Lab:Arabidopsis thaliana:Dev
      Stability:ex-wide programs:temps:planting sheet

NOTE: 162 records were written to the file "macintosh HD:Curly two:Tonsor
      Lab:Arabidopsis thaliana:Dev Stability:ex-wide
      programs:temps:planting sheet".
      The minimum record length was 32.
      The maximum record length was 36.
NOTE: The data set WORK.PLANLIST has 161 observations and 7 variables.
NOTE: DATA statement elapsed time was 0.16 seconds with 18.05mb available
      memory.
```

From the Mac OS 10.x dock, click on the EXCEL icon. From the Excel FILE pull-down menu, click on OPEN. Browse your way to:
"Macintosh HD:Curly two:Tonsor Lab:Arabidopsis thaliana:Dev Stability:ex-wide programs:temps:planting sheet"
Select it and click OPEN.
Note that Excel MUSTopen this file as a comma-delimited file for this to work properly. It does not open it as comma-delimited if you just double-click on the file. You must use the OPEN command from the FILE pull-down.

A window entitled "Text Import Wizard"
Within that window, there is a box entitled "Original data type". Select DELIMITED.
Click NEXT. This takes you to STEP TWO of the "Text Import Wizard".

Withiin the STEP TWO window, deselect TAB, select COMMA.
Click FINISH

You should now have an excel spread sheet in front of you entitled "Planting Sheet".
It has the following column headers at the top:

     RIL   DONOR   GROWER   CROSS   ORDER

Select the entire sheet by clicking on the diamond shape in the upper left corner of the
spread sheet. The whole spread sheet should turn blue.

From the DATA pull-down menu, select SORT.
A window entitled "Sort" will appear.
In the "Sort by" box, select "ORDER". This will put the spreadsheet in order by the
variable ORDER. This is the order in which the seeds will be planted.

In the column to the right of the ORDER column, type in a new column heading "POT
TAG."
Into this column, you will insert the pot tag numbers that have been supplied to you by
Steve Tonsor or Angela Boule or Ellen York.

Once you know the sequence of pot numbers, type in the first few numbers in the
sequence into consecutive cells in the POT TAG column. Select the set of numbers you
have typed in. Then put the cursor on the lower right corner of the selected set. The
cursor will change to a diamond shape. While the cursor exhibits the diamond shape,
click and drag the cursor to the bottom of the file, then release the cursor. This should fill
the cells with the sequence of pot numbers desired.

You have now made a planting sheet!

Save the sheet into the file:
"Macintosh HD:Curly two:Tonsor Lab:Arabidopsis thaliana:Dev Stability:RunX:planting
sheets:YYYXA", with the following meanings for the variable parts of the file name:
X=run number
YYY= RHH, NLL, NLH, or NHL
a = Block