**Exercise\_3\_plant\_production**

There are 4 simulations in this exercise. All 4 simulations differ in only

the grass type that is being grown. These grasses have different relative

temperature growth curves (PPDF(1..4)). The temperature growth curves used

by each grass type are displayed on the "CROP.100" tab in the

plant\_production\_results\_template.xls Excel workbook.

To help you with this I have created 4 schedule files:

1. G1.sch

2. G3.sch

3. G4.sch

4. G5.sch

I have also provided a file named outvars.txt that contains a list of output

variables that can be extracted from the binary output files that are created when you run the Century simulations, and an Excel workbook,

plant\_production\_results\_template.xls, that contains a separate spreadsheet

for entering the output for each simulation, G1, G3, G4, and G5. In addition, there are sheets that contain graphs of NPP, SOM, and biomass for both yearly and monthly output timesteps that will display the model results once you have the output data from all of the simulations entered.

Run the 4 Century simulations, enter the model output into the Excel workbook, and look at the graphs to see how using different the relative production and growth temperature curve input parameter values changes the model results. If you need help running the simulations and using the list100 utility please refer to the instructions in the Exercise\_1\_soil\_texture\_precipitation.txt file.

If you have time, experiment with creating a new grass with a growth

temperature curve of your own design. You can use the "temperature\_effect"

tab in the century4.6\_curves.xls Excel spreadsheet that can be found in the

Century\_Documentation directory to try out values for the PPDF(1..4)

parameters. Once you have a temperature growth curve that you want to try

transfer your PPDF(1..4) parameter values to the grass option that you will be using in the crop.100 file, run a simulation, and examine the output comparing it with earlier model results.

For more fun, go back to exercise 1 and experiment with changing the relative production for the G1 grass, PDRX(1), to see what effect, if any, your modifications to this parameter value has on the suite of 5 simulations.

To run all the simulations at once, open a DOS window and run the batch file by typing its name:

run\_plant\_production\_sims.bat