Instructions to install and execute Simple

1. Extract all files from zip file into one directory
2. Make sure R or R studio is installed in your computer. If no R or R studio in your computer, please download it from <https://cran.r-project.org/mirrors.html> for R or <https://rstudio.com/products/rstudio/download/#download> for R studio
3. Open SimpleB in edit condition, then change the working directory into your own
   1. Copy your directory and paste into Line 72 (replace the one which is shown there in between “ “)
   2. Change all of \ to / in path
   3. Save
4. Note, if no observed data for yield, biomass, or Fsolar (% light interception), include “0” in “Obs\_...csv” (i.e. it does need a value to operate). If several data points in treatment (e.g. measurements at several dates), at least one date needs a number.

To switch back to single year/single experiment mode:

1. Line 58: switch to 1

2. Check the Simulation Management file in Input folder. Each treatment with a “1” in column A will be simulated.

3. Save output page if you want to store it.

To run the gridded Model

1. Line 58: if you want to simulate grid cells, switch to 2, if normal simulation of experiments (e.g. daily simulations with/without observations), keep at 1
2. If you want to execute grid cell simulation, change weather directory on Line 75 (./ indicated already “working directory”)
   1. Note, there are 2 subdirectories, one for historical and one for future
3. Chose weather file type (standard is WTH - DSSAT format). Alternative formats are CSV - EXCEL and Rdata – R database format.
4. Select input map on Line 81. You can add any country but name must match with list in .\Input\Map\Weather Gridcell.csv.
5. Select the simulation year on Line 82, it can be run multi-year simulation and output one year (Line 89 for selection) for map.
6. Select if you want daily outputs on Line 85 (Off means annual outputs).
7. Save
8. To run model in RStudy:
   1. Select all code
   2. Click on “Run” (top bar)
9. For first time it will run potatoes example across 32 grid cells in the US for 2 year (takes about 40 sec)