

My Business Lean and Mean

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Virtual Grower; Decision Making Tool or Leap of Faith

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“Virtual Grower” version 2.01 is a software product available without charge from the USDA ARS at <http://www.ars.usda.gov/services/>. This is a freestanding application but, along with the Virtual Grower application itself you must download ancillary software that creates “the framework” within which the software runs. There is also a user manual that can be downloaded which explains how to use the program and outlines the assumptions upon which the program is based. It is highly recommended that you download the manual.

The application essentially consists of two modules; one addresses greenhouse designs, structures and heating costs, the other uses plant growth models to offer advice on optimizing the greenhouse environment for plant growth. At present the second module is limited to a small number of species some of little economic importance to the industry.

Like any application of this sort it’s output is only as reliable as the information provided to it. The old programmer’s acronym “GIGO” (Garbage in Garbage Out) is worth remembering. After providing the program with a “heating schedule”, a substantial amount of structural and heating system information a maximum heating requirement in Btu’s and an estimate of monthly heating costs is provided.

Using the same heating system and structural information the energy requirement outputs from Virtual Grower were compared to the outputs of a similar application using a spreadsheet format and graciously provided to me by Dr. Both. The outputs of both programs while not identical matched very closely.

There was nothing comparable to evaluate the plant growth “estimates” of the application. This module is restricted to about 12 species and the outputs struck me as having limited utility to the grower at this point in time. Using CO₂ and temperature inputs it attempts to inform as to whether the temperature set points are “optimal” for that species growth. Output is time to harvest/sale and biomass with no estimate of final height for example.

At this time useful growth/height estimates from the modeling research of Poinsettia, Chrysanthemum and Easter Lily are not available in the program.

While the application is useful in my opinion one needs to be careful of ones “inputs” and take the “outputs” as helpful guidelines rather than “facts”. A manual will be available for the perusal of attendees.