Virtual Grower 3.0 Tutorial #9: Predicting Crop Timing

(0:03) Welcome to Virtual Grower tutorials, an online series designed to help users navigate different aspects of the Virtual Grower software.

(0:12) A feature new to Virtual Grower 3.0 allows the user to calculate a start date for a given crop based on a specified finish date under the chosen environmental conditions. We'll explore this feature in this tutorial, using the simulation we have built upon in previous tutorials. Load your simulation by going to the File Menu, and choosing 'Load'. Select your .gsf file and click 'Open'.

(0:38) First, press the 'Output' button. Make sure you have assigned the appropriate heating, lighting, and plant properties to your selected greenhouse. Your crop timing simulation will not work unless this step is done first because it uses this environment and these settings to simulate plant growth and development. If you need assistance with this page, check out the Virtual Grower 3.0 Tutorial #6: Output and Greenhouse Setup. Then proceed to the Predictions/Forecasts section of the program.

(1:09) The opening screen defaults to the Crop Timing page. Choose your target finish month and day from the dropdown menus. The large white field below lists all the greenhouse structures you have made. Check the box next to the greenhouse you would like to simulate. Once you do, the 'Calculate Start Dates' button activates, and you can go ahead and click on it.

(1:32) The table below populates with your crop scheduling information. Each species from your plant list is listed, along with an approximate start date. These start dates are estimates based on the simulated conditions; note that they can be altered by variability in weather, water, nutrition, and most significantly, by changes in plant genetics. The estimated weight at flower is also listed. As more research becomes available for different species and additional plant quality indicators, such as flower number, size of flowers, and plant form, this information will be incorporated into the program.

(2:10) If there is no information given in the 'Start Date' or 'Weight at Flower' column for a species, your chosen environmental conditions are not ideal for propagation. Scrolling over to the 'Notes' column will give you an idea of what environmental conditions you may need to change to successfully grow that particular plant.

(2:28) You may repeat this process for different target finish dates. The new values will populate in the data table.

(2:36) This completes the Crop Timing portion of the Output menu. Additional tutorials describe other segments in the Output section.

(2:44) Any time you need more assistance, you can go to the Help menu. There, you will find our email address, USDA-ARS@utoledo.edu.