

Agenda for ESRP 310 Fall 2007, 10th Lab, October 25, 2007

Daisyworld Exercises

Name: _____

(Turn in this sheet to Prof. Ford when you've completed the exercises.)

Down load and Verify

Down load the Daisyworld model from the book's website. Verify that the model gives the results shown in Figure 21.6 when you simulate the 1st solar scenario with the 5th variety of flowers. You should see 403 acres covered by white daisies and 271 acres covered by black daisies. Verify these areas from the numerical displays on the interface layer and from the values displayed in the model diagram.

Importance of the Initial Areas

The model begins the simulations with 250 acres of white daisy area and 250 acres of black daisy area. Rerun the model with these initial values set to 125 acres. Does the model arrive at the same equilibrium conditions shown in Figure 21.2? _____
Rerun the model with these initial areas set to 400 acres. Does the model arrive at the same equilibrium conditions shown in Figure 21.2? _____
Be sure to return the initial values to 250 acres before proceeding to the next exercises.

Best Variety in a Heat Shock Scenario?

Experiment with different varieties of flowers with a "Heat Shock Scenario." (Run the scenario without pruning.) Which variety scores best? _____
Explain why this variety does the best job in maintaining good temperatures:

Best Variety in a Cold Shock Scenario?

Experiment with different varieties of flowers with a "Cold Shock Scenario." (Run the scenario without any pruning.) Which variety scores best? _____
Explain why this variety does the best job in maintaining good temperatures: