VGL-ATM-2

Mendel's second set of experiments used two traits. So will yours.

We will try and "rediscover" Mendel's rules using the virtual insects in the VGLII Lab.

This is more difficult than other simulations, because it is realistic, and you won't, and can't, know what you actually have in the insect cages.

This is the first time I am using this program, so, feel free to make comments.

Like Mendel you are looking at traits. Unlike Mendel, you can't know (before you do any crosses) if your starting "bugs" are true breeding or not.

Start VGLII – Following the general instruction sheet.

Open a Word Document

Open in the TwoGenes folder TwoGenes01p

On a piece of paper, neatly keep track of your crosses. This will not be collected, but, without it, you WILL be terminally confused.

In your Word document – Put your names and the date at the top

Title-Practice

1-What are the traits you have opened?

2-What are the forms of the traits?

Perform crosses to discover which form of the trait is dominant and which is recessive. This is very difficult, since you aren't starting with true breeding "bugs." Cross bugs until you get "true breeders" and then follow Mendel's pattern starting with a P generation and producing an F1 and F2 generations.

3-What are the dominant and recessive forms of each trait?

Do sufficient crosses to establish, to your satisfaction, that you have found true breeding "insects" for this trait. Consider those "insects" your P generation, and cross them to produce an F1 generation.

4-What are the offspring of the F1 generation?

Cross the F1 generation insects.

5-What are the results? Do a super cross with 100 offspring (utility menu). What are those results?

6-How does this compare with your expectations? What is the ratio of those showing the dominant trait (that you determined in #3) to the recessive trait? How many phenotypes are there in the F2 generation?

7-Do a Chi square for the F2 generation and report your results (use the super cross for larger numbers). Use Mendel's expectations for a dihybrid cross for your expected values.

Check your results by going back to the first cage and click on Show Genetic Model and compare your results.

Close your work.

Title-Experiment-1

Repeat steps 1-7 using problem TwoGene01

8-In the Utility Menu select Model Builder.

Fill in the model builder.

9-In the file menu choose-Save Work for grading, saving the file somewhere you can find it (desktop). Use the file name LastName_VGL-2

10-In your Word document add any reasoning that might help your case.

11-Email me your Word document and the grading file (drg.atm@gmail.com)

Close your work and open a new TwoGene01 problem

Title-Experiment-2

Repeat steps 1-7 using problem TwoGene01 – Except for the super cross, choose 1000 offspring.

8-In the Utility Menu select Model Builder.

Fill in the model builder.

9-In the file menu choose-Save Work for grading, saving the file somewhere you can find it (desktop). Use the file name LastName_VGL-2

10-In your Word document add any reasoning that might help your case.

11-Email me your Word document and the grading file (drg.atm@gmail.com)