Recommendations

Having completed my experiment, I can look back on it with an objective eye. There are a few key points that I suggest to ensure that the experiment will work without a hitch.

**I. Materials**

**A. Supplies**

**1.** In order to eliminate excess materials at the completion of the experiment, it would be necessary to correctly estimate the amount of supplies that you will need. This would include medium, containers for the flies, and anesthesia. If ordering from a catalogue, ask enough questions to avoid wasting money.

**B. Fly Supply**

**1.** Because of the time limitations set on this experiment, it is necessary to begin as soon as possible. I suggest buying enough flies so that when you receive them, you can start immediately. This will save the time that would be needed to breed a whole new generation just to begin the project. Although cost plays a part in this decision, it might be worth it if you happen to need extra time during the course of your experiment.

**II. Experiment**

**A. Pesticide**

**1.** As the results of my experiment display, too much poison can destroy the entire experiment. To avoid this fatal mistake, the most important suggestion that I make is this: **TEST THE POISON FIRST**. This is absolutely imperative to the success of the experiment. Using a sample group of flies, test different amounts of the poison to figure out the highest and lowest amounts that can be used. This will eliminate any questions of toxicity. Although you may kill flies, you will at least know the limits of the poison, and therefore be able to produce data. This will guarantee solid results.

**B. Time**

**1.** As I spoke of in Concerns, time played an important factor in the experiment. I planned for the project to finish in plenty of time before it was due. I did not, however, plan for mistakes, which was the most enormous mistake I could have made. In order to avoid situations such as that one, it is necessary to plan for mess-ups. I wasn't able to begin again because I didn't have adequate time left over. If I had left room for error, I might have been able to continue the experiment and obtain results.

**C. Finish**

**1.**Although my experiment did not work, it would be neccessary for someone who completed the instructions correctly to finish the project. The next steps are but crucial to the success of the experiment. After having dropped the pesticide into the containers, observe the flies and watch for anything unusual. After the flies have mated and the new generation has matured, anesthezize the flies once more. Carefully count the flies in the jars, subtracting the original ten flies. Observe them for abnormalities and record anything you notice.

\*\*After you have counted and recorded the number of flies in each jar, you must choose the amount of poison that will work best for the experiment. This amount will be the one that did not kill all of the flies, yet did not leave them all alive; it will be the amount that has the middle number left in the jar. You do not want to choose the amount that killed all of the flies, because there will be no results. However, you do not want the amount of pesticide that did not kill any flies, because it will not produce quality results either. You want to choose that amount that has killed some of the flies, but not all of them. It will be the best option because it has an effect on the flies, but the effect is not too great or too little to aquire the desired results.

\*\*After you have chosen the amount, you will need to dispose of the poisoned flies. Clean out the containers as described in the procedure. You will then need to set up ten new vials of flies, eight with the amount of pesticide that you chose, and two without poison to be the control group. Divide up the flies from the control vials and distribute them among the poisoned vials, keeping the control vials functioning. Observe these as you did in the previous steps.

\*\*When you observe that the pupa have two to three days before emerging, it is neccessary to dispose of the adult flies. This will allow you to concentrate on the new generation of flies.

\*\*Using the new generation of poisoned flies, anesthesize them and count and record the number of flies in each vial. To create the next generation, thoroughly mix the flies from the eight poisoned vials to come up with the new combinations for the new vials. Add the new combonations of ten flies for each vial. Continue for another generation. You now have ten vials. Eight with varying amounts of poison; these have second generation of poisoned flies in them. The other two vials continue to act as the control, with no poison or poisoned flies.

\*\*Continue the procedure of disposing of the adults when the pupa are about to emerge. Record the number of flies in each jar.

\*\*Continue for as many generations as possible.

\*\*The observation of the flies is what will alert you to change. It is imperative that you keep a very close tab on the flies anatomy and behavior. Record, in writing and with pictures the progress of the flies. Be sure to observe them very closely, so as to catch any new changes.