The general layout of my project will be as follows:

The first step will pertain strictly to preliminary trial information gathering. I will use this time to flush out problems with equipment and protocols. I will look for alternative ways to complete experiments and find and use all of that to inform the experimental aspects of my project.

* The European corn borer is another a dull brown colored moth but with big consequences. This species of lepidopteran is responsible for a large amount of damage to a number of agricultural crops and to no small amount corn plants. Once mated, the females of this species will lay their eggs and fix them to the substrate (in this case a host plant), and after the eggs mature, they will hatch and neonate larvae will eclose from the egg and begin feeding on the host plant. They bore a hole into the stem of their host plant and over the course of its life these larvae will consume almost their body weight in food. During this time these larvae are sensing the environment around them and integrating that information as they develop to make important developmental decisions. Light timing plays an important role in how these creatures progress through their life cycle. More specifically, the number of hours of light these insects are exposed to every 24 hours can mean the difference between continuous development from larva to pupa to adult or discontinuous development, where the time between larva and pupa are separated by months. Making these decisions as a larvae are critical life events. Imagine making the wrong decision and diapausing in the middle of winter.
* The decision to diapause modulates different processes that we can use as indirect indicators of diapause. Two of these processes include the upregulation of lipid and protein production by the fat body. These metabolites do some amazing things when given the chance to shine.

The next step I will be taking is to create an experimental design that will assist me in characterizing the