

# Insects and Their Eyesight

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# Introduction

- Have you ever wondered why insects are so attracted to you? Maybe its your smell, where you are, or the colors your wearing.
- We were wondering about how we could get insects away from us, so we started experimenting different things to attract different insects.



# Introduction

- Insects are bichromatic. This means that they have only two pigment receptors. This means that they are mostly colorblind, but they can see a few colors. The lowest color frequency we see is red. Insects, on the other hand, cannot see red.
- Insects, such as bees, can see ultraviolet. Ultraviolet is an electromagnetic radiation that most humans cannot see.



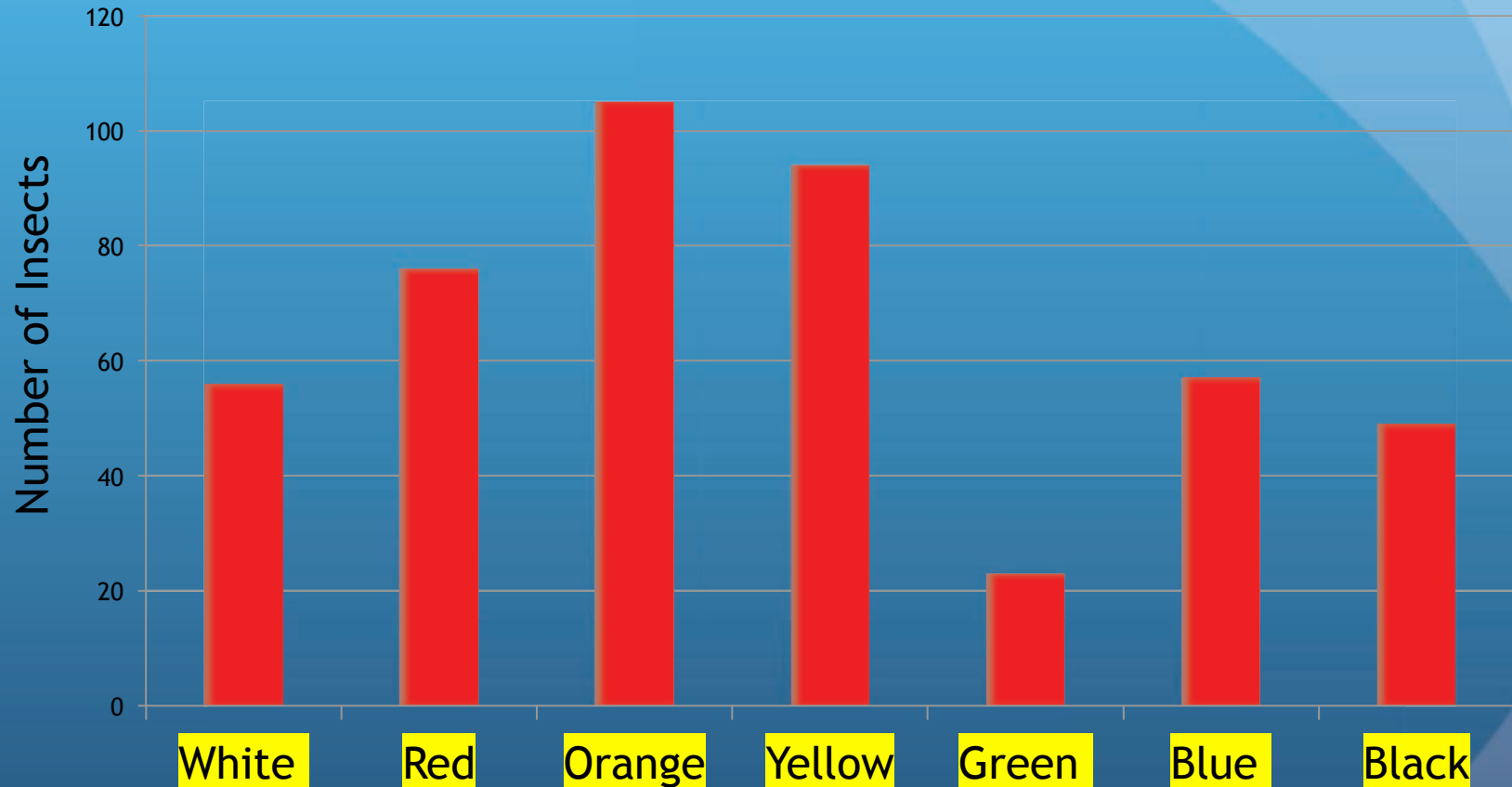
# Our Experiments

- We tested color by setting out colored T-Shirts, red and white lights, and patterns on the sticky traps.
- We set out shirts of different colors and put sticky traps on top of them. Then we checked the traps every hour and recorded our data.
- For the light experiment we taped sticky traps on to a headlamp with a red light and a flashlight with a white light.
- For the pattern experiment we drew different patterns onto the sticky traps.

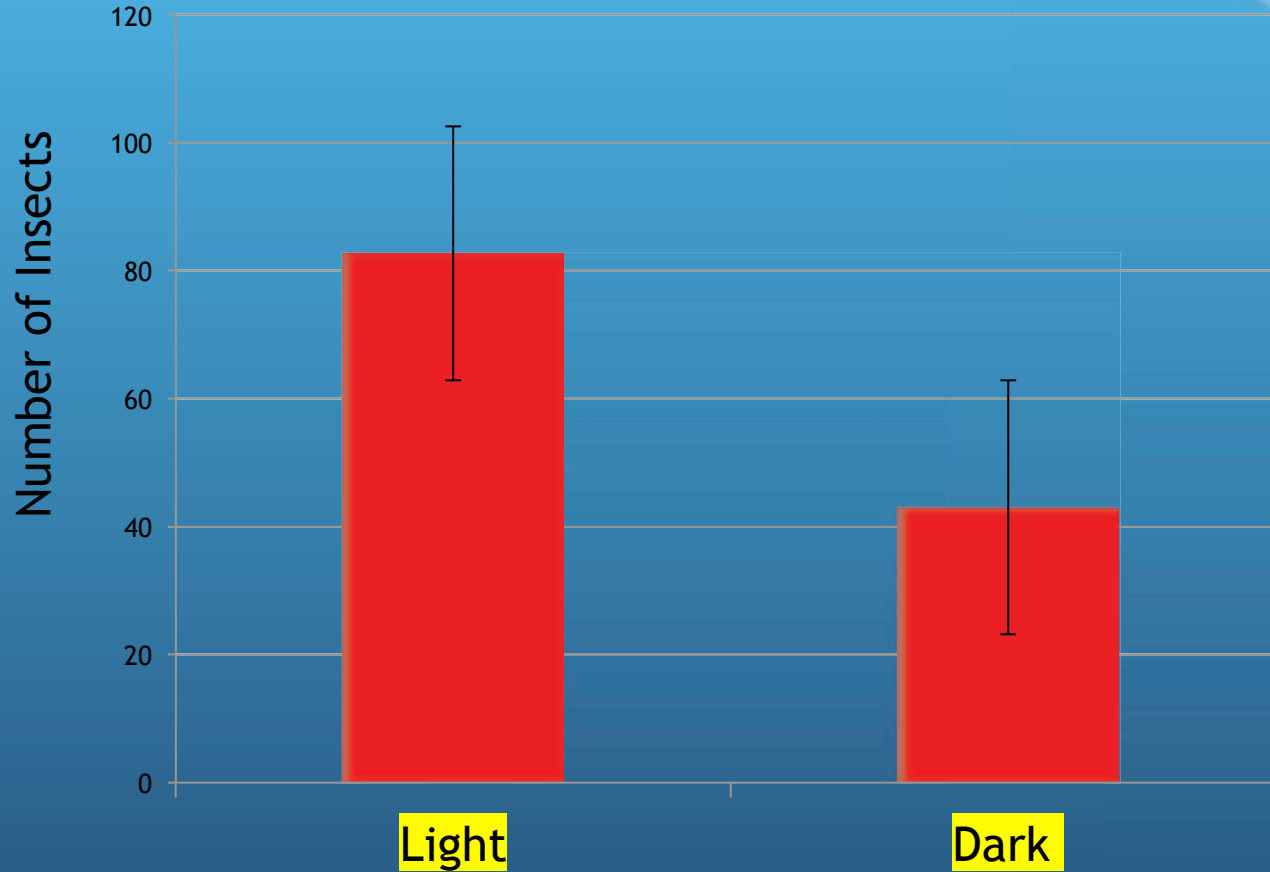
# Hypotheses

- Hypothesis: Bright colors and white will attract the most insects because when insects are looking for food they often go towards bright flowers. Bright colors are also easier to spot than darker colors like black.
- Hypothesis: We think that the insects will go for the white light because they like sunlight and the white light is most like sunlight. Also most can't see red light.
- Hypothesis: We think that the insects will be attracted to the big stripes because it looks like a bee's stripes.

# T-Shirt Data

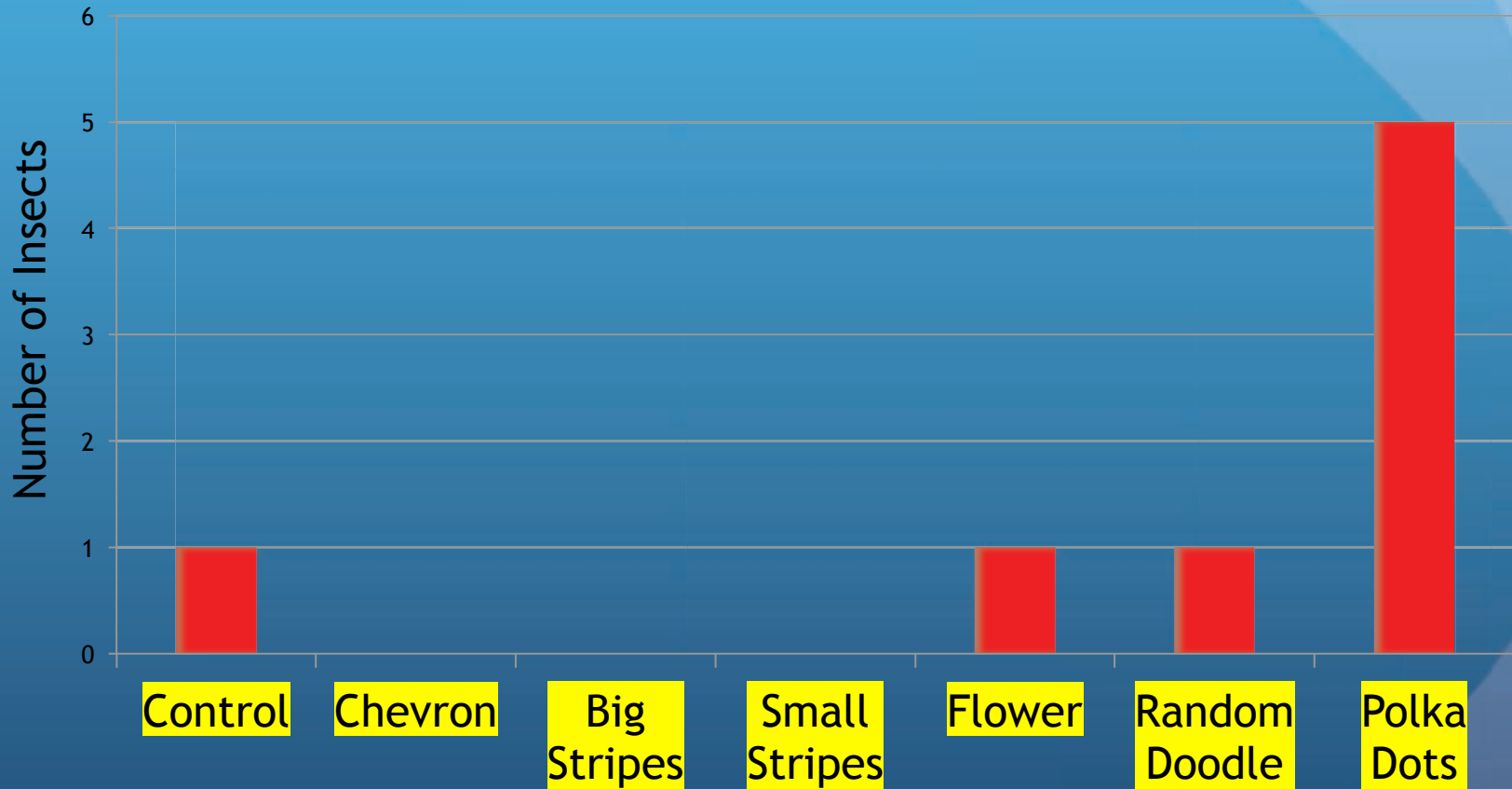


# Light vs. Dark Shirts



T-Test P-Value 0.049

# Pattern Data





# Discussion

- For the color experiment, our data supported our hypothesis. We hypothesized that the brightest colors would attract the insects more.
- In the pattern experiment, we hypothesized that the chevron pattern would attract the least amount of insects and that the big stripes would attract the most bees because it looks like a bee. Our data did not support our hypothesis.
- For the light experiment none of the light had any bugs on the trap. Our data did not support our hypothesis.

# Discussion

- The next time we do this experiment, we could try to space out the sticky traps. We could also try to camouflage them.
- For the light experiment, the insects probably did not come out because of the temperature. Doing this experiment in warmer temperature might cause the bees to be more attracted to the light.
- What would happen if we put light under the shirt to make it glow?