Shifting Sun vs. Putrid Pilobolus

Mead, Jennel

The Pilobolus Fungus is a little fungus that grows on herbivore dung. When the fungus has fully matured, it shoots sporangia into the air, directed at a light source. The more accurate the fungus is to the light source, the more likely that the sporangia will land in a pile of grass, ensuring that a cow will eat them, continuing their life cycle. This fungus has been linked to the spread of the lungworm virus in cattle through studies done by Cornell University. The virus piggybacks on a sporangium, and when a cow eats it, the cow is then infected. This project looks into how changes in light intensity and light duration affect the accuracy of the Pilobolus' reproductive system. Forty-eight samples were subjected to varying light intensities and durations. After four days in their environments, the accuracy of their fired sporangia to a light source was measured. The results showed that higher light intensities yield more accurately fired sporangia. Time duration showed little to no effect on the accuracy of the fungus, but it's possible that 2 hours might be a minimum amount of time that the fungus will need to aim a sporangium. This means that cattle farmers may need to be extra vigilant with cattle health care in the summer months, by either having regular vet checkups, or rotating their cattle frequently, to avoid a lungworm outbreak.

Awards Won: