

Separate—But Not Equal: Lab Growth of *Phycomyces blakesleeanus*

From cancer-fighting pharmaceuticals to the food we eat, and everything in between—Mucorales fungi play a crucial role in our everyday lives. While fungi are most commonly encountered in unwanted places, trying to cultivate them in a lab can prove quite challenging. This study examined the growth and reproduction of the plus and minus mating types of *Phycomyces blakesleeanus*. Which are a part of the Mucorales fungi. It is hypothesized that unequal growth of the fungal mating types leads to the loss of sexual reproductive function. For this experiment we cultivated the growth of both the plus and minus mating types. The mating types were grown individually and combined to observe how each type grows alone and in the presence of the opposite mating type. Being able to efficiently culture Mucorales and improving the understanding of its life cycle can only lead to improve all the industries that rely on Mucorales, and potentially pave the way for additional applications of Mucorales. Our results show that where one mating type flourished, under the same conditions the other type was unable to survive even a day. This could be in part due to different environmental tolerances between the two mating types such as variable temperature and light exposure.