colour changes can be observed after as early as 24 hours of incubation when yeast is developed on various mediums such as YED agar or MIN agar. In the haploid cells, the dominant R allele will be white whereas the recessive r allele will be red. S. Cerevisiae produces an amino acid known as tryptophan. The dominant T allele is recognized as being tryptophan-independent meaning they do not require another medium to supply extra source to support the synthesis. However the recessive t allele is recognized as being tryptophan-dependent meaning they are not capable of synthesizing tryptophan unless support is coming from another source as well. A monohybrid process involves the crossing of one trait using two alleles. Mendel's law of segregation is the pairing and segregation of homologous chromosomes during meiosis. This law helps to explain why not all offspring resemble the parental generation. A dihybrid process involves the crossing of two traits using two alleles. Mendel's law of independent is the behavior of chromosomes during meiosis. The random alignment of chromosomes during meiosis I results in independent allele assortment located on different chromosomes. A monohybrid cross using S. cerevisiae F1 generation haploid cells will take place in YED. Colony colour alterations will be observed 48 hours following the incubation. Two dihybrid crosses will be performed, a dihybrid cross of F1 generation in MIN will occur, observing colony colour alterations and tryptophan independence/dependence seen 48 hours following the incubation. The second dihybrid cross of F2 generation taking place in YED will occur also observing colony colour changes and tryptophan independence/dependence seen 48 hours following the incubation.

Materials and Methods

Methods and materials used in this experiment can be found in the BIOL 1F90 Laboratory Manual (Martin, 2014-2014, Experiment # 2 Protein Quantification, pages 2 - 5. No changes were made in this experiment.

Results:

Figure 1: Dihybrid Cross LED culture plate

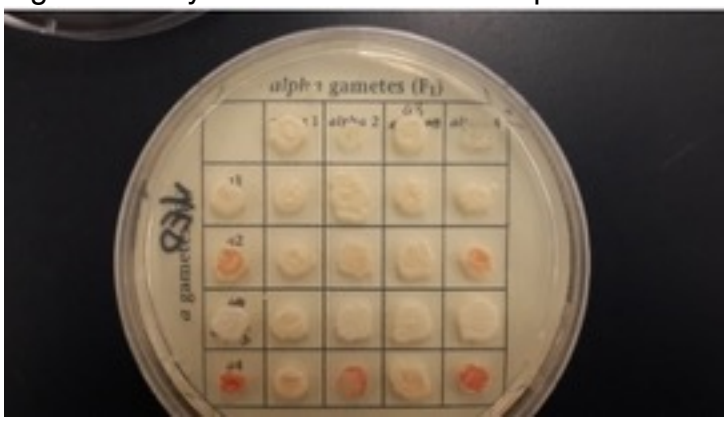

Photo taken by Crystal Lee