

Saccharomyces cerevisiae YEAST Lab*

Part A: PLATE PREPARATION

1. **Obtain** a YED and a YEAD agar plate and two mating grids.
2. **Label** the mating grids in the format of a Punnett square. **Record** your name and the date on the back of your grid.
3. **Tape** the grid to the bottom of your plate so the grid shows through the media.

Part B: HAPLOID CELLS

1. Put on goggles and gloves.
2. **Obtain** your YED agar plate with the mating grid and 4 sterile cotton swabs.
3. **Remove** the lid of your *alpha 1* culture.
4. **Observe** the appearance of the haploid cell masses. You may use a stereoscope.
5. **Record** your observations for Day 1.
6. Using the swab gently **touch** the haploid alpha 1 culture and **gather** a small sample. **Replace** the lid.
7. **Lift** the lid of your YED agar plate and, using a circular motion; carefully **spot** your alpha 1 sample directly within the square labeled alpha 1. Be very gentle when spotting. Do not puncture or tear up the agar with your swab.
8. **Replace** the lid and discard your swab.
9. Using a clean swab for each strain, **repeat** steps 2-7 for yeast strains *alpha 2*, *a1*, and *a2*. Use the mating grid as a guideline.
10. **Repeat** steps 1-6 for the YEAD plate.
11. **Draw** a diagram below to indicate the location of the samples as you add the gametes to the media plate. **Incubate** your plates, inverted, at 30°C for 24 hours.
12. **Record** your observations for Day 2.

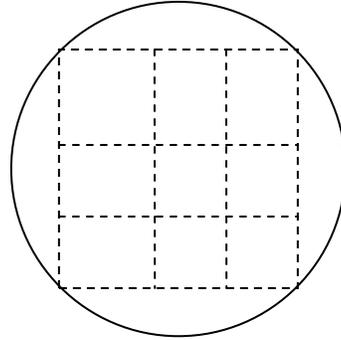
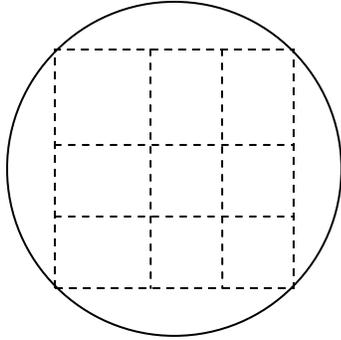
Part C: PREDICTIONS / MATING HAPLOID CELLS

1. **Predict** appearance of the yeast after mating the samples. Include the pigment. **Record** your prediction.
2. Using swabs **mate** the gametes without contaminating the samples. **Discard** swab after applying the gamete to each square.
3. **Incubate** the plates at 30 o for 24 hours.

Part D: RESULTS AND CONCLUSION/ DISCUSSION

Record your final (Day 3) observations

* Procedure a modification based on WARD's *Saccharomyces cerevisiae* supplies and protocol.



Mating Grids

* Procedure a modification based on WARD's *Saccharomyces cerevisiae* supplies and protocol.