Food Safety Meat Models

For demonstrating how rapidly bacteria multiply at room temperature

4 CUPS of Flour
2 CUPS of Salt
1 CUP of Water
1 BOX of Sugar-free raspberry flavored gelatin

5 One Pound Styrofoam Meat Trays
1 BAG of Split Peas
Spray Polyurethane Varnish
Spray Adhesive or Glue

1. Measure and mix 2 cups flour, 1 cup salt and 1 box of gelatin. Slowly add ½ cup of water and mix with hand or spoon. To make dough easier to handle a little more water may be added.
2. Repeat process with remaining flour, salt and gelatin. DO NOT MIX ALL FLOUR, SALT and GELATIN AT ONCE for best result.
3. Lightly coat inside of meat grinder with vegetable oil to avoid sticking. Put 1 batch of the mixture through a meat grinder using a coarse grind.
4. Put second batch of mixture through the meat grinder.
5. Form "meat" into 5 equal mounds after it is ground. Put the meat models on a baking sheet.
6. Pre-heat oven to 350°. Put the baking sheets with meat models in the oven, close door and turn the oven off. When oven is cool, check to see if the meat models are dry. This baking step can be repeated if needed.
7. Allow meat models to cool completely. When cool place on a plastic sheet. Spray the meat models with urethane spray in a well ventilated area. You can bush on liquid urethane but it takes much longer to dry. Allow to dry thoroughly (may take up to 24 hours).
8. Count out the following amounts of split peas: 5--20--80—320--1280. Apply peas to meat models using spray or adhesive glue. To apply the 1280 peas on the meat model it is easier to layer them on. Apply one layer of peas, spray and allow to dry before applying another layer. Do this until all are applied.
9. After thoroughly dry, place meat models on the Styrofoam meat trays. Wrap each with clear plastic wrap, seam on bottom of tray. Tape the seam. Plastic tubs or zip-top bags also work well for transport and display.

Make a label for each model as follows:

From refrigerator ---------- 5 bacteria
After 30 minutes ---------- 20 bacteria
After 60 minutes ---------- 80 bacteria
After 90 minutes ---------- 320 bacteria
After 2 hours ----------1280 bacteria

Adapted from Yvonne Wilcox, Nutrition Teaching Assistant, Cornell Cooperative Extension of Tompkins County