

STANDARD OPERATING PROCEDURE – Lemonade Production**INTRODUCTION**

Lemonade is prepared from a concentrate, pasteurized, and then packaged for wholesale and retail distribution.

MATERIALS

1. Supplies
 - a. Sanitizer
 - b. Swabs
 - c. Lemonade concentrate
 - d. Sugar
 - e. Brix refractometer
 - f. Record of manufacture form
2. Hazards
 - a. Burns from hot water and hot metal.
 - b. Corrosive damage to eyes and skin from sanitizer. Wear goggles and gloves when using the concentrate. Avoid breathing the vapors.

PROCEDURE

1. Prepare a chart for the HTST and start it recording the pasteurizing conditions. Perform all required pre-operational equipment checks.
2. Pre-production sanitation
 - a. Discard the sanitizing solution that was held in the filler bowls, allowing it to flow through the filler tubes and onto the floor.
 - b. Prepare at least 300 gallons of sanitizing solution in a mixing tank. Test the concentration and record the result on the sanitation test record.
 - c. Pump the sanitizing solution through the lines leading to the HTST, through the HTST, and then to the tank that will be used for lemonade production. Finally, pump the sanitizing solution from the lemonade production tank through the lines to the fillers, allowing it to overflow the bowls and to flow through all of the filler tubes and then onto the floor.
 - d. Pasteurize some water. Run this water through the lines leading to the tank that will be used for lemonade production, then through the lines to the fillers. Allow the pasteurized water to overflow the bowls and to flow through all of the filler tubes and then onto the floor.
 - e. Swab food contact surfaces. If results indicate the presence of milk protein residues repeat the sanitation procedure.
3. Production
 - a. Pump some soft water into a mixing tank.
 - b. Add the lemonade mix and sugar according to the manufacture's recommendations. Mix with high agitation and hold for at least 15 minutes.
 - c. Pump the lemonade mixture through the HTST at a minimum of 161°F and a holding time of at least 15 seconds. The pasteurized lemonade should be directed into the pre-sanitized lemonade production tank.
 - d. Pasteurize the remaining volume of soft water and add this to the lemonade production tank.
 - e. With cooling and high agitation turned on, mix for at least 30 minutes.
 - f. Taste the lemonade and check the Brix. The Brix reading should be between 11.8 and 12.2%.
 - g. Fill containers and store them at < 40°F.

RECORDKEEPING

1. Each day that lemonade is prepared a record of manufacture form should be filled out. This will specify the ingredients used, the volume of lemonade made, and the results of the milk protein residue test.
2. Charts should be used to record the pasteurization conditions.
3. Record the results from the sanitizer concentration assays on the weekly sanitation test form.
4. Retain all records for at least two years.

The following individual is responsible for implementation of this SOP and has the overall authority on-site:

Name: _____ Title: _____ Date: _____