

SOP for Temperature Measurement Procedures

For snack stick and summer sausage products:

When performing the monitoring procedure for a CCP, a calibrated thermometer will be inserted in pieces of product in various areas of the smokehouse. For instance, when monitoring the final internal temperature of a batch of snack sticks, a temperature reading will be taken from a piece in the middle of the cart, as well as one from the top and one from the bottom. Depending on where the "cold spots" may be in a particular smokehouse, product temperatures may also be taken from the front and rear areas of the smokehouse. The HACCP plan may state that all monitored product temperatures will be recorded, or that just the lowest temperature of the specified number of pieces monitored will be recorded on the cooking log. The plan may also specify whether temperature should be measured at multiple times. If the smokehouse probe is the monitoring device, taking the final internal temperature of various pieces of product at various places in the smokehouse by using a separate thermometer could be used as the direct observation verification step in the HACCP plan for this process. The number of pieces tested for temperature will depend on the product cooked and the smokehouse in which it is cooked. Actual values will be documented on the official HACCP record, along with the monitor/verifier's initials, the date, and the time the procedure was performed.

NOTE: Be sure you know what part of your temperature-measuring device actually measures the temperature. For example, the temperature shown on a dial-and-stem thermometer is the average temperature for a short distance on either side of a dimple on the stem. It does not measure the temperature at the tip. The part of the device that actually measures temperature should be inserted to the cold point of the product being evaluated.

For jerky and related products:

Measuring product temperature of jerky is very difficult because of the thinness of the product. However, with care very thin thermocouples can be inserted into the center of a jerky strip. Humidity of the smokehouse and evaporative cooling of jerky have a dramatic effect on process lethality, though, so we recommend that instead of monitoring product temperature, the processor should monitor the temperature in the coldest part of the smokehouse using a dry-bulb thermometer AND a wet-bulb thermometer. The wet-bulb thermometer is simply a thermometer that is inside a "sock" or wick that hangs down into water. Thus, the temperature on this thermometer is reduced by the amount of cooling that occurs as water

migrates up the sock and evaporates. Alternatively, processors can monitor the smokehouse dry-bulb temperature and % Relative Humidity (using a hygrometer), and then use these values to calculate wet-bulb temperature. The HACCP plan will specify that time and temperature(s) will be monitored.