Ohio Administrative Code
Rule 901:3-3-03 Definitions for bread and other bakery products.
Effective: April 28, 2003

(A) Each retort shall be equipped with at least one mercury-in-glass thermometer.

(1) Thermometer divisions are to be easily readable to one degree Fahrenheit and the temperature range shall not exceed seventeen degrees Fahrenheit per inch of graduated scale.

(2) Thermometers shall be tested for accuracy against a known accurate standard thermometer upon installation and at least once a year thereafter to ensure their accuracy.

(3) A thermometer that has a divided mercury column or that cannot be adjusted to the standard shall be repaired or replaced before further use of the retort.

(4) Thermometers shall be installed where they can be accurately and easily read. Bulbs of indicating thermometers shall be installed either within the retort shell or in external wells attached to the retort. External wells or pipes shall be connected to the retort through at least a three-fourth inch diameter opening and equipped with a one-sixteenth inch or larger bleeder opening so located as to provide a full flow of steam past the length of the thermometer bulb. The bleeders for external wells shall emit steam continuously during the entire processing period.

(5) The mercury thermometer shall be the reference instrument for indicating the processing temperature. The recorder chart shall not be used for this purpose.

(B) Temperature-recording device.

(1) Each still retort shall have an accurate temperature-recording device. Graduations on the temperature-recording devices shall not exceed two degrees Fahrenheit within a range of ten degrees Fahrenheit of the processing temperature.

(2) Each chart shall have a working scale of not more than fifty-five degrees Fahrenheit per inch
within a range of twenty degrees Fahrenheit of the processing temperature. The temperature chart shall be adjusted to agree as nearly as possible with, but to be in no event higher than, the known accurate mercury-in-glass thermometer during the process time.

(3) A means of preventing unauthorized changes in adjustment shall be provided.

(4) The temperature recording device may be combined with the steam controller and may be a recording-controlling instrument.

(5) The temperature-recorder bulb shall be installed either within the retort shell or in a well attached to the shell.

(6) Each temperature-recorder bulb well shall have a one-sixteenth inch or larger bleeder which emits steam continuously during the processing period.

(C) Steam controller.

Each retort shall be equipped with an automatic steam controller to maintain the retort temperature.

(D) Steam inlet.

The steam inlet to each still retort shall be large enough to provide sufficient steam for proper operation of the retort. Steam shall enter the retort opposite the vent.

(E) Crate supports.

(1) A bottom crate support shall be used in vertical still retorts.

(2) Baffle plates shall not be used in the bottom of still retorts.

(F) Steam spreaders.

Steam spreaders are continuations of the steam inlet line inside the retort. Horizontal still retorts shall
be equipped with steam spreaders that extend the length of the retort.

(G) Bleeders.

(1) Bleeders, except those for thermometer wells, shall be one-eighth inch or larger and shall be wide open during the entire process, including the come-up-time. For horizontal still retorts, bleeders shall be located within approximately one foot of the outermost locations of containers at each end along the top of the retort. Additional bleeders shall be located not more than eight feet apart along the top. Bleeders may be installed at alternative locations provided that any alternative location of the bleeders shall be accompanied by evidence in the form of heat distribution data that they accomplish adequate removal of air and circulation of steam within the retort.

(2) Vertical retorts shall have at least one bleeder opening located in that portion of the retort opposite the steam inlet.

(3) In retorts having top steam inlet and bottom venting, a bleeder shall be installed in the bottom of the retort to remove condensate.

(4) All bleeders shall be arranged so that the operator can observe that they are functioning properly.

(H) Stacking equipment and position of containers.

Crates, trays, gondolas, and similar items used to hold containers shall be made of strap iron perforated sheet metal, or other suitable material. The positioning of containers in the retort, when specified in the scheduled process, shall be in accordance with that process.

(I) Air valves.

Retorts using air for pressure cooling shall be equipped with a suitable valve to prevent air leakage into the retort during processing.

(J) Water valves.
Retorts using water for cooling shall be equipped with a suitable valve to prevent leakage of water into the retort during processing.

(K) Vents.

(1) Vents shall be installed in such a way that air is removed from the retort before timing of the process is started.

(2) Vents shall be controlled by gate, plug cock, or other adequate type valves which shall be fully open to permit rapid discharge of air from the retort during the venting period.

(3) Vents shall not be connected directly to a closed drain system. If the overflow is used as a vent, there shall be an atmospheric break in the line before it connects to a closed drain.

(4) The vent shall be located in that portion of the retort opposite the steam inlet. Where a retort manifold connects several vent pipes from a single still retort, it shall be controlled by a gate, plug cock, or other adequate type valve.

(5) The retort manifold shall be of a size that the cross-sectional area of the pipe is larger than the total cross-sectional area of all connecting vents.

(6) The discharge shall not be directly connected to a closed drain without an atmospheric break in the line.

(7) A manifold header connecting vents or manifolds from several still retorts shall lead to the atmosphere. The manifold header shall not be controlled by a valve and shall be of a size that the cross-sectional area is at least equal to the total cross-sectional area of all connecting retort manifold pipes from all retorts venting simultaneously.

(8) Timing of the process shall not begin until the retort has been properly vented and the processing temperature has been reached.

(L) Critical factors.
Critical factors specified in the scheduled process shall be measured and recorded on the processing record at intervals of sufficient frequency to ensure that the factors are within the limits specified in the scheduled process as follows:

(1) When maximum fill-in or drained weight is specified in the scheduled process, it shall be measured and recorded at intervals of sufficient frequency to ensure that the weight of the product does not exceed the maximum for the given container size specified in the scheduled process.

(2) Closing machine vacuum in vacuum-packed products shall be observed and recorded at intervals of sufficient frequency to ensure that the vacuum is as specified in the scheduled process.

(3) When the product style results in stratification or layering of the primary product in the containers, the positioning of containers in the retort shall be according to the scheduled process.