

Measuring pH in Meat

The pH changes occurring in a carcass during the first 24 h after slaughter are important for the quality of the final meat or meat products. Protein denaturation will occur if pH falls to too low a level or if a relatively low pH sets in at a time after slaughter where the carcass temperature is still high. This will result in meat with poor water holding capacity and in extreme cases in meat that is PSE. pH is measured electrochemically using either glass or solid state (IS-FET) electrodes. However, electrochemically based methods are slow to use and do not offer good precision on unhomogenized meat.



1. Calibrate the pH meter using pH 7 and pH 4 standardization buffers.



2. Cut meat sample into small pieces and weight approximately 10 grams into a blender cup. Run duplicates on each sample.

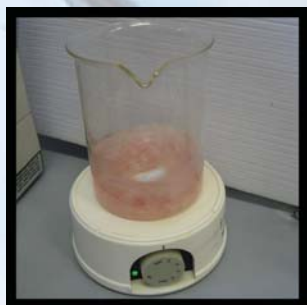


3. Add 100 ml of distilled deionized water

4. Blend for 30 seconds on high speed.



5. Transfer sample to a beaker. Read the pH as soon as possible.



6. Add a stir bar to the beaker, turn on the stir plate and place the pH electrode in the sample. Wait for the ready light to come on before recording the pH value.



7. Blender cups, beakers and stir bars can be rinsed in distilled water between samples. The pH electrode should be rinsed with distilled water between each sample and periodically rinsed with acetone from a squeeze bottle to remove fat buildup.

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