

DETERMINATION OF PH IN MEAT



BY

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The pH of muscle tissue is extremely important to meat science since the pH at specific times during the conversion of muscle to meat.

The pH changes for acidity its important for meat hygiene because retarding the growth of bacteria that have contaminated the carcass during slaughter and dressing, necessary to produce meat, which is tasteful and tender and long shelf life. lactic acid is necessary for convert the collagen to the gelatine. The flesh of animals prior to slaughter has a pH value of 7.1. After slaughtering, some of glycogen in the meat turns into lactic acid. As a result, the pH value is lowered,(reach to 6.9 during 2h,and reach to 6 during 24h) .

Glycogen -----pyrovic acid -----Citric acid --
-----Co₂+H₂O(in living animals).

Glycogen ----- pyrovic acid-----lactic acid
(after slaughter)

The increasing acidity of the maturing carcass varies in its speed, depending on a number of factors such as type of animal, breed, rearing characteristics and treatment of the animal when occur stress for animals before slaughter the meat is affected, and some cases occur such as **Dark Firm and Dry meat (DFD)**, the PH reach to (**6.4-6.8**), and **Pale Soft Exudative (PSE)**, meat and PH reach to



Requiarment

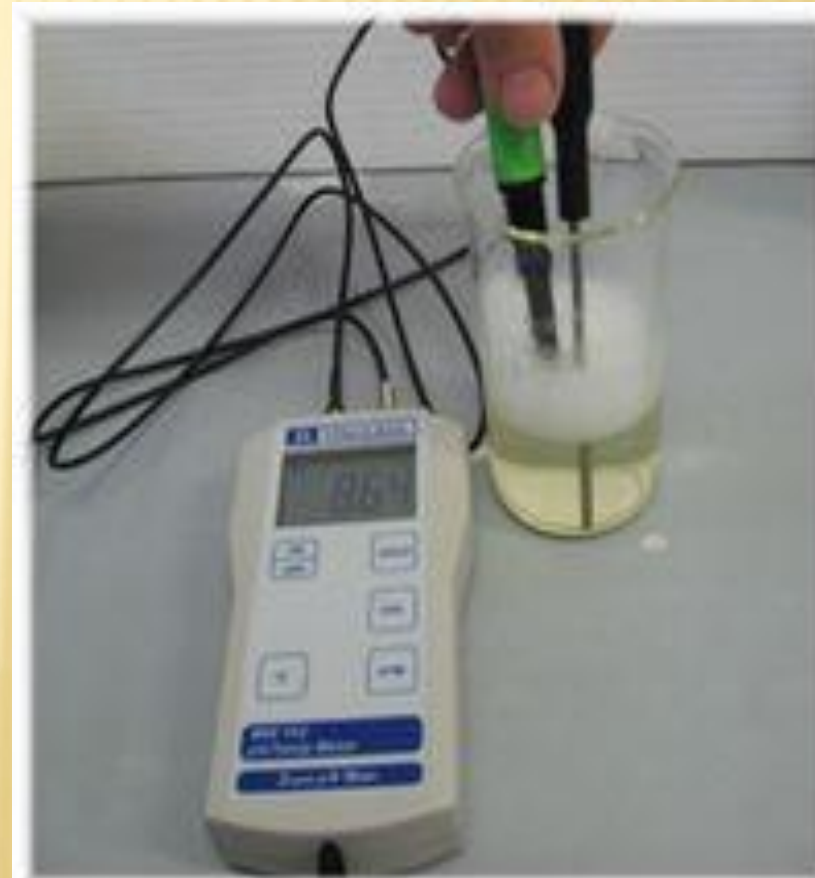
blender cup, flask, digital sensitive balance, minced meat, PH meter

1. Calibrate the pH meter using pH 7 standardization buffers
2. Cut meat sample into small pieces and weight approximatley 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.
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 buildu



B-Measuring PH of meat using Nitrazine-Yellow indicator

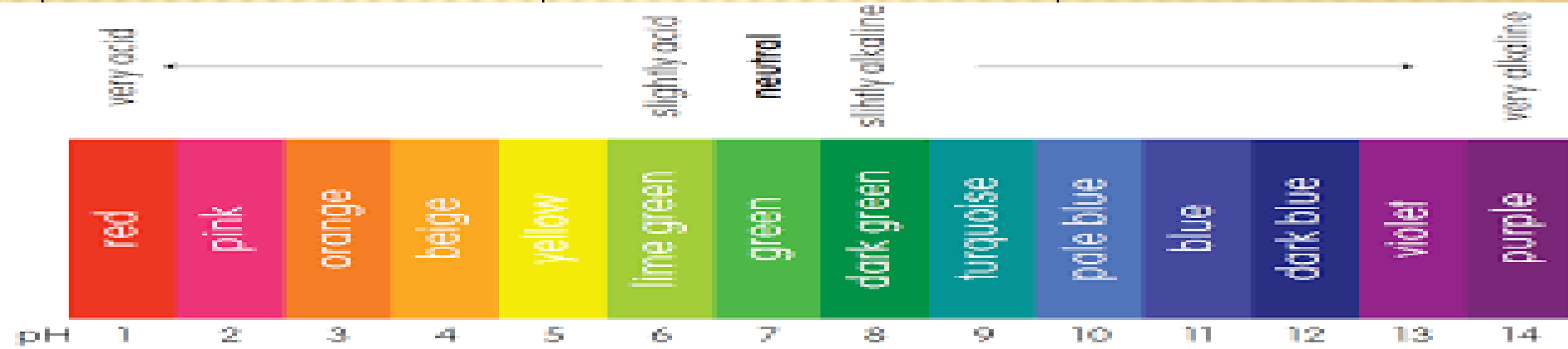
Requirements: Nitrazine-Yellow indicator, glass rod, petri plate



procedure

1. Take a piece of meat (2 gram) free of blood, fat, and connective tissue in a petri dish
 2. Add nitrazine yellow indicator (1:10000) sufficient to cover the meat pice
 3. Mix with glass rod
- Note the colour change with standard chart provided.

PH	Color	Inference
6	Yellow	Good kebinig qaulity
6.4	Olive green	Not having same good keeping (quality)suspect
6.8	Bluish viloate	Suspect on signs of incipient spoilage





THANK
YOU!