Gelatine – gelling

**Objective**

To investigate how different food commodities affect the gelling of gelatine.

**Principles**

Gelatine is widely used by the food industry as gelling agent, stabilizer, thickener or texturizer for food products. It is a mixture of peptides and proteins produced by partial hydrolysis of collagen extracted from the skin, bones, and connective tissues of animals. When the collagen is degraded / tenderized, the gelatine will become runny instead of firm.

**Apparatus and Materials**

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| --- | --- |
| Apparatus | Materials |
| 6 small bowls / beakers  Measuring jugs / cylinders  Weighing scale  Tablespoon  Teaspoon | 120g gelatine powder  1200 ml hot water  4 chunks fresh pineapple  4 chunks canned pineapple or cooked pineapple  25g sugar  25g salt  1 Tablespoon wine |

**Procedures**

1. Prepare 6 portions of standard solution by dissolving 20g gelatine powder in 200 ml hot water.
2. Prepare the samples by adding flavouring to each portion according.
3. Put the samples in the refrigerator until set.
4. Record the firmness of samples.
5. Represent the firmness by using the number of “+”. (max 10 “+”)

|  |  |  |
| --- | --- | --- |
| Sample | Flavouring | Firmness of jelly |
| 1 | nil |  |
| 2 | 4 chunks fresh pineapple |  |
| 3 | 4 chunks canned pineapple |  |
| 4 | 25g sugar |  |
| 5 | 25g salt |  |
| 6 | 1 Tablespoon wine |  |

**Questions for further thoughts**

* Which kinds of food commodities can also degrade collagen?
* Is degradation of collagen bad or good? Why?
* Will these flavourings used to degrade other protein food? How?