Gelation

*Pg 88 Food Tech in Action*

**Gelation is the process of**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**How does the Gelation of Proteins occur?**

**Give 3 examples of foods produced through Protein Gelation**

**List the 3 factors necessary for the formation of these gels**

**Gelation occurs more quickly if both the pH and temperature of the mixture are:**

 (circle the correct answer)

High Medium Low

**What is the difference between Gelation and Gelatinisation? Give examples of foods where these properties occur**

Browning

*Pg 91 Food Tech in Action*

**List the 3 reasons that foods containing**

**protein turn brown**

Oxidative browning of red meat

**Myoglobin and haemoglobin are the proteins that give red meat its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Myoglobin also causes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Complete the table below on the process of oxidative browning by filling in the spaces**

|  |  |  |  |
| --- | --- | --- | --- |
| **Protein** |  | Oxymyoglobin |  |
| **Colour** |  |  | Brown |

**What factors speed up oxidative browning?**

**What can you do to reduce oxidative browning of meat?**

**Would you buy red meat that has turned brown on the surface? Explain why or why not**

Non-enzymic browning of red meat

**What must be applied during non-enzymic browning? \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Is oxygen involved in non-enzymic browning? \_\_\_\_\_\_\_\_\_\_\_\_**

**Explain why when cooking meat it can be brown on the outside and pink on the inside**

**What must happen to meat for it to be described as ‘well done’?**



Maillard reaction

**When does the Maillard reaction take place?**

**What are the main effects the Maillard reaction has on food?**

**Explain why moist-heat cooking methods (steaming, boiling) do not produce the Maillard reaction?**

**What could happen if you stored a food containing both protein and sugar above room temperature?**