Batch and Continuous Processes
Food Manufacturing Case Studies


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Suitable for:
Food Technology  Hospitality

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For Teachers:

Introduction

The aim of a food manufacturing system is to produce food products that are of high quality using the most cost effective methods. There are a number of different food manufacturing systems; Continuous Processing, Batch Processing, Job – Shop Production, Mass Production and One-off production.

This program will examine two of the food manufacturing systems;

1. Continuous Processing which is a highly automated system where products are manufactured from raw materials by a continuous, often 24 hours, seven days a week production system, for example, soft drinks, margarines.

2. Batch Processing, which involves more than a single quantity of one type of product or different types of a product are produced in convenient and varying quantities. For example, in a small bakery.

Program Timeline

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Other Relevant Programs Available from VEA

HACCP in Action - Food Safety Case Studies
Milk Cow – Eat Cheese
Investigating Food Preservation
In Focus: Environmental Issues in Food Production
Seving Up a Healthy Education – Canteen Case Studies

Please visit our website for many more relevant programs www.vea.com.au

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Student Worksheet:

While Viewing the Program

1. What is the aim of a food manufacturing system?

_______________________________________________________________________________
_______________________________________________________________________________

2. List the types of food manufacturing systems.

_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

3. Outline the aims of Pura milk.

_______________________________________________________________________________
_______________________________________________________________________________

4. What is Brunetti’s modelled on?

_______________________________________________________________________________
_______________________________________________________________________________

5. Why is Brunetti’s so successful?

_______________________________________________________________________________
_______________________________________________________________________________

6. Complete the table to compare the aims of Pura milk and Brunetti’s.

<table>
<thead>
<tr>
<th>Pura Milk</th>
<th>Brunetti’s</th>
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</table>
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7. List the features of batch processing.

_______________________________________________________________________________
_______________________________________________________________________________

8. A batch of cakes is relatively _______________________. Typically this includes ____________
    to _______________ units.

Systems

9. Continuous processing is a highly _______________ system where products are manufactured
    from _______________ materials by _______________ of ______ hour, ______ days a week.

10. Explain the term homogenisation

_______________________________________________________________________________
_______________________________________________________________________________

11. Pasteurisation heats milk to _______ degrees Celsius for ________ minutes. This process kills
    harmful _____________________________.

12. True or False: Continuous processing is highly automated.

    True or False

13. Outline production at Brunetti’s.

    _____________________________________________________________________________
    _____________________________________________________________________________

14. Compare the batch and continuous systems at this stage of production.

<table>
<thead>
<tr>
<th>Batch Processing</th>
<th>Continuous Processing</th>
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Labour and Equipment

15. List five pieces of equipment that is required for continuous processing.

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16. Continuous processing involves ______________________________ work.

17. Batch production is ______________________________ on work.

18. Compare and contrast the level of skill required for the two systems

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Set Up Costs

19. List two factors that affect set up costs.

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20. Compare set up costs at both businesses.

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Quality


_______________________________________________________________________________
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22. Milk products require _____________________, not craftsmanship.

23. Compare the finished food product at Pura and Brunetti’s.

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<tr>
<th>Pura Milk</th>
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**After Viewing the Program**

1. **Batch and Continuous**

Compare and contrast the two systems of food processing and develop an exam revision summary sheet of these two systems by completing the tables below.

**Definition**

<table>
<thead>
<tr>
<th>Batch Processing</th>
<th>Continuous Processing</th>
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**Aim**

<table>
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<th>Continuous Processing</th>
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**Systems Required and Employees**

<table>
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Quality of Final Product

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Advantages and Disadvantages

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2. Food Processing - A Flow Chart

Create a flowchart, investigating one key food and the processes that it undergoes during primary and secondary processing from “paddock to plate”.

At each stage outline the type of food processing system that is required.

3. Supermarket Investigation

Visit the supermarket to investigate the food manufacturing system used to produce 20 of the food items that you see on the shelf. Be sure to investigate products from a variety of the departments throughout the supermarket, for example the bakery, deli, frozen foods etc.

Record your data using the references below.

a) Food Product
b) Food Manufacturing System
c) Price of Product
d) Size of Product
e) Quantity on the Shelf
4. **Analyse the data**

   a. Which type of food manufacturing system is most often used for the foods that are purchased from the supermarket? Why do you think this is the case?

   b. Of the products which are produced using the continuous processing method are they in large quantities on the shelf? What does this indicate to you?

   c. List five food items that are in the supermarket that are produced using batch processing. What sort of food items are these?

   d. Which products are more expensive those using the batch of the continuous system? Explain why you believe this is the case.

   e. List five food items produced using the continuous processing method. Are they found in large numbers on the shelf? Why do you think this is the case?
Useful Resources

  Sydney, N.S.W.

  ITDG Publishing

  Dark Horse Productions for Thames Television

  illustrations: John Draper North Sydney: CAFTA.

Website References

- Food Science Australia

- Food Production Daily

- Pura Milk

- Food Standard Australia and New Zealand