

Class : 9th

Chapter : 9

DAIRY INDUSTRY

Exercise Solved

Solved MCQs – Chapter: Dairy Industry

1. What is the main purpose of the dairy industry in Pakistan?

- a) Producing crops
 - b) Raising birds for meat
 - ✓ c) **Producing milk and dairy products**
 - d) Making leather
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2. Which province in Pakistan is the largest producer of milk?

- a) Sindh
 - ✓ b) **Punjab**
 - c) Khyber Pakhtunkhwa
 - d) Balochistan
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3. What is the main cause of milk spoilage during storage?

- a) Lack of sunlight
 - ✓ b) **High temperature**
 - c) Overfeeding animals
 - d) Using glass bottles
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4. Which disease in dairy animals can reduce milk production?

- ✓ a) **Foot-and-mouth disease**
- b) Newcastle disease

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- c) Coccidiosis
 - d) Aspergillosis
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5. What is the purpose of pasteurization in milk processing?

- a) To add flavor to milk
- ✓ **b) To kill harmful bacteria**
- c) To increase fat content
- d) To change milk color

6. Which equipment is used to separate cream from milk?

- a) Milking machine
 - ✓ **b) Cream separator**
 - c) Homogenizer
 - d) Pasteurizer
-

7. What is the main benefit of using modern technology in dairy farming?

- a) Increases manual labor
 - b) Reduces milk production
 - ✓ **c) Improves efficiency and quality**
 - d) Makes animals grow slower
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8. Which dairy product is made by fermenting milk?

- a) Butter
 - b) Cheese
 - ✓ **c) Yogurt**
 - d) Ghee
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9. What is the role of cold chain systems in the dairy industry?

- a) To increase milk spoilage
 - ✓ **b) To keep milk fresh during transport**
 - c) To reduce milk production
 - d) To add water to milk
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10. Which of the following is a value-added dairy product?

- a) Raw milk
 - ✓ **b) Flavored milk**
 - c) Unpasteurized milk
 - d) Spoiled milk
-

 **Solved Short Questions – Dairy Industry**

1. What are the two main types of dairy industries in Pakistan?

- **Traditional (rural) dairy farming**
 - **Commercial (modern) dairy farming**
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2. Name two common diseases that affect dairy animals.

- **Mastitis** (udder infection)
 - **Foot-and-Mouth Disease (FMD)**
-

3. What is the purpose of a cream separator in milk processing?

A cream separator separates **cream (fat)** from **skimmed milk**, allowing efficient processing for making butter or low-fat milk.

4. How does modern technology help in dairy farming?

Modern technology helps by:

- **Automating milking**
 - **Improving animal health monitoring**
 - **Increasing milk yield and hygiene**
 - **Reducing labor and losses**
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5. What are the benefits of value addition in dairy products?

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- **Increases product variety and market value**
- **Extends shelf life**
- **Improves taste, packaging, and consumer appeal**
- **Creates more income and export opportunities**

📖 Long Question 1: Explain the challenges faced by the dairy industry in Pakistan and suggest measures to overcome them.

🐄 Introduction:

The dairy industry in Pakistan is one of the largest in the world in terms of milk production. Despite this, it faces many **challenges** related to production, processing, and distribution, which affect both farmers and consumers.

⚠️ Challenges Faced by the Dairy Industry

1. **Low Milk Yield per Animal:**
 - Poor genetic quality and lack of scientific breeding methods.
2. **Animal Health Issues:**
 - Widespread diseases like mastitis and foot-and-mouth disease.
 - Lack of proper vaccination and veterinary services.
3. **Fodder Shortage:**
 - Seasonal availability and impact of climate change on green fodder.
4. **Lack of Cold Chain & Infrastructure:**
 - No cold storage or transport for milk from farms to cities.
5. **Poor Milk Hygiene & Adulteration:**
 - Use of unclean utensils and water mixing reduces quality.
6. **Lack of Farmer Education:**
 - Limited knowledge of modern feeding, health care, and management.
7. **Low Processing Capacity:**
 - Only 5–6% of milk is processed; rest is sold raw.

✂️ Suggested Measures to Overcome Challenges

1. **Genetic Improvement Programs:**
 - Promote artificial insemination and quality breeding bulls.
2. **Veterinary Services Expansion:**

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- Mobile animal health clinics and vaccination campaigns.
 - 3. **Fodder Development:**
 - Introduce drought-resistant fodder varieties and preserve surplus as silage.
 - 4. **Cold Chain Development:**
 - Establish chilling centers and milk collection points in rural areas.
 - 5. **Strict Quality Control:**
 - Enforce laws against milk adulteration and ensure hygienic handling.
 - 6. **Training & Awareness:**
 - Educate farmers on best practices through extension programs.
 - 7. **Public-Private Partnership:**
 - Involve dairy companies and NGOs in improving infrastructure.
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✓ Conclusion:

With the right investments in **animal health, education, and processing**, Pakistan's dairy industry can reach its full potential — ensuring better income for farmers and quality milk for consumers.

📖 Long Question 2: Describe the role of modern technology in improving milk production and processing in the dairy sector.

🔑 Role of Modern Technology in Dairy Farming

🐄 1. Milk Production

- **Automatic Milking Machines:**
Ensure quick, hygienic milking and reduce labor.
- **Feeding Technology:**
Balanced rations using mixers improve animal health and milk output.
- **Animal Health Monitoring:**
Digital sensors track animal activity, temperature, and disease signs.
- **Genetic Improvement:**
Artificial Insemination and Embryo Transfer improve breed quality.
- **Mobile Apps:**
Provide farmers with alerts, feeding tips, and market prices.

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❑ 2. Milk Processing

- **Pasteurizers:**
Kill harmful bacteria and increase shelf life.
 - **Homogenizers:**
Ensure uniform milk texture and fat distribution.
 - **Cream Separators:**
Separate cream from milk to produce low-fat products.
 - **Packaging Machines:**
Produce hygienic, tamper-proof milk pouches or bottles.
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✳❑ 3. Cold Chain Systems

- Chillers and refrigerated transport maintain milk freshness during transport from farms to cities.
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✓✓ Conclusion:

Modern technology makes dairy farming more **productive, hygienic, and profitable**. It ensures better animal care, higher milk quality, and trust among consumers.

❑ Long Question 3: Discuss the importance of proper packaging and value addition in dairy products. How do they benefit farmers and consumers?

📦 Importance of Packaging

1. **Protection from Contamination:**
 - Prevents exposure to dust, bacteria, and adulteration.
2. **Extended Shelf Life:**
 - Airtight and refrigerated packaging preserves milk quality.
3. **Easy Transportation:**
 - Packaged products are easier to store, carry, and distribute.
4. **Consumer Trust:**
 - Labeling builds confidence in product quality, expiry, and nutrition.

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Importance of Value Addition

1. **Product Variety:**
 - Converts raw milk into butter, yogurt, cheese, ghee, and flavored milk.
 2. **Higher Income for Farmers:**
 - Value-added products fetch better prices than raw milk.
 3. **Employment Generation:**
 - Involves processing, marketing, and packaging jobs.
 4. **Market Expansion:**
 - Packaged products can reach supermarkets and export markets.
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Benefits for Farmers:

- Better profits
 - Year-round sales (due to extended shelf life)
 - Opportunity to brand and market own dairy items
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Benefits for Consumers:

- Safe, nutritious milk and dairy items
 - Availability of low-fat and flavored options
 - Assurance of hygiene and expiry dates
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Conclusion:

Packaging and value addition are vital for modernizing the dairy sector. They reduce wastage, improve income, and provide **safe, convenient, and healthy options** to consumers.

Inquisitive Question:

Why is only 5% of Pakistan's milk processed and packaged, while the rest is sold raw? What can be done to increase the share of processed milk?

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△ Reasons for Low Milk Processing in Pakistan

1. **Lack of Cold Storage Infrastructure:**
 - Most milk is spoiled due to heat and poor handling.
 2. **Limited Access to Chilling Units:**
 - Small farmers cannot afford or access chilling facilities.
 3. **Traditional Practices:**
 - Many consumers prefer raw milk due to habit and price.
 4. **Unorganized Supply Chains:**
 - Milkmen (dodhis) dominate rural milk collection without hygiene controls.
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✂ How to Increase Processed Milk Share

1. **Build Chilling Centers in Rural Areas**
 - Enable farmers to safely store milk before transport.
 2. **Farmer Cooperatives:**
 - Organize small farmers into groups for collective selling to dairy processors.
 3. **Awareness Campaigns:**
 - Educate the public on the health risks of raw milk.
 4. **Public-Private Partnership:**
 - Encourage investment in rural processing units and packaging.
 5. **Government Incentives:**
 - Provide subsidies and tax benefits to milk processors.
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✓ Conclusion:

To improve **health, quality, and farmer income**, Pakistan must shift from raw to processed milk. This requires investment, education, and **strong collaboration between farmers, processors, and the government**.

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