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Development and presentation of layout

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Outline

- Introduction
- Office layouts and their linking with dairy plants
- Material Handling
- Preparation of detail layout with model planning
- Common problem
- Concept of Integrated Project Engineering methods



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Introduction

Office layout and their linking with dairy plants

Material handling systems for dairy plant



Fig. 23.1 Concept of material handling in the dairy plant



Types of Dairies



(a) Al-Milk Cans



(b) S S Milk Cans



(c) Plastic Milk Cans

Fig. 23.2 Milk Cans



(a) Chain Conveyor



(b) Belt Conveyor



(c) Screw Conveyor

Fig. 23.3 Conveyors for dairy plant



Fig. 23.5 Storage tanks for milk



Fig. 23.6 Milk Silo



Fig. 23.7 Trucks handling milk cans



Fig. 23.8 Road milk tanker



Fig. 23.9 Pallet for racking and stacking



Preparation of detail layout with model planning

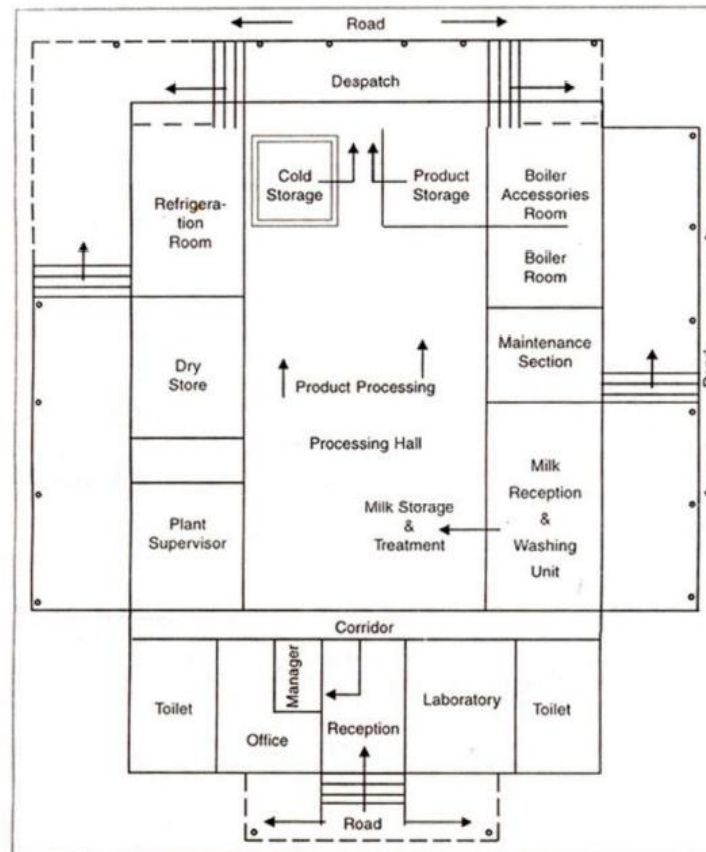


Fig. 24.1 Concept for layout of dairy plant



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Concept of Integrated Project Engineering Methods (IPEM)

A systematic approach to the planning of dairy plant is needed to guarantee their economic operations, which

exists in future are successfully predicted. An Integrated Project Engineering Methods (IPEM) has been

developed for this purpose, which is based on

(i) Optimization of processing in sequence

(ii) Maintaining the food safety and hygienic requirement

(iii) Optimization of plant design using complex optimization or technical process together with auxiliary plant,

and

(iv) Introducing automation, process control, and on- line measurements



Advantages of a good plant layout

1. A good layout reduces
 - a. the effort in normal material handling of a worker
 - b. cost of handling by direct labor and hence increased productivity per man hour and
 - c. indirect manufacturing cost by decreasing spoilage under difficult handling situation
2. It uses only essential space required and eliminate congestion and accident, permits flexibility for methods improvement and future expansion besides making supervision easier.
3. It also facilitates scheduling and despatching operation.



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Thank you