



Relocation and Expansion Planning for Dairy Producers

J.F. Smith

Department of Animal Sciences and Industry
Kansas State University

J.P. Harner III

Department of Biological and Agricultural Engineering
Kansas State University

M.J. Brouk

Department of Animal Sciences and Industry
Kansas State University

D.V. Armstrong

Department of Animal Sciences
University of Arizona

M.J. Gamroth

Department of Animal Sciences
Oregon State University

M.J. Meyer

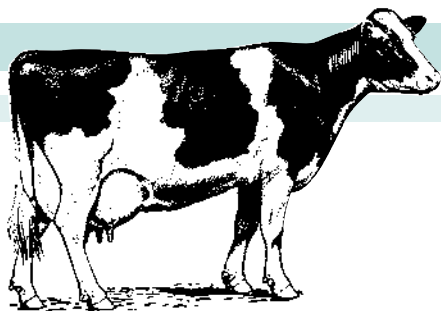
Department of Animal Sciences and Industry
Kansas State University

Gene Boomer

Greg Bethard

Dana Putnam

Monsanto Dairy Business



Relocating or expanding a dairy facility is a process that requires a tremendous amount of time and planning. Owners or managers of dairies will go through a number of steps including:

- *Developing a Business Plan*
- *Financing*
- *Design Process*
- *Developing Specifications*
- *Selecting Location/Site*
- *Permitting/Legal*
- *Obtaining Bids*
- *Selecting Contractors*
- *Purchasing Feeds*
- *Managing Construction*
- *Buying Cattle*
- *Hiring and Training Employees*
- *Developing Management Protocols for the Dairy*
- *Information Flow*

This publication will discuss designing and locating a dairy facility to maximize labor efficiency and cow performance.

The dairy can be divided into six components: (1) milking parlor; (2) cow housing; (3) special needs facility (hospital, closeups, etc.); (4) replacement heifer housing; (5) manure management system and; (6) feed center. This publication will focus on milking parlors, cow housing, grouping strategies, and site selection.

Design-Build Concept

Many owners and managers who have made the decision to expand prefer to use the design-build concept, or a design team. This concept specifies that management employs a design consultant to work with the management specialist in developing a basic dairy design and program plan to meet the client's needs. The design team consists of a consulting engineer and supporting dairy management specialists. Dairy management specialists could

include dairy extension faculty, financial advisors, nutritionists, milking equipment manufacturers and veterinarians. This team approach is an efficient way to integrate desired management into physical facilities (Bugger et al., 1994, Welchert et al., 1994).

Options for the Milking Parlor

Evaluating Parlor Performance

Milking parlor performance has been evaluated by time and motion studies (Armstrong et al., 1986) to measure steady-state throughput (cows per hour). Steady-state throughput does not include time needed for cleaning the milking system, maintenance of equipment, effects of group changing, and milking the hospital strings. These studies also allow us to look at the effect of different management variables, including milking interval,