

Dairy Facility Issues to Consider When Expanding

J.F. Smith

Department of Animal Sciences and Industry, Kansas State University

135 Call Hall, Manhattan, KS 66506-1600

Tel 785-532-1203; fax 785-532-5681

jfsmith@oznet.ksu.edu.

Dairy facilities can have a dramatic impact on milk production and cow health. Over the years field observations and results from research trials have been used to improve dairy facilities. In the United States producers try to minimize facility cost while trying to maximize milk production per cow, reproductive efficiency, and cow health. Producers often use employees to operate their milking parlors as many hours as possible reducing their fixed cost per cow. Under these conditions producers have to be extremely careful where they invest dollars into dairy facilities. Dairy facilities can have a dramatic impact on milk production and cow health. All components of the dairy must be sized correctly to create an environment that is ideal for the dairy cow and the employees who will operate the facility. Milking facilities should be constructed to minimize heat stress and time cows are away from feed and water. Minimizing travel distances to the milking parlor are essential. A number of critical decisions have to be made concerning cow housing and grouping strategies. The goal should be to have the number of groups needed to implement the management and feeding strategies the producer wishes to use. Often bottlenecks are built into a dairy facility that prevents use of some feeding and management techniques. Dairy facilities should be designed to maximize dry matter intake and minimize heat stress. Providing cow cooling in the holding pen and cow housing areas is essential. The most common problem is that time is not taken to develop a business plan and facility plan. It is essential that dairy producers take a team approach when designing dairy facilities. Team members may include key employees, nutritionists, veterinarians, engineers, extension specialist, equipment manufactures, contractors, financial advisors, etc. Many times facilities are designed and built that don't match up with the management strategies of the dairy producer or the climate where the dairy will be built. Producers will have to live with these mistakes for many years. It is important that the different components of the dairy facility compliment each other and match up with the climate where the dairy will be built. Listed below are a few of the issues and decisions that dairy producers will have to make.

- **Milking management and parlor size**

- Will you milk 2X, 3X or 4X?
 - Do you wish to Increase milking frequency in early lactation?
- How much time will pre-milking hygiene require?
- How many operators will be used in the parlor?
- What automation will be installed and how will it be used?
 - Electronic ID, milk meters, detachers, sort gates, etc.
- Will a hospital parlor be used?
- Has a time budget been developed to size the parlor?

- **Group and parlor size**
 - Does the group size and parlor size match up?
 - Minimize time cows are away from feed & water
 - Not more than 4 hours per day

- **Group size and travel lane width**
 - Have to be able to move cows to and from the parlor quickly

- **Grouping strategies and special needs facilities**
 - Critical through the transition period
 - Encourage dry matter intake
 - Don't over crowd
 - Special needs facilities have to be sized to accommodate fluctuations in the number of cows calving
 - Do the number and size of pens match up with the management strategies?

- **Cow housing**
 - Freestalls vs. Dry-lots?
 - Does the type of housing match up with the climate?
 - If freestalls are the choice
 - Type of bedding?
 - If sand is the choice, is the manure management system compatible?
 - Which configuration, 2, 3, 4 or 6 row?
 - Is there enough bunk space to use lockups?

- **Cow handling system**
 - Lockups vs. sort gates?
 - If the choice is lockups do you have adequate bunk space?

- **Heat stress management**
 - Cool the cow or cool the air?
 - Combination systems?
 - Does the system match up with the climate?