

## PROFIT SEMINARS

By Sam Steinberg

# Thinking about building a barn?

A new barn can be constructed for many reasons: to increase herd size, improve labor efficiency, improve cow comfort, or increase production and/or profitability. Many dairy facilities in the Northeast are built on existing farmsteads, rather than greenfield sites. With proper planning, different options can be explored, and a design that works best to efficiently mesh an existing farmstead with the long-term goals of the operation can be attained. Many factors should be considered when planning for a new dairy housing facility, whether it is for newborn calves, dry cows or lactating cows.

## Planning team

It is important to assemble a planning team early in the design process. Along with business partners and family members, the planning team could also include trusted consultants such as a veterinarian, nutritionist, agricultural engineer, local Extension educator, and the farm's loan officer or business advisor. These team members can bring valuable insights from what they have seen on other dairies. Key employees, like a herd manager or other people who will work in the new facility, could also be included. They don't have to be involved with every step, but should at least be given a chance to review plans and add their opinions. Giving

## General considerations for planning and designing a new dairy facility.

employees this opportunity can lead to the design of a more efficient facility and can help reinforce that they are valued team members.

## Farmstead layout

An essential tool that should be used during the planning process is a master farmstead layout. This will help the team look at the space available on the farm and identify how this may affect the long-term vision and goals of the business. An agricul-

tural engineer or another capable consultant may be able to draw this using computer software. If site surveys have been conducted, elevations can be included on the drawing, along with existing manure system design specifications.

The farmstead layout does not need to be fancy. It can be as simple as printing an aerial image from Google Earth and marking current facilities and some of the future options. Relative distances can be easily estimated with a measuring wheel and added to the drawing. It is always good to think about how a new structure will affect the future layout of the site. For example, if a new calf barn is being considered, multiple locations on the farm could potentially work well. If a new milking parlor is also a possibility within the next few years, fewer optimal locations may be available. With a farmstead layout the impact of current facility plans can be seen and reviewed

to guarantee that real estate is available for future projects.

## Site selection

Many questions need to be answered when siting a new barn. Some key items that should be reviewed include:

- What are the local zoning laws and setback distances required from roads, property boundaries, wells, and natural features, such as streams?
- What are the prevailing summer and winter wind directions?
- How much distance is available from existing structures to maximize natural ventilation?
- What local fire department, insurance company, building codes (if applicable), or other building spacing requirements apply?
- What type of soil is present at the prospective site and how will this affect drainage?
- What is the existing slope of the site? Will cut or fill material be needed to attain

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*Diligent planning can help ensure that a new barn is an intelligent investment.*

# THE MANAGER

## Thinking about building a barn? *continued from page 23*

the appropriate grade?

- What are the flow patterns if cows will move to and from the facility every day? What type of driveway or walkway will be required to handle vehicle and animal traffic?

- What are the overall farmstead air flow patterns? How will this barn affect odors experienced by neighbors? Will this barn contribute to the aerosol transfer of manure pathogens or disease from older animals to younger or other more susceptible animals?

- Where are the current power and water lines in relation to the proposed facility? What is the capacity of these lines compared to future farm plans?

### Working with a contractor

Many aspects of dairy facility construction projects, such as concrete and electrical work, and milking system and barn equipment installation, can be handled by subcontractors. Having a good general contractor oversee the project can alleviate stress and ensure that all of the components in the barn project are built to the farm owners' expectations. When working with a new contractor ask for references of other similar barns they have built. Try to visit some of these farms. How do the structures look? Talk to the owners and ask how the contractor was to work with? Is there anything they would change in their designs?

Another thing to consider when working with a contractor is the

preparation of specifications for the design. This should be a signed contract between the farm owners and the contractor that outlines materials and quality of the finished structure. This contract can also specify a start and finish timeline for the project. Barns can represent a significant financial investment. Having specifications written and agreed upon before construction begins ensures that expectations are outlined and that the farm owners get what they are paying for.

Some people act as their own general contractor. This can save some cost if the person has extra time to devote to this task. Some people can successfully handle this, but most dairymen do not typically have a lot of extra time available. With larger construction projects, many tasks, including coordinating subcontractors, need to be accomplished. When thinking about self contracting, the true cost of time and focus away from the dairy operation needs to be considered. Generally, the added cost of having an outside contractor handle the project is worth it.

### Conclusion

Long-term planning isn't always a fun exercise, but it is vital to the survival of a dairy business. With proper planning a new facility can be a smart investment that provides a comfortable, efficient, productive and profitable environment for animals and employees. □

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## Understanding net milk income over feed costs *continued from page 22*

get started and other resources are under the "Help" tab.

Strong operating performance is a key to profitability on dairy farms. Measuring and monitoring NMIOFC per cow is important to

determine whether the feeding program is improving over time on the farm. □

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Figure 2. Relationship between pounds of butterfat and protein per cow per day and Net Milk Income over Total Feed Costs.

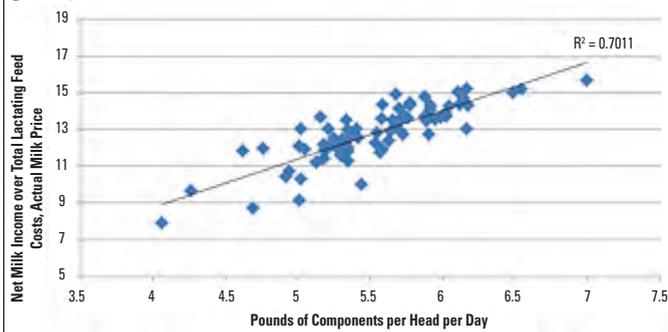


Figure 3. Relationship between feed conversion (pounds of energy corrected milk per pound of dry matter fed) and Net Milk Income over Total Feed Costs.

