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Lighten Up!
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LIGHT IT UP

With energy prices on the rise, it makes sense to take a fresh look at how you light your barn.

BY AUBREY PAVIA

Walking into a well-lit barn is a wonderful experience. The mood is light, the horses are content and the workspaces are easy to see. But this effect doesn't just happen by itself. You need to carefully plan your barn's lighting to achieve that bright, comfortable atmosphere.

You can provide good lighting for your barn in two ways. First, you can go with a barn design that lends itself to adequate natural light. Or, if your barn is already built, you can change your lighting style and fixtures to make the most of what good man-made lighting has to offer.

CHOOSING NATURE

The most important type of light you can provide in your barn is natural light. Not only is it cost efficient, it's the most pleasant kind of lighting for both you and your horses.

"For the past 25 years, we have stressed the importance of natural light whenever possible in lieu of man-made electric lights of whatever type and design," says John Blackburn with Blackburn Architects, a Washington, D.C., firm specializing in equestrian architecture. "Natural lighting is far superior to electric lights for the quality of the light, and for its impact on the health and safety of the horse. It's also important for energy concerns, which have recently become much more of an issue for owners than in the past."

Blackburn points out that unfiltered natural light provides vitamin D, which is good for the horse's coat. It allows horses a more natural existence as well. "The horse is intended to live in the outdoors, and as soon as you bring it indoors, you are asking for trouble," he says. "Therefore, a barn should be designed for the health and safety of the animal. The owner has to manipulate the horse's environment to protect his health and safety. Lighting is just one of those elements, and a major one at that."

The best way to utilize natural light in your barn is to take advantage of sunlight wherever you can. One way you can do this is by using

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translucent materials instead of solid paneling wherever possible.

"Natural lighting is a pleasure, and with various clear panel products available, there's no reason not to design or retrofit your walls and roof with sections of clear or lightly shaded material," says Nancy Ambrosiano of Los Alamos, N.M., author of *Complete Plans for Building Horse Barns Big & Small* (Breakthrough Publications).

Whether you add acrylic panels to the upper part of your barn's aisle doors, run a section along all the walls under the eaves, or add transparent roofing options such as skylights, you will decrease the amount of artificial lighting you need except on the cloudiest days, says Ambrosiano.

Natural lighting can have one downfall, however. Remember that with natural light, heat buildup can be an issue in many climates.

"Be prepared to either have shades or shutters you can close against the hot sun, or place your light panels where they will be under shade during the most intense parts of the afternoon or morning," says Ambrosiano. "Midday is less of an issue for wall-mounted panels and windows, but that's when your skylights will take the brunt of the rays."

Panels made from polycarbonate, a plastic material often used with metal roofing, is a good choice for creating natural lighting, according to Randy Kear of Randy Kear Barn and Pole Construction in Maple Valley, Wash.

"These panels are very tough and resistant to UV rays so they won't cloud up and become brittle," he says. "They are also clear so that they allow

direct sunlight into the building."

Kear notes that the downside to these panels is that they can make bright spots on the floor, which may prove distracting to younger horses in training.

GOOD PLANNING

Although experts in barn lighting recommend that barn owners use as much natural light as possible, they recognize electric lighting is also essential.

Ambrosiano says that owners sometimes plan barn lighting poorly, ending up with shadows throughout the workspace. "Planning for barn lighting is different from regular work-surface lighting, since you have a big, equine body in the way of things," she says. Lighting straight down from above is blocked by the horse's torso, throwing the stall floor and the horse's legs and feet into shadow. "Rather than centering a fluorescent fixture over the middle of the stall or grooming area, place lighting at the corners or wall edges, shining inward to light lower-leg focus areas," she says. "A farrier, for example, is going to benefit far more from lighting that comes in from the side."

When considering the type of electrical lighting you will provide in your barn, Blackburn suggests looking closely at the different types of bulbs available on the market.

"Incandescent, halogen, energy efficient compact fluorescent, fluorescent tubes, metal halide, and mercury vapor are the types we are most familiar with, and each has its advantages and disadvantages or preferred use," he says. "We use compact flu-



Photo by Maxwell MacKenzie

Each stall in this barn, designed by Blackburn Architects, takes advantage of natural light with windows and doors.

orescent wherever we can, and sometimes use incandescent or low voltage halogen in more of the 'people' spaces, such as offices, tack rooms, work rooms and bathrooms."

In stalls, Blackburn typically uses a tube fluorescent, with or without a cold-weather ballast. He provides one of these lights along each side of the stall to provide a good distribution of light to all corners for good visibility. "The one thing you want to avoid is shadows in the stall," he says, echoing Ambrosiano. "The reason for this becomes apparent if a horse is down and you or the vet are trying to examine it."

In barn aisles, Blackburn uses either compact fluorescent, metal halide, or halogen fixtures depending on the design, style, location or barn use. "We rarely use mercury vapor and metal halide in barns because of their start-up and cool down time," he says. "They are more frequently used in arenas."

SAVING ENERGY

Besides using as much natural light as possible, barn owners can use different methods to help save on energy costs. "Have both work-focused and general 'walk around' lighting lev-

els," says Ambrosiano. "You might turn on the walk-around lights when you enter the barn, with simple fluorescent fixtures that are just bright enough to light walkways and allow feeding and watering. Then, when you need to get serious about grooming, stall cleaning, tack cleaning and the like, you would have the task lighting available to be sure you can see clearly enough to get the job done right."

Blackburn points out that new technology in barn lighting is geared toward conserving energy, and is the wave of the future. "Energy efficient light bulbs are probably the most recent technological improvements in barn lighting," he says. "The use of high efficiency compact fluorescent lighting to conserve energy has become more popular in recent years."

Compact fluorescent light bulbs and alternative sources of electric power such as solar power and wind are also options for barn owners, according to Blackburn. "Though virtually everyone is asking to include sustainable design elements and sources of renewable energy into their farm projects, at this point, few have actually gone beyond that and invested in the new technology other

than compact florescent bulbs," he says. "We are designing for the future addition of photovoltaic (solar) electrical power generation in a number of our projects, but it is more often being deferred until the cost benefit is more competitive."

Blackburn notes that time will arrive soon, and so encourages all his clients to design for it now. "There are a lot of opportunities for photovoltaic and wind generation in horse farm design because of large roof areas and rural locations that are open to wind and sun," he says. "We are planning for them now."

Motion sensors and light timers are also great energy saving devices, says Blackburn. "Our clients use them frequently, especially in interior rooms such as tool or feed rooms or bathrooms and office areas where lights could easily be left on," he says. But it's important to place these sensors carefully, or else the motion of animals could cause them to activate when not intended.

Nothing beats Mother Nature for lighting up a room. Use of natural light, along with ensuring that reliance on energy-using systems is as efficient as possible, can significantly cut energy costs. [sm]