



► John Ray's facilities at Rockin' R Ranch, Lebanon, Tenn., are attractive as well as safe and functional.

Custom Facilities

First-class facilities are a good investment.

Story & photos by **Becky Mills**

John Ray is not hard-pressed to justify the time and dollars he's spent on his working facilities. "Safety is our first priority," says the Lebanon, Tenn., Angus breeder. "It is paramount." Good facilities protect the people and the animals.

"Second, our vets obviously like our facilities," he continues. "It helps with the herd health work."

Ray didn't forget himself, either. "Third, it makes life easier. It saves my back and wear and tear on me. That's one of the reasons I've done things this way."

Ray and former employee Bruce Savage spent hours studying plans from the University of Tennessee, University of Kentucky and Texas A&M University. Then, they made a sketch of what they selected from those designs and sent it to their

selected manufacturer. The manufacturer in return made gates and chutes to fit their needs at Rockin' R Ranch.

Solid footing

Ray set the whole system on a solid foundation. Grooved concrete was his flooring of choice. "We did that so the animals wouldn't slip and fall," he says.

However, on the additional outside pens, he has switched to brushed concrete. "The groove was too deep and is more likely to have manure collect in it. I believe in sanitary conditions, and we have it sealed so we can wash it, but we have to pressure wash it after each use." He also says, "The floor needs to be sloped so water will flow off of it. Mine doesn't do that as well as it should."

The brushed is just as safe, he says, and is

rough enough to prevent slippage.

Oklahoma State University ag engineer Ray Huhnke agrees. "In most cases, it is desirable to have brushed concrete to ensure good footing and good drainage. If concrete isn't used, either because of expense or because the facility may be modified, well-drained sand is the next best option. It provides good footing, but doesn't hold water."

Space options

Huhnke also agrees with Ray's decision to include four 16-foot (ft.) by 20-ft. pens in the facility.

"I'd rather have several smaller pens than one large one," Huhnke says. "In the facilities we design, we have at least two pens and often more than four, depending on the number of head worked at one time. You have much more flexibility with a few more pens." He recommends providing at least 20 square (sq.) ft. per cow.

Ray says this is an especially important feature when they are doing embryo transfer (ET) work and need to sort the animals into different pastures. He says the pens are also valuable when they are weaning.

"Each pen opens into the alleyway. We also have double gates on the outside of each pen that open into the pasture. We feed the cattle in the pens so they will come into the system," he says, adding each pen will hold six to eight mature cows.

"The smaller pens can also address a safety issue," Huhnke adds. "It is safer for the animals and [for] workers to work a smaller number of animals at one time."

Following through

The sweep tub, or curved tub, feeding into the working alley is another plus for Ray's facility. "We emphasize the use of a tub in a working facility," Huhnke says. "When cattle work through a circular chute area, they can't see what is ahead of them. That is always desirable."

Ray did have one learning experience



► Ray and a former employee sketched a design and sent it to their manufacturer, who then made gates and chutes to fit their needs.



► Ray is using an intensive ET program to build a quality herd.

with the tub, though. At first, one of the panels leading into the tub was offset slightly, giving cattle a place to bunch up. Now he has modified the panels so they go straight into the tub.

The tub and panels leading into the squeeze chute have solid sides, another key feature. "Once again, those prevent the cattle from seeing what is ahead of them," Huhnke says. They ease cattle movement, as cattle follow the animal in front of them.

The ag engineer also says solid panels cut down on shadows, which can cause cattle to balk.

The panels lead to a palpation cage, almost a necessity because of the amount of artificial insemination (AI) and ET work Ray does on his operation. "We've only been in the Angus business for three years, but we're in a hurry to accomplish our goals," he notes.

Next is the squeeze chute and headgate, which are adjustable for the size of the animal. The squeeze chute is manual but is fitted with a set of electronic scales.

From the squeeze chute, the animals can be funneled into one of the smaller pens. If Ray is shipping animals, he can bypass the squeeze chute altogether and move the cattle into the loading chute, designed for step-up trailers. However, if he is loading a semi, he has an adjustable loading chute on wheels, which can be moved out of the way when it isn't needed.

Quiet time

Noise, or lack of it, is another feature of Ray's facility. He drilled holes in the concrete to anchor the system. He learned this lesson when he renovated an older barn at his donor cow operation and put the pens and chutes on a dirt floor.

"It is so much better to have the pens stationary. The pens make a lot of noise when they move. It frightens the cattle. You can take a good cow and ruin her if you frighten her," he says.

Huhnke emphasizes that noise can cause animals to balk and cautions producers to use their own sense of hearing when evaluating their facilities. "Metal buildings creak when the wind is blowing. Metal hitting metal causes noise. Echoes can cause concern or alarm in cattle."

Ventilation is another must in a working facility. Huhnke says, "Smells, such as those from hot-iron branding, can cause alarm in cattle."

In Ray's facility, ventilation is no problem because it is open-sided. However, he says he would raise the roof height from 10 ft. to 11 ft. or 12 ft. if he had it to do over. "The roof isn't high enough. We can't store the portable loading chute under it," he says.

Even with his time and dollar expenditures and the features he would like to modify, Ray still says, "It is worth the investment — absolutely."



► Ray insists on safe working facilities for his cattle and his workers.

Editor's Note: For more information on designing and building working facilities, a copy of *Modern Corral Design* can be purchased from the Oklahoma State University Agricultural Engineering Department for \$7. Send order and payment to: PBIS, Biosystems & Agricultural Engineering Department, Oklahoma State University, 214 Agriculture Hall, Stillwater, OK 74078-6021; or visit <http://biosystems.okstate.edu/pbis>.

Fig. 1: Illustration of working facility

