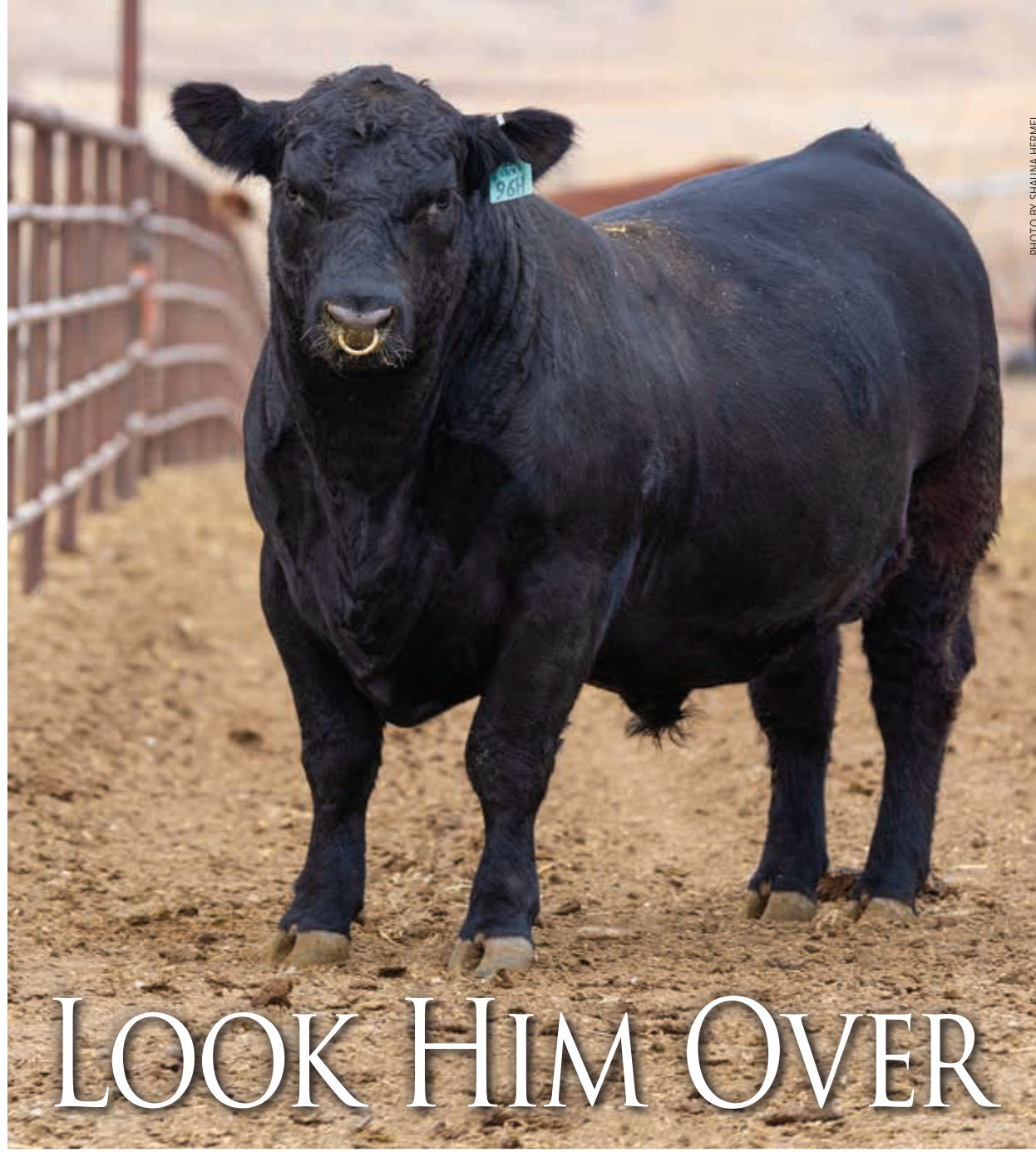


PHOTO BY SHAUNA HERMEL



LOOK HIM OVER

Visual appraisal is still important in bull selection.

by Shauna Hermel, editor

Whether talking flowers, corn or bulls, the foundation of genetic progress starts with phenotype, says Alex Tolbert, American Angus Association regional manager serving Kentucky, Tennessee and Ohio. “[Selection] started with phenotype a long time ago, trying to put weight in the right places in terms of marketing beef, having the right body capacity for the female to make it on grass. Those kinds of things are the foundation of what we do.”

Time and technology have allowed cattlemen to consider additional, more objective information in the selection process — pedigrees, then expected progeny differences (EPDs) and genomic profiles.

“Those are all tools that we have to use that are at our disposal to

make progress for our own herds,” Tolbert says. “You’ve got to prioritize those, but to forget one can be detrimental, and phenotype is so, so important.”

Tolbert likens the pedigree and performance data to a bull’s résumé, which definitely needs to be considered. Still, you want to do

a personal interview to make sure that bull can do his job — to see the things we can’t see on paper.

So what do you look for in the live animal?

Getting started

When selecting a bull to use on a commercial cow herd, it’s important to know what your herd’s goals are, says Chris Cassady, livestock judging coach at Iowa State University.

“Selection for a bull is not necessarily a one-size-fits-all kind of endeavor,” he says.

Your environment and how you’re planning to market the offspring play a big role in what

you should emphasize in selection — and that’s true from a data and a phenotype standpoint.

Second, you need to know what you already have.

“Get a good idea of what your cow base looks like, where they can be improved,” Cassady says, as well as what they’re good at. “Find the bulls that can complement those things.”

That said, there are certain traits that are pretty universal, he says, and structure is one of them. Whether you’re managing 500 cows or 25, structural soundness, especially foot quality, is of utmost importance because it enables him to do his job — and for a long time.

“The Number 1 objective for that bull is to get those cows and heifers bred,” says Cassady, encouraging bull buyers to focus on foot shape and quality, structural integrity, testicle size, practicality and doability.

Filling their tracks

One of the ways to evaluate structure is to watch whether, when a bull walks, he sets his back foot in the hoofprint left by his front foot.

“We talk about cattle that fill their track,” says Bain Wilson, livestock judging coach at the Ohio State University.

Cattle that have good flexibility and that are right in their joints will definitely fill their track. Others not so flexible will be short-strided — their back foot placement falling short of their front hoofprint.

“We need to break it down maybe a little bit further from that,” he adds, because even if they do fill their track, there could be structural issues — such as a bull too tightly muscled — but it’s less likely.

Depth of heel can play a part in a bull’s long-term soundness, says Wilson. Visualizing how a bull puts weight down on his hoof, those that are shallow-heeled tend to rock back a bit and tend to be a little rounder out of their hip.

“Really, they’re not maybe

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putting as much pressure on the front part of that hoof,” he adds. They don’t wear the hoof evenly, and get longer-toed over time.

“When we think about evaluating pasterns in bulls, I’ve never pulled a protractor out and measured them, but we tell our kids we want a 45° angle,” Wilson says. “We want some cushion there. We don’t want them too upright and straight in those pasterns. That creates a lot of pressure on that joint. We don’t want them just extremely long and weak-pasterned, either.”

Bulls with weak pasterns are more likely to break down structurally with time, he adds.

“How much cushion they have to their pasterns is directly correlated to how they are in their hock, and those problems can feed up through their hip and their spine,” Wilson observes. “A lot of it starts at the ground. If they’re not right at their pasterns, we have bigger issues up top.”

Cassady agrees. When he advises students and fellow breeders how to evaluate a bull, he tells them to start at the ground with hoof size and shape.

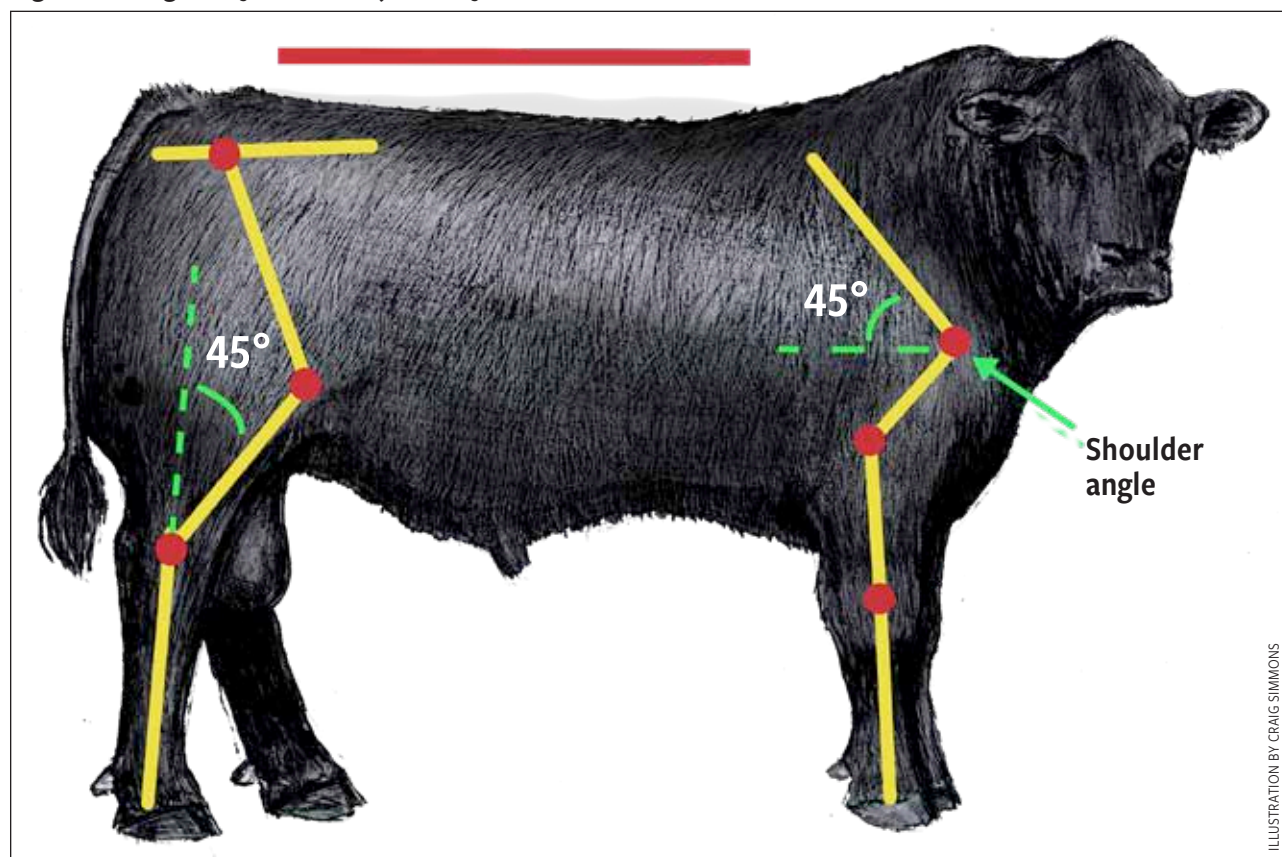
Foot size, he says, correlates to growth and performance, but the two don’t necessarily go together.

Look at that area from the bottom of the dewclaw to the ground, where the heel sets, he recommends. They should have adequate heel.

The American Angus Association offers illustrations of claw shape and pastern set (see Fig. 2) to help members submit data for national cattle evaluation. Those data are used to calculate the Association’s claw and foot angle EPDs.

While the EPD provides a prediction of what the bull will propagate, you need to look at the bull himself to evaluate whether he has the structure to last in your

Fig. 1: The angularity of a bull’s joints lays the basis for structural correctness



herd, Tolbert recommends.

If you don’t like a bull’s feet or structure, don’t go any further, advises Levi Landers, Association regional manager for Nebraska and Colorado. “I always remind myself that a bull travels twice as far and eats half as much during breeding season. Feet, structural

correctness and fleshing ability are a must — without sacrificing performance.”

Shoulder

“When we look at shoulder structure of the animal, we talk about wanting a 45° angle there (see Fig. 1),” says Wilson.

Animals that are too straight in their shoulder will wear on the joints, which will decrease the animal’s mobility.

These cattle tend to be shorter-strided and lower in their head carriage, he adds. More uncomfortable in their structure, they tend to hang back in a group. That decreases feed intake and productivity, and it could make a bull less likely to do his job.

A bold and open shoulder could forewarn of calving difficulty, he adds, while a more correct, flatter shoulder would indicate a bull is less likely to cause issues.

Wilson looks for bulls

that don’t get real high in their spine, that show some flexibility and get out and move really well, he says. “We might even call them athletic.”

“We want them extremely level out through their hip, good and square from hock to ground,” Wilson says.

Balance

One of the basic things Tolbert says he looks for is balance.

“In the beef business, we want weight distributed in the right places,” he explains.

If you cut that animal in half from the front to the back, will the weight be distributed correctly?

From there, look at body capacity, Tolbert recommends.

“Capacity is three-dimensional. It’s not only depth, but it’s width and spring of rib. When you stand behind that animal, does it have the right shape to the rib cage — along with depth?”

Getting a feel for true rib shape isn’t easy, Cassady observes from working with his students. The show ring tends to seek a bull as

Fig. 2: Foot scoring guidelines

FOOT SCORE GUIDELINES	
Foot angle (3 to 100)	Claw Set (3 to 100)
<p>1 Extremely straight pasterns. Very short toe. Unsound.</p>	<p>1 Extremely weak, open, divergent claw set. Unsound.</p>
<p>2 Straight front and rear pasterns. Marginally unsound.</p>	<p>2 Open, divergent claw set. Marginally unsound.</p>
<p>3 Moderately straight front and rear pasterns.</p>	<p>3 Moderately open/divergent claw set.</p>
<p>4 Slightly straight front and rear pasterns.</p>	<p>4 Slightly open/divergent claw set.</p>
<p>5 Ideal. Approximately 45-degree angle at pastern joint. Appropriate length of toe and depth of heel.</p>	<p>5 Ideal. Symmetrical claws, with appropriate space between claws.</p>
<p>6 Slightly shallow heel and long toe.</p>	<p>6 Slight tendency for claws to curl. One claw may be slightly larger than the other.</p>
<p>7 Moderately shallow heel and long toe. Somewhat weak pasterns.</p>	<p>7 Tendency for claws to curl, with one claw larger than the other.</p>
<p>8 Shallow heel and long toe. Marginally unsound.</p>	<p>8 Moderate scissor claw and/or screw claw. Curling of one or both claws. Near crossing of claws. Marginally unsound.</p>
<p>9 Extremely shallow heel and long toe. Extremely weak pasterns. Unsound.</p>	<p>9 Extreme scissor claw and/or screw claw. Pronounced curling of one or both claws. Crossing of claws. Unsound.</p>

deep and soft as it can.

“To me, rib shape starts up high,” he counters. “If you understand the structure of the skeleton of that bovine animal, their ribs actually drop right out of the vertebrae, so the rib shape is actually up high.”

Cassady advises his students to take a frontal three-quarter view of the animal and read how they come out right behind the shoulder.

He recommends reading how they’re shaped in terms of their upper skeleton. He says he’s seen too many of them from the side that look deep and capacious, but from the top they’re “wedge-shaped and kind of peaked — triangular.”

There’s a purpose for that spring of rib, Cassady explains. “It actually lays a foundation for more real muscularity to sit on the top of their skeleton.”

That allows them to be naturally bigger-topped and thicker-ended, he says. “They can provide you with that extra shot of ribeye that you might be after in terms of your operation.”

The depth looked for in show rings can be an indication of a bull’s nutritional status or energy balance, says Cassady, who advises targeting some middle ground.

“Bulls need to have a level of doability that shows they can come back into the right kind of flesh after a tough breeding season,” he says.

At the same time, buyers don’t want a bull that is overly conditioned, as that can have negative effects, as well.

Muscle

“When we start talking about bulls, we’re definitely going to talk about muscle thickness and shape,” says Tolbert. “You can see that from the side in their forearm and in their quarter.”

Standing behind the animal, look for squareness to his top and thickness in his hip and rear quarter.

Too much muscle can usher in structural issues and compromise longevity, warns Wilson. “We’re in the beef business. We’re going to select for muscle, but we’re not going to single-trait select for it.”

It’s really important to evaluate your cow herd for what you have and what you need. Select a bull prospect that will provide change in the direction you need to go, considering your marketing and replacement strategies.

Digital extras available

Rod Geppert, Association regional manager for Minnesota and the Dakotas, shares his perspective on bull selection in the Dec. 7 edition of the *Angus Beef Bulletin EXTRA* at http://www.angusbeefbulletin.com/extra/2021/11nov21/1121fp_AssnPerspective.html



selection, he says. A bull still needs muscle and power, but moderate size might be necessary for your environment.

Docility

Disposition is another trait to assess in the live animal, says Cassady.

“Outside of being open, the Number 2 reason why cows are culled is because of that — docility,” he says. “We need these bulls to have some aggression, to have the desire to go out to do their job.”

At the same time, it is heritable.

In addition to being a danger to their handlers and requiring better handling facilities, cattle that lack docility struggle to perform, says Cassady. Constant high stress levels rob performance levels, reducing the potential of subsequent calf crops to perform in the feedlot or in the herd.

Get a feel for docility firsthand.

The bottom line is phenotypes are still important, the experts say. Look at the résumé, but don’t skip the job interview. |

Frame size

Moderation is key in most situations, and that holds true for frame size. A bull’s frame size will affect how long his steer progeny will take to finish, Cassady says, and the size of his daughters.

How much frame you can allow will depend on your environment.

In the Midwest, feedstuffs aren’t as limited, Wilson observes.

Producers can push outputs more with a bigger mature female and a bigger feeder calf.

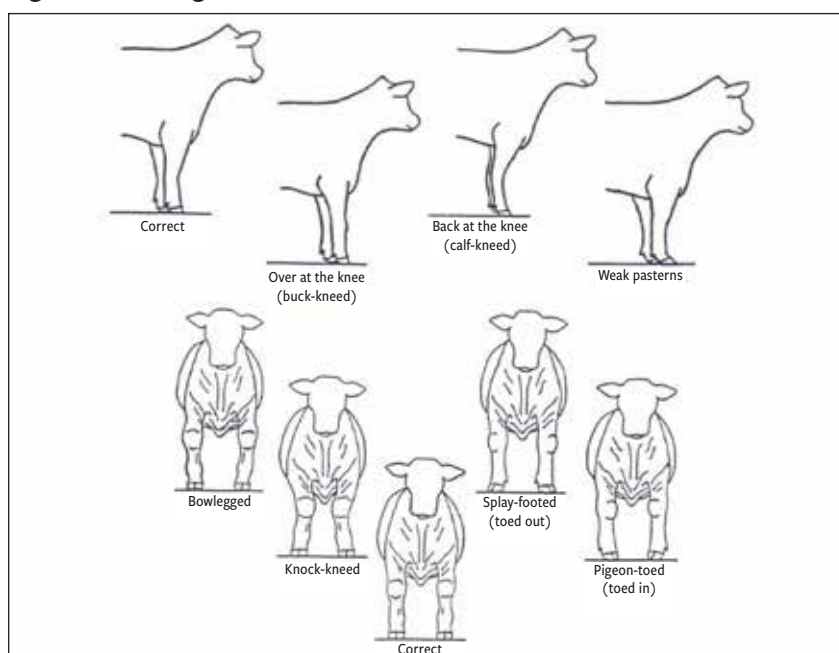
In the Southeast, where he was originally from, there’s less grain available, but a good forage base with stockpiling options. An animal in the upper end of moderate might work best there.

In Kansas, where he did his undergraduate work, Wilson says, we probably need to put more emphasis on a more moderate-type cow with moderate milk.

The amount of feed resources should certainly play into bull

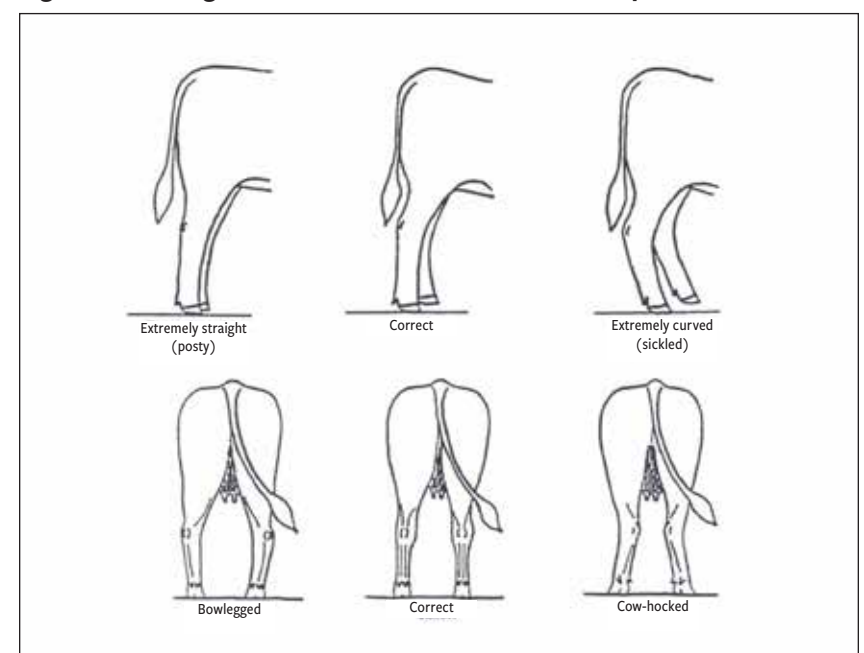
Editor’s note: Interested in digging deeper? Look for digital extensions — including interviews with our sources and a glossary of terminology — at <http://www.angusbeefbulletin.com/plus/>.

Fig. 3: Evaluating structural correctness in the shoulder



SOURCE: Chris Cassady, Iowa State University

Fig. 4: Evaluating structural correctness in the hind quarter



SOURCE: Chris Cassady, Iowa State University