



and states what is causing the problem. With this knowledge, the source problem can be rectified in the next generation."

Secondly, Dransfield says, aAa is not a judgment on the merit of stock. It only focuses on the areas for improvement in the cow, regardless of breed or genetic merit.

Weeks also states that aAa does not breed opposites together. Instead, it finds the source of the problem, and depending on the relationship of parts, this may be solved in different ways.

For example, if the cow has narrow pin bones, simply breeding her to a wide-rump bull may not result in better-quality heifers. The problem may arise from naturally close pins in a cow that needs aAa Quality 3 (Open), or it could stem from a narrow head, narrow chest and flat ribs in a cow that needs aAa Quality 5 (Smooth). "Breeding opposites together does not fix the

Figure 1

**Does structure matter?**

World-renowned animal behavior expert professor Temple Grandin states, "Don't over-select for any single trait ... you will wreck your animal." John Brubaker, a pedigree Holstein dairy farmer from Buhl, Idaho, has taken this advice to heart and avoids excessive selection on yield and

components in favor of improved structure. "My breeding plan is simple: All my cows are analyzed by an aAa analyzer. I pick a Holstein family that has high components, and I select bulls with the correct structure to match my cows' needs." Brubaker has not used PTAs for more than 30 years, and although his cows have negative figures for components and yield, he attributes his herd average yield of 24,000 pounds

to the sound structure of the cows. "Our yield isn't from small grains that 'burn out' cows either; 60 percent of the diet is from forage," Brubaker says. "Once a cow is comfortable in her skeletal design, she will do what you ask of her. Our cows have good width throughout, from a wide head to bold ribs that can handle lots of forage; they're round, with enough angularity to milk." Brubaker also highlights the benefit of improved longevity of his herd. "Our cows are reaching seven or eight lactations, so we have surplus heifers for sale. That's become a big source of income."

While Brubaker only uses aAa for selecting bulls, in Ireland, Holstein X Friesian dairy farmer Stanley Wright selects for both high PTA merit bulls and aAa structure analyses. "We need good components to hit our milk price bonus, so I pick a team of genomic bulls with good figures, but they must have the correct aAa structure to match my cows," Wright says. The benefit of combined selection has resulted in Wright's annual surplus heifer farm sale having some of the highest average Irish Holstein heifer prices for the last five years. "My repeat buyers know our heifers have the structure for longevity and the figures for yield."

"At the end of the day," Dransfield says, "If a cow is balanced enough with optimal form, she can easily produce a lot of milk, reproduce effectively, be lower-maintenance, healthier and longer-living than an individual with structural inadequacies." She says, "We're not reinventing the wheel, just pointing out how to ensure you improve your chances of not getting a puncture in the future." PD