Our Cows Come With Their Own Hormones

By Winifred Hoffman

From what I read in the current dairy magazines, treating cows with hormones and other "reproductive technologies" in order to get them bred has come to be routine on many dairies. It has been acknowledged that intensive selection for milk production has resulted in the loss of some of the natural reproductive ability.

As an alumna of the University of Wisconsin College of Agriculture and Life Sciences, I receive *Grow* magazine, which contains updates on their research. In the Fall 2010 issue was an article by Bob Mitchell, "What Makes the Perfect Cow? Finding a Cow's Inner Dairyness", which detailed how dairy cows have been selected. I am including portions of the article here.

"Back at the World Dairy Expo show ring, it doesn't take any data mining to see the cumulative effect that a century of breeding has had on dairy cows. Compared to the squat, rounded cows Ted Halbach's father judged 70 years ago [CALS dairy science instructor Ted Halbach coaches the UW dairy judging team], today's cows are bovine super-models—longer, taller and svelte. This form has followed function: The industry has selected for cows that put energy in to making milk rather than meat.

"In recent years, however, it's become apparent that such cows may not have the resilience to thrive in the larger herds that are becoming the norm in the industry. 'This cow has to be able to function in the housing environment. She has to have the physical attributes that sustain and support her production,' explains Halbach. 'You can have an animal with great production potential, but if she doesn't have the physical attributes to reach that potential, she won't. It's as simple as that.'"

…"'There was a perception that what makes a good dairy cow was her ability to milk herself—to take all this body tissue, mobilize it, make all this milk from it and not have any extra fat on her,' says Wiegel [CALS dairy scientist specializing in genetic selection] 'Well, she has to do other things, like get pregnant and not get sick and so on. It became fairly clear that that was a trait where we've maybe gone too far.'

"The revised standards [of the PDCA unified scorecard for judging dairy cows] emphasize more balance between strength and dairy character. 'We've started to get people to think again that, yes, we want cows that produce a lot of milk, but we also want them to not kill themselves doing it,' Wiegel says. 'We want them to be able to maintain good health.'

"Still, the ideal cow epitomized in the revised standards and in the show ring is geared toward a particular kind of dairying, in which cows live in large, open-stall barns and are fed a mixed ration that includes grain, forage, protein and mineral supplements. This is the dominant milk production system in the United States today, but plenty of cows across the nation and around the world live a different kind of life.

"'Those cows are Ferraris,' says dairy farmer and UW-Extension agent Vance Haugen, describing the show cows at World Dairy Expo. 'That's wonderful, but I'm not going to drive a Ferrari on my back forty. I'd rather be driving my Jeep.' Haugen, who operates a pasture-based dairy farm, says he prefers cows with 'a little more girth, maybe a wider muzzle so she can graze a little better. And smaller.'"

A related article in the same issue discussed research by geneticist Hasan Khatib, who has been studying the link between the high production of today's cows with the difficulty in getting them to settle. As milk yields have increased in the last 20 years, pregnancy rates have fallen by 20 percent.

"Khatib has located a gene variant that, when present in homozygous form—two copies, one from each parent—the embryo dies soon after conception. But in heterozygous form, where the cow carries one lethal and one non-lethal variant, the gene is associated with increased milk production.

"Because breeders select for higher milk production, Khatib's data suggests that 65 to 70 percent of Holsteins have that genotype. Breeding heterozygous bulls with

heterozygous cows, however, increases the chance of passing on the lethal combination of genes."

That's why in our herd we have always pursued a balanced breeding program instead of single-trait selection for extreme milk production, which comes at too high a cost in terms of other vital traits, most notably reproductive ability.