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INDUSTRY NEWS - AM

## Genetic selection can up beef's healthfulness

By [Tom Johnston](#) on 7/29/2014

Through genetic selection beef producers can improve the healthfulness of beef, as consumers increasingly factor that into their buying decisions to combat an obesity epidemic, according to University of Florida geneticist Raluca Mateescu.

Citing data generated by the Beef Healthfulness Project, a multiple-university study of cattle in Iowa, Oklahoma and California, Mateescu [said](#) iron and zinc, two of the most important minerals that make up beef's nutritional profile, are heritable. She spoke this summer at the 2014 Beef Improvement Federation Research & Annual Meeting.

A 3.5-ounce portion of beef contributes 8 percent to 18 percent (depending on gender and age) of the daily recommended value of iron. The iron concentration in beef has a "very high" heritability of 54 percent. Zinc in beef contributes 26 percent of the daily recommended value of that mineral, and has a 10 percent heritability in beef, Mateescu said.

And as there is a strong correlation between iron and zinc, increasing iron, for example, through genetic selection, would also help boost zinc.

"It is possible to change the nutrient profile — the question of course being, 'Do we really want to do that?'" Mateescu said, noting the potential downside of genetic antagonisms presented by adding traits.

However, iron, for example, has only a positive genetic correlation with a carcass trait, and that is yield grade. The higher the iron, the higher the yield grade, she said.

And while iron is good for the consumer's health, it's also good for the beef seller. The more iron, the longer the shelf life of the product. There's also a strong and positive genetic correlation between iron concentration and beef flavor, Mateescu said.


The findings come as the 50 United States have an average obesity rate of 34 percent and iron deficiency is the most common nutritional disorder worldwide, she noted.

“Research is very important, looking at how much we have of those components (in beef) and what role they play in a healthy diet,” she said. “We can definitely look at genetic development and management tools to create those components...”

“They’re novel and needed traits. I think we do have an opportunity today to really change the way beef is portrayed with the consumer.”

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 Comments

There's good representation from Illinois restaurants on the list, which is exciting.

MONDAY, AUGUST 04, 2014 | JAMIE CALVETTI

REPLY

Belgian Blue cattle are a prime example of this. They are much leaner-containing lower cholesterol, higher protein and iron percentages-and are NOT modified in ANY way shape or form. However, it is extremely disturbing how many gullible people think they are genetically altered-far too many people do not use their brain to investigate before jumping on the animal rights/greenies indoctrination propoganda..

WEDNESDAY, JULY 30, 2014 | COLLEEN MICHAELS

REPLY

If this means that genetically modified can actually produce a healthier product it will drive some people crazy. Who would have thunk it.

TUESDAY, JULY 29, 2014 | DUSTY

REPLY

I was watching an old rerun of "The Virginian" on TV over the weekend. The plot revolved around the auction of some Hereford bulls. This was filmed I would guess in about 1965. The mature bulls stood about four feet tall at the shoulder and probably weighed in at around 1600 lbs. Today a good mature Hereford bull weighs around 2200 lbs. and stands probably a foot taller. Genetically modified? Hardly, just good selective breeding. When I started in the beef business around 30 years ago, carcasses averaged about 670 lbs. Today they're upwards of 850 lbs. Genetic modification? The genetics have certainly changed, but not in the lab. We can breed for certain traits, and higher iron content is certainly one. To the comment in the article that higher iron content means more flavor: a lot of people would disagree with that. Higher iron content cooked to more than medium gives a heavy "livery" taste (that's the iron.)

TUESDAY, JULY 29, 2014 | HANK REARDEN

REPLY

This article is about genetic selection, the traditional method of influencing genetics. Doesn't mention genetic modification or engineering. Very different.

TUESDAY, JULY 29, 2014 | TRADITIONAL

REPLY

Understood. But I was referring to Dusty's comments on genetic modification. There's a big difference between genetic modification and genetic selection, which I had hoped to expose somewhat in my comments . Sorry if I confused you. :)

TUESDAY, JULY 29, 2014 | HANK REARDEN

REPLY

Anonymous, I understood Hank's comment to be about selecting breeding stock out in a pasture with a little wet manure on ones feet. I didn't finish his comment with the thought he was endorsing GMO's. I trust his 30 years of practical knowledge in selective breeding.

TUESDAY, JULY 29, 2014 | DOUGLAS CRAVEN

REPLY