

Cow Color Preference Is More Than Personal

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NEWARK, Del. — In recent years, black-and-white Holstein-Friesians, or their red-and-white genetic alternatives have become the preferred dairy breed in this country and increasingly in the world.

Among the primary reasons are dairy production economics and consumer preference for the low-fat milk these cows produce.

Before 1970, composition of the dairy cow herd in the United States was quite different.

Guernsey, Jerseys, Ayrshires, Brown Swiss, and even Milking Shorthorn made up the dairy cow populations commonly known as colored breeds, but having a red Holstein calf was tantamount to treason.

Such a calf was hidden, as though it somehow had something to do with our then "Red" political enemy.

This particular concern over

cow color has, of course, disappeared.

There are, however, some biological differences between cow colors and the cow's ability to cope with environmental stress from heat, humidity and solar radiation. Cow color isn't just personal taste or aesthetics as, for example, in the case of a Holstein whose individual coat color is more black or more white. Earlier research pointed out that there were physiological differences in adaptation and productivity, depending on the amount of black or white in the hair coat.

A recent study from Florida has added new evidence (*Journal of Dairy Sciences*, August 1993: 2286-2291) that the percentage of black or white coat color in Holsteins influences milk production. DHIA production and reproduction records and registration certificate drawings from 110 Florida herds (a total of 4,293 cows) were analyzed for a seven-year period. The results are important because

every year Florida suffers months of adverse subtropical weather that affects dairy cows and their production efficiency.

What they found in another Florida study has already helped dairy farmers here in the mid-Atlantic region, where muggy 90-plus-degree days are no longer unusual. We've learned from Florida dairy farmers how to keep cows cool by hanging irrigation sprinklers upside down in the holding and under-roof areas so that the water "rains" down. This, combined with fans to force air, cools the animals so they are less affected by the heat.

Climatic stress — especially from excessive heat and solar radiation — decreases milk production, changes milk composition and lowers reproductive performance. Solar radiation is a significant factor since it increases body temperature directly.

A few years ago here in the University of Delaware's dairy herd, we tried temperature sensors

on the teat cups of our milking machines to find differences in the temperature of milk as it leaves the udder. We theorized that this would give us early indication of mastitis. What we found was something else entirely. On 90-degree days, the warning lights on the cows' temperature sensors began to blink. The cows didn't have mastitis; they just had higher body temperatures. This finding was contrary to most textbooks that stated a cow's body temperature doesn't vary in relation to the environment as a reptile's or amphibian's does. Thus we learned we must take seriously the effects of hot days on the physiology and productivity of our cows, and on our incomes from milk production.

This is why the Florida study examining the relationship of coat color to climatic stress is so interesting, especially given the large number of cows and data set involved. The heat load on the cow's body comes from absorp-

tion of light and heat by the cow's body surface. Coat color is directly related to different heat absorption from solar radiation. A solid black Holstein cow absorbs about 92 percent of solar radiation through her hair coat, while a solid white cow absorbs only half as much.

The Florida research found greater milk production of 4.5 pounds for each 1 percent more of white coat color in Holstein cows. More white coat color also resulted in better reproductive efficiency under heat stress. This confirmed older Australian and Arizona studies (though with fewer cows) that white cows produce more milk than black cows, are of lower age at first parturition, have fewer days open and experience shorter calving intervals.

Economic studies of these findings are still needed. But this research does give us ammunition for new ideas in our next dairy cattle breeding plans, which should lead, of course, to greater profits.

NAAB Recognizes Improvement Efforts

NAAB Distinguished Service Award.

Miller's career in the artificial insemination industry began in 1956 with Virginia Artificial Breeders Association, now Virginia/North Carolina/Select Sires.

As a result of his originality and resourcefulness, the organization was among the first to adopt a direct-herd, do-it-yourself breeding program, and young sire proving and sampling program.

The most far-reaching and lasting impact of Miller's contribution to the AI industry is the direct result of his "roots" at Round Oak Farm.

His experienced eye and expert advice caused a bull calf named "Round Oak Rag Apple Elevation" to be produced which later found its way to Select Sires.

In 1973, Miller was promoted to director of marketing and development where he continued his successful pattern of recruiting, hiring, and developing the talents of high caliber people.

Under his leadership, the volume of semen marketed by his organization increased threefold.

He served with distinction for eight years on the NAAB International Marketing Committee. He was instrumental in arranging a distributorship agreement with World-Wide Sires for international marketing, and helped open up the Latin American market. His sharp vision brought the international marketing effort from virtually non-existent, to a dramatic world-wide use of the product.

Although retired as director of marketing and development, Miller continues to serve the industry as Select Sires' dairy sire analyst for Virginia and West Virginia. He also serves as a consultant to enhance the marketing program in Canada.

Member Director

The 1993 NAAB Member Director Award recipient was David C. Slusser, immediate past president of Atlantic Breeders Cooperative, Lancaster.

Slusser attended Penn State University and graduated in 1965 with a bachelor of science degree in dairy science. While at Penn State he was employed by their dairy research farm, and was also football manager for the Penn State Nittany Lions.

In 1970, Slusser purchased

Orange Bucket Farm, a 270-acre farm in Crawford County with 100 head of registered Holsteins. The rolling herd average is currently about 21,000 pounds of milk.

He is a member of the Federated Genetics Council, a former member of the National Council of Dairy Cattle Breeding, and was chairman of the 1983 State Holstein Convention.

Slusser has taught computer seminars for regional farmers, a financial workshop for bankers, and has held programs about careers in agriculture for high school students.

The Slusser farm family frequently has also extended itself by opening its home to foreign exchange students, as well as foreign visitors interested in the dairy industry.

He served on Atlantic Breeders Cooperative Board of Directors from 1973 to 1992 and on the NAAB Board of Directors from 1984-1990.

Pioneer Awards

Dr. W.H. Dreher, retired production manager for 21st Century Genetics, Shawano, Wisconsin, was this year's recipient of the NAAB Pioneer Award.

Dr. Dreher was a true pioneer in applying research to the production and distribution of semen, according to NAAB. He was instrumental in developing methods for semen collection, extension, and preservation to obtain optimum fertility and disease free semen.

He worked for early adoption of university research on buffers and extenders, while conducting his own extensive in-house research. He studied repeat breeding cows and early embryonic death, and researched leukosis transmission in bulls.

Dreher trained the first non-veterinarian AI technicians. At a later point, he was instrumental in developing a swine AI trial that was able to achieve good litter size and conception rates. In the 1960's, he helped a Mexican firm advance their semen collection and processing program.

When frozen semen became a reality, Dreher found a more efficient tool with which to freeze extended semen — the pipette. Tagged as the "Magic Wand", it was used until the conversion to straws in the 1970's.

Quality control was of paramount importance to Dr. Dreher. He worked with other staff members to develop a nonreturn rate reporting system to estimate conception rates. He also supported further research to determine the accuracy of nonreturn rates to actual pregnancies.

As world markets for US germ plasm opened, Dreher was instrumental in bringing early health testing work into compliance with foreign regulations. He traveled world-wide marketing the concept of health and genetic quality of US semen.

Hank Dreher was among the founders of NAAB Technical, Sire Health and Research Committees that supported research and shared in the findings.

Also a pioneer awarded recipient was Dr. Harry A. Herman, retired NAAB executive secretary emeritus.

After earning his B.S. in agriculture and M.S. and Ph.D. degrees he served nearly 25 years as a teacher, researcher and lecturer in dairy cattle breeding, artificial insemination and herd management.

In July 1953, when the National Association of Animal Breeders was in its infancy, Dr. Herman was appointed as the first executive secretary, and the national NAAB office was established in Columbia, Mo.

During his tenure, the AI program expanded from 40 to 97 mostly cooperative members with one or more AI organizations in nearly every state which accounted for virtually 100 percent of US AI businesses.

Having very capably overseen

NAAB and the AI industry through those very formative and successful years, he retired in September of 1972. He had passed the established retirement age by over two years, and was given the title of NAAB executive secretary emeritus.

In addition to dairy activities at the state and national level, Dr. Herman has made many contributions to animal research, authoring more than fifty bulletins and over 150 scientific papers.

He is author or co-author of three textbooks. He served for many years as chairman of the research committee of the Purebred Dairy Cattle Association.

He assisted in developing short courses for training technicians beginning in 1941. He also organized and taught one of the first college-level courses on AI in the United States.

He wrote the artificial breeding column for Hoard's Dairyman for more than 25 years and is a contributor to other farm papers.

Other awards made during the convention include:

- 150,000 Cow Award: William Sylla, Tri-State Breeders Cooperative, Baraboo, Wis.

- 100,000 Cow Award: Adelbert Bravener, William Platten and Leon Jilk, American Breeders Service, DeForest, Wisconsin; Raymond Greene and Ford H. Smith, Eastern AI Cooperative, Ithaca, New York; Joe Schumer, Minnesota/Select Sires, St. Cloud, Minn.

- 500,000 Unit Sales Award: Jim Armstrong, MABC/Select Sires, Lansing, Mich.

ASC Committee Elected At Convention

LEESPORT (Berks Co.) — Richard Troutman, a Berks County farmer, was elected chairperson on the county Agricultural Stabilization and Conservation (ASC) committee at the county ASCS convention, held December 21 at the agricultural center.

LeRoy Howard, farmer, was elected vice-chairperson and Ralph Sanner was elected a regu-

lar member. These persons will serve for the coming year.

The county ASC committee is responsible for local administration of government farm programs such as the wheat and feed grain program, the wool program, the dairy refund payment program, the price support program, and the agricultural conservation program.

COLUMBIA, Mo. — A number of awards were presented during the recent 47th National Association of Animal Breeders (NAAB) convention held at the Chula Vista Resort, in Wisconsin Dells, Wis.

The 1993 NAAB Research Award, which included a check for \$1,000, was presented to Dr. H. Duane Norman, supervisory research geneticist at USDA-Animal Improvement Programs Laboratory, Beltsville, Md.

At the same time, the NAAB also made recognition of the efforts of others involved in the dairy cattle breeding industry.

Dr. Norman's major contribution to the industry was the formulation and implementation of the Modified Contemporary Comparison (MCC) procedures used by USDA for sire evaluation from 1974 to 1989.

This was a simple yet accurate ranking of sires applied to the large database of US dairy records, and allowed the US to emerge as a world super-power in dairy genetics.

Many features of the MCC pioneered by Dr. Norman, are still used in today's animal model procedures. These include use of all location records, including a sire-by-herd interaction effect and calculating dollar value indexes. While the advantages are clear, these features have only recently been incorporated in a few leading dairy countries.

Dr. Norman's research played a key role in the adoption of a uniform linear type trait system for calculating genetic evaluations for these traits, and laying the groundwork to determine their value in predicting lifetime profitability. He also represented the United States on FAO's technical advisory committee for "Testing of Different Strains of Friesian Cattle in Poland."

Recently, Dr. Norman coordinated acquisition of an in-house computer which has allowed AIPL to continue their level of research without the need for greatly increased funding.

Others received recognition as well.

Distinguished Service

George Miller, dairy sire analyst and recently retired director of marketing and development at Select Sires Inc., Plain City, Ohio, was this year's recipient of the