August Genetic Evaluation Summary Observations
By David Selner

The August genetic evaluations were again released utilizing the Council on Dairy Cattle Breeding services. The official production and health genetic evaluations are still calculated with the expertise of the USDA-AIPL scientists but they are released to the public using the CDCB protocol agreed to by the major industry partners. As mentioned in my last article little public information has been released on the final structure of the genetic data gathering industry. Little is also known of any plans for genetic evaluations changes or what improvements might be coming in the future.

The future should include more value added traits and improved economic analysis of the impact of these traits for dairyman. Economic analysis as to the pluses and minuses of traits in an overall index are still poorly understood by many dairyman. This is especially important when many are promoting emphasis on other traits than on index traits, like Net Merit and TPI. Many dairymen look at these overall indices but then select sires trying to maximize a trait or two with selection over a certain value for that trait. So the selection process becomes more of a single trait emphasis rather than a multiple trait approach. Single trait selection can lead to some very unproductive outcomes. Take for example the trade-off between production and reproduction. Since there is a negative correlation if you select only for high production you will decrease fertility. Conversely selecting for only high fertility will reduce production. So trying to find sires that do both should be the goal rather than one extreme or the other. Many consultants tend to focus on changing one number in their herd analysis without considering these trade-offs to overall profitability. So suddenly after heavy emphasis on DPR one dairyman told me his cows are dropping in production. Well that was to be expected, you will get what you are selecting for. Just as selecting for only milk production, will reduce conception. No One should be surprised. That is why the over emphasis on single traits by individuals and companies for marketing purposes has confused the dairyman into making bad overall decisions on a breeding program. Every dairyman should weigh the pluses and minuses for the economic traits and his financial situation to come up with an optimum balance of traits for his breeding program and then stick with it no matter what the latest sales gimmick that comes along.

The other selection culture that concerns me is that we seem to be obsessed with extreme trait rankings. No longer is it acceptable to be above average for a trait, you now have to be extreme. This has led to dairymen placing undue emphasis on certain traits that really are not in the best interest of any dairy's long term economic goals. Extreme emphasis on health traits will reduce productive traits. Extreme emphasis on certain type characteristics will negatively affect health traits. Extreme emphasis on only production will reduce health and type. The word balance gets overused but it is really true. The object of an economic index like TPI or net merit is to balance these forces yet most dairymen do not use these indices as the final point just as a starting point. Several of the very low heritability traits are being over emphasized by dairymen today. An example of over emphasis came to my attention recently. A dairyman told me that he was putting extra emphasis on somatic cell score because he felt this would be very beneficial to him. Since the average SCS for sires available from bull studs is about 2.75 he was going to use sires less than 2.70 as a selection criteria. I believe this is a little too extreme for a low heritability trait, because the trait average of highly selected AI sires is not the population average of the breed. This dairyman is ignoring many sires that could improve his profitability and still reduce his somatic cell scores. One of the additional problems in overemphasizing this trait is that SCS is positively correlated with mastitis resistance but it is not the actual trait mastitis resistance. Actually, some have theorized that by selecting for cows that have very low production of somatic cells we may be creating cows that will be more susceptible to certain mastitis organisms because they may have a lessened immune response. The result of this type of selection could mean even more severe losses due to mastitis or even death. Let's look at another important economic trait like protein that is about 10 times more heritable than SCS. The average of the genomic sires at bull studs is 40 pounds and there are 786 sires above that level yet I hear of few breeders putting this type of selection floor on this profitability trait. Do not become obsessed with who is the most extreme sire for any single trait. That is a marketing function and not a wise breeding program mentality. Choose sires that are improvers for a trait but they do not have to be the highest on any individual trait list.

Type Evaluation Concerns

There has been a continual discussion among some dairymen about the type evaluation system of Holstein USA. Many say that the system does not relate to the commercial breeder and needs major revision. Certainly we could argue for hours about an issue like this but it seems to me that some are missing the point of type analysis. The most important goal is to record the type traits of an individual animal and use these to calculate genetic values for type characteristics to improve future generations. I believe that the current system works very well at doing this. The individual breeding values derived from the current system are accurate and have shown to be predictable in all herds. **Sure improvements could be made but certainly the Holstein USA type system has world-wide approval ratings.** The truly big issue seems to be with final score. I guess I do not see why final score should be the topic of such rancor between dairymen. I have suggested in previous articles that the Holstein Association should look at assigning a traditional final score and then another score using linear traits. This would avoid some of the confusion among diverse individuals. Since commercial dairymen do not buy cows or breed cows for final score they just want individuals who work well in their environment they could then have an overall type score that reflects that. As for today, I guess the disappointment comes when some dairymen feel that the ideal type cow in their herd should be classified the highest. This is not happening and maybe we should question whether this should be happening. Each trait should be evaluated on its' extremes from highest to lowest. The greatest value of linear type evaluation system is that it does evaluate to each extreme in both directions. **The Biggest problem with how type information is being utilized is that dairymen equate higher numbers with desirability and the system is not designed to do this. These type values indicate direction and degree not desirability**. Desirability is something quite different than the range of genetic breeding values. As we are finding out with teat placement and other traits the extremes are not acceptable and the ideal is in the middle. Since some cows are extreme for final score, does not mean that they are ideal for every herd. Many dairymen prefer cows that would score GP-83 to VG-88 as mature cows are ideal. So what is wrong with that? I have never seen any educational article advocating that everyone should be breeding every cow to score excellent 94, that type extremism is the best goal for every dairyman. Just like no one has said that you should only breed for cows that have high milk production and ignore a loss in fertility or components. These are individual choices of each dairyman. Asking for the dairyman defined best cow to score the highest in their herd is really not a measure of the genetics of the cow but more a reflection of her historical merchandising value. Which is the better cow genetically for a commercial dairyman for type, one that scores VG-87 or one that has a +2.50 PTAT? Instead of devaluing or demonizing the cattle of some successful merchandisers, maybe we should look at educating buyers into what they might look for instead. Instead of multiple generations of excellent maybe we should have multiple generations of +2.00 PTAT families. The old marketing methods based on phenotype may not be suitable for today's dairy genetic world. Demanding the best phenotypic animals in your herd for profit, longevity, fertility, production or final score to be the same as their genetic ranking I believe is unreasonable. Naturally dairymen have to see the physical results in their herd of their genetic decisions but phenotype and genotype are seldom identical. We should focus on the value of the genetic trait estimates to do just what they were designed to do, identify the breeding strengths and weaknesses of a sire or cow so that a dairymen can decide how to improve the next generation.

Holstein Website Provides Information

The genetic evaluation lists that are published on the Holstein World website provide tons of information on genetic trends of the industry. Today the number of genomic sires far exceeds the number of progeny proven sires available from every breeding stud. To help in your breeding program analysis, more genomic lists are now available on the Holstein website. The latest genetic value of high ranking females continues to rise at a rapid pace. The top 10,000 females are now over +2175 GTPI. Unless you are over +2300 GTPI you are not in the top 1000. So if you want to be active in the high numbers industry you had better be able to provide this level of genetics.

One of the most talked aspects of the genetic evaluations, were the changes in some of the high ranking sires of previous evaluations. The top sire of April, De-Su Observer had his evaluation change by -188 TPI and -162 NM$. He did add 582 daughters but he had over 215 daughters last time so this type of change was unexpected. An exact explanation is not known but it is something to watch in the next run.

The important thing to remember is not the change in value but the fact that Observer still ranks in the top 20 TPI sires. Another change that I find a little more concerning was the drop of Ensenada Taboo Planet by -73 TPI and -55 NM$. Here is a sire that had 18,575 daughters in his last proof and now has 22,848 daughters. Sires with this number of daughters rarely change by these amounts. This anomaly bears watching in the future.

New Fertility Haplotypes

A new item of information also just released was the discovery of two more Holstein haplotypes that negatively affect fertility. If you remember in previous articles there were three haplotypes named HH1, HH2, and HH3 that were discovered. These genetic mutations cause loss of a pregnancy in early uterine implantation or during the embryonic phase of development. So their major impact is to reduce fertility. Since fertility reduction is the sole result of the homozygous condition the genetics industry has treated these traits differently than other genetic recessives, which normally show affects later in life. The first new haplotype is HH4 and the common ancestor found in the pedigree for this condition is the French sire Jocko Besne. For HH5 the popular ancestor is Picston Shottle. So sires that have these bulls in their pedigrees may be potential carriers. A complete listing of known carriers of all 5 haplotypes can be found on the Holstein USA website and should be available from every bull stud. Dairymen should be advised to utilize mating programs to avoid carrier to carrier matings to reduce the negative fertility impact of these haplotypes.

New Top 100 TPI Sires

The new sires added to the Holstein Top 100 TPI ranking show a good balance of health, production and type, especially in udders. The new number 6 sire from Select Sires is Roylane Socra Robust, he is a Socrates out of an Oman from a Manat. He is a high component sire especially for fat and offers excellent calving ease. Robust daughters have moderate stature with very strong udder attachments. At number 7 is another Select Sires graduate De-Su 521 Bookem at +2222 GTPI. Bred by the well known De-Su herd in Iowa, Bookem is a Planet out of a Ramos from a Hershel. He provides high production with longer productive life. Bookem is an overall type improver with special strength in fore and rear udder attachments. AT +2208 GTPI is the new number 9 sire from Alta Genetics, Sully AltaMeteor. He is a Planet from the well known Sully Shottle May and then an Oman. Meteor is another high milk sire with long productive life. His type pattern includes taller daughters with dairy, open ribbing and outstanding udders. He is also one of the higher new PTAT sires. At number 10 is the ABS Global sire Larcrest Cancun. From the Larcrest herd in Minnesota, Cancun is a Planet son from the well known Shottle daughter Cosmopolitan with the next dam being Outside Champagne. Cancun offers high milk with positive components. The Cancun daughters are above average for frame with wide rumps, plus he provides a great source of udder improvement. At number 23 is the Semex sire Ladys Manor Shane. From the great breeding herd, My Ladys Manor of Maryland comes an Auden son from a Shottle from a Mandell Debut and then a Rudolph. Shane daughters are milky with high components. Shane daughters are also tall, open and dairy with excellent feet and legs and udders. The final new sire at the top of the 100 list is Ms Posibility Performer from Shore Genetics at +2162 TPI. He is a Goldwyn son from the potent Windy Knoll View P family of the Burdette's in Pennsylvania. His dam is a Titanic then the Outside daughter Policy, then Promis and Pala. This is a multiple generation high scoring family. Performer offers plus component percentages and a very low somatic cell score of 2.49. Performer daughters are tall and dairy with a steeper foot angle. The udders are strongly attached as expected.

The August sire summary discussions were an interesting collection of views on new fertility haplotypes, proof changes and the concern over Holstein type evaluation direction. Hopefully in the coming months more information and discussion will allow the industry to pull together to create an atmosphere that will be beneficial for all US dairymen.