

Improving Udder Health Through Sire Selection

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At the 2007 annual meeting of the NMC (National Mastitis Council), Dr. George Shook from the University of Wisconsin presented information on the long-term impact of sire selection on udder health of cows. He contends that dairy producers and the professionals who advise them on the sires to use in a herd's breeding program should give more consideration to genetic evaluation data for somatic cell scores. While looking at short-term management issues is important when dealing with milk quality problems, the genetic evaluation data on the somatic cell scores of the daughters of bulls should also be considered because of the resulting long-term impact on the quality of milk produced by a herd. A summary of Dr. Shook's recommendations as presented in his paper published in the 2007 NMC annual meeting proceedings is given below.

Recommendation 1. Include sire selection on the checklist when considering how to manage mastitis in a herd and improve the quality of milk produced. Even when certain popular bulls have desirable economic traits, use them sparingly if their PTA-SCS (predicted transmitting ability – somatic cell scores) are 3.3 or higher (equivalent to about 125,000 somatic cells /ml or higher). While sire selection will not solve a mastitis problem immediately, it should be part of a herd's long-term mastitis management program, even in herds with excellent udder health management.

Recommendation 2. Use a selection index as an initial screening for selecting AI bulls. This will provide a moderate amount of selection emphasis on PTA-SCS. Create a long list of candidate bulls using the selection index chosen, such as lifetime net merit (LNM) or type-production index (TPI).

Recommendation 3. When creating a short list of service sires to use from the long list, include PTA-SCS among the criteria to use but do not overemphasize SCS to the exclusion of other economically important traits. Make limited use or avoid altogether the 5-10% of bulls with the highest PTA-SCS.

Recommendation 4. Herds with low somatic cell counts (SCC) should give the same attention to PTA-SCS in sire selection as herds with high average SCC. This practice will promote continued genetic improvement for SCS.

Recommendation 5. Producers who can manage artificial insemination should use AI bulls. Those who can not or choose not to for various reasons should purchase bulls from dams with high selection index values and sired by well-qualified AI bulls.

The above recommendations/guidelines can assist dairy producers and their consultants/advisors make sire selection decisions that will have a long-term effect on improving the udder health and milk quality of a herd. For short-term udder health management strategies to include in your herd's mastitis management program, contact your veterinarian, milk handler field representative, extension specialist/agent, or other competent consultant.