

## Top 10 Sires Offer Lessons In Selection

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One of the most discussed topics among seedstock producers is the selection of artificial-insemination (AI) sires. As the primary driver of genetic improvement, few decisions are as economically important and have as far-reaching consequences. For breeders, a retrospective look at the most heavily propagated AI sires can serve as an insightful precursor to future selection decisions.

While genetic trends computed after each evaluation provide comprehensive documentation of genetic change, studying the merits of the highest use AI sires provides more direct evaluation of specific selection decisions. With that in mind, the accompanying table includes the 10 most prominent AI sires as measured by the number of progeny registered during the North American Limousin Foundation's (NALF's) most recently completed fiscal year (2007–2008).

It is important to note that producers decided to breed cows to those sires in the 2006-2007 time frame—in some cases, based on different and lower accuracy EPD (expected progeny difference) profiles than those available today. Some of those and other high-use AI sires were selected justifiably based on traits other than those evaluated through EPDs. Nonetheless, given their effect on the population through large numbers of sons and daughters, the genetic merit of those sires is worthy of careful, thorough evaluation.

### Calving-ease, Birth Weight

To Limousin breeders' credit, as evidenced by the top 10 AI sires' EPDs, the breed's favorable reputation for calving-ease will continue. The 10 sires with the most progeny collectively represent genetics for direct calving-ease (CED) and for birth weight (BW)

that ranks in the top 35 and 30 percent, respectively. Expressed another way, seven of the top 10 AI sires have CED EPDs greater than or equal to average (+6), and eight of the top 10 have BW EPDs that are below breed average (+1.4).

Those sires' genetic merit for maternal calving-ease (CEM) raises a caution flag. While their average CEM EPD is equal to breed average, four of the 10 heaviest use sires possess genetics that rank less desirable than average for the ease with which daughters will deliver calves.

### Growth, Milk

One of the breed-improvement directives from the Limousin Visions Symposium was improved growth. Breeder attention to increased weaning and yearling growth is illustrated in the 10 highest use sires' average weaning weight (WW) and yearling weight (YW) EPDs, ranking in the top nine percent and 14 percent, respectively. When considered alongside selection for calving-ease and birth weight, those sires represent effective selection for curve-bending genetics.

Milk EPDs for the 10 highest use sires suggest a more moderate approach by breeders. Their average milk EPD of +22 is similar to that of all active sires (+20). Assuming complementary mating of those sires to dams such that progeny possess optimum levels of milk for available resources, selection for that level of milk among high-use sires is commendable. It still is noteworthy to point out the average accuracy of milk EPDs for those sires was 0.39, indicating relatively few daughters in production and the potential for estimates of genetic merit to change with the accumulation of weaning weight data from daughters' calves.

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## Top 10 Sires by Number of Registrations for Fiscal Year 2007–2008

Rank	Name	# registered progeny	EPDs													
			CED	BW	WW	YW	MA	CEM	SC	ST	DOC	CW	REA	YG	MARB	\$MTI
1	JCL Lodestar 27L	895	18	-0.3	58	119	17	15	0.7	18	24	52	0.09	0.27	0.18	52
2	EXLR Excellante 251L	377	7	1.0	43	70	31	-2	1.2	20	28	46	0.17	0.02	0.15	48
3	AUTO Dollar General 122R	364	6	1.3	64	109	34	4	0.6	N/A	12	44	0.32	0.17	0.26	57
4	Carrousel's Pure Power	361	4	3.9	57	94	16	4	1.0	N/A	2	40	0.80	-0.03	-0.13	42
5	Wulf's Nobel Prize 3861N	317	8	0.9	48	74	23	-2	-0.2	23	33	41	1.11	-0.25	0.08	49
6	GPPF Blaque Rulon	274	5	1.5	47	82	13	-2	0.8	14	14	14	0.84	-0.12	-0.14	40
7	ROMN Justice	246	11	1.0	46	91	12	3	1.0	17	36	40	0.59	-0.01	-0.04	43
8	OKLF Linebacker 341L	226	27	-2.1	58	94	17	5	0.1	19	15	53	1.04	-0.18	-0.03	48
9	Carrousel's MVP	205	11	1.4	65	114	22	12	1.3	N/A	21	57	0.59	0.04	-0.21	42
10	LESF Asphalt 9N	203	0	3.2	29	62	19	-8	0.7	N/A	7	-20	0.17	-0.13	-0.09	36
Registered progeny—Average EPDs of top 10		2,588	8	1.4	53	91	22	3	0.7	19	19	40	0.56	0.01	0.07	48
Percentile ranking of average of top 10 sires			30%	35%	9%	14%	40%	50%	10%	30%	30%	7%	24%	80%	9%	7%
Breed-average EPDs			6	2.1	40	75	20	3	0.2	17	14	14	0.39	-0.08	-0.04	42

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### Scrotal Circumference, Stayability, Docility

Intense selection for scrotal circumference (SC) is evident in the high-use sires. Nine of the 10 are above average for SC EPD, and the average SC EPD of the top 10 ranks in the top nine percent of the breed. Stayability EPDs were available for only six of the top 10 sires but generally ranked above breed average. Given the definition for stayability, it is not surprising that many high-use sires lack genetic predictions and accuracy for that trait.

Another Visions Symposium breed-improvement directive involved recommended selection for further improvement in docility. Seven of the top 10 AI sires possess genetics for above-average docility, with the average EPD of those sires ranking in the top 30 percent of active sires. We should note that seven of the top 10 have relatively low-accuracy (less than 0.40) docility EPDs that are subject to potential change as more docility-score data accumulate. Hence, breeders are encouraged to step up their efforts to

evaluate and report docility scores.

### Carcass Traits, \$MTI

Improved grades for both quality and yield were another Visions Symposium breed-improvement objective. Although study of individual sires sometimes indicates otherwise, the collective carcass-EPD profiles of the top 10 AI sires indicate simultaneous selection for enhanced marbling (MARB) and ribeye area (REA). It follows, when selection for carcass and growth are combined, the high-use sires compare favorably for mainstream terminal index (\$MTI), which is in the top seven percent.

As compared to all active sires, those sires' average marbling EPD would rank in the top nine percent, and their average REA EPD would rank in the top 24 percent. Those sires' average yield grade EPD ranks in the breed's bottom 20 percent—indicating genetics for increased fat deposition. That might be viewed as favorable from the perspective of earlier compositional maturity and maternal adaptability but unfavorable from the standpoint of lean yield.

### Time for Reflection

AI-sire selection is among the most economically important decisions seedstock producers make. A retrospective look at the most heavily propagated sires provides food for thought as breeders contemplate selection decisions for the next breeding season. **LW**