

Putting Genomics into Use

Background

When a farmer sees the genomic data provided by a genetics company, he or she needs to implement a management plan in order to ensure that this data is utilized effectively. To do this, the farmer must ask him- or herself:

- What are my goals, and how do I prioritize them?*
 - Higher milk production?*
 - More fat or protein in the milk?*
 - Cows that get bred easier?*
 - Healthier cows that will stay in the herd longer?*
- How much will I invest in the use of the bull for each cow?*
- How much time can I spend to pick an individual bull for each cow?*
- Do I want to invest in sexed semen so I only have female calves?*

All of these factors and more will determine what strategy is used on the farm to produce the next generation of replacement animals. One key element to remember is that, in a well-managed farm, genetics are an investment in a potential increase in output from the farm. While it may be an added expense to invest in a bull with a higher genomic score, his daughters may produce much greater amounts of milk, which will more than pay off the extra cost of using the bull. Therefore, it is important to understand the status of the herd compared to the rest of the industry, so the farmer knows how much increase in income is possible by using bulls with higher figures on a genomic report.

An Example Farm

Farmer Carrie has just taken over a herd of 250 cows in Upstate New York when her father decided to retire. All his life, Carrie's father has sold his milk to the same cooperative to be bottled and sold as fluid milk. Carrie, however, has been approached by a new cheese producer, who wants to pay her even more than this cooperative for the milk produced on her farm, so she wants to look into finding a way to improve her herd for a new market. She decides that what is most important for her is to have healthy cows that last a long time in her herd, and that produce a lot of proteins that make the cheese.

- 1) When Carrie starts looking for new bulls, should she look for bulls with (select all that apply):
 - a) High productive life (PL)
 - b) High potential transmitting ability for fat (PTAF)
 - c) High potential transmitting ability for protein (PTAP)
 - d) High potential transmitting ability for type (PTAT)
 - e) High cheese merit (CM)
- 2) If Carrie wants her production herd to become high cheese producing as fast as possible, she could expedite the process by:
 - a) Selling her current animals

- b) Breeding to bulls with high daughter pregnancy rates to get more calves
- c) Using sexed semen to maximize the number of replacement animals
- d) Feeding animals a higher protein diet

Picking a Bull

Displayed on the right are the records for two bulls that are available through Genex Cooperative, Inc.

- 1) Which of these two bulls would be the best for Carrie's new production herd for goal of cheese making?
 - a) Myth
 - b) Avenger
- 2) Why is this bull a better choice?
 - a) He is cheaper
 - b) He has higher cheese merit
 - c) He has more daughters so he is proven
- 3) Who is estimated to produce offspring with a greater productive life?
 - a) Myth
 - b) Avenger
- 4) Who is estimated to produce offspring that produce more fluid milk?
 - a) Myth
 - b) Avenger
- 5) Who is estimated to produce cows with a lower somatic cell score?
 - a) Myth
 - b) Avenger
- 6) Which bull do you think Carrie's dad would use if he wanted to keep selling fluid milk for bottling?
 - a) Myth
 - b) Avenger

Sully Hartford Swmn Myth-ET



USDA-CDCB, CRI 4/2015				
ICCS	+\$443	LNMS	+\$446	76%R 88%ile
HLTH\$	+\$36	FMS	+\$485	
FYFT\$	+\$-44	CM\$	+\$428	
CABL\$	+\$6	Milk	2550M	78%R
PREF\$	+\$388	Protein	70P	-0.03%
MABL\$	+\$57	Fat	45F	-0.18%
Prod. Life	1.70	73%R	DPR	-1.0 70%R
Daughters	G	Herds	G	SCS 3.16

Co-Op Avenger-ET



USDA-CDCB, CRI 4/2015				
ICCS	+\$901	LNMS	+\$737	74%R +++ile
HLTH\$	+\$419	FMS	+\$895	
FYFT\$	+\$149	CM\$	+\$755	
CABL\$	+\$18	Milk	1178M	78%R
PREF\$	+\$224	Protein	41P	0.02%
MABL\$	+\$91	Fat	47F	0.01%
Prod. Life	8.90	71%R	DPR	4.30 68%R
Daughters	G	Herds	G	SCS 2.71