DAIRY CROSSBREEDING

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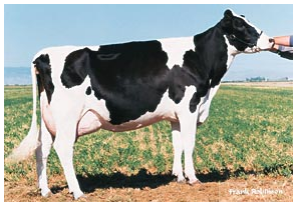
You may know about genetic improvement programs for Holsteins. . .



Holstein
- 60,000,000 cows on milk recording
- 5,500 young bulls tested each year

But can you match these crossbreeding "candidates" with their info?

___ **Ayrshire**
- 100,000 cows on milk recording
- 150 young bulls tested each year

___ **Brown Swiss**
- 7,000,000 cows on milk recording
- 600 young bulls tested each year

___ **Finnish Ayrshire**
- 200,000 cows on milk recording
- 130 young bulls tested each year

___ **Guernsey**
- 100,000 cows on milk recording
- 80 young bulls tested each year

___ **Jersey**
- 1,200,000 cows on milk recording
- 630 young bulls tested each year

___ **Montbeliarde**
- 330,000 cows on milk recording
- 170 young bulls tested each year

___ **Normande**
- 270,000 cows on milk recording
- 160 young bulls tested each year

___ **Norwegian Red**
- 280,000 cows on milk recording
- 125 young bulls tested each year

___ **Red Dane**
- 50,000 cows on milk recording
- 55 young bulls tested each year

___ **Swedish Red**
- 200,000 cows on milk recording
- 100 young bulls tested each year

For more information, please contact:

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(ANSWERS FROM THE PREVIOUS PAGE: C, F, I, D, H, J, B, G, A, E)

Average genetic differences between colored breeds and Holsteins in US dairy herds
(source: USDA Animal Improvement Programs Laboratory)

	Ayrshire	Brown Swiss	Guernsey	Jersey	Milking Shorthorn
Milk Yield	**-5,258 lb**	**-4,204 lb**	**-6,107 lb**	**-6,516 lb**	**-7,106 lb**
Fat Yield	**-134 lb**	**-79 lb**	**-81 lb**	**-75 lb**	**-244 lb**
Protein Yield	**-130 lb**	**-70 lb**	**-136 lb**	**-103 lb**	**-198 lb**
Somatic Cell Score	**-0.16**	**-0.10**	**+0.07**	**+0.19**	**-0.07**
Productive Life	**+0.3 mo**	**+0.8 mo**	**-8.5 mo**	**+3.2 mo**	**-2.2 mo**
Daughter Pregnancy Rate	**+2.4%**	**+1.1%**	**+0.8%**	**+5.5%**	**+4.5%**

University of Minnesota Research

- 1st generation Swedish Red, Norwegian Red, Normande, or Montbeliarde x Holstein
  - Improved calving performance
  - Fewer days open
  - Much lower culling rate

Penn State Research

- 1st and 2nd generation Brown Swiss x Holstein
  - 1st generation competitive with Holsteins
  - 2nd generation similar to Brown Swiss

University of Wisconsin Research

- "Backcross" 75% Holstein x 25% Jersey
  - Reduced milk yield
  - Only minor gains in fat %, protein %
  - Lower birth weight and smaller mature size

North Carolina State Research

- 1st and 2nd generation Holstein x Jersey
  - Reduced milk yield
  - More cows cycling by 60 days in milk
  - Higher conception rate and pregnancy rate

Take Home Messages:

- Research is underway at several universities to measure breed differences and hybrid vigor for important traits in dairy cattle.
- All traits affecting lifetime net profit must be considered, from conception until death or culling.
- Milk yield will usually be sacrificed in order to achieve gains in calving ability, female fertility, health, and longevity.
- In the right milk market, first-generation crosses with some "colored breeds" can compete with Holsteins for lifetime net profit, especially when milk prices are low.
- Crossbreeding is a long-term commitment, so it should not be taken lightly.
- Many tools are now available to select for improved health, fertility, and longevity within the Holstein breed, as an alternative to crossbreeding.