

What About Line Breeding?

Line breeding is sometimes promoted as a good thing. On the other hand, you will also hear cautions about inbreeding. So what does all this mean, and how is it useful to you?

My late husband spent his life studying breeds and breeding, with a house full of books and papers on the subject, which he used to pore over and discuss at length. He identified many examples of influential individuals resulting from line breeding. He also observed the pitfalls of line breeding for its own sake.

For the following discussion, I draw on our own experience and study, especially from material by C.H. Hinman and Dr. Phil Sponenberg.

If you hear line breeding touted as some magic formula in itself, beware. The results of line breeding will only be as good as the genetic material that you start with.

What is Line Breeding?

Line breeding is the mating of animals that have some degree of relationship to each other. It is distinguished from inbreeding only in degree. For example, brother/sister matings are generally considered line breeding, while mating dam to son would be inbreeding.

Line breeding is a tool that can increase the consistency or predictability of the herd. In this sense it is like fire or a two-edged sword: It is valuable when used correctly and very harmful if used carelessly.

To be successful, the animals that are to be “doubled up”, that is, that will appear more than once in their offspring’s pedigree, need to be particularly superior animals. If they are not, you may end up with consistently poor animals.

Why Do We Use Line Breeding?

We offer line bred genetics so producers like you can obtain more uniform grazing-adapted offspring.

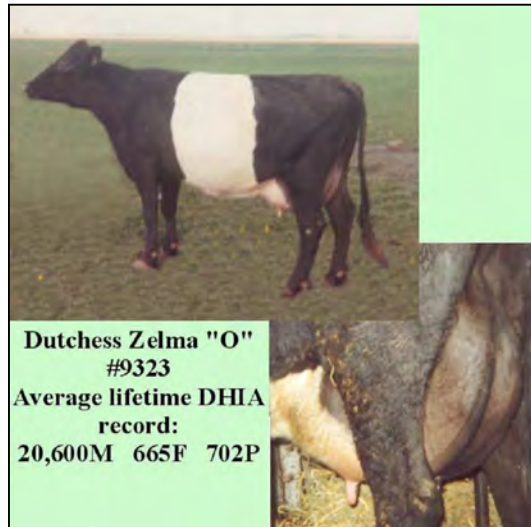
In contrast, many of the imported “breeds” currently being promoted for crossbreeding are actually composite cattle themselves, so their results may be all over the map.

Line Breeding in our Dutch Belted

In the Dutch Belted breed, we have found that a certain amount of line breeding is inevitable because of the relatively small gene pool.

We have identified some Dutch Belted cows so exceptional that we choose to utilize their sons to intensify the frequency of their desired traits. We have also obtained relatively outcrossed sires as needed, such as Mohican, Brink, and Eddie, to prevent unwholesome inbreeding.

For example, Gold Dust’s sire and maternal grandsire were closely related to one another but largely unrelated to any of our lines, so we essentially obtained a type of hybrid vigor by using him on our cows.



This tremendous cow is the dam of Zinger, Doubleday, Perfect Day, and Rocket’s maternal grandsire. She appears twice in Zorro’s and Universal’s pedigrees. Zinger himself was line bred, as his sire and maternal great grandsire were the same, accounting for his consistency.



This ideal young cow, Bestyete Gloria, shows the positive result of line breeding top individuals, being sired by Gentleman, who is a grandson of Zelma, and out of a Rocket daughter who is a double granddaughter of Grayview Gold Dust.

How We Use Line Breeding

We use line breeding carefully and judiciously, and have for many years. We have seen the positive results in terms of repeatability and quality of having certain exceptional animals well represented in a pedigree. We have also seen the detrimental effects of too much inbreeding, so we know how close is too close, and we know what to avoid.

We “walk the line”, seeking to balance the amount of close breeding to prudent outcrossing.

How You Can Use It

You can benefit from our line breeding in a couple of ways.

As one strategy, you can use our most closely bred bulls on your outcross cows for offspring with hybrid vigor and a high frequency of the traits we’ve been selecting.

Or, you can use a series of our bulls with related parents, which will result in your own herd being line bred.

Line Breeding in our Milking Shorthorns

Here are some examples from our Milking Shorthorn bulls. Lapp’s Joe, King Oscar, and Outstanding are quite closely line bred, with Peerless or a Peerless sibling appearing numerous times in the pedigree. Meriville Peerless himself is also closely bred, being the result of a $\frac{3}{4}$ brother-sister mating of our best individuals. Thus by mating any of these bulls to your unrelated cows, you increase the chances of the offspring inheriting the traits of the common ancestors, which were rigorously selected for decades for excellent udders and milk production while many other M.S. breeders were selecting for smooth show type. This is why Peerless ended up with a very consistent milk proof.

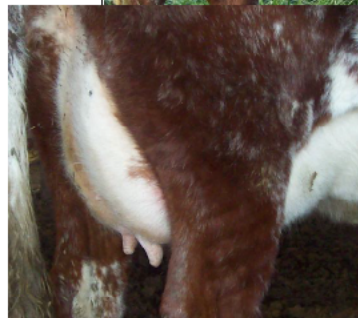
We have other bulls, like Picasso, Flashback, Milk More-P, and Rock County, who are out of line bred Peerless daughters or sisters and sired by total outcross vintage Milking Shorthorn sires from decades ago. So these four bulls can be used on one another’s daughters in series for at least a couple generations without too much inbreeding, to increase the frequency of the traits we’ve selected for.

Other bulls we have are essentially total outcross bulls, like Rojahns Bass Player and Cantagree Matchless Duke. We have also obtained bulls that are the results of line breed

ing along lines largely different from our herd, such as Cantagree Lord Bates 3d and Rojahns Iris NKT Lancer-N-ET-P. These can be used on line bred Peerless cattle to introduce needed new blood.



Mericrest Kewpie EX93 93-94-92-92-92 5-10 304d
21,265m 3.7% 793f 3.5% 744p
6-9 340d 28,421m 2.9% 822f 3.5% 992p
World Dairy Expo Champion 5 years
Supreme Champion, Illinois State Fair
These records were not made on grass only.
This is one of Peerless’ many great daughters, and her influence and that of her sire and dam figure into many of our pedigrees. She was a medium-sized cow with incredible will to milk.



We consider this cow the optimum grazier: short, deep and wide, with a milky quality, level udder. She is sired by Outstanding, whose sire was Kewpie’s full brother, and her dam was a Picasso, whose dam was Kewpie (see above).