Breeding Dairy Cattle

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The value of a herd of dairy cattle depends upon the methods employed in breeding and feeding. Other factors enter in to assist or retard the efforts of the breeder, but regardless of all skill employed in otherwise managing the herd, to ignore the laws of breeding and the principles of feeding is to invite failure. Breeding and feeding go hand in hand. He who applies the principles of feeding and disregards the laws of breeding or vice versa cannot realize the greatest success.

It matters little how well bred the sire and dam, improper feeding will dwarf the traits of excellence that should be transmitted to the offspring.

Again, it matters little how expert the feeder. little will be accomplished if the animals are poorly bred and he who would succeed in attaining either wealth or fame by improperly feeding cattle descended from mediocre breeding has but one chance in a thousand of realizing his aim.

I am at present, however, a breeder and feeder of dairy cattle, and those phases of the subject which may be put to practical use for increasing production and insuring improvement of future herds will be more welcome to our readers than a discussion of
the scientific laws that underlie breeding and feeding.

To attain success in any business it is necessary to have a proper starting point and proceed in the right direction. Failure is often the result of starting wrong and proceeding in the wrong direction or traveling in circles. This is more true of the breeding of live stock than of nearly any other business, for the one who starts with the wrong sire and continues to use sires of this kind forever travels in the wrong direction. He walks on a tread power and though he keeps everlastingly at it he never arrives. He who alternates good sires with poor travels in circles. He progresses at times, but usually finishes up at about the same point from which he started.

The breeder who is walking in the tread power or traveling in circles—and many of us are guilty—must start over before he can expect to succeed. If he would attain his purpose he must first have clearly in mind what his purpose is. If he would breed cows of great producing capacity he must mate his animals with that end in view. If he would breed cows with show yard characteristics he must follow systematically the path which leads to purple ribbons. Comparatively speaking these roads are smooth and well trodden, but if he would breed cattle possessed at once of great and economical milk and butter producing qualities together with show yard characteristics—beauty, type and conformation he will find a rougher road for it is traveled less than the tread powers and circles or either of the pathways leading to the productive cow or the beautiful show ring champion.

It is for the breeder himself to decide definitely just what kind of an animal he will breed. He must have a clearly defined mind’s eye picture of the
image he would mold by the persistent and intelligent mingling of blood lines through a lifetime of effort. If production is his desire, bulls from long lines of producing ancestry must be used. The greatest of all laws of breeding—like begets like—is as true today as in the days of Cruickshank, Booth, Bates, Hugh Watson and many others whose names will live in history as long as the cattle breeding industry survives. If he desires to breed excellence of type, form and conformation, the slogan now threadbare with age is true: "Breed from the winners."

Truly believing it possible, yet realizing that the process is more difficult to breed great producers possessing acceptable type, conformation and beauty, than to secure either feature without the other, my suggestions will be along that line.

The starting point is in the bull pen. Analyze your bull. Demand that he shall come up to a rigid standard of requirements and follow up that demand by replacing him with another bull if he does not.

If your mind's eye picture calls for a cow that yields annually 500 pounds of butter-fat, make sure your bull's feminine ancestors for six generations were cows that could perform at that rate; also that the paternal ancestors were progenitors of such cows. Perhaps the pedigree does not show them with such records but it should indicate that the ability to make such records is present. I say all ancestors, and I specify six generations of ancestors, for a bull, although more likely to transmit the characteristics of this dam, will transmit the characteristics of his more remote ancestors. That is why Holstein calves sometimes come red and white and Aberdeen Angus calves come all red when not for scores of years have these foreign colors been accepted to registration. If the bull does not live up
to this requirement go no farther, for if he does not possess the inherent qualities of production he will never transmit them to his offspring. Rid yourself of that bull and start right.

You can journey but once from the cradle to the grave. Do not let your epitaph read that you made the journey with a dairy bull that did not possess the first fundamental qualities of dairy breeding.

If the bull's pedigree is acceptable in this respect, proceed if your ambitions call for more than production alone. Secure description of the conformation of the same ancestry. Look for show yard records. Remember that the present-day greatness of all breeds of beef cattle, draft horses and other domestic animals is largely the result of the mating of prize winners and thus preserving their blood.

If no prize winnings are to be found in his pedigree, bear in mind that he who attends great shows without his cattle and claims he has better individuals at home is probably less than 90 per cent right and that your herd bull, even though a good individual himself, may not transmit with certainty his own conformation for like begets not only like, but the likeness of an ancestor. If your bull fails here, dispose of him, but if in each respect the pedigree is acceptable, study the bull himself remembering that "like begets like as well as the likeness of an ancestor."

Your mind's eye picture of the cow you would breed is clearly defined. She must be good all over.

Starting at the head to insure systematic procedure, it is a recognized fact that a large mouth indicates a good feeder; a large nostril, constitution; a face clean cut and of good length, well dished between large, prominent, bright eyes points to excellence of dairy temperament.

These being desirable in the cow necessitate their
presence in the sire that he may transmit them, thus insuring their prominence in the next generation. Furthermore the head of the bull must, through its appearance of masculinity indicate strength of character and prepotency. It matters not how excellent in breeding and individuality a bull is if he does not have the prepotent power necessary to stamp on his get his characteristics and those of his ancestors, he is of little value. The effeminate sire permits the cows of the herd to stamp the various points peculiar to themselves and their progenitors thus eliminating uniformity of type, conformation and productiveness.

The neck of the cow should be of good length, blending neatly into shoulders; free from beefiness and with the back bone slightly protruding above, insuring a wedge shape conformation. The sire—though because of masculinity bears a heavier crested neck—should also possess length in this part and shoulders bearing close resemblance to those of the desired cow, that his offspring may conform to the requirement.

As surely as it is desirable to have cows long from the shoulders to the hip bones, well sprung in the ribs, open jointed and free from beefiness along the backbone, deep in the body, with a covering of hide soft, pliable and elastic, which in turn is covered with hair soft and silky, these qualifications must be presented by the sire if they are to be expected in his offspring.

Prominent hip bones are desirable in the dairy cow and great length, and straightness from these points to the pin bones insures length of udder and one that carries will forward with front quarters well rounded out. Therefore, it is very essential that the sire who is expected to impress these characteristics on the next generation should comply
with this conformation.

The cow of your dream must have a broad udder, characteristics on the next generation should comply must be well arched between thin incurring thighs. Cows, beefy in the hind quarters, lack place of attachment for long, broad udders.

To insure this essential it is necessary that sires used in the attempt to secure the ideal cow must be thin of thigh, cut high up and well arched out in the hind quarters.

The cows of great capacity and ability may utilize the milk making nutrients digested from foods consumed, there must be an abundance of blood circulating from the digestive organs, carrying these nutrients to the udder. The volume of this circulation is indicated by large, long and tortuous milk veins and by large and numerous milk wells. Cows with short, straight, small veins and only two small milk wells will seldom be found to be 500-pound cows. Bulls vary almost as greatly as cows in these respects. Therefore the sire should be well veined.

Rudimentaries, if small and placed close together on the sire indicate that his daughters will have small teats placed close together.

With all details of form and conformation approaching perfection the sire must possess size, color markings, style and general appearance in keeping with the breed he represents. If your bull is extremely faulty in any of these requirements when in proper condition, life is too short and good bulls too plentiful for you to use him unless he is especially valuable in correcting certain defects in your herd without incurring worse ones.

By the use of even the very best sires disappointments occur. Progress is slow. Breeders do not accomplish great success in one generation of breeding. Even a lifetime honestly and intelligently em-
ployed is too short a period for most breeders to realize their ambitions where lack of experience or financial restrictions compel them to start with a heterogeneous collection of females.

More often advancement is retarded by improper selection of a good herd bull’s successor than by use of the wrong bull in the beginning. When a bull is placed in service, your efforts should begin to secure his successor. The time between the use of the first bull and the breeding age of his daughters is almost too short for locating just the right bull. Fortunate is the breeders who, in a lifetime, is successful enough to control the services of one outstanding excellent sire and doubly fortunate is he who makes no mistake in selecting sires that will improve upon or even perpetuate the excellencies transmitted by one renowned sire.

Outcrossing and inbreeding are uncertain tools in the hands of the breeder who strives for certain uniform results. Either method properly employed will insure some excellent animals, but because they are radical procedures, they are liable to interfere with uniform results which mean that a great many inferior offsprings are liable to come along with a few excellent ones by following promiscuously either inbreeding or outcrossing. A more certain method is line breeding which differs from inbreeding in that it consists of mating animals remotely related rather than those closely related. Owing to the fact that the greatness of the progeny of a sire comes largely through his dam, one excellent plan of line breeding is that of using a second bull whose dam is the best sister of the first bull’s dam and whose sire—furnishing as he does the mild outcrossing blood—is more remotely related, if at all, and possesses in his individuality and that of his ancestors the qualities necessary for correcting the small defects trans-
mitted by the preceding sire. When the calves of
the second sire approach breeding age, provided the
first sire used has proven worthy, it will be advisable
in some instances to breed them to him—their
grand sire.

In other instances an excellent son of the first sire
—out of a highly productive cow possessing no fault
in common with the offspring of the first sire—may
advantageously be used on the daughters of the sec-
cond sire. Such is line breeding in the case of the
second sire used and line breeding approaching in-
breeding in the last two instances suggested.

If the breeder has made no mistake up to this
point and the heifer calves promise to approach the
perfection of his ideal, then he is in a position to
breed and develop his own bulls and continue line
breeding until perfection, as his eye outlines it, has
been reached.

The time has been arrived when close inbreeding
may be advisable to intensify the blood lines which
have attained success so that the approved type,
conformation and production may be retained in the
herd. From that time forward line breeding is ad-
visable, foreign blood being introduced gradually and
judiciously. Radical outcrossing at this point is ab-
solutely dangerous and excusable only on the grounds
of fancy and faddism, for not knowing how foreign
blood is going to nick with the herd, a lifetime of
persistent, careful effort may be destroyed by the
use of one bull, even though he himself is a good in-
dividual and carries blood lines unfaultable from the
standpoint of the family to which he belongs.
Foreign Cheese Making at the Wisconsin Dairy School

Cheese Making Operations and Tests at the Wisconsin Dairy School.