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Selection and Management of the Dairy Bull

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Every breeder of dairy cattle who studies seriously the problem of herd improvement realizes that the whole future of the herd is at stake when the bull is selected. The problem of getting a better herd is largely one of having better young stock coming on. This is a matter of breeding and particularly of selecting the right bull.

The ability to produce milk is inherited through both sire and dam, but since the sire is responsible for half the inheritance of each animal born in the herd, he is clearly the most important single factor in the development of the dairy herd. To secure the greatest possible improvement through his use it is important that the utmost care be used to select a bull that will with reasonable certainty transmit to his offspring the desired type and production. Then he must be wisely handled to prolong his usefulness.

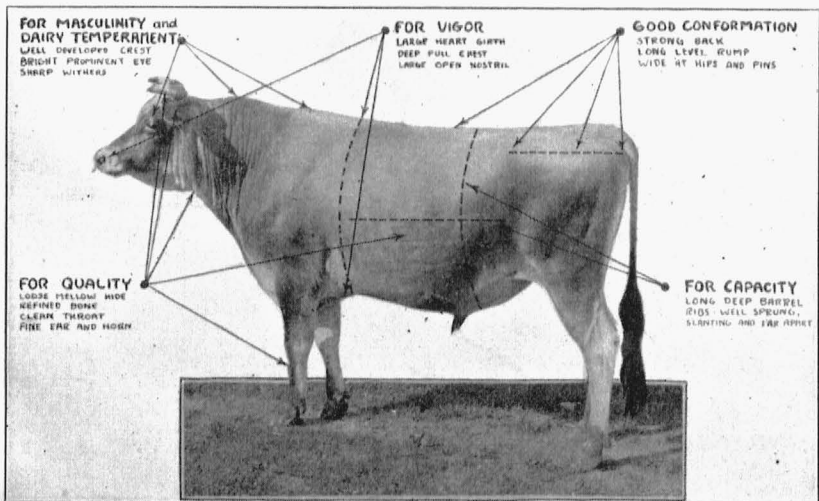


Fig. 1.—The bull should be typical of the breed he represents and of good size for his age.

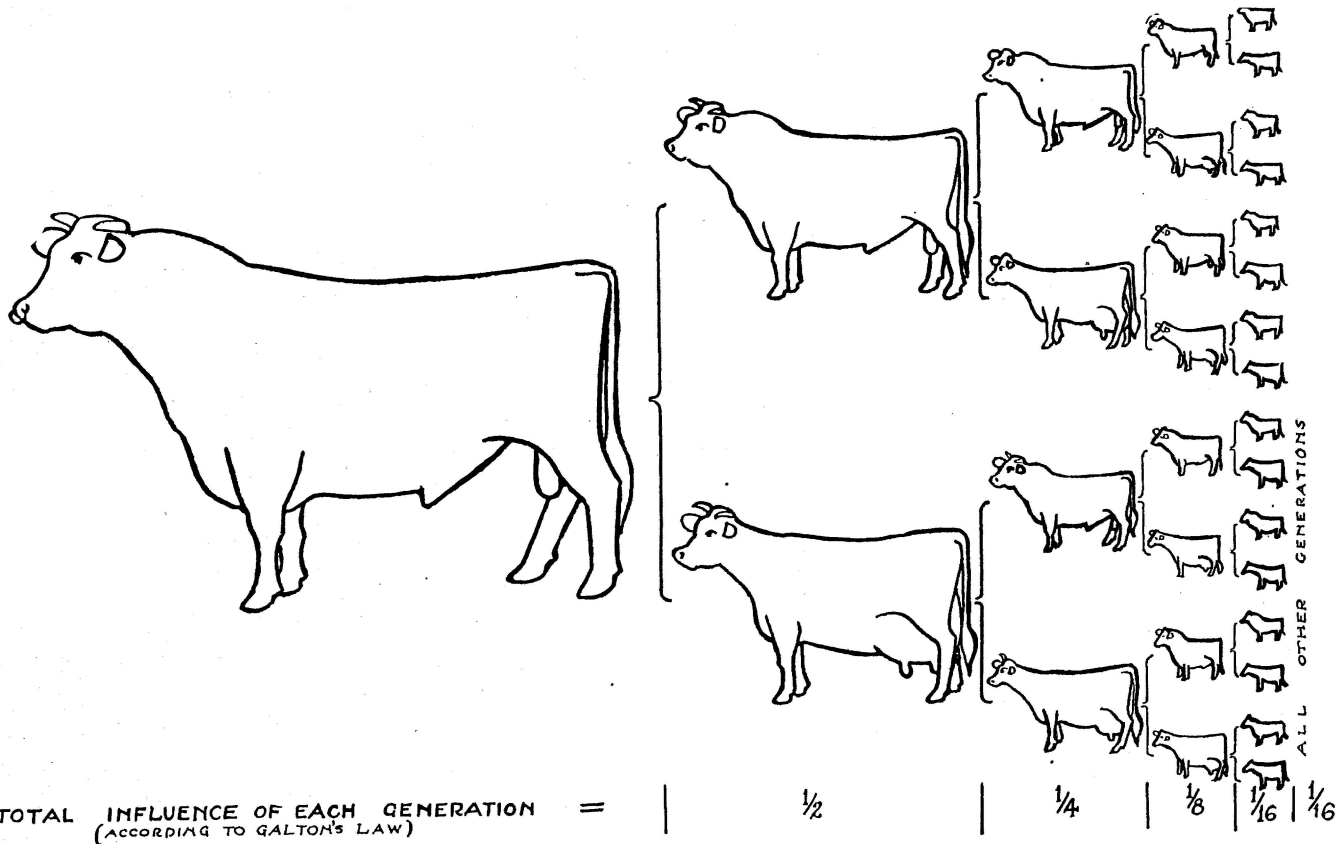


Fig. 2.—The size of the figures represents the relative value of each individual in the pedigree. The immediate dam and sire are the most important ancestors, since one-half of the inheritance comes through each, or when considered in relation to all animals in the pedigree each individually contributes one-fourth, or both together one-half of the effective inheritance. The four animals in the next generation contribute one-sixteenth each, or all combined one-fourth, of the total inheritance. Too much attention should not be given to ancestors three, four, or five generations back.

HOW THE BULL IS SELECTED

The selection of a dairy bull is usually made upon one of the following points or some combination of the three: (1) *Type or appearance*, (2) *Pedigree or the breeding behind him*, (3) *Character of the offspring*. The most common basis for selection is type and pedigree combined. Where conditions make it possible, unquestionably the best method is to select a proven bull, that is, one that has already demonstrated his ability as shown by the type and dairy qualities of his daughters.

Type or Appearance.—It is important to have cows of good conformation and it seems certain that the type or appearance of the dairy bull is some guide as to the conformation of his daughters. It is well recognized, however, that the “looks” of the bull offer little as a means of judging how he will transmit milking qualities.

The bull should be typical and medium to large for the breed to which he belongs. The average weights for mature bulls of the various breeds are about as follows: Jersey 1400 to 1500, Guernsey 1500 to 1700, Ayrshire 1600 to 1800, Brown Swiss 1800 to 2000, and Holstein 2000 to 2200 pounds. He should have good conformation, show marked masculinity and be full of vigor and nervous energy, but withal show a proper degree of quality.

Pedigree.—The great majority of bulls in use are, and should be, selected largely upon pedigree, that is, the ancestors of the animal in question together with milk and butterfat and show ring records. Pedigree with some consideration of individuality is the best means of selecting a bull except where it is possible to judge him by his daughters. The prospective purchaser is always justified in asking for a tabulated pedigree of the bull he is considering. In studying the pedigree the general rule is that only those ancestors which are “close up” are important in determining the qualities of the individual under consideration.

The mother of the bull in question is of first importance. The buyer should make it a point to get a picture of the dam, or if at all possible, to see her and satisfy himself that she is as nearly as possible his ideal of a perfect cow. Furthermore it is preferable if not essential that she have a good official record as an indication of her milk producing ability. It is also important to make sure that the dam of the bull even though a good producer is not a freak in her own family. Thus if the majority of the family excepting the dam were inferior cows she will probably transmit not her own excellence but the average of her family.

The sire is next in importance to the dam. He must be judged largely by the dairy qualities and type of his daughters if they are in milk, or if they are not, by his sisters and most especially by his dam.

The records in a pedigree should be studied very closely to determine just what they mean. Unfortunately some pedigrees are written up to appear better than they really are and they are misleading to the inexperienced reader. Thus, in instances where animals close up in the pedigree have no records, the records of ancestors or distant relatives are often put in the vacant space with small explanatory statements such as “by a $\frac{3}{4}$ brother to the sire of”, etc., followed by the records. The object is to make the pedigree appear better than it really is without making any misstatements and frequently the

result is misleading. What is wanted in a good pedigree is the actual records made by the female ancestors of the animals in question and by the daughters and sisters of the male ancestors. *It is important to distinguish between butter-fat and butter records.*

A good strong pedigree, while it does not always insure a good transmitting sire, is nevertheless, when coupled with some attention to individuality, the surest and best method of selecting a young or untried bull and will prove satisfactory in the great majority of cases.

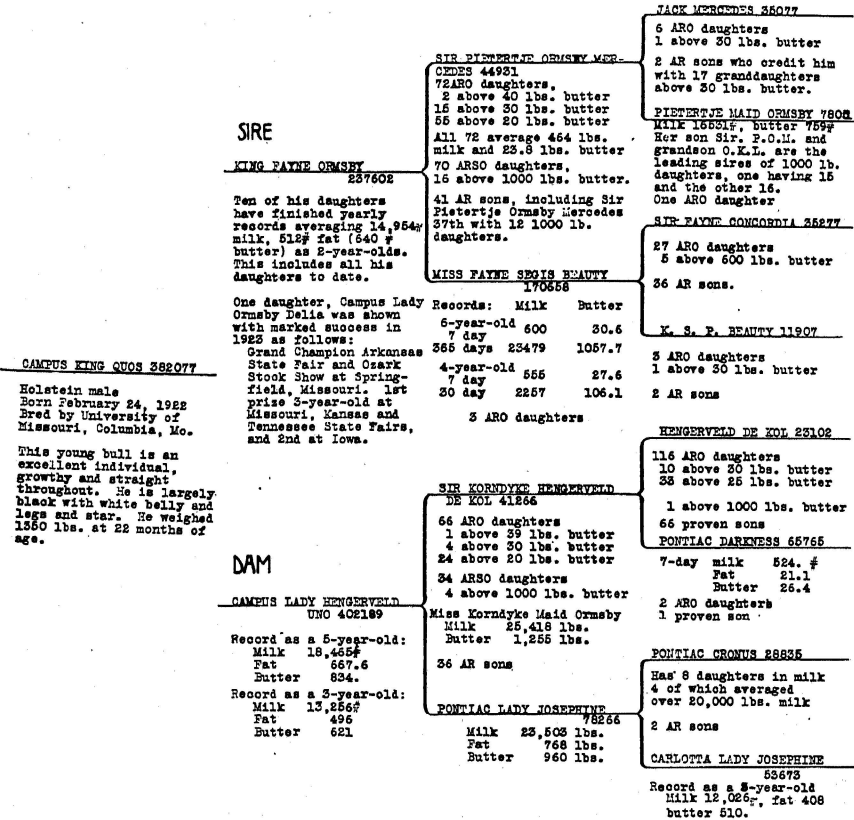


Fig. 3.—A good pedigree. This bull calf is backed by generations of good production. There is no misleading information in the pedigree.

The Proven Sire.—The safest way to select a bull is to choose a mature one that already has daughters in milk so that there is an opportunity of judging how he transmits dairy qualities. It was by this means that the Jersey bull Sultana's Virginia Lad, a former herd sire of the University of Missouri herd, was chosen. Including every one of his twenty daughters in the University herd, their average as junior two-year-olds was 7339 pounds of milk containing 429 pounds of fat (536 pounds butter). This is an increase of 1911 pounds (35%) in milk and 142 pounds (50%) in butterfat production

over their dams at the same age. It is of course difficult to get such a bull because proven sires of unusual merit are seldom for sale and as a rule only the owners of well developed purebred herds can afford the time and expense involved in finding such an animal. Many breeders with purebred herds are finding it a good plan to buy a promising young bull and use him to a limited extent then sell a part interest or lease him to another breeder until his daughters come in milk.

CARE AND MANAGEMENT

After selecting the right bull he must have good care and management in order to get him in the best breeding condition and preserve his usefulness as long as possible.

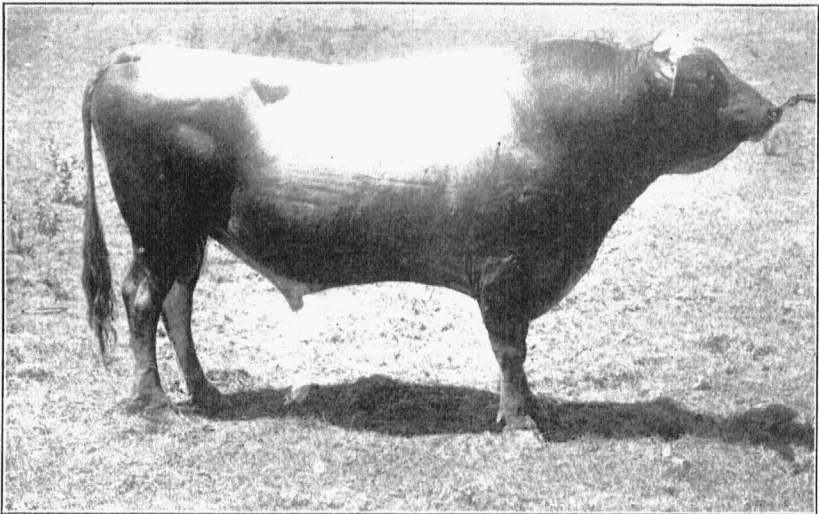


Fig. 4.—Sultana's Virginia Lad was selected as a tried sire after his daughters had proven themselves to be good producers. His entire lot of twenty daughters dropped in the University of Missouri herd averaged 7,339 pounds of milk containing 429 pounds of fat (536 pounds butter) as junior two-year-olds. This is an increase of 1911 pounds (35%) in milk and 142 pounds (50%) in fat over their dams at the same age.

Developing the Young Bull.—The bull calf should be kept in a good, thrifty condition, and pushed along enough so that he will certainly attain his full size because an undersized bull is always looked upon with disfavor. The calf is usually raised with the heifers for the first four to six months *when he should be separated from them and kept to himself or with other bulls of his age*. At this time he should be eating hay freely and four to six pounds of grain. After he is weaned from skimmilk the amount of grain may be slightly increased. A good grain mixture for the growing bull might well be made up of two parts corn, one part oats, and one part wheat bran. Such a mixture when fed with a good legume hay such as alfalfa, clover, or soybean hay makes

an adequate ration. He should be fed enough to keep him growing well but there is no advantage in getting him fat.

Amount of Service.—Most bulls are sufficiently mature for light service by the time they are a year old. The amount of service should be limited until the bull is a year and a half or even two years old. From 12 to 15 months of age he should not serve more than one or two cows in any one week. As he matures the amount of service may be increased but generally the bull should not serve more than twenty-five cows before he reaches the age of two years. When about two years old the maximum breeding power is reached and he may be expected to take care of a herd of about fifty cows. He could of course breed many more if they were evenly distributed throughout the year but this estimate assumes conditions in the average herd where a majority of the cows are bred to calve about the same season of the year. The best breeding period



Fig. 5.—Thirteen daughters of Sultana's Virginia Lad whose R. of M. records average 458.5 pounds of fat (573 pounds butter) at the average age of three years, six months.

is between the ages of two and five or six years. After that as a usual thing the bull gradually becomes slow and uncertain although under proper care and handling he may retain his breeding ability up to the age of 12 to 15 years or even longer.

The bull should never be allowed to run with the cows. Such a practice results in getting heifers in calf younger than is desirable and the bull will unnecessarily exhaust himself. Under such conditions it is impossible to keep an accurate breeding record which is necessary in order to know the date each cow is due to calve. Furthermore there is always danger to persons and property when the bull is running loose.

The main points to be observed in keeping the bull so that he will be a satisfactory breeder are to avoid excessive use while young, and to give a moderate ration with plenty of exercise when mature.

Ring and Dehorn.—When the bull is about one year of age a ring should be put in his nose for convenience and safety in handling. To insert the ring a hole is made through the cartilage between the nostrils, usually with a special punch made for the purpose or with an ordinary trocar. The ring is then slipped through the opening as the instrument is withdrawn.

If the bull is to be dehorned a good practice is to wait until he is about two years old. Dehorning at that time seems to have a marked effect in subduing him and making him easier to handle and he does not thereafter learn to use his head as well as if his horns had been taken off at an earlier age. In a majority of herds, when the safety of the man who handles the bull is considered, it is unquestionably best to dehorn the bull. On the other hand if

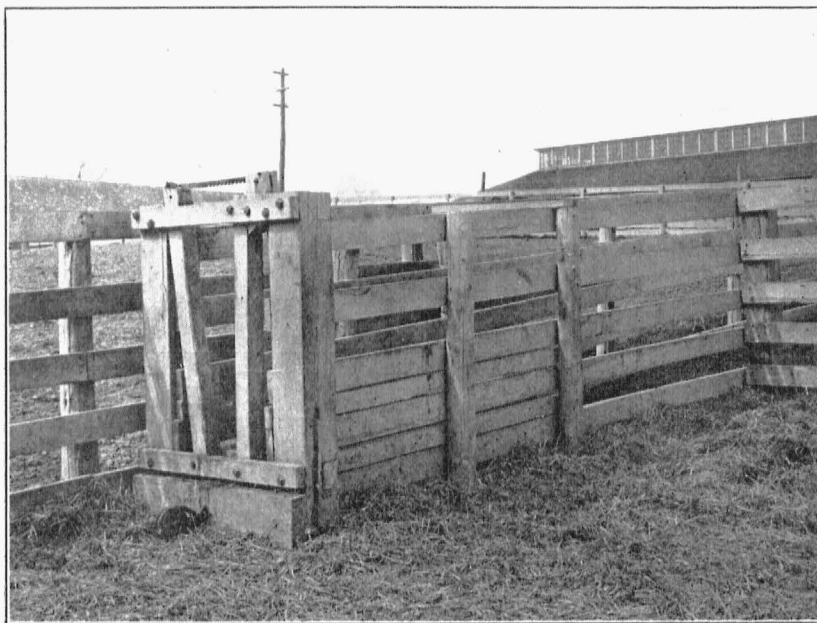


Fig. 6.—A strong chute makes the task of ring and dehorning bulls a very easy one.

the bull is to be exhibited in the show ring, dehorning will, in most cases, injure his chances. Also many of the larger purebred breeders who have numerous visitors to their herd consider that the advantages gained by a slightly better appearance of their herd sire are sufficient to outweigh the danger. For these reasons the bulls at the head of many highly developed herds where it is important to maintain the best possible appearance are not often dehorned. In general it is recommended that except under such circumstances all bulls be dehorned.

A strong chute and stanchion makes the job of ring and dehorning a relatively simple one. Such a chute is also convenient for veterinary work and numerous other jobs. However, in the absence of such a chute the bull can be thrown and worked on satisfactorily. In this case halter the bull to a tree or

strong post and tie one end of a strong rope about his neck at the withers. Make one loop around the chest and another around the flanks, then by pulling on this rope the bull can be thrown to the ground. Fasten the rope immediately to a nearby tree or post and anchor the hind legs to a third post. The bull will then be helpless and can be worked on.

Feeding the Mature Bull.—The mature bull is in best breeding condition when fed rather liberally, but exercised enough to keep him in moderate flesh. He should never be allowed to get fat. Roughage should make up a large part of his ration. Legume hays such as clover, alfalfa, soybeans or cowpeas are excellent and should be fed in as great quantities as he will consume. Silage in small amounts is a good conditioner. If possible it is beneficial to allow the bull to graze some. He should also have a limited grain allowance,

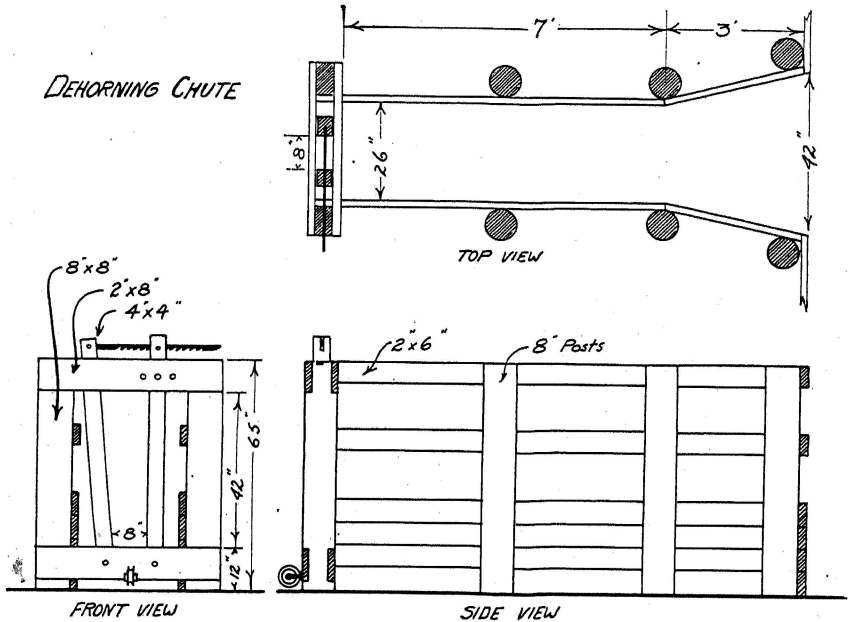


Fig. 7.—A simple plan for building a dehorning chute.

about 6 to 10 pounds daily of a mixture such as that suggested for the young bull is very good. Some prefer to feed the bull the same grain mixture given the cows. This is very satisfactory except that where his roughage consists largely of legume hays he does not need as much protein as is often supplied in such a ration.

Exercise.—Exercise is an important factor in maintaining the vigor of the sire. Much has been said about exercise and the means of affording it. Treadmills, overhead sweeps, cables, etc. are all good means of exercising the bull but probably the best plan of all is to give him plenty of room to exercise at will. Don't jail the dairy sire. When two or more bulls are used they may be kept together very advantageously, and without danger, if they are dehorned. In fact where two or more bulls are thus kept together there is the advantage of their taking more exercise than when confined alone. Sufficient

exercise is an important factor also in preventing a bull from becoming vicious. It is also better to locate him so he can see other cattle. Solitary confinement in an isolated stall is certainly not conducive to the development of a quiet disposition in the bull.

Housing the Bull.—Under most conditions the best shelter for the bull is a shed, open to the south but tight on the other three sides to keep out the weather. All the shelter that is really necessary is a good roof and tight walls to serve as a protection from cold winds, rains, and snows. Exposure to any but the severest weather may be regarded as beneficial rather than injurious to a breeding bull. The shed should be enclosed in a good sized, strongly fenced paddock in which the bull can exercise at will. With this plan of management the bull will normally keep in the best possible breeding condition. A bull handled in this way will look somewhat rough and for this reason such a plan

BREEDING CHUTE

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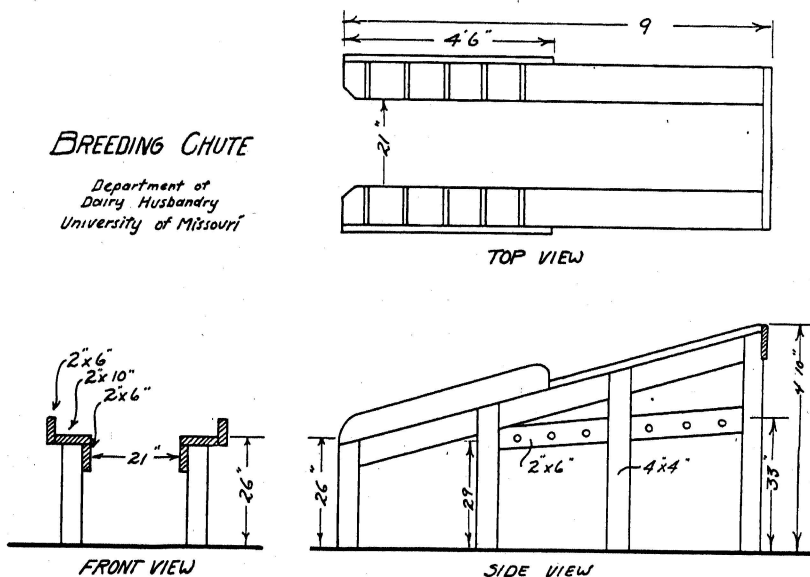


Fig. 8.—Plan for breeding chute.

is not often used by those who make a business of showing their cattle or by some breeders who count the appearance of their herd sire a great asset in making sales. For those who want the bull to look his best at all times, he may be kept in the barn. A box stall 10 by 12 feet will serve very well. Even then a strong paddock should be provided outside with a door leading from the box stall into it so that he may be turned out on good days.

The question of the fence for the bull yard is an important one. The points to be kept in mind in building the fence are to so construct it that the bull cannot get his head either over, under, or through the fence. It may be built of heavy posts with wooden boards or rails, or two-inch pipe and concrete posts may be used. Where possible about one-fourth of an acre should be enclosed for the bull yard. If these precautions are taken the bull will not learn to use his great strength in breaking fences or gates.

Vicious Bulls.—Mature bulls often develop fretfulness or even viciousness and become hard to handle and even unsafe. Many good bulls are unnecessarily slaughtered because of the difficulty in handling, when by the use of a simple system of gates on the pen or paddock they could be retained and used without the slightest danger to the owners. A good plan is to build a narrow chute adjoining the pen and to put a ten-foot gate in the fence, this gate to open at the rear of the chute. The cow to be bred may be led into the chute and tied. The gate is then opened to the outside wall of the chute and the bull has access to the cow, but he cannot escape to the outside. When he has served the cow the gate may be closed crowding him back into the pen.

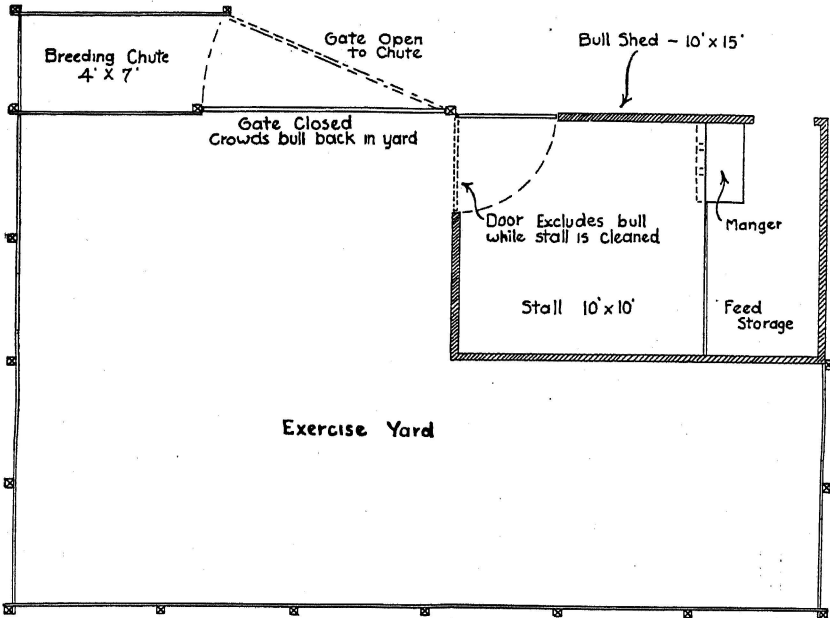


Fig. 9.—A good plan for housing and handling a vicious bull without danger to attendants.

In this way the bull can be cared for with perfect safety. If desired, a breeding rack to aid in the mating of old bulls to small heifers, or vice versa, or for the breeding of animals that do not readily stand, may be built into the chute. Occasionally also some bulls serve to better advantage when the rack is used.

The bull should be taught to stand tied and to be led, when a calf. The mature bull should always be handled with a staff. A strong halter or special bull stanchion may be used in cases where he is regularly tied in his stall. A bull is more or less dangerous under any circumstances but he is certainly less so when dehorned and handled by the ring with a staff. He may have always been gentle but there is no way of telling when he may have a "change of heart". For this reason he should always be handled with firmness and caution. It is the gentle bull, not the vicious one, that most often kills or maims his man.

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