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Idaho Bull Associations

By

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Idaho Bull Associations

By

D. L. FOUNT¹ AND I. H. LOUGHARY²

Introduction

DAIRYMEN recognize that the producing ability of herds is increased only by the use of high quality bulls. Idaho dairy farms are comparatively small and maintain relatively small herds which greatly increases the cost of high quality bull service. Theoretically, bull associations should solve the problem of securing high quality bull service, since a standard cooperative bull association is a group of dairymen organized for the purpose of the joint ownership, use and exchange of purebred dairy bulls.

On January 1, 1938, the Bureau of Dairy Industry, United States Department of Agriculture (1) reported 166 active cooperative bull associations in the United States, representing a membership of 2561 dairymen owning cooperatively 734 dairy bulls. The average per association was 15.42 members, 4.42 bulls, and 156.5 cows—and an average of 35.4 cows per bull. On January 1, 1938, seven Idaho associations had an average of 5.2 bulls and 23.7 members, owning 1165 cows. This is an average of 159.5 cows per association and 31 cows per bull.

In view of the many assumed advantages of bull associations and the fact that they have been tried with varying results in many states, it is apparent that some study of the methods used in organization and management should be made in order to give sound recommendations. The present report is based upon data assembled on 48 associations organized in Idaho from 1919 to 1938, including the data presented by Mathiesen and Atkeson (3) and Mathiesen (4) (5).

Benefits of Bull Associations

Lack of perpetual operation of a bull association should not be interpreted as failure of purpose. Achievement of the primary purpose of a bull association has been realized when members have received benefits beyond that which they would have received from individually owned bulls. The value of this achievement is enhanced by the accumulation of the factors influencing improvement.

Better Bulls for Less Money

In a detailed 4-year study in Idaho, Mathiesen and Atkeson (3) reported that bull associations provide higher quality bulls at lower cost per member and per cow than were available previous to organization. They found in 20 Idaho bull associations, with 526 members reporting, that previous to organization 59 per cent of the farmers were using purebred dairy bulls.

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Only 8.7 per cent of the bulls displaced by bull association organization were out of dams with butterfat records. Only 17 per cent of the 682 members in 20 associations owned bulls before organization. Those farmers not owning bulls used any bull that was convenient. The average investment by farmers owning bulls previous to organization was reduced from \$82.00 per man and \$8.00 per cow to \$68.00 per man and \$6.68 per cow, or a reduction of approximately one-sixth.

Organization of bull associations has reduced the risk of investment in bulls. Previous to organization, each bull was owned by one man, while after organization there was in 1937 an average of 4.5 farmers per block, which in a four-block association would distribute the loss of a bull among 18 farmers instead of one.

Less Maintenance Cost

The 1935 census shows that Idaho dairy herds average 5.3 cows. Individuals owning bulls collect little for outside service. It is obvious then that bull owners have a high cost per cow service. In the present Idaho associations the average is 31 cows and 4.5 members per block, which indicates a large reduction in maintenance cost per cow and per individual. Mathiesen (4) substantiates this contention. He found the maintenance cost of each bull before organization was borne by one farmer owning an average of 10 cows, while after organization the cost was distributed to an average of 4 dairymen owning a total of 33 cows. The larger number of cows per association bull resulted in a maintenance cost 22 per cent less than that previous to organization.

Longer Service Per Bull

It is common observation that privately owned bulls are often kept only 2 years and are approximately 3 years old at the time of disposal. Of 124 bulls placed in Idaho bull associations in 1922, 1923, and 1924 (4), 106 or 85.5 per cent died or were disposed of at an average age of 6 years. Some of the bulls remained in service until they were 8 to 10 years of age.

Standard Breeding Program

The desire for better bulls is universal and after the association has made them available it has been observed that members often secure some purebred females in order to make more rapid progress.

Mathiesen's 1929 report (5) of 17 associations shows that 639 members owned 100 purebred cows at the time of organization and after an average period of 5 years the number had increased to 247 purebred cows, or an increase of 150 per cent, in addition to 124 purebred cows owned by members who had withdrawn from the association. At the time of organization 49.6 per cent of the cows owned by members were of the same breed as the bulls selected, while after 4 years the per cent had increased to 72.9.

Better Quality of Progeny

Members are almost unanimous in their opinion that when daughters and dams are compared the progeny of association bulls are, with few ex-

ceptions, an improvement in both type and production. Daughters of association bulls are also more salable than those sired by other bulls in the community. The study of Mathiesen and Atkeson (3) showed the sale value of 136 daughters of association bulls sold by 40 members was on the average \$9.00 more for calves, \$24.00 more for yearlings, and \$28.00 more for 2-year-olds than for females of similar age sired by local bulls.

It is difficult to secure production records on daughters of association bulls, and more difficult to secure daughter-dam comparisons. Often members do not test, or they dispose of dams before they are tested. However, data are available, as of January 1, 1938, for 219 daughter-dam comparisons of 36 bulls. The daughters averaged 408 pounds of butterfat and the dams 362 pounds, or an increase of daughters over dams of 46 pounds of butterfat.

Stimulation of Interest in Dairying

Bull association organization has a favorable influence on the adoption of improved dairy practices among members. The use of jointly owned bulls emphasizes precautions in disease control. Members of bull associations assume leadership in their respective communities in securing area testing for tuberculosis and in advocating testing for Bang's disease. The by-laws of all Idaho associations specify that all herds in the association be tested for Bang's disease and more than 85 per cent have carried out this provision. Much greater consideration of breeding troubles are evident.

Working together in bull associations develops leadership and a cooperative spirit among members and leads them to attempt other cooperative enterprises such as cooperative cream pools, disease eradication campaigns, spring shows, and other educational features in the promotion of the breed represented. A bull association focuses attention upon better dairying.

While not entirely due to membership in bull associations, much of the improvements in better dairy practices are due, directly or indirectly, to the influence of bull association organizations. The 4-year Idaho study (3) showed that the number of members testing in dairy herd improvement associations increased from 3.6 per cent at the time of organization to 30 per cent in the 4 years; the practice of feeding grain increased from 42 to 60 per cent, and feeding succulence in winter from 21.5 to 50 per cent.

Problems of Organization and Management

The theory of bull associations can be sold to most dairymen; but unless the pitfalls and advantages are thoroughly understood, the life and benefits are destined to be limited.

Organization and management problems are closely correlated, since many management problems are the result of improper organization. Experience indicates that a smaller association of interested members is more desirable and will be more lasting and more beneficial to the community than a large association with disinterested members.

One of the most essential factors in the success and life of a bull association is the constitution and by-laws, which should be very complete, de-

tailed and explicit. It is important that each member understand all provisions in order to prevent future misunderstandings, and that each member sign the constitution and by-laws and have a copy. Laxness on the part of the officers in enforcing the provisions of the constitution and by-laws invariably leads to trouble and dissatisfaction.

Steps in Organization

A bull association consists of three or more blocks, preferably five or more. Experience proves the larger association lives the longest. One large herd or two or more small herds located close together, compose a block. The minimum number of cows cannot be stated definitely but should not be too small or the cost per cow and per member will defeat the purpose.

A thrifty bull should service twice the number of cows that are usually in a block, if services are distributed throughout the year. However, in Idaho, small size of herds and distance between herds usually limit the number of cows per block to an average of 35 to 40 at the time of organization. Single member blocks range in number of cows from 15 to 75 and group member blocks from 25 to 75 cows. Probably an average of 40 cows per block should be the goal to consider in group member blocks.

When dairymen of a community become interested in a bull association, they should contact their county extension agent, who should first make a survey to determine if there is sufficient interest in the county to justify the organization. If sufficient interest prevails, a meeting should be called at which the State Extension Dairyman should be present to explain the organization and operation of an association. High pressure salesmanship campaigns in organizing bull associations are not conducive to successful operation. A full and complete discussion should take place. The disadvantages as well as the advantages should be understood. After members have signed up, an organization should be perfected, money collected for the purchase of bulls, building bull pens, etc., and a purchasing committee appointed. The organization should be truly cooperative and preferably incorporated under the laws of the state as a non-profit sharing corporation.

Basis of Unit Organization

The units of Idaho Bull Associations have been of three different types:

1. Single member per block basis
2. Equal cost per member basis
3. Cow unit basis

The single member per block basis involves an organization in which one member constitutes an entire block and pays all organization and operating costs of the block. The advantage of this plan is the greater convenience to the member, concentrated responsibility, and a better opportunity to use proved sires. The disadvantage of this plan is the difficulty of finding herds of equal size so that the cost will be equal and of finding bulls acceptable to all.

The equal cost per member basis of organization involves the plan in which all members pay equally, regardless of the size of the herd. This

plan may include single member or group member blocks. The advantage of this plan is that it operates on an equal, flat-rate basis. The disadvantage of the plan is that the costs are not distributed equitably and dissatisfaction results because, for example, a member with 10 cows pays the same amount as a member with 20 cows.

The cow unit basis, commonly known as cow share basis, of organization involves the plan in which members are required to purchase one share of stock for each cow in his herd. The advantage of this plan is that it is the most equitable means of distributing costs and responsibility in both organization and operation. The disadvantage is that it necessitates a continual transfer of cow shares as the size of each herd fluctuates, or members must pay maintenance fees on unused shares. Experience proves that it is difficult to collect fees on unused shares.

The cow unit basis of organization has given far greater satisfaction than the other two plans. The most successful associations organized in Idaho have been operated on this basis or a modification of it. Nineteen associations which operated an average of 9.1 years, were organized and operated on the principle of the cow unit, while 22 associations which operated only an average of 3.1 years were organized and operated on different plans. However, the longer lived associations also adopted other improvements, the most important being the creation of a sinking fund, which is more easily adaptable to the cow unit plan.

In view of the troubles sustained in the old associations which operated on the cow unit basis, and four years' experience of one smoothly operating association organized on a modified plan of the cow unit basis, the authors are interested in the modification. The modified type of organization is formed on a membership basis with each member receiving a membership certificate. In addition, each member buys one share of common stock for each cow of breeding age in his herd at the time of organization. Common stock shares are not transferable but may be disposed of in the same manner as cow shares as provided in the by-laws. Organization costs are prorated on the basis of the number of cows in each herd at the time of organization. Operating costs are based on the number of cows bred rather than the number of shares owned.

Advantages of the modified cow unit plan are that the costs and responsibilities are distributed equitably and the continual transfer of shares and the payment of maintenance fees on unused shares are eliminated. It also permits inclusion of single member blocks and group member blocks in one association, provided the single member blocks maintain approximately an equal number of cows as the average of the other blocks.

A criticism of the modified plan is that the operating income per block will fluctuate as the number of breeding cows in the block varies. Experience proves, however, that maintenance fees are seldom paid except on shares representing cows serviced. More experience with greater volume is necessary before definite conclusions can be made on this modified plan. The modified plan necessitates some change in Article IV of the attached by-laws.

Financing the Association

There are four needs for money in a bull association:

1. Purchase and delivery of bulls.
2. Payment of caretaker for care of bulls.
3. Construction of sheds and pens and purchase of miscellaneous supplies.
4. Creation of a sinking fund to replace bulls.

The initial cost which includes purchase and delivery of bulls, the construction of sheds and pens, and the providing of bull rings and staff, are usually met by the sale of shares of common stock. After a liberal estimate is made of the costs listed above, then a minimum number of cows per block, usually 40, is decided upon. The cost per cow or the par value of the shares can then be set.

In Idaho the par value of shares or cost per cow has varied from \$4.00 to \$10.00. The only safe way of handling the purchasing fund is to deposit it in a bank in the name of the association before purchasing is done. Borrowing money in the hope of selling future shares can only lead to trouble.

An example of budgeting block costs follows:

Cost of bull.....	\$250.00
Shipping cost.....	40.00
Pen and shed.....	100.00
Miscellaneous	10.00
	\$400.00

High quality bulls are imperative and are the only means of accomplishing the major objectives of the organization. The cost of high quality bulls will vary considerably, according to the price level at the time of purchase and the standard of production and conformation agreed upon by the members.

Shipping costs vary widely, depending upon the distance and mode of transportation; but this is an item that must be definitely included in the financing program.

Safe keeper bull pens should be provided in every case and should be constructed before the bulls are placed. If this is not done, many cases will occur where pens and sheds are never built, and bulls will receive improper care, which will shorten their serviceable life. The budget for pens and sheds often can be materially reduced by block members supplying all labor and by using poles and posts available in many localities, if members cooperate in securing them from the timber areas.

The miscellaneous item is to cover cost of bull rings, bull staffs, and other minor items that are necessary.

Life Expectancy Limits

The theory that bull associations should be perpetual is no more sound than that of expecting an automobile to last indefinitely merely by replacing worn-out parts. The automobile has only one owner to satisfy, while the

bull association must be satisfactory to a group with widely varied interests and demands.

The constant changing of farmers in a given community through death, moving away, changing farm enterprise, and even changes in individuals in cooperative spirit are factors affecting the life of a bull association.

Mathiesen in 1928 (4) reported on 22 associations that had ceased operation, showing a range of life of 1 to 7 years, or an average of 3.1. He found failure due principally to faulty organization and management. He also reported 19 operating associations in which many weaknesses were corrected. In 1937 the authors studied the length of operation of the later group, and found the average to be 9.1 years. The range limits were 5 to 15 years; two 15-year-old associations are still functioning.

Number of Blocks

The number of blocks in an association apparently has a direct influence on its length of life, as shown in Table 1 which is the result of a study of 36 associations which ceased operation.

TABLE 1.—Influence of Number of Blocks on Life of Association

Number of Associations	Number of Blocks	Years in Operation (average)
2	10 or more	10
3	6 - 9	10
4	5	6.7
10	4	6.3
17	3	3.1

Those having 5 or more blocks lived twice as long as those having less than 5 blocks.

Of the associations still active, some were among the earliest organized and others were of recent organization.

Single Member vs. Group Blocks

It is obvious that single member blocks should entail less effort and division of responsibility in operation. It is noted since the 1935 census shows the average number of cows per herd in Idaho was 5.3 and 70 per cent of the cows were in herds of 10 or less, there is a limited opportunity to obtain single member blocks. The national picture is similar in that the average number of cows per herd is 5.2 and 64 per cent of the dairy cows are in herds of 10 or less cows.

It is evident that the major percentage of the dairy cows are on diversified farms and that bull associations under such conditions would necessarily be, to a large extent, group member blocks. In the strictly dairy areas more large herds are found, and the organization of single block associa-

tions may be more feasible. A combination of single member blocks and group member blocks is often feasible where there is a wide variation in the size of herds. In either case a large measure of the success of an association depends upon the cooperative spirit of the dairymen involved.

Creating Sinking Fund

If the organization is to continue operation and maintain service for its members, bulls must be replaced as soon as they are lost or removed on account of death, impotency, injury, or inferior transmitting ability. A fund for this purpose must be created. The most practical method of creating the sinking fund is by an annual fee per share. It has been found that an annual maintenance fee of at least \$2.00 or more is necessary. There are four possible sources of sinking fund accumulation:

1. Twenty-five to 50 per cent of the maintenance fee.
2. Sale of undesirable or impotent bulls.
3. Sale of shares or stock after organization.
4. Unused original purchase funds.

The maintenance fee serves two purposes and the by-laws should definitely provide a portion to pay the caretaker and a portion to go into the sinking fund.

As bulls advance in age, some will become slow breeders or even impotent; and the salvage represents a considerable addition to the sinking fund.

After organization, other dairymen occasionally wish to join the association. It is necessary to keep the blocks as full as possible to reduce operating costs. The sale of additional shares adds to the sinking fund and reduces per cow overhead. Frequently, members enlarge their herds and need additional shares which should be sold. No outside breeding should be permitted. If a dairyman is an acceptable member, he should be advised to purchase shares.

There is usually some surplus from original organization funds after bulls and equipment have been paid for. This should be added to the sinking fund. The sinking fund should be built at a rate to replace all bulls in 5 or 6 years. It has been shown (4) that 85.5 per cent of the association bulls in Idaho required replacement at the age of 6 years.

Membership Selection

Members selected should not only be permanent in the community, but permanent in the dairy business. Ninety-two per cent of the members, according to Mathiesen and Atkeson (3) who remained in the bull association four years or more owned their farms. Forty-two per cent of the loss in membership prior to disbandment of the association was due to lack of permanency in dairying or the community. Prospective members should be men who have made enough progress in dairying to appreciate the importance of improvement. Members owning only one or two cows usually have very little interest in the success of the association. Town blocks, or blocks

organized in small villages, have been generally unsatisfactory for the above reasons. Five town blocks with the same number of cows as other blocks but with two and one-half times as many members operated only one-half as long as the remainder of the association. Such members are interested only in bull service and not in herd improvement.

Loss of Members, Blocks, and Bulls

Membership, block, and bull losses are to be expected, and to anticipate and correct the causes will add greatly to the length of life of the association.

Membership Losses. The study of 5 years' operation of 15 associations by Mathiesen and Atkeson (3) showed a 22.4 per cent loss of total membership due to members leaving farms, changing to beef cattle, death, selling dairy herd, and members lost who never owned cows but who joined the association for the purpose of community betterment. There was an additional membership loss of 10.6 per cent because of breeding troubles in the herd, non-interest in better breeding and non-cooperative-minded individuals. Another 20.9 per cent of the members were lost due to enlarging herds and purchasing their own bull, distance too great to lead cows, dissatisfaction in block management, and block disbandment. The average yearly loss was 10.8 per cent of the membership over a 5-year period, but 4.2 per cent of the yearly membership loss was found to be due to avoidable causes of faulty organization and management. This leaves an average net unavoidable yearly loss of 6.6 per cent to be expected in properly organized and well managed associations during the first 5 years.

Block Losses. It was found in the Idaho study (3) covering associations having a total of 110 blocks that 22 blocks or 20 per cent were lost during a 5-year period. Ten of the 22 blocks were in loosely organized associations consisting of single member blocks where the individual members owned the bulls and merely agreed to rotate them. The loss of the other 12 blocks is attributed to membership and bull losses.

Bull Losses. Mathiesen (5) reported the cause of loss of 85 bulls as follows:

TABLE 2.—Bull Losses

Number of Bulls	Reason	Average age at time of disposal
33	Impotent	6 years
8	Injury	6
21	Died	5
7	To avoid inbreeding	6.6
8	Slaughtered because of unsatisfactory progeny	4
8	Viciousness	6
<hr/> 85		

Table 2 shows that 33 bulls or 39 per cent became impotent at an average age of 6 years, and 21 bulls or 25 per cent died at an average age of 5 years, or a total of 54 bulls, or 63 per cent were lost due to death or impotency at an average age of 5.6 years.

Distance From Caretaker and Size of Herd

The efficiency of bull use in 42 Idaho associations was directly affected by the distance of the herd from the caretaker's farm, and the number of cows in the herd. Eighty-two per cent of the cows on the caretaker's farm were bred to association bulls, while only 71 per cent of the cows one-half mile from the caretakers were bred. The percentage was reduced to 66 per cent when the distance was as great as one and one-half miles. These data would indicate that distance from the bull has a direct bearing upon the efficiency and the success of bull associations. The more recent common use of trailers to transport cows will lessen the disadvantage of distance of the herd from the bull.

Quality of Bulls

The purpose of the bull association is not only to give bull service but to provide superior bull service. Complete satisfaction is not possible unless the quality of the bulls is superior to that which can normally be secured by the best individual member. Mathiesen's survey (4) of 526 farmers who joined bull associations showed that 410 did not own bulls previous to joining and only 31 per cent were using purebred dairy bulls. It is therefore evident that before organization a major portion of the dairymen were absolutely dependent upon any bull available.

In order to maintain interest in association bulls, improvement must be shown in standard of bulls used, in type of daughters over dams, and in salability of progeny. Mathiesen's summary (5) of statements of 371 members shows that 77 per cent indicated the type of offspring of the association bulls was superior to the type of offspring of bulls used prior to joining the association. Seventy-three per cent reported offspring of association bulls were an improvement in production over their dams and 43 per cent reported offspring were more salable.

Of 33 associations studied in 1937, two have failed entirely due to mediocre bulls. Quality of the bulls and their progeny is reflected by the interest of the members in the success of the association. Further evidence of this interest is shown by the care given the bulls and by the desire to add to the herds high quality purebred and grade female foundation stock. Bulls of high quality are the best antidote for membership losses.

Method of Paying Bull Caretaker

A satisfactory method of paying the bull caretaker for feed and management is a problem of every association. Improper care and management lead to unsatisfactory service, loss of pride in the bull, and reduced enthusiasm for the association, regardless of the quality of the bull. The caretaker is directly responsible for the condition of the bull and must be sat-

ified with the remuneration for his efforts; otherwise trouble is likely to occur.

A good caretaker should first be a good dairyman, permanently located and preferably have enough cows to necessitate keeping a bull if he were not a member of the association. Experience indicates that a good caretaker should not be passed up in order to secure a central location in the block.

Payment of the caretaker is strictly a block problem but should be directed and approved by the association. Each block must be held responsible and fully accountable for the proper maintenance of the bull within its own block. The association should not guarantee a flat rate payment to the caretaker. This has been tried and invariably brought difficulties, dissatisfaction and unpaid caretakers. Once a block loses its caretaker due to an unsatisfactory method of payment for his services, it is difficult to secure another caretaker to take his place, and as a consequence the block is lost.

Six different methods of payment of the caretaker have been tried in Idaho as follows:

(1) Members of block furnish feed by contribution. This method proved to be unsatisfactory as members neglected to contribute feed regularly and the feed furnished was not always of good quality.

(2) Rotation of bulls among members to distribute costs. This method has proved uniformly unsatisfactory, because the members do not always know where to find the bull; and it is difficult to keep the bull in a central location. The care of the bull also varies, and since good pens are seldom provided on every farm, the bull is more apt to become vicious.

(3) Paying the caretaker a flat rate from the association treasury. This method is not recommended because it depletes the treasury, and it is difficult for the association to make an equitable contract that can be carried over a period of years due to the change in the number of members, cows, shares, and financial conditions.

(4) Caretaker supplies all feed. This system works satisfactorily with the single-member blocks and in blocks where the caretaker has a herd of sufficient size to justify keeping a bull under any condition. The convenience of having a bull available is often an attractive arrangement. The weakness of this system is that it is often difficult to find a man centrally located in a block with sufficient cows to justify the arrangement especially in areas where the herds are small.

(5) The caretaker furnishes the roughage and the association furnishes grain. The advantage of this system is that it gives the association more direct supervision over the feed, as they may direct an increase or decrease in grain feeding, depending upon the condition of the bull. Also, the caretaker does not hesitate to follow instructions, since the additional cost of grain is borne by the association. The disadvantage is that it tends to deplete the association treasury. This plan seems to give better satisfaction than some others, especially where the herds are small and hay is abundant and cheap.

(6) Probably the most desirable system is to collect a maintenance fee on every share owned by members. Part of the fee is retained by the caretaker for his services. This system has given better results than any other

but the disadvantage is that the number of cows bred in a block may vary considerably from year to year. The annual levy or assessment on unused shares may be a disturbing factor in associations that are not in good condition. No member should be allowed to become more than six months in arrears in payment of maintenance fees.

Regardless of the system adopted to pay the caretaker, he invariably assumes more responsibility than other members but usually is willing to assume this additional responsibility due to the convenience of having the bull on his own place.

Efficiency of Bull Use

Mathiesen and Atkeson (3) found that 74 per cent of the members used association bulls exclusively, 20 per cent used them on only part of their herds, and 6 per cent did not use association bulls at all. They found that 71.6 per cent of the members who used the association bulls only part time gave reasons directly attributed to improper organization and management; namely, too far to lead, needed more shares, and bulls too young or poorly cared for. Of the reasons given by members who did not use the bulls at all, 67 per cent could be attributed to improper organization and management and in general were the same reasons as given above.

The number of services per bull in Idaho bull associations has not been a limiting factor, since the average number of cows per block was 33.4 and a thrifty, well-cared-for bull should serve 2 or 3 times this number if distributed throughout the year.

Experience indicates that one satisfactory leap is sufficient. A study (3) (5) of 5126 cows shows that 66 per cent were served only once, 34 per cent were served twice or more, and 13 per cent were served three or more times. Six per cent required more than three services and 4 per cent did not conceive.

In a system where the bulls are transported to the cows, of 937 cows 64.5 per cent received only one service and 35.5 per cent required two or more services.

Rotation of Bulls

Blocks should be designated by number in the by-laws and a definite sequence of rotation stipulated. Changes in the sequence of rotation should be permitted only by direction of the board of directors upon consideration of some unusual circumstance. Differences of opinion occur regarding quality of breeding, type and proper condition of individual bulls which accounts for members being inclined to select the bull to be moved to their block. Members must understand that all the bulls belong to all the members, and if any individual bull in the opinion of the majority is unsatisfactory, he should be replaced.

The "Spare" Bull

Several associations have found it advantageous to buy a "spare" bull to develop and prove. The "spare" is usually bought as a calf and is mated

to a few cows owned by several different members in order to get an idea of his transmitting ability at an early date. In case one of the regular bulls becomes sterile, sick, or dies, the "spare" bull is available without loss of time.

Proved Sire Use

Proved sires have not been used extensively in Idaho bull associations. Due to advanced age, their period of usefulness is shorter, they are often slower in rendering service, they are not so sure and are less dependable. The average Idaho association member does not appreciate sufficiently the value of a good proved sire to willingly assume the greater inconvenience involved. Where proved sires are used, it is a good practice to rotate bulls more often than every 2 years in order that more members may be certain of obtaining advantage of the superior bull service.

Granting the superior value of proved sires, experience does not justify their use in Idaho bull associations, unless the members fully understand the inconvenience and are willing to accept it in order to gain the better results.

Feeding and Management of Association Bulls

Feeding and management of the bull is a vital factor in the success of the association. The bull's condition directly affects his usefulness and length of life. The condition in which the bull is kept affects the attitude of the members toward the bull, and as a result influences the general condition of the association.

Mathiesen and Atkeson (3) found the following feed costs in Idaho bull associations:

TABLE 3.—Feed Costs of Keeping Association Bulls

Feed	Average for State	Average for Southern Idaho	Average for Northern Idaho
Hay	\$60.40	\$50.57	\$79.00
Grain	19.10	16.59	17.15
	<u>\$79.50</u>	<u>\$67.16</u>	<u>\$96.15</u>

In the Idaho associations, especially those in the irrigated sections, where alfalfa hay is cheap and plentiful, there have been cases where bulls were fed on nothing but hay. Under such feeding they may develop too much barrel and become slow in service. Grain feeding with limited amounts of alfalfa hay is recommended. Bulls should be provided with plenty of salt and fresh water and where possible, with some green feed.

In order to insure safety and to provide exercise, bull pens are advocated for exclusive use of the association bulls. The built-in "safe keeper" feature is recommended and a shed to provide shelter is necessary for best

management. Pens vary in size from 20x30 feet, or 600 square feet, to 100x100, or 10,000 square feet. Eighteen hundred square feet is the minimum recommended. Cost of construction is a limiting factor to size, but cooperative-spirited members can provide comparatively cheap pens especially in timber regions by the use of poles or rough 2"x8" lumber. The costs have varied greatly according to the kind of material used. Mathiesen (5) found cash costs of material to range from \$5.00 to \$75.00, exclusive of sheds, for 24 pens studied, and the average was \$31.06. For 19 pens and sheds combined, the cash costs varied from \$20.00 to \$130.00, with the average of \$93.42. Labor was supplied by members.

Trimming of feet is often necessary, especially with the older bulls. This is essential to good management and adds to the activity, usefulness and life of the bull.

Association and Block Records

Complete and accurate records are essential to successful operation of the association. Block records are the responsibility of the caretaker. A complete record in permanent form of all cows bred and the money received is kept satisfactorily in books supplied by the United States Department of Agriculture and obtained from the Dairy Extension office. By summarizing the reports of the caretakers, the secretary can make a report for the annual meeting which will give a true picture of the progress of the association as a whole and by blocks. The experience of Idaho's best association indicates that a meeting of directors and caretakers several days prior to the annual meeting, for the purpose of assembling records and closing accounts, is the most satisfactory method of presenting a complete secretary's report to the membership.

Maintaining Interest

Keen interest and a cooperative spirit of the membership and active officers are essential to success. Lack of interest is the source of most of the difficulty, regardless of the contributing causes.

Experience has shown that a rather intensive educational program should be conducted in each association requiring concerted effort on the part of the members.

Annual tours are most effective in creating and maintaining interest and enthusiasm. Each association bull should be inspected and successful breeders, state officials, breed association representatives, and members of the Agricultural Extension Division should stress better dairy methods either at the inspection stops or at a meeting held to wind up the tour. Tours also have the wholesome effect of making the caretakers either proud or ashamed of the condition of their bulls in comparison with the others.

Community dairy shows or achievement days do much to put life into the association. These should be mostly educational with little stress laid on prize money.

The association may foster a dairy school in the community, arranging subjects that apply to the problems of the members. The officers of the most successful associations hold regular monthly or quarterly meetings to

adjust finances and to work out the welfare of the association. Annual meetings are very important and are most successful as an all-day function with a dinner or basket luncheon. These meetings afford an opportunity to analyze progress, make future plans, and serves as a clearing house for unsettled problems. This is one of the best times to have the State Extension Dairyman present to discuss better dairy methods, and offer guidance in solving association problems. Bull associations require just as close supervision as dairy herd improvement associations or other cooperative dairy organizations.

The ultimate good to be attained must be kept foremost in the minds of the members. The spirit of give and take must prevail and the fact recognized that the bull association cannot be handled to the absolute satisfaction of everyone any more than can any other organization.

Disease Control

Nothing develops dissatisfaction in a block as quickly as failure to get the cow with calf. The prevalence throughout the dairy herds of the country of sterility, shy-breeding, and abortion leads to the rather common complaint that cows do not conceive to service of the association bull. Failure of cows to conceive is the first indication that the herd owner has of trouble and the bull is usually accused of being the source. If the complaint becomes chronic, the bull should be examined for potency by having a competent person take a sample of semen and examine it for motility of sperm cells and pus-forming organisms.

Does the bull spread Bang's disease? It is believed that the clean bull when properly managed is not a major factor in the spread of Bang's disease. Simms (6) and others have shown that non-infected bulls are not responsible for the spread of this infection. Bulls used on infected cows often become infected, is the opinion of Udall (7). Gildow and Fourt (2) state that after abnormal vaginal discharges have ceased, infected cows generally do not discharge the abortion organism even during the heat period. If reactor cows are required to be free from any vaginal discharge and to have passed one heat period before they are rebred, there is little chance that a clean bull could transmit the disease to clean cows, bred later.

Diagnosis and treatment for infections causing failure of conception should be handled by a licensed veterinarian.

SUMMARY

A detailed study of 48 cooperative bull associations organized in Idaho between 1919 and 1938 shows:

1. Cooperative bull associations supply better bulls for less money. High quality registered dairy bulls were made available for all members. The average investment by farmers owning bulls previous to organization was reduced approximately one-sixth. Maintenance cost per cow was 22 per cent less after organization due to the larger number of cows per association.

2. Bull associations resulted in longer service period per bull. Of 124

association bulls, 85.5 per cent supplied on the average 5 years' service.

3. Herds of members were standardized to one breed by bull associations. Many purebred and high grade cows were purchased, indicating interest in improved cattle.

4. Progeny of association bulls were of higher quality than progeny of local bulls. Dam-daughter comparisons showed that 219 daughters produced on an average 409 pounds of butterfat or 46 pounds more than their dams.

5. Interest in improved methods of dairying was stimulated by bull associations. This was indicated by increased activity in disease control, more members feeding grain, more succulence being fed in the winter, and more members testing in dairy herd improvement associations.

6. Of 41 disbanded cooperative bull associations, 22 disbanded due to faulty organization and management after operating an average of 3.1 years. After many faults were corrected, 19 associations operated an average of 9.1 years.

7. Bull associations with five or more blocks operated an average of 9 years while associations with less than five blocks operated an average of 4.5 years.

8. Three different types of organizations have been tried in Idaho. The cow unit basis has proved the most successful.

9. Bull associations should be financed on the cow unit basis in both organization and operation. A sinking fund for replacement of bulls is indispensable for a long-lived association. The sinking fund should be built at a rate to replace all bulls in five or six years. The sinking fund is derived from one-fourth to one-half of the annual maintenance fee paid on each share, also salvage from bulls, sale of shares after organization and unused original purchase funds.

10. Some losses in membership, blocks and bulls are to be expected. This loss can be greatly reduced by selecting members who are permanent in the community and permanent in the dairy business.

11. Of 85 bulls lost from the associations, 63 per cent died or became impotent at an average age of 5.6 years.

12. Improper organization and management resulted in about 15 per cent of the members failing to use association bulls, or using them on only part of their herd.

13. Size of the herd and distance to the caretaker's farm affect the efficiency of operation. Eighty-two per cent of the caretaker's cows and 71 per cent of the cows within a half mile of the caretaker were bred to association bulls, but only 66 per cent when the distance was 1 mile, and only 58 per cent when the distance was 1.5 miles.

14. Quality of bulls, including both production records and type, is an important factor in bull association operation. Bulls should be of higher quality than any member is likely to own individually.

15. The bull caretaker is the most important member in a block and must be compensated for care and feed of the bull except in single-member blocks. The most satisfactory method of paying the caretaker is to allow

him a portion of the annual maintenance fee which he collects for each share owned by members of the block. Proper feeding and management of bulls is a vital factor in the success of a bull association. Bull pens are essential and should not be smaller than 1800 square feet.

16. Approximately 66 per cent of the cows conceived on the first service, 34 per cent required two or more services, 13 per cent required three or more services, 6 per cent required four or more services, and 4 per cent did not conceive.

17. It is advisable that bull associations keep a spare bull available. He serves the same purpose as a spare tire, and in addition permits the possibility of being partially proved before being used extensively.

18. Proved sires have not been used extensively because of reduced service period and lower breeding efficiency.

19. An educational program including tours, meetings and comprehensive reports does much to maintain interest and develop interest in the association.

20. Bulls should be tested regularly for tuberculosis and Bang's disease. They should be kept active and sure breeders and replaced immediately when breeding efficiency becomes low.

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Articles of Association or Constitution of Cooperative Bull Association

We, the undersigned, incorporated under the provision of Act. No. of the laws of the State of, entitled and the acts amendatory and supplementary thereto, do hereby make, execute, adopt, and sign the following articles of association and by-laws, to-wit:

Article I. Name

The name by which this association shall be known is the Bull Association.

Article II. Objects

SEC. 1. IMPROVED STOCK. The purpose for which this association is formed is to promote the welfare of its members in the marketing and selling of agricultural products through the more rapid development of profitable dairy cows of the breed. This is to be accomplished, principally, by the joint purchase and ownership by the association of meritorious bulls and by providing a method for their continuous use and systematic rotation until their merit as breeders can be proven.

Article III. Location

SEC. 1. The principal office and place of business shall be in the city or village of, in the County of, State of

Article IV. Life

SEC. 1. The term for which this corporation shall exist shall be ten years.

Article V. Membership

SEC. 1. QUALIFICATIONS. Any person in the County of or adjoining territory, owning one or more cows and engaged in the production of dairy products, may at the time of organization become a member of this association and be entitled to its benefits and privileges, by signing and agreeing to comply with the constitution and by-laws, and by purchasing at least one share of association stock.

Any person who wishes to become a member after the adoption of the constitution and by-laws shall, in addition to the requirements at the time of organization, make application to the secretary of the association, stating the number of cows that he will subscribe and the block to which he desires to belong; but before the applicant becomes a member his application must be accepted by the board of directors.

Article VI. Directors

SEC. 1. OFFICERS. The officers of this association shall consist of a board of directors, who shall by ballot elect from their own number a president, vice-president and secretary-treasurer, which officers shall compose the executive committee of the board of directors.

SEC. 2. NUMBER. The number of directors shall be at least five. If the number of blocks is three, two directors shall be elected at large. If the number of blocks is an even number, one director shall be elected at large.

SEC. 3. HOW ELECTED. One director who shall be a stockholder, shall be elected from each block to serve one year. All directors shall be elected by the association but nominated by the separate blocks thereof, except the directors at large who shall be chosen by the stockholders at a regular annual meeting.

Article VII. Capital Stock

The authorized capital stock of this association shall be dollars, which shall be divided into shares, of the par value of dollars each.

Article VIII. Amendments

These articles of constitution may be amended by a two-thirds majority vote of the members present at any annual meeting or any special meeting called for that purpose.

By-Laws of the _____ Bull Association**Article I. Plan of Organization**

SEC. 1. **BLOCKS DEFINED.** The term "Block" in this constitution and by-laws shall mean a subdivision of the association having a sufficient number of cows for one bull.

SEC. 2. **DESIGNATION OF BLOCKS AND MINIMUM NUMBER.** The association shall consist of three or more blocks, each block being designated by a number.

SEC. 3. **BLOCKS ARRANGED BY THE BOARD OF DIRECTORS.** The subdivision of the association into blocks, the addition of new blocks, or any change in the arrangement of blocks, shall be made by the board of directors.

SEC. 4. **A BULL IN EACH BLOCK.** Each block shall be provided with one high-class pure bred bull of the breed.

SEC. 5. **METHOD OF ROTATION OF BULLS.** A bull shall be kept for two years in a block, and then moved to the next block. Such change shall be made in the numerical order of the blocks, unless the board of directors finds that some other change or disposition of the bulls is necessary.

Article II. Officers

SEC. 1. **MANAGEMENT.** The board of directors shall have and exercise all the power of authority granted by law to the association except in such matters as may be specifically excepted or provided for in this constitution and by-laws, and they are empowered to devise and carry into execution rules, regulations, and contracts for the conduct of business and from time to time to alter and amend the same as to them may seem proper, and to do all things lawful, which in their opinion, are expedient to be done for the success and permanent good in the management of the association.

The board of directors shall be responsible for the making of the proper arrangement of blocks and membership therein, arranging for a keeper and his compensation, the rate of compensation for bull service and for the proper feeding and management of the bulls wherever necessary.

SEC. 2. **DUTIES OF OFFICERS.** The president, vice-president, and secretary-treasurer shall have the usual functions of such officers.

SEC. 3. **COMPENSATION OF OFFICERS.** Officers of the association may, if deemed advisable by a majority vote of the members, be granted compensation per diem for the time devoted exclusively to the execution of the duties of their offices. All time and travel paid for by the association must be previously ordered by a majority of the directors, and all claims for reimbursement must be passed upon by the board.

SEC. 4. **QUORUM.** A majority of the members of the board of directors in executive session shall constitute a quorum for the transaction of business.

SEC. 5. **VACANCY.** In case of a vacancy in the board of directors caused by the creation of a new block, death, resignation, removal, or other cause, the board shall fill the vacancy by appointment of a stockholder to hold office for the remainder of the term.

SEC. 6. **ANNUAL REPORT.** The secretary-treasurer shall mail to each member at least ten days before the annual meeting a statement approved by the board of directors, showing the financial condition of the association, which statement shall be acted upon by the members at the annual meeting.

SEC. 7. **BOND.** The secretary-treasurer shall give a bond for the faithful perform-

ance of his duties, in the sum of \$..... The cost of providing this bond shall be paid by the association.

SEC. 8. BOOKS. The secretary-treasurer shall provide, at the expense of the association, the necessary record books and blanks.

SEC. 9. AUDIT. At the annual meeting an auditing committee shall be elected by the members, which committee shall audit the books of the association not more than 30 days or less than a week before the next annual meeting, and shall make a report to the association at that meeting.

SEC. 10. INSPECTION. The board of directors shall together visit and inspect all association bulls and the manner in which they are fed and managed, at least twice each year.

Article III. Meetings

SEC. 1. ANNUAL MEETING. The annual meeting of the association shall be held annually at a place to be designated by the board of directors, on the day of each year, for the purpose of electing members to the board of directors and for the purpose of transacting such other business as may lawfully come before the meeting. The secretary shall mail to each member in good standing not less than ten days before the date of the annual meeting, a notice of the time and place at which such meeting shall be held.

SEC. 2. SPECIAL MEETINGS. Special meetings may be called by the president on his own initiative; on order of the majority of the board of directors; or by five members who sign a written request setting forth the purpose of the meeting. Notice of a special meeting shall be given by the secretary of the association, at least ten days prior to said meeting, by mailing a written or printed notice thereof to each member of the association. Such notice shall state the object, or objects, of the special meeting and no other business than that stated in the notice shall be transacted at that meeting.

SEC. 3. VOTES. Every member in good standing shall be entitled to one vote and only one. No vote by proxy shall be permitted.

SEC. 4. QUORUM. A quorum of stockholders for the transaction of business shall consist of members present at any annual meeting or regularly called special meeting.

Article IV. Shares of Stock and Stock Certificates

SEC. 1. SHARE DEFINED. A share of stock entitles its holder to breed one cow, the property of the shareholder, to an association bull each year.

SEC. 2. SHARE CERTIFICATES. A non-transferable share certificate shall be issued to each member of the association at the time of payment therefor. Each share certificate is to represent one share of stock and is to be signed by the president and secretary. The caretaker in each block shall be notified by the secretary of any changes in the number of shares held in his respective block.

SEC. 3. NOTICE OF MEMBER WITHDRAWING. Any member who wishes to withdraw and has no satisfactory substitute shall give to the president of the association a written notice of such desire not less than 30 days before the date of the next annual meeting.

SEC. 4. PERMISSION TO TRANSFER OR SELL SHARES. Permission to transfer or sell shares of stock to a satisfactory substitute must be secured from the board of directors. A share that is to be used in other blocks cannot be disposed of, alone or with the cow, without the unanimous consent of the board of directors. Failure of any member to comply with this section when disposing of shares relieves the association of any and all obligations to breed cows represented by such shares.

SEC. 5. TRANSFER OF SHARE CERTIFICATES. Share certificates shall be non-transferable and in case of sale shall be returned to the secretary for cancellation and new share certificates issued to the purchaser. No share certificates shall be cancelled or issued without the consent of the board of directors in executive session.

SEC. 6. SHARE OF SURPLUS. The cancellation of all shares by a member for any cause covered by these by-laws shall be considered as prima facie evidence of complete withdrawal from the organization and said party shall not be entitled to any share of surplus or be liable for any of the deficits accumulated by the organization.

Article V. Quality and Breeding of Association Bulls

SEC. 1. BREED. Only registered bulls of the breed shall be owned by the association.

SEC. 2. TYPE. Only bulls of superior conformation shall be purchased for use in the association.

SEC. 3. BUTTERFAT REQUIREMENT. Bulls selected for use in the association must in addition to other requirements be from a dam with a record of not less than pounds of butterfat production per year, mature age equivalent. This section applies to all bulls selected for use unless otherwise decided upon by the board of directors.

Article VI. Purchasing and Disposing of Bulls

SEC. 1. FINANCING PURCHASE OF BULLS. Only such blocks shall be furnished with bulls whose members have actually subscribed and paid into the treasury the funds necessary for the purchase of a bull for their blocks. Only cash or bankable notes shall be accepted from the members as payment for their proportionate amount to be subscribed in purchasing bulls. Post dated checks shall not be accepted.

SEC. 2. PURCHASING BULLS. The purchasing committee shall purchase the bulls selected for use in the association. This committee shall be selected at the time of organization by majority vote of the members or by the board of directors. The committee shall cease to function immediately upon the delivery and acceptance by the board of directors of the bulls needed at the time of organization. Additional bulls needed after the time of organization shall be selected by the board of directors or by a purchasing committee appointed by them.

SEC. 3. DISPOSING OF BULLS. The board of directors may sell or dispose of association bulls that have become inefficient or otherwise undesirable breeding individuals or have become unnecessary to the carrying on of the business of this association. Funds received from sale or salvage of bulls so disposed of shall be placed in the sinking fund.

SEC. 4. GUARANTEE. All bulls purchased must have passed one satisfactory tuberculin test and be bought with a guarantee that they will pass a satisfactory 60- or 90-day retest after delivery. If possible, they should be guaranteed sure breeders.

SEC. 5. SEGREGATION. The bulls shall be segregated from all animals until retested and accepted.

Article VII. Adding and Disbanding Blocks

SEC. 1. ADDING NEW BLOCKS. Prospective blocks petitioning for membership, which meet the requirements of the association, may be added by the approval of the board of directors, or by the majority vote of the members present at an annual meeting. The funds derived from the sale of shares in newly formed blocks shall be sufficient to pay in full for a bull and for a bull pen that will meet the requirements of the association and are acceptable to the directors.

SEC. 2. ADDING BLOCKS BY SUBDIVISION. When in the opinion of the board of directors the number of cows in any block shall become so great as to tax excessively the breeding ability or efficiency of a bull or for other good reason such block may be subdivided as may in the judgment of the board of directors seem advisable and an additional bull purchased or secured to place in the newly formed block.

SEC. 3. CONSOLIDATING BLOCKS. When two adjoining blocks lose sufficient number of shares that their continuance separately becomes uneconomical, the directors may order a consolidation, provided a caretaker can be secured at a location satisfactory to a majority of the stockholders concerned.

SEC. 4. DISBANDING BLOCKS. The association or its board of directors may order the complete abandonment of a block if in their opinion the number of shares held is so reduced as to make continuance uneconomical.

Article VIII. Stabling and Care of Bulls

SEC. 1. PLACE OF STABLING BULLS. The board of directors together with the members of each individual block shall designate places for stabling of bulls, such places to be as centrally located as possible in each block. A "safe-keeper" bull pen shall be

arranged in each block, to be not smaller than 40 by 80 feet and built of sufficiently strong material but not of tight construction. Each bull must be provided with a shed not smaller than 10 by 12 feet, of tight construction on at least three sides, with a good floor and roof. Each pen must be provided with a breeding chute. The pen and shed shall be built on a location that is well drained. The place for stabling shall be upon premises free from tuberculosis as indicated by the testing of the cattle maintained thereon.

SEC. 2. CARE OF BULLS. Each caretaker shall, through the directors, be supplied with an approved bull staff, bull ring, disinfecting supplies, and such other equipment as is necessary for the safety of the keeper and the health of the bulls. All association bulls shall be rung with a 3½ inch cannon metal ring before 18 months of age. The caretaker shall use his best efforts to keep the bull in moderate flesh, in strong, vigorous, healthy condition, and on a sufficient and suitable ration. The bull shall not be permitted to run with the herd, unless under an emergency declared by the board of directors. The directors are vested with the authority to relieve any caretaker of an association bull on one day's notice when in the opinion of the board such bull is not being given satisfactory care or attention.

SEC. 3. BUILDING OF BULL PENS, SHEDS AND BREEDING CHUTES. Bull pens, sheds and breeding chutes are to be constructed, financed and maintained by the separate blocks of the association unless otherwise specified, and are to be completed not later than 60 days after the delivery of bulls to the blocks.

Article IX. Association Property Rights

SEC. 1. BULLS. All bulls purchased or accepted by the association or its board of directors are to be considered as association property and the method of handling and disposal is entirely in the power of the association or its board of directors. Such bulls as may be accepted by the association shall be exempt under this section when such exemption is specifically stated in the signed agreement with the cooperating parties.

SEC. 2. PENS AND OTHER EQUIPMENT OR APPLIANCES. All bull pens, sheds, or other necessary equipment or appliances purchased and paid for entirely by association funds are to be considered as association property and may be altered or removed according to the orders of the association through its board of directors.

Article X. Breeding Regulations

SEC. 1. SERVICE. Only one satisfactory leap shall be permitted at each service. The number of services to be allowed each bull per year shall be determined by the board of directors and shall depend upon the age and condition of each bull.

SEC. 2. BREEDING RULES. The keeper of an association bull shall not allow him to be used for service on cows belonging to any member of the association who is not a member of his particular block, without written permission from the board of directors, signed by the president or the secretary. Services shall not be allowed to cows owned by non-members unless otherwise specified by the board of directors.

SEC. 3. OUTSIDE BREEDING OF SUBSCRIBED COWS. A member may breed his cows to bulls outside the association but in such cases he shall pay to the association his proportionate share of the regular annual maintenance assessment fee required, unless otherwise decided by the board of directors.

SEC. 4. BULL CALF. A bull may be bought as a calf but shall not be used for service until the board of directors so orders.

Article XI. Annual Maintenance and Assessments

SEC. 1. AMOUNT OF ANNUAL MAINTENANCE FEES. Only cows owned by bona fide association members and which are represented by shares shall be bred to association bulls. The annual maintenance fee or regular breeding charge shall be \$..... per year per share. All fees must be paid at the time of service. Free services are not to be allowed to any member of the association.

SEC. 2. METHOD OF COLLECTING MAINTENANCE FEES. The caretaker in each block shall be responsible for the collection of maintenance fees within his block.

SEC. 3. METHOD OF PAYMENT OF BLOCK CARETAKERS. Each bull's caretaker shall receive 75 per cent of each fee collected in his block as payment for his labor in caring for an association bull. Twenty-five per cent of each fee collected shall be paid to the secretary-treasurer at least semi-annually. Each caretaker shall also pay to the association at least quarterly a sum equal to 25 per cent of the regular maintenance fee for each share held by him. The caretaker shall report at least ten days before each annual meeting all fees not previously reported.

SEC. 4. ASSESSMENTS. The payment for bulls and debts, not otherwise provided for in the constitution and by-laws of this association, shall, whenever it becomes necessary, be made by assessments levied on each member of the association in proportion to the number of shares owned except that the payment for bulls may be made from the sinking fund. The total amount of such assessment or assessments shall not exceed \$..... per share for any one year.

SEC. 5. PAYMENT. Each share of stock subscribed and each assessment levied shall be paid by the members to the treasurer of the association, whereupon the money shall be available for the conduct of the business of the association.

SEC. 6. NOTICE OF ASSESSMENTS. Whenever an assessment is levied, the secretary-treasurer shall mail a notice to each member 10 days before such assessment is due, stating the total amount assessed, the amounts per member in proportion to the number of shares held, and the date on which the assessment shall become due. The penalties imposed shall be paid to the secretary-treasurer together with the assessment, and shall become part of the money available for the conduct of the business of the association.

SEC. 7. FAILURE TO PAY ASSESSMENTS. Any member failing to pay or make satisfactory arrangements for the payment of an assessment within thirty days from the time such assessment is due and payable, shall, subject to the action of the board of directors, forfeit all rights on the shares held by him.

SEC. 8. REPORT REQUIRED FROM EACH CARETAKER ANNUALLY. The caretaker in each block shall be responsible for keeping complete records and making a copy of the same to present to the secretary-treasurer at least ten days before each annual meeting.

Article XII. Sinking Fund

SEC. 1. PURPOSE. A sinking fund shall be established for the purpose of purchasing bulls to replace those that have been displaced or that have died, or for the purchase of bulls necessary for newly formed blocks as provided for under Section 1 and Section 2 of Article VI of the By-laws. This fund may be used for other stated purposes of the association only upon a majority vote of those present at an annual meeting or at a special meeting called for that purpose. Under no circumstances may this fund be redistributed to the membership, except in case of disbanding of the association.

SEC. 2. METHODS OF ACCUMULATION. The sinking fund shall be accumulated and maintained by placing therein (1) funds received from the sale of shares after original expenses are deducted; (2) all of the association's proportionate amount of the maintenance fees after deducting other expenses; and (3) all funds received from the sale of displaced bulls.

Article XIII. Disease Control

SEC. 1. TUBERCULIN TEST. All cattle on the farms of members must, as soon as practicable, be tested for tuberculosis and Bang's disease according to the accredited herd plan or the accredited free area plan conducted by the State and Federal governments. All association bulls must be tested annually for tuberculosis and Bang's disease by a qualified veterinarian. The bull shall not be allowed loose with any cow which has not passed a satisfactory tuberculin and Bang's disease test within one year; the bull shall be carefully handled to prevent any unnecessary contact.

SEC. 2. BREEDING OF INFECTED COWS. Cows known to be infected shall not be bred to association bulls until it is reasonably certain that they are free from such infection. Any cow that has aborted from any cause shall not be bred to an association bull until at least 90 days have elapsed since abortion.

SEC. 3. FAILURE TO CONCEIVE. Any cow or heifer failing to conceive on the third service shall not be returned for further service until she has been examined and passed on as being in a healthy breeding condition by a veterinarian designated by the board of directors. Owners of such animals shall bear all expenses of such examinations.

SEC. 4. INSPECTION OF BULLS. If 15 per cent or more of the cows served by a bull fail to conceive on or before the third service and the examination of such individual cows failing to conceive seems to implicate the bull, said bull shall be given a careful physical examination, including a semen examination, by a qualified veterinarian designated by the board of directors. Such examination shall be ordered by the board of directors and paid for by the association. When the proper physical examination of such number of cows failing to conceive seems to implicate the bull, that bull shall immediately be denied further service, the amount of roughage fed shall be reduced 25 to 50 per cent and the bull shall be allowed the freedom of the largest accessible exercise space until such time as the veterinarian designated for such examination can give a thorough and complete examination and prescribe treatment in full.

SEC. 5. DISEASE CONTROL IN ASSOCIATION HERDS. The director of each block may inspect the herds in his block as often as he deems advisable. Should any suspected contagious or infectious diseases appear in the herd of any member, that member shall report the fact at once to the block director. The board of directors will immediately order an examination of such herd by a qualified veterinarian. Treatment and further methods of procedure shall be ordered by the veterinarian. The association will assume none of the costs of such examination.

Article XIV. Herd and Breed Improvement

SEC. 1. GRADE BULL CALVES. All grade bull calves by association bulls belonging to the members of the association must be castrated before they are six months old or before they are sold.

SEC. 2. BREEDING HEIFERS. Heifers shall not be bred to freshen under 24 months of age.

SEC. 3. BOYS' AND GIRLS' CALF CLUBS. Boys' and girls' club members owning females of the same breed as that of the association, may use the association bull closest to their farms by obtaining from the secretary an order signed by the president and secretary. Fees for such services shall be decided upon by the board of directors.

SEC. 4. PEDIGREES. Complete pedigrees showing at least three generations of the ancestry with the records of production shall be issued to each member of the association for all association bulls as soon after placing as possible. Such pedigrees are to be paid for out of the association treasury.

SEC. 5. CONSTITUTION AND BY-LAWS. Each member shall be furnished with a copy of this constitution and by-laws by the secretary as soon after adoption as possible.

SEC. 6. FURNISHING BULLS WITH REGISTRATION CERTIFICATES. Purchasers of bulls disposed of under Section 3 of Article VI of the By-laws may be furnished with registration and transfer certificates at the option of the board of directors.

SEC. 7. ANNUAL PICNIC AND EXCURSION. An excursion and picnic of the members of the association shall be held each year.

SEC. 8. ANNUAL DAIRY CATTLE BREEDERS' SCHOOLS. The board of directors shall act as a committee in cooperating with the County Agent in holding annually a dairy cattle breeders' and feeders' school for the benefit of association members as well as all other interested farmers.

Article XV. Surplus

Any surplus in the treasury at the time of the annual meeting or at the end of the fiscal year may, by a majority vote at the annual meeting, be placed in the association's sinking fund.

Article XVI. Distribution of Assets

In the instance of the dissolution of this association all funds received from sale of association bulls and other assets shall, after all indebtedness has been paid, be re-distributed with all money in the sinking fund, to the members in good standing in proportion to the number of shares owned by each.

Article XVII. Amendments

These by-laws may be amended, added to, repealed, or substituted by a majority vote of the members present at the annual meeting, or at any special meetings called for that purpose.

Proper constitution and by-laws are one of the very essential factors in the success of bull associations. They can hardly be too detailed or too explicit. Each member should be required to sign the constitution and by-laws and be furnished with a copy.

The following section may be made a part of Article XI of the By-laws in case it is legal in the state in which the association is organized.

PENALTY FOR NON-PAYMENT OF BREEDING FEES. In case any member shall fail to pay breeding fees the caretaker of the block in which such delinquency occurs shall notify the secretary of the association of such delinquency. The secretary shall thereupon mail a written or printed notice of such delinquency to such member at his last post office address filed with the secretary. If such delinquency be not paid within ten days from the mailing of such notice the board of directors shall cause to be issued to the caretaker in such block a sufficient number of shares at par value to equal the amount of such delinquency and shall at the same time cancel an equal number of shares held by such delinquent member; provided, however, that the foregoing provision shall only be operative in cases where the delinquent assessment shall be equal to or exceed the par value of one share.

