

insemination, and the availability of the semen will be on the "drugstore shelf" or a common home storage item. This is in contrast to our present cumbersome and expensive storage of sperm in liquid nitrogen. The science of cryobiology will expand and bring greater efficiency in storage and utilization of germ plasm.

Disease testing programs of sires housed and owned by bull studs will become more sophisticated. The *NAAB-AVMA Minimum Standards for Bull Health and Hygiene of Bull Studs* will be updated to include additional diseases not now listed. USDA animal health laboratories will make these additional test programs possible. The A.I. of the future will continue to be the most reliable method of controlling disease transmission between herds.

These positive improvements and developments will be made by the organized bull studs in the A.I. industry by our educational and research institutions and by our Animal Health Division of the USDA. The semen producing businesses have been, and will continue to be, the pacesetters and will establish the guidelines to achieve these objectives and goals.

However, I predict that the future of A.I. can become a howling mess.

The training, by the bull stud organization, of the herd owner and his family to do their own inseminations as a means of selling more semen at a greater profit is a common practice today. While there is nothing difficult or wrong with learning the insemination technique (in fact, it is a necessity in many geographic areas), it is, however, only the first step in a long chain of demands to come in the future. Many of these training programs are good and follow the *NAAB Recommended Minimum Standards for Training Herdsman-Inseminators*. But, too many are "quickie" sessions done in a few hours (four or five) on two or three open cows in the farmer's own herd. The sole objective is to sell more semen. The result is very limited training, poor

insemination technique and poor fertility of the cows inseminated. The herdsman immediately attributes the poor fertility to poor semen. The future will bring more of this.

Future demands by these herdsman-inseminators involve training in pregnancy determination, treatment of follicular cysts and other fertility problems, and hormone availability now reserved for veterinarians only. These demands by well organized groups will, in the future, establish an educational program in colleges of agriculture and vocational schools involving subject matter previously taught in third and fourth years of veterinary colleges. A survey and study of this nature is presently in progress in Wisconsin.

Collection and freezing of semen from privately owned herd sires on a "custom collection" basis is a useful tool to the large herd. However, in the future we will see an increasing amount of traffic between herds and interstate of such semen being sold, shipped and used. The donor sire in these cases is usually being used for natural service between collections and the disease testing program is questionable or non-existent. The *NAAB-AVMA Minimum Standards for Health of Bulls* will be ignored and the resulting transmission of disease between herds and interstate will become more common. These negative developments can be reduced or corrected for the future if we in the A.I. industry, the veterinary profession, educational institutions, our State Departments of Agriculture, and our animal health regulatory people are aware of the potential problems.

To close on a positive note, the A.I. of the future will be a most important method of genetic improvement of large numbers of cattle and other livestock. It will be the best way of controlling transmission of disease. If we can work together to fully exploit these tremendous advantages and minimize the potential problems, the future will indeed be bright.

The Veterinarian's Potential Role in the Future of Artificial Insemination

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In discussing the veterinarian's role in the future of artificial insemination of farm animals, I believe my subject should be relatively non-controversial. I certainly know nothing about the future, but then who does. I am sure that I cannot

prove one or all points of this short dispatch but then who can disprove them.

The future is full of unknowns and what little we can predict, must by necessity come only from our meager knowledge of conditions of yesterday

and today. However, certain changes and patterns developing now are indicative of the role veterinarians may play in artificial insemination in the months and years ahead.

The universal trend in the cattle artificial insemination field is toward the so called "do-it-yourself" program, and away from the traveling farm-to-farm type technician or inseminator. In fact there are a number of areas in this country which were formerly served by technicians associated with our A. I. Studs who now find themselves devoid of this service. Urbanization of many of our dairy areas, decreasing cow numbers, fewer but larger herds, increased costs involved in travel, inability to make a satisfactory living, are all factors involved in the demise of our inseminators. As breeders find themselves without this service they must make arrangement to do their own, get someone to help or as they say, get a bull.

As the do-it-yourself movement becomes predominant in an area and as the technicians leave for greener pastures, some of our small dairy and beef farmers find themselves in a rather difficult situation. With their operations hardly large enough to warrant the costs involved, and the training necessary to do their own inseminating and no technician available, many will be turning to their veterinarians for help.

This is also true of some of our larger dairy and beef operations. While it might be an economically sound financial venture for them to inseminate their own cows, they just do not want to become involved with this type activity, and yet they do not want to give up the advantages of artificial insemination. I am sure some of you will receive calls for help from this type of client.

I know of practitioners taking on the added responsibility of inseminating cows in selected herds just to keep some of their good clients in business. I am sure we will see more of this in the near future.

We may soon be entering a phase in some areas of this country whereby the bovine practitioner might well have another reason for technical help, by using him part time to supply insemination service to those clients who would request it.

As the breeding of beef cattle by A.I. develops across this land, which it will continue to do, there will be more and more demand for the teaser bull at least until estrus control can make the job of finding cows in heat unnecessary. The rancher will certainly look to the veterinarian to

perform this operation, and then we will always have the exotic situations, such as the ovum transplant, an operation and practice which can create a definite need for skilled veterinary service.

Increased numbers of our profession, performing staff functions within our artificial insemination organizations, should be the desire of all bovine practitioners, and this can be a reality.

Sometime in our future there will be legislation requiring that certain health tests be performed on bulls before shipments of semen from same can legally enter into inter-state and intra-state commerce.

The bulls within the organized bull studs and those bulls brought to bull studs for custom collections will have health tests run by resident or retainer veterinarians, but many custom bulls will be collected on the dairy farms and ranches. Here the required health tests will become a service requested of the attending herd practitioner.

More and more of our purebred breeding businesses, both beef and dairy, will become involved in the direct collection and sale of semen from their own bulls. The herd veterinarian will certainly be asked to help with this venture.

I believe the veterinary profession will always be involved with A.I. and I am sure we will continue to have some of our colleagues active in this field, either actually inseminating cows, acting as distributors for major insemination organizations or performing an insemination service through hired lay technicians.

As the "do it yourself" method of breeding develops, dairymen and ranchers now actively involved in inseminating will become more apprehensive and aware of the fertility-sterility problems within their herds, and they will turn to the veterinarian for additional help, if help is available. In no way do I see the bovine practitioner becoming less involved in artificial insemination. I can only see him becoming more so.

In closing, this final thought. The larger the herd the more the veterinarian's role will be that of management consultant and supervisor. The smaller the herd, the more likely the veterinarian will perform the actual treatment, vaccinations and preventative functions in the fertility-sterility complex of our herd health and A.I. programs. Our profession has so much to contribute it is unthinkable but that the future should find us deeply implicated in most all aspects concerning the artificial insemination of our nation's cattle.