

ANNUAL REPORT OF THE LIVESTOCK DISEASE SPECIALIST
FOR THE PERIOD DECEMBER 1, 1957 to NOVEMBER 30, 1958

Phases of Work: Livestock Disease and Parasite Control

Personnel Involved: S. L. Kalison, D.V.M.

Percentage of Time Devoted to Project: 100%

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Mastitis

This Phase of The Work Occupied Approximately 30% of The Total Time

During the past several years the cost of producing milk has increased steadily while milk prices have either remained steady or in some cases decreased, thus narrowing the margin of profit. This trend continued during the past year.

This situation has compelled the producer to seek methods of reversing the trend. This can be accomplished by either increasing the price of milk or decreasing the cost of production. An increase in milk prices seems neither feasible nor desirable at this time so that a decrease in the cost of production is apparently a necessity if the dairyman in Virginia is to successfully meet the competition from other states.

Economies are being sought and achieved in many phases of the dairy operation. Progress toward a higher efficiency in the utilization of labor, housing, and equipment as well as many other areas is gradually being realized.

This situation has created a climate in which the dairy industry is receptive to any suggestion that offers a possibility of increasing the net profits.

The Agricultural Research Service of The United States Department of Agriculture estimates that dairy cattle diseases result in a loss of 3/4 billion dollars annually to the industry. One third of the total loss or 1/4 billion dollars is lost each year due to inflammations of the udder, or mastitis.

The loss to Virginia Dairy producers resulting from mastitis can be conservatively placed at 5 million dollars annually. Members of the Virginia Dairy Herd Improvement Associations report that it is one of the most frequent, if not the most frequent, causes of eliminating milk cows from the herd.

Health departments reacting to the demands of the consumer for top quality product have indicated that more rigid health requirements are to be formulated and adopted. In many areas this has already been done. A product of this quality can be obtained only from a healthy animal. The animal with mastitis is not only unhealthy but produces a visibly abnormal milk secretion in the majority of cases.

An decrease in the incidence of diseases of dairy cattle will result in a corresponding decrease in the financial loss due to these diseases with a resultant increase in the net profit to the producer. Since Mastitis is the biggest single disease factor facing the dairy industry and existing knowledge of the disease indicates that a program can be formulated that will lower its incidence, it was apparent that an educational program designed to teach the principles of such a program was desirable.

The cost-price balance that has been so unfavorable to dairymen in the last few years has made the dairymen aware of the necessity for utilizing any and all knowledge that will lower the cost of production and increase net profit. The present time would appear to be favorable for the adoption of a mastitis control program by the industry.

The long range objectives of such a program are:

1. To decrease the financial loss due to mastitis by lowering the incidence of the disease.
2. To improve the quality of milk produced.

A consideration of previous attempts to accomplish this both in Virginia and other states makes it apparent that these have been only partially successful at best and in most cases completely unsuccessful. The reasons for this are many but some of those considered most important are:

1. Failure to organize a program which would involve all phases of the dairy industry and utilize all available resources so that the greatest impact can be made upon the problem.
2. Apathy of the dairy producers due to,
 - a. A false sense of security induced by the claims of drug manufacturers for the effectiveness of available drugs that have caused the basic and necessary principles of control to be neglected for what appears to be the easy way out.
 - b. Lack of appreciation of the extent to which this disease has become entrenched in the dairy herds and the losses sustained as a result.
 - c. Lack of awareness of the possibilities of reducing its incidence so that it has become accepted as a calculated risk.

The fact that the incidence of mastitis is as great or greater to-day than ever before in spite of the availability and use of the so called "wonder drugs" or treatments is a sound basis for the conclusion that it takes more than treatment to control the disease. Present knowledge though admittedly incomplete indicates that an effective control program consists of four phases.

1. Good management.
2. Proper milking procedures.
3. Accurate and complete diagnosis.
4. Proper selection and application of treatment based on the diagnosis.

The first two phases are concerned with prevention and are the responsibility of the man in direct contact with the cattle. The third and fourth phases are designed to combat the disease when it appears and are the responsibility of the veterinarian with the help of laboratory facilities. A total control program must include all four phases and be applied continuously to the entire herd. The neglect of any one phase can significantly reduce, if not eliminate entirely, the effectiveness of the entire program.

It becomes apparent that the first step in any attempt to reduce the incidence of the disease is an educational program that will result in better utilization and wider application of the measures known to be effective against mastitis. It should be directed to all groups working with the dairy industry as well as to all segments of the industry itself.

The program, if it is to achieve the desired objectives, will require the coordinated efforts of all the educational agencies in the state and should in general be directed towards:

1. Providing the necessary motivation for dairy producers to actively support and adopt it by:
 - a. Making the extent of the losses due to mastitis known to him.
 - b. Making him aware of the fact that something can be done about it.
2. Keeping all segments of the industry informed of the recognized methods of control as well as the status of the program in the state.
3. Preparing various types of educational material as the situation demands including general information as well as specific information designed for each group involved.
4. Rendering assistance in carrying out the program at the state and county levels.

Consultations with the dairy extension staff, the animal pathology research and teaching staff, The Virginia Veterinary Medical Association, The Virginia Department of Agriculture and the extension dairyman of the United States Department of Agriculture were held and a tentative program outlined. This was presented to the Disease Control Committee of the Virginia State Dairyman's Association, and through them to the association itself. It was enthusiastically received and the Virginia State Dairyman's Association issued invitations to 18 groups, representing all segments of the dairy industry as well as related workers to appoint

a representative to serve on a committee to be known as the "Virginia Mastitis Control Committee." The Dairymen's Association invited these designated representatives to a luncheon meeting to discuss the problem of mastitis and what should be done about it.

Several "pre-planning" meetings were held with the dairy science department, animal pathology research group, and others to make plans for the first meeting of the committee. The extension veterinarian prepared material under the title "Current Information Relative to the Prevention and Control of Mastitis" and "Recommended Management Practices", copies of which are enclosed. These were sent to committee members prior to the committee meeting for their information. This material was approved by the joint committee on Dairy Cattle Health of The American Dairy Science Association and The American Veterinary Medical Association.

The committee met and organized itself. The problem was thoroughly discussed and a sub-committee appointed to formulate a suggested mastitis control program. Three meetings of the sub-committee were held and a program prepared which was submitted to and approved by the entire committee. A copy of the approved program is enclosed.

At the present time a subcommittee on education is working on material for and means for carrying out an educational program so as to be most effective. A clinical sub-committee is considering a uniform diagnostic and clinical approach utilizing existing laboratory facilities. An editorial sub-committee has been appointed through which all material will be released for publication. It is hoped that this procedure will achieve a uniformity in thinking and published information that will avoid the con-

fusion that has resulted from a lack of such uniformity in the past.

It is hoped that a well organized coordinated program will make sufficient impact upon the problem so that significant results can be achieved.

Results and accomplishments in a program of this type do not become apparent for a long time. It will have to be a continuous effort for an indefinite period unless research reveals methods and approaches, unknown at present, that will be more effective in eliminating the disease.

The lack of an effective reporting system makes it difficult to measure the progress in any disease control program and mastitis is no exception. The progress in individual herds can be measured and it is this that serves to indicate whether the approach is successful or not.

It was proposed in the plan of work submitted last year to alter the approach to the mastitis problem. The use of demonstration herds that had served so well in the past had to be abandoned. Lack of personnel limited the number of people that could be reached. The program outlined was substituted in an effort to include more dairymen. The objectives for 1958 were to instigate a state wide program under the control of a State Mastitis Control Committee. This has apparently been accomplished.

The formation of a State Mastitis Control Committee, the formulation and adoption of a concrete program and the delegation of duties to responsible sub-committee have provided a foundation upon which solid

progress can be built in the next year or two.

Parts of some 13 county meetings were devoted to a discussion of Mastitis. Twenty-two farm visits were made during the last year to investigate mastitis problems with county agents, local veterinarians or both. Two radio programs and three feature articles were devoted to the subject as well as one news article.

Brucellosis

Approximately 10% of Time Was Devoted To This Phase of Work

Progress in the attempts to eradicate brucellosis from Virginia continues at a steady pace. As of January 1, 1939 there were 46 counties that had achieved Modified Certified Brucellosis Free Status, and twenty-two that were under area test. This represents a total of 68 counties either certified or in the process of achieving certification.

The agencies concerned with the eradication program report that available personnel and facilities do not permit acceleration of the present testing program. The basic work done by The Extension Service in Cooperation with the State and Federal Regulatory Agencies in 1936 and 1937 and described in previous reports has made the livestock industry aware of the necessity for controlling the disease and created an enthusiasm among livestock owners that has made the achievement of the solution to the brucellosis problem merely a matter of time. This has been reflected by the fact that requests for the initiation of the area program in the various counties has exceeded the ability of the regulatory agencies to meet them.

The material prepared for use in the counties detailing the basic principles of the disease, its public health significance, necessity for control and available state and federal control programs has remained essentially the same during the last two years. For this reason the "Fact Sheet" prepared for county agents as well as the circular #638 "Wipe Out Brucellosis", for general distribution continue to serve the needs in this phase of the program.

One phase of the program that is of extreme importance is the vaccinating of calves between 4-6 months of age with Strain 19 vaccine. This can create an effective barrier against the disease by increasing resistance to it in the cattle population. Unless the testing of the cattle and removal of reactors is accompanied by the creation of resistance in young animals that replace those that are removed each year, the possibility of the widespread reappearance of the disease is very real. The ultimate goal is the vaccination of 100% of the heifer calves that are retained as replacements each year.

During the previous two years approximately 35% of the replacement heifers were vaccinated. Sixty-five percent of the total number of replacement heifers were being left unvaccinated. Research and field observations have demonstrated that at least 70% of the calves must be vaccinated before the maximum benefit from this procedure may be realized.

The fact that the infection was being reduced through removal of the reactors under the area program made it less likely that the younger animals were being naturally exposed as calves and acquiring immunity through such exposure.

The importance of this phase of the program plus the fact that it was lagging as compared to the other phases of the program indicated that the emphasis in the overall brucellosis eradication program should be placed upon the necessity for vaccinating calves. The objective in this phase of work was to accomplish an increase in the percentage of replacement heifers vaccinated during the year.

A letter was prepared summarizing the work done in the eradication program. The success of the test and slaughter phase of the program was pointed out. The fact that the number of calves vaccinated was not keeping pace with the rest of the program was emphasized. The reasons why it was necessary to increase the percentage of replacement heifers vaccinated was explained. This letter was sent to the county extension personnel, and their assistance was requested in the dissemination of this information. They were also requested to make every effort to increase the percentage of replacement heifers vaccinated in their respective counties.

Another letter was prepared and sent to all veterinarians delineating the problem and asking their cooperation in emphasizing the necessity and importance of calfhood vaccination to the livestock industry.

Similar letters were sent to dairy fieldmen, dairy and beef cattle breed representative and others concerned with the cattle industry.

In addition to this a short paragraph reminding cattle men to vaccinate calves was released periodically through the Associated Press. Two radio programs were made and circulated over the V.P.I. radio network. One newspaper article was prepared and released through the Associated Press for use in the newspapers in the state.

The circular "Wipe Out Brucellosis" was reprinted and 15,000 more copies made available. Parts of some 16 meetings with cattle owners were devoted to the problem.

The state and federal regulatory agencies as well as the dairy science and animal husbandry extension staffs utilized every opportunity to bring the problem to the cattle raisers in the state.

The percentage of calves vaccinated during 1958 was 64% according to the information released by the State Veterinarian's Office. During 1957 it was estimated that 36% of the available calves were vaccinated. This represents an increase of 28% in the number of calves vaccinated in 1958 as compared to 1957.

This is the first year that a significant increase in the number of calves vaccinated has occurred. For several years prior to 1958, the percentage of calves vaccinated had remained static.

The reasons for this sudden acceleration in the calfhood vaccination program are undoubtedly many. Publicizing the necessity for vaccination and making the professional agricultural workers aware of the fact that this phase of the program was not keeping pace with the other phases resulted in an organized effort on the part of these workers to overcome the complacency prevalent in many cattle owners relative to this part of the program. The efforts of all the agricultural agencies under the leadership of the county extension personnel most likely accounts for this sudden increase in calfhood vaccination.

While the results would indicate a successful program had been initiated and carried out this past year, our efforts can not be allowed to diminish in the years to come. Success will not have been achieved until 100% of the heifers retained as replacements are routinely vaccinated each year.

Artificial Insemination and Reproductive Difficulties

Twenty Percent of Time Was Devoted to This Phase of Work

The artificial breeding program continues to show a steady growth. While the bulk of the breeding is done by the co-operative breeding association, there are several commercial semen selling organizations operating in Virginia. The figures indicating the number of animals bred and the conception rate during the past year are reliable only in so far as they relate to the operation of the co-operative. It has been and continues to be difficult to obtain statistics that would indicate the number of cattle bred and the efficiency of the operation as carried on by the commercial semen producers and organizations. It is estimated that 65,000 cattle were bred artificially during 1956. The co-operative bred 55,020 cattle in 1956 as compared to 47,102 animals in 1957. This represents a 17 per cent increase.

While overall conception rate was 67 per cent and represents a high degree of efficiency it is necessary to maintain constant vigilance over the entire program in order to maintain the high level of efficiency. Certain areas and individual herds continue to experience difficulty. This is a normal situation and will have to be dealt with constantly.

The majority of the technicians continue in their jobs year after year. There is, however, a certain percentage of turnover among the inseminator group and new territories are constantly being added. Both of these require a supply of trained technicians.

The bull herd at the center was placed under a rather detailed health program several years ago. This has required a quarterly examination of bulls as well as examinations of bulls prior to their purchases for use

in the artificial breeding program.

The use of artificial insemination has not only increased the value of each animal but has focused the attention of many breeders on breeding difficulties that they were unaware of prior to their use of this program. The records kept in the operation of the program have emphasized problems in reproduction. The achievement of high production during a specified period has become mandatory. Unless this is accomplished during the so called base period the economic loss to the dairyman is highly significant. It is, therefore, necessary that the animals calve at the proper time so that they reach their peak performance during this period. Delays in calving due to reproductive difficulties must be reduced to a minimum.

The importance of the artificial insemination program and the economic necessity to maintain a high level of efficiency made it desirable to devote some time to these problems. More time devoted to this phase of work would be highly justified but lack of time and personnel made this impossible.

The necessity for the use of the technique of artificial insemination in the control as well as prevention of genital diseases in beef herds becomes more apparent as time goes on. More and more herds consisting exclusively of beef animals are using artificial insemination to prevent the entrance of these diseases to the herd and assist in their control once they appear.

It would be easily justifiable for one veterinarian to spend his entire time working in this area. Since this was not possible, the objective has been to render assistance as requested by county agents,

veterinarians, technicians etc. Many such requests were received with those from veterinarians being in the majority.

Illustrated discussions relative to herd management for breeding efficiency were held in six areas in the state. All of these meetings were organized by the county agents involved. Poor herd management is still the biggest cause of low conception rates particularly in herds using artificial insemination. The genital diseases are more evident in herds using natural service.

The testing procedures required by the state regulations were applied to the bulls maintained by the Virginia Artificial Breeding Association. In this connection four quarterly examinations for brucellosis, leptospirosis, vibriosis and trichomoniasis were carried out by the extension veterinarian in cooperation with other members of the animal pathology department. Two bulls were examined prior to their entry into service in the program as required by the state regulations.

Two short courses were held at the college for the training of technicians. This occupied a period of four weeks during the year. In addition, one technician was examined for the purpose of certification for a license to practice artificial insemination. Three individuals were given special instruction between short courses so that an immediate need could be filled and a trained technician supplied to an area requiring such a man before the next scheduled short course.

The annual meeting of the Virginia Artificial Breeding Association as well as two meetings of the board of directors of this association were attended at their request in order to confer with the group on specific problems.

While individual requests for farm visits continue to decrease as familiarity with the program increases a good number of farm visits were made with county agents and veterinarians in order to investigate problems relating to reproductive difficulties. Both beef cattle and dairy operations were involved.

Several meetings during the course of the year were in part devoted to discussions of artificial breeding, management, problems relating to reproductive efficiency and reproductive diseases.

Results in this particular phase of work are difficult to measure. The ultimate increase that has been steady but continuous over the years plus the use of the program in a disease control program in addition to the maintenance of an excellent conception rate would indicate that the overall success of this phase of work is continuing.

Miscellaneous

Forty Percent Of The Total Time Was Devoted To This Phase Of Work

In any phase of medicine and veterinary medicine is no exception situations of an emergency nature frequently occur. In many cases, they are acute in nature and accompanied by severe economic losses due to loss of weight and production or to a high mortality. Some conditions are not acute but recur over a period of time resulting in a costly problem that is continuous. In either case it is desirable that as these conditions become apparent they should be investigated as quickly as possible so that the losses can be kept to a minimum.

As these conditions arise and are investigated areas are defined in which the need for research or more emphasis upon present research becomes apparent. This has been of help to the research section of the animal pathology group in evaluating their present program and planning their future program. It has also served as a source of material for this group notably in the projects relative to Leptospirosis and Vibriosis.

The requests of veterinarians in the field for assistance in the more difficult problems is an important part of this phase of work. These requests continue to increase each year. The importance of this area in the extension program can not be overemphasized.

The desirability of an understanding between all groups engaged in contributing to the livestock industry has been recognized for a long time. The accomplishment of a closer working relationship between these groups has required that some work toward this end be done on the national, state and local levels. This has been done particularly with veterinary associations and local practitioners.

The necessity for some time to be devoted to college activities and functions is present on this campus as it is in all other educational institutions. Some time had to be allotted for these activities.

The problems and needs in this phase of work are variable from year to year so that they can not be foreseen. For this reason an organized approach can not be made. The Plan of Work must be formulated so as to permit a wide latitude in operation and allow the situations to be met as they arise.

It is impossible to include all of the work done that would be included in this phase of work. Examples of some of the more important areas will serve to indicate the nature diversity and scope of the problems encountered.

Beef Cattle

Hypomagnesaemia also known as wheat pasture poisoning, grass tetany etc. has been a problem for many years in beef cattle. It appears in the spring when cattle are first placed on a lush pasture. Treatment applied early enough is effective. The difficulty arises

from the fact that the elapsed time between the appearance of visible symptoms and death is usually very short. It requires continuous watchfulness on the part of the livestock owner to prevent the mortality rate from becoming extremely high.

During the past several years, a condition that is apparently the same as grass tetany has appeared in beef herds during the winter months from December through the middle of April. It differs from what has previously been called grass tetany in that it occurs during the period of the year when there is little if any pasture and certainly no lush pastures.

It was first reported in the northern part of the state but has since been seen in all parts of the state. Frequent requests for assistance from livestock owners, county agents and veterinarians during the winter months emphasized our lack of information relative to the condition. It is apparently increasing in incidence.

The research group of the animal pathology section and the biochemistry and nutrition departments were contacted and their assistance requested. Several preliminary analyses of blood samples taken from animals prior to treatment have been made.

We are now in the process of making the arrangements necessary to do a more intensive study of the condition. This is being done with the assistance of several county agents and veterinarians. The work will be done cooperatively by the biochemistry and nutrition departments and the animal pathology department.

Long worms seem to increase in incidence and importance with each succeeding year. Information through correspondence, farm visits, personal contact etc has been given as the occasion arose.

Cattle parasites, foot-rot, genital disease, nutritional upsets plus many others have been met and handled in the same manner.

Sheep

The most pressing problems in sheep husbandry with respect to diseases and parasites are internal parasites and foot-rot. These are not new but have been with us for many years. Present methods of treatment when combined with good management practices are effective. Failure to do a better job of controlling these two conditions is mainly a result of not utilizing management procedures rather than failure of treatment.

The work done in this area has been primarily in response to requests. Information relative to these conditions has been disseminated through personal contact, correspondence, 6 meetings, farm visits and radio as well as news articles. Much of this work has been carried on by and with the assistance of the research personnel of the animal pathology group.

While these are the most important problems others are encountered periodically. Tetanus, enterotoxemia, nitrate poisoning, stiff lamb disease plus several others were diagnosed during the year.

It would be desirable to organize a program designed to teach basic disease and parasite control methods to sheep owners. This can not be contemplated until more personnel become available.

Swine

Internal parasites are of major concern to the swine industry in Virginia. Requests for information relative to treatment for these parasites and particularly in regard to the comparative efficiencies of treatments that are available has been heavy. Farm visits, individual contacts and a newspaper article have been utilized to answer these requests.

The vaccination of swine against Hog Cholera continues to lag. The necessity for vaccinating against this disease must continually be emphasized. This has been done through radio and newspapers as well as through personal contact, correspondence and one meeting.

Agalactia in sows, erysipelas, gut edema, plässer disease, virus pig pneumonia, anemia, hypoglycemia plus many others have been diagnosed during the year.

There is a great need for an organized approach to be made in an effort to teach fundamentals of disease and parasite control to swine producers. This can not be done until more personnel is available.

Veterinary Association Activities

One of the major areas of activity that has occupied a good deal of time has been the effort to make the various groups concerned with the livestock industry aware of the fact that successful disease control is a cooperative effort involving all groups. The veterinarians trained to be specialists in the diseases of animals are key men in the overall

picture. They must be made aware of their responsibilities and be willing to assume their share of the effort, both individually and collectively.

It is necessary therefore to utilize the veterinarians in the planning as well as the execution of any disease and parasite control program if it is to be successful. The support of the profession is essential to the effectiveness of any such program.

The objectives of this phase of work is the establishment of understanding between the veterinarian, livestock producer, pharmacist and others interested and involved in livestock health.

The approach made will vary with each situation. It was suggested that county extension personnel include local veterinarians on livestock and dairy committees planning county extension programs. Both animal husbandry and dairy extension groups have proposed more extensive use of veterinarians in their work with livestock owners and county extension personnel.

The extension veterinarian emphasized the work with the veterinarians. In regard the publicity for two State Veterinary Association Meetings was handled. Appearances were made on the program of one State Veterinary Meeting and two National Veterinary meetings. Programs were planned for six regional veterinary meetings and ten such meetings were attended. Membership on the program committee required that assistance be given in the planning of one State Veterinary Association Meeting.

As in previous years, the extension veterinarian served as Chairman of The Pharmacy Committee of The Veterinary Association and as

Chairman of The Joint Committee of The Virginia Veterinary Medical Association and The Virginia Pharmaceutical Association. These activities have resulted in several joint area meetings being held which both veterinarians and pharmacists attended. This has served to improve relationships between the two groups so that the cooperative approach to livestock diseases so necessary to successful control is coming closer all of the time.

The committee of The Virginia Advisory Legislative Council given the most malleability of studying and recommending changes in the pharmacy law completed its work during the past year. The recommended changes were enacted into law at the last session of the Legislature. Membership on this committee required a great deal of time and effort for the first eight months of the year.

The occasion veterinarians represented the State Veterinary Association at the annual Convention of The Virginia Pharmaceutical Association. Two meetings of The Board of Directors of the State Veterinary Association were attended to report on activities and receive approval of planned programs and activities. Support for the proposed Hazards Control Program was secured in this way.

Four conferences with representatives of the state and Federal regulatory groups were held during the year. These conferences have resulted in a mutual understanding and uniformity of presentation of facts in programs that involve both customion and regulatory personnel.

At the national level two meetings of the council on Veterinary Services of the American Veterinary Medical Association were attended.

This was requested by the Council and attendance was in an advisory capacity. The reports of the Council covering Mastitis and Brucellosis were written by the extension veterinarian.

During the past year a Joint Committee on Dairy Cattle Health was formed with representatives of The American Dairy Science Association participating. It was particularly gratifying to see three years of preliminary work result in the formation of this committee which is a significant step forward in establishing a closer liaison between the two groups in the area of mutual interest, dairy cattle diseases. A successful organizational meeting was held in Chicago on June 4th and the Joint Committee has been established as a permanent and continuing function of both national associations. The extension veterinarian was one of the representatives of The American Veterinary Medical Association, served as secretary of the joint committee and was appointed chairman of the subcommittee on Mastitis. It is an objective of the committee to achieve uniformity in subject matter utilized in educational programs to teach methods of control for the important diseases of dairy cattle. Much has already been accomplished in this regard.

The usual campus activities occupied some time. The preparation and making of radio programs 13 in number, writing of 8 news articles, attendance at 24 departmental staff meetings, 3 extension staff conferences, two agricultural faculty meetings, a 3 day communications school, the annual extension conference and Institute of Rural Affairs are typical examples.

While definite measurement of progress and results are not possible, it is apparent that this is without doubt the most important phase of work in the total veterinary extension program.

There are areas in which activities should be expanded. A monthly publication for veterinarians should be prepared. Short courses for veterinarians on subject matter requested would be desirable. There are other needs which will be met only when sufficient personnel becomes available.

Contributions to Regional Programs

The contributions made to regional extension programs have been indirect rather than direct. It has consisted primarily of evaluation of information as a member of several committees of the American Veterinary Medical Association. The results of these evaluations have contributed to the uniformity and authenticity of basic information relative to certain diseases that has served as subject matter for educational programs designed to acquaint livestock growers with available methods for the control and prevention of these diseases.

The report of the committee on Brucellosis of The American Veterinary Medical Association has analyzed progress reports and made recommendations that would assist in the ultimate goal of Brucellosis control.

The report of the Committee on Mastitis of The American Veterinary Medical Association has made available an objective report that includes basic facts concerning the disease and has enumerated management practices that have been proven to be effective in reducing the incidence of Mastitis. This report has served as the basis for the organization of control programs in many states.

The Joint Committee on Dairy Cattle Health of The American Veterinary Medical Association and The American Dairy Science Association has endorsed the reports of the committees on Mastitis and Brucellosis of The AVMA. This committee has also defined areas of research necessary to gain information that will assist in extension programs designed to combat these diseases. The request for support in these undertakings has been approved by both organizations and sent to those directly concerned as well as to the membership.

The Joint Committee is now formulating a basic disease prevention program for dairy cattle that will be available for use in extension programs designed to teach the principles of preventative medicine.

It is as a member of these committees that contributions to national and regional programs have been made.

Appraisal of Progress

The progress in all phases of work was equal to that anticipated in the plan of work for 1958 and in some phases exceeded the goals set for the year.

The organization of the Virginia Mastitis Control Committee was accomplished as proposed. The amount of work done by the committee has exceeded that which was anticipated. The work at the state level has proceeded to the point where the work at the district and county level can be started. This has occurred six months earlier than planned.

This phase of work would be strengthened materially by the addition of personnel so that more time could be devoted to the preparation of material and giving assistance at the county level. The rate of progress will be directly proportional to the availability of personnel to work on the program.

The Brucellosis phase of the program has proceeded at a more rapid rate than anticipated. The objective for the year was to have 50% of the counties certified as Brucellosis Free or under area test. As of December 1, 1958 65% of the counties are in this status.

A 10% increase in the number of calves vaccinated was sought and attained. The total program is proceeding as rapidly as the number of practicing veterinarians available to do the work will permit. Progress is satisfactory and acceleration of the program can not be anticipated in the near future.

The objectives proposed for the phase of work listed as Reproductive Disorders and Artificial Insemination were a 10% increase in the number of

cattle bred artificially, maintenance of the conception rate between 65-70 per cent and the investigation of breeding problems as requested by county agents, veterinarians and others.

There has been a 17% increase in the number of cattle bred artificially. The conception rate for the year was 67% and all requests for assistance in breeding problems have been answered.

The quarterly examination of the bulls at the bull center have been carried out as planned. The two short courses planned to train inseminators were given.

Goals for the many activities carried out under the miscellaneous phase of work could not be set since the work itself can not be anticipated in either type or quantity.

The number of farm visits continues to be extremely heavy. Requests for assistance from veterinarians increase in number each year.

Veterinary association activities both state and national exceeded the anticipated amount. This is a worthwhile activity and should be maintained and increased if possible.

Appearances on programs of professional meetings as well as farm meetings continues at the same level.

Emergency work continues to demand a great deal of time. This is sporadic and upsets schedules. The assistance of The Animal Pathology Research group makes this work possible. It would be desirable to be able to follow these problems more fully and completely.

The work with swine consisted of answering requests for assistance

either by correspondence or farm visits.

The work with sheep was carried on in the same manner as the work with swine.

The total program would be strengthened considerably if educational work in swine and sheep diseases could be approached in an organized manner.

Short courses for veterinarians in specific subjects are needed and would add a great deal to the overall program.

The organization of the suggested additions to the program can be done only when additional personnel become available.

Case History

The number of cattle tested for Brucellosis annually during the 8 year period prior to 1957 had remained static. Between 300,000 and 350,000 animals had been tested each year and the percentage of those that reacted to the test remained at 1.8%. Approximately 30% of the available calves had been vaccinated each year.

At the beginning of the year 1957 the state and federal regulatory agencies responsible for the administration of the brucellosis control program contacted the extension veterinarian and requested the help of the extension service in intensifying the program and introducing the newly instituted area testing program. A meeting of representatives of those groups involved, including the animal husbandry and dairy science extension groups, the extension administration, the extension veterinarian, as well as the state and federal animal disease regulatory agencies was held. The approach to the problem was discussed and the role of each of the various groups represented was defined. A memorandum of understanding was written and distributed to all of those concerned.

The educational and organizational program was made the responsibility of the extension service. A letter containing an outline of the role they could play in the overall program was distributed to county extension workers.

A fact sheet containing the details of the area program, requirements and operation was formulated by the extension veterinarian in cooperation with the representatives of the state and federal regulatory agencies. This was distributed to county extension personnel, members of the veterinary profession, members of the animal husbandry and dairy science extension

staffs and other professional agricultural workers, and resulted in a uniformity in the information that reached the livestock producers.

A suggested county program for use in an organized effort to reduce the incidence of the disease was formulated by the animal husbandry, dairy science and administrative staffs along with the extension veterinarian. A two color leaflet "Control Brucellosis" was also prepared.

The program was discussed with the district agents and it was decided to attend meetings of the county agents in each of the districts to discuss the importance of eliminating brucellosis and the approach to the problem. This was carried out and the presentation at these meetings consisted of an illustrated discussion by the extension veterinarian in which were presented basic facts that determined the measures to be used. This was followed by a discussion of the details of operation of the area program by a member of the state regulatory agency. A member of the administrative staff then presented the suggested county program.

The objectives for the first 12 month period were to have 25 counties under area test with four achieving modified certified brucellosis free status. During the second 12 month period the objectives were to be 50 counties under test with 10 achieving modified certified brucellosis free status.

The accomplishments of the two year period can be summarized as follows:

1. 67 counties under area test with twenty-eight already designated as modified certified brucellosis free areas.
2. An increase in the average number of cows tested from 300,000 to over 550,000 per year.
3. A decrease in the percentage of reactors from 1.8% to .8%

those tested.

4. An increase in the percentage of available calves vaccinated from 30% to 47.8%.

The speed with which the program has proceeded has exceeded expectations. The role extension played in this accomplishment becomes readily apparent if a comparison is made between the work done prior to and following the time the educational and organizational program was instituted.