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The Veterinary Research Institute

ARTHUR M. ORUM AND GEORGE C. LIGHTCAP
Class of 1941

THE Iowa State Veterinary Research Institute is located on a sixty acre farm one mile south of the Iowa State College campus. The laboratories and buildings are especially equipped for research work in animal diseases. The problems in the control and eradication of animal diseases are many, and few of these problems have been completely solved. The objective of this organization has been to investigate animal diseases with the view of working out effective methods of control and eradication.

First Worker

It is difficult to say just when veterinary research began in Iowa State College. Probably the first work of a serious nature was taken up by Dr. W. B. Niles, when he became a member of the staff and devoted a part of his time to experiment station work. Dr. Niles, a very inquisitive scientist, was the first man west of Chicago to discover the actinomyces fungus in the tumors which it produces in cattle. This was in 1885, and Dr. Niles' graduation thesis was on the subject of actinomycosis. The first tuberculin to be used in the state of Iowa was injected by Dr. Niles in the McHenry herd at Denison, Iowa.

This was soon after Dr. Leonard Pearson had first used it in Pennsylvania. Dr. Pearson was the first man in America to apply tuberculin as a diagnostic agent.

In 1885, a bulletin was published by Drs. Stalker and Niles reporting the investigation of bovine tuberculosis with special reference to its existence in Iowa. The bulletin refers to the danger of feeding milk from tuberculous cows and to experiments conducted by other stations which prove the infectiousness of milk coming from tuberculous herds.

Reorganization

The development of the educational work and the reorganization of the division discouraged any considerable amount of experiment station work along veterinary lines for several years. During the reorganization of the division ('08-'09), it was decided that it would be best to have a Veterinary Research Department on the same basis as the Iowa State Agriculture Experiment Station and the Engineering Experiment Station. The research work was to be carried on in the proposed building at the southwest corner of the veterinary group, but due to a lack of funds this building could not be built and the Research Department was forced to occupy the southeast room of the Physiology building (1913).
First Director

The first director of research was Dr. Kurt Schern, who was brought to the college from Germany on the recommendation of Dr. Ostertag of that country. He began his work in the summer of 1913, supervising the installation of laboratory equipment in the southeast room of the Physiology building. Due to the delay in receipt of laboratory supplies and equipment ordered from Germany, little actual research work was done that year. A beginning was made in 1914, but in August of that year Dr. Schern left to attend the International Veterinary Congress in London. War broke out before the meeting could be held, Schern fled to Germany via Holland, and never returned.

In 1915 Dr. Charles Murray was assigned direction of the work, in addition to his regular teaching duties in the Department of Pathology and Bacteriology. During the war a small staff was employed, but research received little attention because of the heavy demands for diagnostic and conservation work. Dr. Murray was appointed head of the department, under Dean Stange, director, in 1917.

Farm Bought

In 1923 an accumulated balance on hand from the operating fund of the Biological Laboratory (hog cholera antiserum plant) was used to purchase the present Research Institute farm. The sum invested was about $15,000. Two of the present six barns were also built from this fund. Following discontinuance of operation of the Biological Laboratory, the plant was used for five or six years as a research laboratory. In 1926-27 permission was given by the state budget director to use the balance of the contingent fund in his hands to supplement the material from wrecking the old serum plant for the construction of a new research laboratory. The present Veterinary Research Institute laboratory was completed at an outlay of some $25,000. Thus, fourteen years after the organization of a research department, there were suitable buildings for carrying on the work.

Program

The program which was originally set up has been followed the past twelve years in a more or less general way, however, exigencies of the times have led to departure from the program on several occasions, and completion of some of the projects has had its effect. For example, when encephalomyelitis of horses appeared suddenly as an epizootic five years ago, it was deemed imperative to drop, temporarily at least, some of the work then under way and concentrate on this important and more or less obscure disease. One of the results of this study was to clarify the situation as regards the occurrence of this disease in the winter season, when it hitherto had not been known to occur. The studies carried on showed that there are two causes of the syndrome of encephalomyelitis, viz: the filterable virus, which others had demonstrated, and moldy corn, which hitherto had not been incriminated. It was clearly and conclusively shown that the lesions of the two types of the disease were different and distinguishing. The practical feature of the knowledge gained is that vaccine treatment which has proven effective for the control of the virus form of the disease is useless for the other, and its application a needless and wasteful use of money. Rather, the latter form of the disease can be avoided by eliminating spoiled and moldy corn from the ration.

Hog Cholera

Another of the several accomplishments of the program was the clarification of the relationship of certain forms of intestinal bacteria to hog cholera. One of the original projects was a study of those bacteria that cause enteric diseases of swine. One of these, the Salmonella suispestifer, in the early investigations of hog cholera was considered the cause of the disease. Later, when it was proven by Drs. Dorset, Niles, and McBryde that a filterable virus was the
real cause, the frequent association of the suipestifer organism with cases of cholera was observed and just what its importance was as a complicating factor was not understood. The challenge was accepted and the staff undertook to determine this. The problem was difficult, nished new problems for investigation, many of which have been pursued. They were things which had not been foreseen when the studies were begun and could not have been planned for study, but which were encountered as the work that had been outlined was pursued.

and a great deal of time for four or five years was given over to studies of the disease. The result was that the experiments proved that a necrotic type of enteritis, bearing no direct relationship to hog cholera virus, is caused by the suipestifer organism and that the control of this disease is largely a matter of improved hygiene, and that biological agents and nostrums which were being purchased by farmers at enormous expense were ineffectual in its control.

Further Research
These studies also, as is often the case, led to the discovery of other heretofore unrecognized agents of enteric diseases of swine, such as coccidia, inadequate and unsuited diets, etc. They also fur-

This is mentioned to call attention to the fact that it is impossible to lay out a fixed program of work that can be rigidly followed to the exclusion of what may develop in an effort to follow such a program.

The projects which are now in progress at the Veterinary Institute include investigations on virus diseases, neurotropic infections, diseases of cattle, nutritional deficiencies, infectious diseases of swine, and poultry diseases.

In addition to these major problems, other studies of conditions that in some cases are seasonal are carried concurrently, as material for such studies is available.

The Staff
The most vital part of any research in-

stitution is its staff. The character and personality of the members of the staff determine the kind of research work carried on. The current staff includes the following men:

Dr. Charles Murray, Director
Dr. H. E. Biester, Associate Professor
Dr. S. H. McNutt, Associate Professor
Dr. L. H. Schwarte, Associate Professor
Dr. C. D. Lee, Associate Professor
Dr. T. W. Stearns, Assistant Professor

Dr. Charles Murray

Dr. Charles Murray was born in Grainfield, Ohio. At an early age he moved to Russell, Iowa, where his preparatory education was begun, to be completed at Drake University in Des Moines, from which institution he received the bachelor of pedagogy degree in 1906. He came to Iowa State College in 1908 and was assistant in bacteriology from 1908 to 1912, at which time he completed the veterinary course and received the degree of doctor of veterinary medicine. In the meantime, having taken sufficient work, he secured his bachelor of science degree in 1910. Following graduation, he became associated with the Veterinary Pathology Department as bacteriologist and in 1917 was appointed by the late Dean Charles H. Stange to the head of the Department of Veterinary Research and continued to serve in that capacity until 1926. Shortly after the death of Dr. Stange, he was appointed Dean of the Veterinary Division and Director of the Veterinary Research Institute and continues in that capacity at the present time.

Dr. Biester

Dr. H. E. Biester was born in Chicago, Illinois. He was graduated from the public schools of Philadelphia, attended Temple University, George Washington University and the University of Pennsylvania, from which institution he received the degree of V. M. D. in 1919. He spent the next year in post graduate work in pathology. Later he was associated with the United States Bureau of Animal Industry at Lancaster, Pennsylvania. In 1920 he accepted the position of instructor in veterinary pathology at Iowa State College, which place he resigned to go to the University of Illinois as associate professor in the Department of Animal Pathology. Later, he returned to Iowa State College to assume his duties as assistant professor in the Department of Veterinary Investigation. In 1932 he became associate professor in the Veterinary Research Institute, which position he still holds.

Dr. McNutt

Dr. S. H. McNutt was born in Algona, Iowa. He received his preliminary education at Algona, after which he entered upon the study of veterinary medicine at Iowa State College, graduating in 1917. Following his graduation he remained in the Department of Veterinary Pathology as an assistant. He was transferred to the Veterinary Research staff as assistant professor in 1919. He became associate professor in the Veterinary Research Institute in 1932.

Dr. Schwarte

Dr. H. L. Schwarte was born in Saratoga, New York. He graduated from the public schools at Saratoga in 1914. Later he entered the College of Agriculture at Cornell University receiving the degree of bachelor of science in 1918. Shortly after the entrance of this country into the World War, he enlisted in the United States Army and served with the American Expeditionary Forces in England and France. After the war he returned to Cornell University to continue graduate work in the College of Agriculture, receiving the degree of master of science in 1920. He then accepted the position of manager of the Ardson Farms in New York, engaged in the breeding and production of purebred livestock. In 1925 he came to Iowa State College to study Veterinary Medicine. He accepted a teaching fellowship in the Department of Veterinary Physiology

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moved and the area was cleaned with ether and sprayed with tincture of merthiolate. The incision was fairly well healed at this time but there was considerable swelling about the sutures as they had been left in longer than usual.

The dog made an uneventful recovery and was discharged April 21.

RESEARCH—
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which he held until completion of his studies in 1928, at which time he received the degree of doctor of veterinary medicine. He filled the position of pathologist at the Rhode Island State College for one year. In 1929 he returned to Iowa State College as assistant professor in the Department of Veterinary Research. He continued his graduate studies, receiving the degree of doctor of philosophy in 1934. He became associate professor in the Veterinary Research Institute in 1934 and continues in that capacity at the present time.

Dr. Lee

Dr. C. D. Lee was born in Salt Lick, Kentucky. He received his preliminary education in high school and military school, and spent three years at Morningside College in Sioux City, Iowa. He enlisted in the United States Army during the World War and served with the American Expeditionary Forces in France. After the war he entered Iowa State College to study veterinary medicine. He received the degree of doctor of veterinary medicine in 1927. He served as house surgeon for one year after which he served as instructor in the Department of Veterinary Pathology. He continued his graduate work, receiving the degree of master of science in 1932. In 1934, he was transferred to the Veterinary Research staff where he now holds the position of associate professor.

Dr. Stearns

Dr. T. W. Stearns was born in New York City, New York. He received his preliminary education at New Brunswick, New Jersey. He entered the University of Florida in 1930, receiving the degree of bachelor of science in 1934. He was engaged as research chemist on naval stores at the University of Florida and continued his graduate work for two years, receiving the degree of master of science in 1937. In September, 1937, he went to the University of Minnesota to continue his graduate work in the division of bio-chemistry. In July, 1938, he was made research assistant in the Division of Veterinary Medicine at the University of Minnesota, continuing his graduate work and receiving the degree of doctor of philosophy in 1940. He is now assistant professor at the Veterinary Research Institute.

The institute supports educational work by cooperating with all departments of the veterinary division. It has always followed a broad policy of cooperation with other divisions of the college as well as the State Department of Agriculture and the United States Bureau of Animal Industry. Many practicing veterinarians consult the staff members for advice and assistance.

Spring Dance

The Veterinary Spring Sport dance was held at the Ames Country Club, April 26, 1940. The music was furnished by Tommy Swanke and his orchestra. The guests were: Dr. and Mrs. Charles Murray, Dr. and Mrs. W. G. Venzke, Dr. and Mrs. H. L. Foust, Dr. and Mrs. D. A. Smith and Dr. and Mrs. L. M. Jones.

New Officers of the Jr. A.V.M.A.

The newly elected officers of the Jr. A. V. M. A. are: Orin N. Emerson, Sr., President; Max R. Benson, Sr., Vice President; Howard F. Beardmore, Jr., President-Elect; Walter H. Timms, Jr., Secretary; Arthur C. Gathmann, So., Treasurer; James K. Tate, Sr., Critic; and Joseph A. Graham, So., Sgt. at Arms.