1939

Some Studies on Swine Influenza
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Doctor Carlos T. Rosenbusch presented as his thesis for the degree Doctor of Philosophy, which he obtained at the December graduation, "Some Studies on Swine Influenza" with particular reference to a comparative study of Hemophilus influenzae suis and Hemophilus influenzae and the antibody response to experiment swine influenza. The work was done at the Rockefeller Institute at Princeton, New Jersey, under the supervision of Dr. Richard E. Shope who has gained worldwide recognition for his studies on swine influenza.

In the study of influenza microorganisms of swine and humans, Dr. Rosenbusch found some distinguishing differences. The swine strains fermented maltose and saccharose which the human strains failed to do but the human strains fermented xylose, dextrose and galactose which were not attacked by swine strains. The swine strains failed to produce indol but 50 per cent of the human strains were able to do so. The swine strains appeared to belong in a homogenous group as shown by agglutination and homologous agglutinin-absorption tests. On the basis of the latter test the swine organisms appeared to be divided into two subgroups. The human strains were not as homogenous as the swine strains but one antiserum did agglutinate all but one of the ten strains studied.

Shope

Shope has demonstrated that typical swine influenza is due to the synergistic action of a virus and Hemophilus influenzae suis. Although this fact has not been definitely demonstrated in human influenza, evidence strongly points toward it. In order to establish a possible relationship between human influenza and swine influenza, virus neutralizing-antibodies have been sought in swine which have been sought in swine which have passed through natural and experimental attacks of the disease. Andrews, Laidlaw and Smith demonstrated in 1935 that the mouse was susceptible to human and swine influenza virus. This animal has been used, therefore, in most of the neutralizing antibody studies.

Antibodies

Although virus neutralizing-antibodies had been found in swine, the time at which they appeared during the disease, the titre and the length of time they remained in the blood serum of swine had not been determined. This Doctor Rosenbusch sought to do in the second part of his studies. He found that the swine influenza virus neutralizing-antibodies made their first appearance in swine with clinical, experimental swine influenza on the sixth and seventh days after infection, coinciding with the disappearance of fever and the other clinical symptoms. In two swine with the milder "filtrate disease," (produced by virus alone), the antibodies did not appear until sometime between the seventh and tenth days. The antibodies persisted in two of the six swine for eighty-four days. The antibody response to swine influenza was observed to be similar to the literature reports on human influenza. Over two hundred mice were used during the experiment in determining the neutralizing titre of the swine serum.

Military Service

Doctor Rosenbusch was not able to remain in Ames to receive his degree because he had to be in his home at Buenos Aires, Argentina on January 1, 1939 to report for military duty. He had served three months of the required time and was granted a postponement on the remaining nine months until he had completed his graduate studies. He came to Iowa State College in 1931 and enrolled in Veterinary Medicine and received his D. V. M. in 1935. He continued on in graduate work and completed his M. S. degree in 1937. Carlos was a tireless worker and passed

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314 credit hours with a quality point average of 3.1 at the time he received his D. V. M. He wanted to know as much about Veterinary Medicine and Agriculture as was possible in the time he was in this country.

Natural Interest
His interest in Veterinary Medicine was a natural one, for his father is professor of parasitology in one of the veterinary schools of the Argentine and owns a biological laboratory. Carlos will be associated with his father in this laboratory upon the completion of his army service. While at Iowa State he was admitted into Phi Zeta, Phi Kappa Phi and Sigma Xi, honorary scholarship and research societies. To be sure that his contact with the United States and his many friends here shall not be severed, his engagement to Miss Jeannette Richardson, daughter of Professor C. H. Richardson of the zoology department, was announced last summer. Miss Richardson is visiting in the home of Mr. and Mrs. Rosenbusch in Buenos Aires this winter.

Annual Dance
Ferdinand the Bull, a mural by Karl Winkler, Arch. E. '40, furnished the background for Bill Carlson's orchestra at the Annual Veterinary "Rhythm Therapy" Dance held Saturday evening, January 7, in Great Hall of Memorial Union.

Carrie Palmer, Home Economics senior, held the winning ticket to the Cairn Terrier which was secured from the Wee Highland Kennels of Des Moines as a prize for the lucky ticket number.

Guests invited were the members of the Veterinary Faculty and their wives. Glenn Rieke was general chairman in charge of the dance.

Dr. C. F. Cairy, '36, who is permanent secretary of his class, at present is teaching physiology at Michigan State. Since graduation he has seen active duty with the army as a C.C.C. meat inspector.

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