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Historical Article—

Northeastern Conference on Avian Diseases from 1928–2021: 93 Years of Contributions to Organized Avian Medicine

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SUMMARY. Bacillary white diarrhea in chickens was a major disease concern for the poultry industry during the early 1900s. Drs. L. F. Rettger and W. R. Hinshaw organized a meeting in 1928 to discuss methods for controlling this disease. In this meeting, representatives of five northeastern states discussed approaches to test for the presence of the etiological agent of bacillary white diarrhea, namely, *Salmonella enterica* subsp. *enterica* serovar Pullorum. Meeting attendees decided to have a yearly meeting of the Northeastern Conference of Laboratory Workers in Bacillary White Diarrhea. The next year, the name was changed to Conference of Laboratory Workers in Pullorum Disease Eradication, which was changed to Northeastern Conference on Avian Diseases (NECAD) in 1957. Not only has NECAD been important for the control of pullorum disease but also, starting with the fifth Annual Conference in 1932, other poultry diseases became an official part of the program. As such, NECAD served for a long time as the premier organization to present new information on avian diseases. The success of NECAD was based on the work of the many committees, which are described in detail in this review. For example, the antigen committee started officially in 1929 and remained active until at least 1987. The main task of this committee was to evaluate *Salmonella* Pullorum strains to be used by all participants in the pullorum antibody testing programs. NECAD started as a closed organization with participants from universities and government organizations but did not allow representatives from commercial groups until 1968 when all American Association of Avian Pathologists (AAAP) members in the Northeastern United States could participate. The journal *Avian Diseases* started with discussions by Dr. P. P. Levine with M. S. Cover, H. L. Chute, R. F. Gentry, E. Jungherr, and H. Van Roekel about the idea that NECAD would sponsor a journal dealing specifically with avian diseases. During the first few years of *Avian Diseases* publication, many articles including abstracts came from the NECAD Annual Conferences. The importance of NECAD as a precursor for other regional meetings and the AAAP and as a forum for graduate students to present their research are described. Several recipients of the award for the best paper presented by a graduate student have continued to work in avian disease research. The decline in the participation of scientists in the late 1990s and early 2000s was discussed extensively in 2006 and led to a merger of the NECAD meeting with the Pennsylvania Poultry Sales and Service Conference. Due to the COVID-19 pandemic, the 92nd Annual Conference was a virtual meeting in 2020. Fortunately, the 93rd Annual Conference in 2021 was an in-person meeting held in State College, PA.

RESUMEN. *Reseña histórica-* La Conferencia del Noreste sobre Enfermedades Aviaries desde el año 1928 al 2021: 93 años de contribuciones a la medicina aviar organizada.

La diarrea blanca bacilar del pollo fue una enfermedad importante para la industria avícola a principios del siglo XX. Los doctores L. F. Rettger y W. R. Hinshaw organizaron una reunión en 1928 para discutir los métodos para controlar esta enfermedad. En esta reunión, representantes de cinco estados del noreste discutieron los enfoques a utilizar para evaluar la presencia del agente etiológico de la diarrea blanca bacilar, *Salmonella enterica* subsp. *enterica* serovar Pullorum. Los asistentes a la reunión decidieron tener una reunión anual de la Conferencia del Noreste de Trabajadores de Laboratorio en Diarrea Blanca Bacilar. Al año siguiente, el nombre se cambió a Conferencia de Trabajadores de Laboratorio para la Erradicación de la Enfermedad Pulorosis que se cambió a Conferencia del Noreste sobre Enfermedades Aviares (con las siglas en inglés NECAD) en 1957. La NECAD no solo ha sido importante para el control de la pulorosis, sino también, comenzando con la quinta Conferencia Anual en 1932, otras enfermedades de la avicultura comercial se convirtieron en parte oficial del programa. Como tal, la NECAD sirvió durante mucho tiempo como la principal organización para presentar nueva información sobre enfermedades aviares. El éxito de NECAD se basó en el trabajo de muchos comités, que se describen en detalle en esta reseña. Por ejemplo, el comité de antígenos comenzó oficialmente en 1929 y permaneció activo alrededor de 1987. La tarea principal de este comité fue evaluar las cepas de *Salmonella* Pullorum para ser utilizadas por todos los participantes en los programas de detección de anticuerpos de pullorum. La NECAD comenzó como una organización cerrada con participantes de universidades y organizaciones gubernamentales y no permitió representantes de grupos comerciales hasta 1968, cuando todos los miembros de la AAAP en el noreste de Estados Unidos pudieron participar. La revista científica Avian Diseases (Enfermedades de las Aves) comenzó con discusiones entre el Dr. P. P. Levine con M. S. Cover, H. L. Chute, R. F. Gentry, E. Jungherr y H. Van Roekel sobre la idea de que la NECAD patrocinaría una revista que se ocupara específicamente de las enfermedades aviares. Durante los primeros años de la publicación de Avian Diseases, muchos artículos, incluidos resúmenes, surgieron de las conferencias anuales de la NECAD. Se describe la importancia de la NECAD como precursor de otras reuniones regionales y de la AAAP y como foro para que los estudiantes de posgrado presentaran sus investigaciones. Varios ganadores del premio al mejor trabajo presentado por un estudiante de posgrado han continuado trabajando en la investigación en enfermedades aviares. La disminución en la participación de científicos a fines de la década de 1990s y principios de la década de los 2000s se debatió ampliamente en año 2006 y llevó a la fusión de la reunión de NECAD con la Conferencia de Servicio y Ventas en Avicultura de Pensilvania. Debido a la pandemia por el COVID-19, la 92ª Conferencia

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Anual fue una reunión virtual en el año 2020. Afortunadamente, la 93ª Conferencia Anual en 2021 fue una reunión en persona celebrada en State College, Pensilvania.

Key words: Conference of Laboratory Workers in Pullorum Disease Control, history, journal *Avian Diseases*, Northeastern Conference on Avian Diseases, pullorum disease

Abbreviations: AAAP = American Association of Avian Pathologists; AVMA = American Veterinary Medical Association; BWD = Bacillary White Diarrhea; CLWPDC = Conference of Laboratory Workers in Pullorum Disease Control; EMV = electrophoretic migration velocity; JAVMA = Journal of the American Veterinary Medical Association; ILT = infectious laryngotracheitis; MG = *Mycoplasma gallisepticum*; NCADC = North Central Avian Disease Conference; NECAD = Northeastern Conference on Avian Diseases; NCLWBWD = Northeastern Conference of Laboratory Workers in Bacillary White Diarrhea; NPIP = National Poultry Improvement Plan; PPSSC = Pennsylvania Poultry Sales and Service Conference; SCAD = Southern Conference on Avian Diseases; SPSS = Southern Poultry Science Society; WPDC = Western Poultry Disease Conference; WVPA = World Veterinary Poultry Association

The Northeastern Conference on Avian Diseases (NECAD) had its origin on April 24, 1928, to April 26, 1928 with a meeting held in Paige Laboratory (Fig. 1) at the Massachusetts Agricultural College (now the University of Massachusetts), Amherst, MA. The purpose of this meeting, subsequently known as the Northeastern Conference of Laboratory Workers in Bacillary White Diarrhea (NCLWBWD), was to initiate studies on the standardization and adaptation of testing methods for "bacillary white diarrhea (BWD)" or pullorum disease. At that time, pullorum disease was one of the most important diseases of chickens, and it was the focus of many studies and control efforts, particularly in the New England states (1). This paper will review the evolution of that meeting to NECAD, as well as the importance of the conference for the start of the journal *Avian Diseases* and for the birth of the American Association of Avian Pathology (AAAP). Most of the information was derived from the minutes of the yearly conferences, which are preserved in the AAAP archives (https://digitalcollections.lib.iastate.edu/islandora/object/isu%3AAAAAP). With very few exceptions, references to individual annual reports are not included in the references. Additional information came from historical reviews of NECAD by Elmer R. Hitchner in 1939 (2), Henry van Roekel in

Fig. 1. The location of the first meeting was Paige Laboratory of the Massachusetts Agricultural College, Amherst, MA. Paige Laboratory was constructed in 1898 under the guidance of architect James B. Paige (A–C). In 1952, Page Laboratory was renamed Willard A. Munson Hall. Munson was the captain of the successful football team of 1904 and later served as the director of the Extension Service from 1926–1950. Munson Hall is still in use for public relations and other administrative functions (D; photo 2009). From the University of Massachusetts web site.

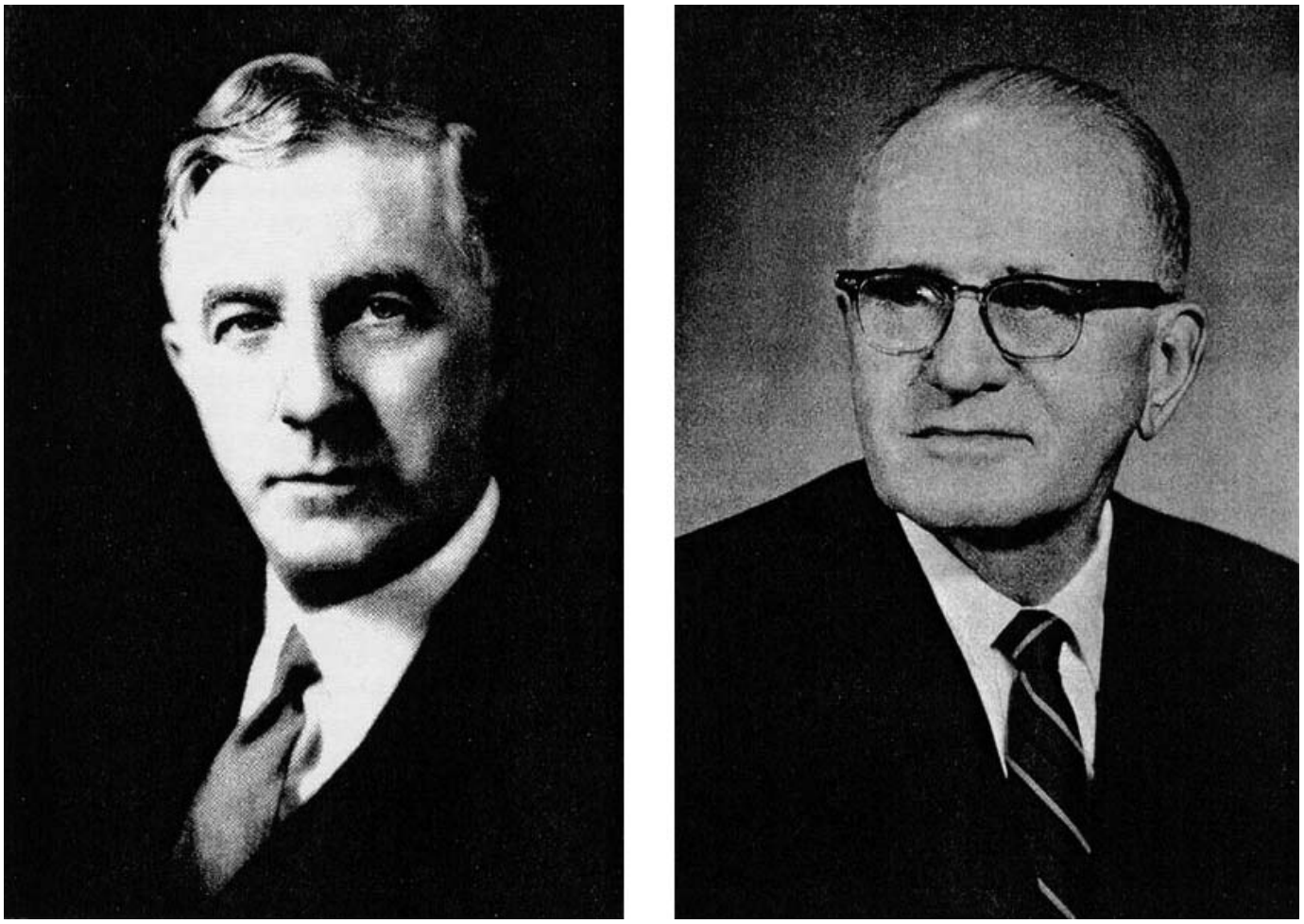

Fig. 2. The two founding fathers of the Northeastern Conference of Laboratory Workers in Bacillary White Diarrhea (now known as the Northeastern Conference on Avian Diseases), from left to right: Dr. Leo F. Rettger (March 17, 1874, to January 7, 1954) and William R. Hinshaw (December 20, 1896, to April 18, 1984).

1963 (3), Glenn H. Snoeyenbos in 1978 (4), and Bruce W. Calnek in 2003 (5).

THE TWO FOUNDING FATHERS OF THE NCLWBW

Leo F. Rettger and William R. Hinshaw (Fig. 2) are the founding fathers of the NCLWBW. Dr. Rettger was born in Huntingdon, IN, on March 17, 1874, and passed away on January 7, 1954. He received his B.A. and M.A. degrees from Indiana University in 1896 and 1897, respectively. In 1902, he received his Ph.D. degree from Yale University, where he was a faculty member from 1902 to 1942. Dr. Rettger described "fatal septicemia" (pullorum disease) of young chickens in 1900 (6) and demonstrated in 1909 that this disease could be transmitted vertically through the embryo (7). This was the first time that vertical transmission through the egg was demonstrated for any pathogen. Dr. Rettger remained active with the NCLWBWD until 1947.

Dr. Hinshaw was born on December 20, 1896, in Traverse City, MI, and died on April 18, 1984. After receiving his D.V.M. degree from Michigan State University in 1923, he enrolled at Kansas State University where he earned his M.S. degree in veterinary bacteriology. From 1927 to 1929, he was in charge of the Diagnostic Laboratory of the University of Massachusetts. During this time, he instigated, together with Dr. Rettger, the organization of the NCLWBW. Shortly afterward, he moved to the University of California at Davis where he remained until 1949. During this period, he also received his Ph.D. degree from Yale University in 1939. Interestingly, his Ph.D. mentor was Dr. Rettger. In 1949, he was recruited by the U.S. Biological Laboratories at Fort Detrick, MD, where he remained until his retirement in 1966. During his long career, Dr. Hinshaw published over 200 papers on many diseases in poultry and mammalian species. The pathogen *Arizona hinshawii* was named in his honor, although it has now been renamed as *Salmonella enterica* subspecies arizonae. He was a charter member of the AAAP and received the AAAP Special Service Award in 1977. In 2015, Dr. Hinshaw was featured on the cover of volume 59, issue 1, of *Avian Diseases*. A more detailed description of his accomplishments is in a tribute to William R. Hinshaw (8).

THE FIRST MEETING IN 1928

During the 31st meeting of the U.S. Livestock Sanitary Association in Chicago (November 30, 1927, to December 2, 1927) the Poultry Disease Committee reported the need for a meeting to control BWD with an emphasis on the standardization of testing methods. Through the initiative of Drs. W. R. Hinshaw and

Table 1. Test results for pullorum disease presented at the 1928 meeting. Adapted from the minutes of the 1928 meeting.

State	Total no. of flocks tested	No. of flocks 100% tested	No. of total free flocks (%)[A]	Total no. of tests
Connecticut	144	101	78 (54)	102,319
Maine	179	135	73 (41)	79,000
Massachusetts	320	162	139 (43)	232,091
New Hampshire	159	91	94 (59)	79,539
Vermont	59	59	14 (24)	17,600
Total	861	548	398 (46)	510,549

[A]Free flock, no infection for one or more years. Percent free flocks is based on the total number of flocks tested.

J. B. Lentz, researchers in the six New England states working on BWD were contacted. Four months later, a group of workers with a common interest in the control of BWD met in April of 1928 at Paige Laboratory in Amherst, MA. The following objectives were stated: "To obtain cooperation amongst the six New England States; to attempt standardization of laboratory methods and equipment, and to develop better fellowship between the laboratory workers of this section" (3). The importance of pullorum disease in 1928 is illustrated in Table 1, where the test results for the disease are presented for five of the six states participating in the 1928 meeting. Rhode Island did not report any results.

Participants were Dr. L. F. Rettger from the Connecticut Agricultural Experiment Station in New Haven, CT; Professor E. R. Hitchner and Dr. F. L. Russell from the University of Maine in Orono, ME; Dr. E. M. Gildow from New Hampshire; Dr. J. B. Lentz, Dr. W. R. Hinshaw, Dr. E. F. Sanders, Dr. N. J. Pyle, Mr. C. B. Waite, and Miss Miriam K. Clarke from the Massachusetts Agricultural Experiment Station; and Professor A. W. Lohman from the University of Vermont. Dr. J. C. Weldin of the Rhode Island State College in Kingston, RI, represented Rhode Island, but he was only present during the joint meeting with the New England Livestock Sanitary Officials. The joint meeting was concerned with the purpose of accreditation of poultry flocks free of pullorum disease, and the presence of pullorum disease researchers facilitated the discussion. Following the proceedings, this was the only joint meeting with the New England Livestock Sanitary Officials. Professor F. J. Sievers, Director of the Massachusetts Agricultural Experiment Station; Mr. O. S. Flint, Manager of the Massachusetts Association of Certified Poultry Breeders; and Professor J. E. Rice, Head of the Poultry Department of Cornell University were the major speakers during the joint meeting.

The main purpose of the meeting was to compare test methods for the detection of antibodies to the pathogen (now known as *Salmonella enterica* subspecies *enterica* serovar Pullorum [9]) and to develop a standardized agglutination test. Participants were asked to bring information and reagents to share with the group. Agreement was reached to standardize all aspects of the test, use these standards during the next year, and report the results at the meeting in 1929. The 1928 meeting was a closed meeting and only a press release was publicized by Dr. Hinshaw.

At the 25th annual meeting (1953), 14 U.S. states and 2 provinces in Canada reported the results for 1952 or 1953 in comparison with the earliest available data (Table 2, previously published [1]). Clearly, the control program initiated in 1928 has been a resounding success.

THE NEXT FIVE YEARS (1929–1933)

The second meeting at Yale University (May 1, 1929, to May 3, 1929) was important for several reasons. First, Dr. Rettger recommended changing the term BWD to pullorum disease, which was accepted unanimously. The Society of American Bacteriologists had already suggested the name change in 1925 (10). Because of the name change, the name of the conference was changed in 1929 to Conference of Laboratory Workers in Pullorum Disease Eradication and at the third meeting in 1930 to Conference of Laboratory Workers in Pullorum Disease Control (CLWPDC). The second important change was the expansion of the participating laboratories from 5 to 12. Dr. Weldin of Rhode Island was present for only 1 day and did not participate in the program. The new participants

Table 2. Test results for pullorum disease presented at the 1953 meeting (adapted from the minutes of the 1953 meeting). Previously published in reference (1).

	Historical data			Results reported in 1953		
Location	Year	No. of birds tested	% Positive	Year	No. of birds tested	% Positive
Connecticut[A]	1925	20,743	2.40	1952	630,018	0.006
Delaware	1925	4300	5.70	1953	546,379	0.021
Massachusetts[A]	1921	24,718	12.50	1953	1,155,359	0.04
Maryland	1927	3725	21.00	1953	815,250	0.18
Maine[A]	1921	2730	22.30	1953	1,365,314	0.027
North Carolina	1932	64,702	4.02	1953	1,668,830	0.056
New Hampshire[A]	1926	35,237	2.50	1953	1,512,219	0.00006
New Jersey	1926	52,611	7.86	1953	1,025,449	0.035
New York	1926	59,576	6.2	1953	810,619	0.0035
Pennsylvania	1924	2077	15.00	1952	1,882,712	0.20
Rhode Island[A]	1925	8175	6.97	1952	61,948	0.00
Virginia	1925	13,000	20.0	1952	1,001,364	0.37
Vermont[A]	1928	8555	7.4	1953	234,282	0.09
West Virginia	1928	9005	6.0	1952	201,968	0.069
Nova Scotia	1929	2041	7.0	1952	81,357	0.0
Ontario	1928	15,000	8.0	1952	1,086,026	0.05

[A]Original participating states in the first meeting in 1928.

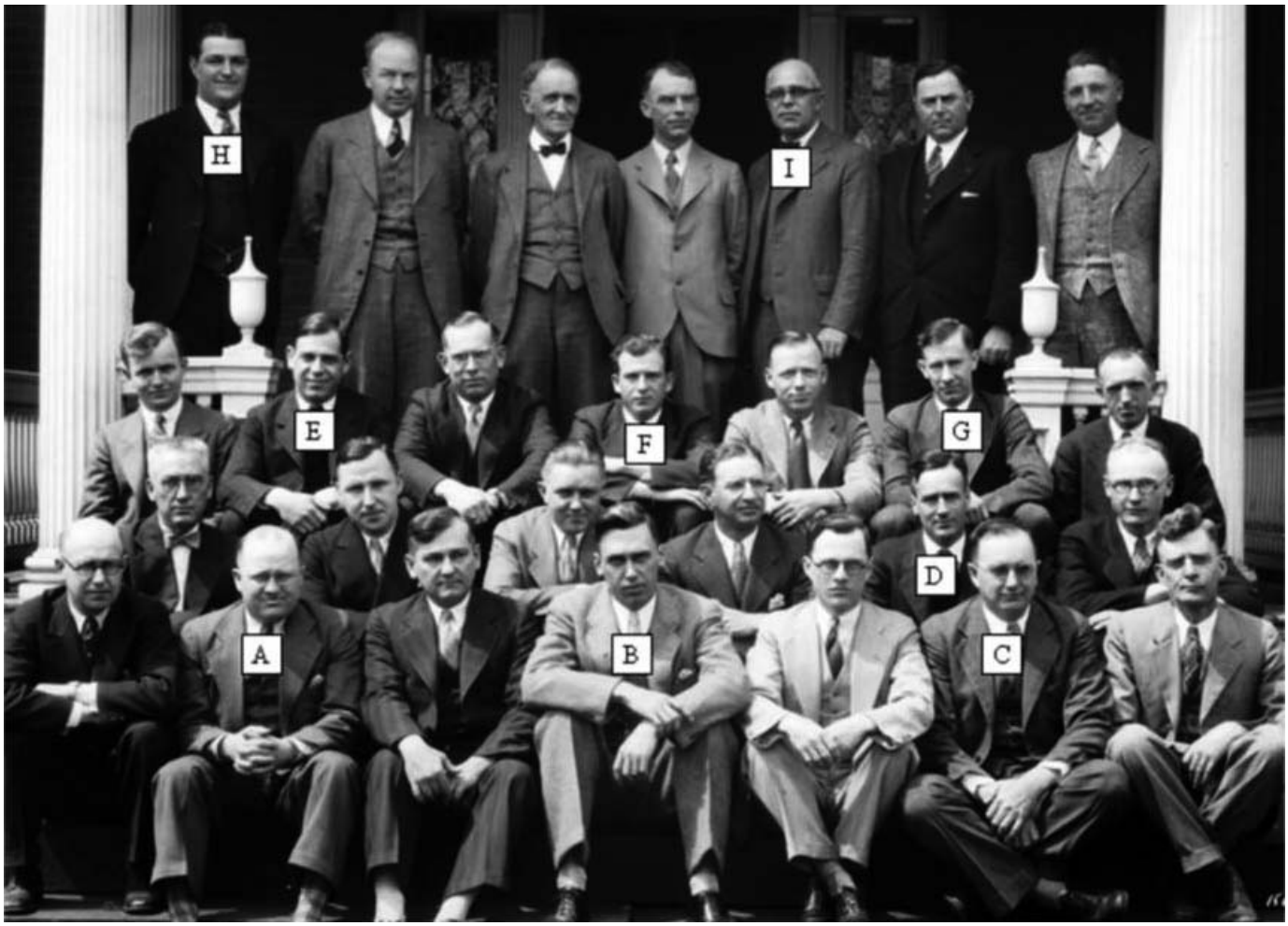

Fig. 3. Participants in the fourth Annual Conference in Amherst, 1931. The following participants were identified by Bruce Calnek (5): (A) C. A. Bottorff, (B) H. Van Roekel, (C) H. Baker, (D) L. F. Rettger, (E) E. L. Brunett, (F) K. L. Bullis, (G) E. N. Moore, (H) K. F. Hilbert, (I) J. B. Lentz.

were Dr. F. Hare (Delaware), Mr. C. B. Hudson (New Jersey), Dr. E. L. Brunett (New York), Mr. R. S. Dearstyne (North Carolina), Dr. R. E. Lubbehusen (Pennsylvania), Dr. R. Gwatkin (Guelph, Ontario), and Dr. C. H. Weaver (Ottawa, Ontario). Dr. Charles A. Bottorff represented New Hampshire instead of Dr. Gildow. The participation increased further in 1930 and 1931 to 17 and 18 groups, respectively. New states represented in 1930 and 1931 were Maryland, Virginia, and West Virginia. The U.S. Bureau of Animal Industries (Washington, DC) was also represented, and two different groups represented Guelph (Ontario). The province of Quebec joined the group in 1931. During the following years, the number of participating groups stayed relatively constant. Fig. 3 shows 27 of the 33 participants in 1931 with several of the participants identified by name.

The main emphasis of the meetings during these 5 years remained clearly focused on the control and eradication of pullorum disease, with participants conducting actual tests during the meetings. Efforts focused on the preparation of antigens, the interpretation of test results, how to read the tube agglutination results. Interestingly, there was no common agreement of what constituted agglutination using a scale of 0 to 4+. A major advance was the demonstration of the plate agglutination test by Dr. Bunyea of the U.S. Bureau Animal Industries in 1931 (11,12). Comparisons with the tube tests were conducted during the 1931 meeting with very similar results between the two tests. The next year, Dr. McNeil reported for New Jersey that they had used the plate agglutination test in the field and would continue to use this test.

After informal discussions about other poultry diseases in 1931, discussions of other diseases became an official part of the program in 1932, with presentations on coccidiosis, infectious laryngotracheitis (ILT), fowlpox, leukosis, and "fowl paralysis" (Marek's disease). Fowlpox- and pigeonpox-based vaccines were evaluated and found to be efficacious. Both types of vaccines are still in use, often in combination (13), although the production methods have changed from using crude scabs to embryo- or cell culture-derived virus. ILT was becoming a major problem in the early 1930s. Dr. Hudson of New Jersey reported that vaccines were derived from dried-down tracheal, nasal, and ocular exudates from artificially infected chickens. The vaccine was administered by the cloacal route using a brush. "Takes" were evaluated principally by examining the cloaca for external swelling. In addition, the cloacal mucosa was very red, sometimes with an exudate. Interestingly, Hudson and Beaudette had reported this approach in 1932 as a method for determining the susceptibility of cloacal tissue to infectious bronchitis (14).

THE IMPORTANCE OF THE NECAD CONFERENCES

The first 5 years were very important because the annual meetings showed the importance not only for the control and eradication of pullorum disease but also as a forum for the discussion of many other diseases, setting the stage for continued annual poultry health meetings. These conferences became the premier place to present new information on avian diseases until 1958, when the newly formed AAAP took over the responsibility from the American Veterinary Medical Association (AVMA) to organize the poultry scientific program, replacing the poultry section in the annual AVMA conferences. The program of the poultry section of the annual AVMA conferences started in 1930 with Dr. Hinshaw chairing the session after a formal vote by the AVMA to proceed. A total of eight lectures were presented in the first poultry session (15). In some instances, the poultry section was combined with the section on research, e.g., in 1933 and 1935 (16,17). Following Dr. Julius Fabricant the AVMA section on poultry diseases remained rather limited with invited speakers and a small audience of 20 to 40 participants (quoted by Dr. Witter [18]). Other national meetings included annual conferences organized by the Poultry Science Association starting in 1908 (19), but their program on poultry diseases was, and to date remains, a minor component of their annual meetings. The U.S. Livestock Sanitary Association, now the United States Animal Health Association, has been a forum for animal disease control programs since 1897. The annual meetings included poultry diseases as part of a much larger program but never got the prominence that NECAD provided. Because NECAD did not allow industry poultry veterinarians to participate until 1968, Dr. Charles A. (CAB) Bottorff, working for Lederle Laboratories Division of American Cyanamid, started the Poultry Pathologists conferences in 1950, which were held in alternate years. Dr. Shor replaced Bottorff in 1964 as the organizer until 1974 when the 12th and final conference was held in St. Louis, MO. These meetings, originally also known as the Lederle Bear Mountain meetings, were open for poultry veterinarians, with meals and lodging paid for all participants as well as travel costs for participants not associated with industries. However, participation was constrained due to a restricted budget, thus limiting its impact. Unfortunately, proceedings were not produced during the first seven meetings (20). In addition to NECAD, other regional meetings started with the North Central Avian Disease Conference (NCADC) in 1950, the Western Poultry Disease Conference (WPDC) in 1951, and the Southern Conference on Avian Diseases (SCAD) in 1959. All four regional meetings are still ongoing.

INTERACTIONS BETWEEN NECAD AND THE NATIONAL POULTRY IMPROVEMENT PLAN (NPIP) REGARDING PULLORUM DISEASE

In addition to the development and adoption of standard techniques for the testing of flocks for pullorum infection, which was the backbone for the eradication effort, the program included the study of pullorum antigen production, testing procedures, and establishment of the best age for testing. There was also an interest in developing methods for accreditation of the pullorum disease status of flocks and in drawing up recommendations for agencies responsible for accreditation. From the beginning, the group wanted to promote 100% testing on an annual basis. In fact, 548/861 flocks were already tested for 100% in 1928 with 398 flocks reported to be free of *Salmonella* Pullorum infection. The clearly stated objective to test 100% of the birds in each flock led to some important conflicts with the NPIP since the beginning of NPIP in 1935. Between 1935 and 1939, the NPIP was a point of discussion in the NECAD group, and resolutions were approved to request certain changes in the NPIP program (1,3). During the 12th Annual Conference in 1939, Dr. Rettger discussed the problems he had with the proposed changes in the NPIP. His major concerns were that the proposed plan would not go for eradication based on 100% testing, the acceptance of flocks with up to 2% positives, and the term "pullorum tested." His most important concern was that the implementation of the 1939 plan would lower the standards then in use by the NECAD group.

THE NAME CHANGES FROM CLWPDC TO NECAD

In 1930, the abbreviation CLWPDC was accepted, but it was still rather cumbersome, and how to name the group remained a frequent topic during the business meetings. At the 12th Annual Conference in Maryland (1939), coinciding with the 40th anniversary of the discovery of *Salmonella* Pullorum, Dr. Erwin Jungherr asked Professor Rettger to accept, in the name of the conference, a small token of esteem (a silver engraved plaque) that acknowledged him as our founder, our leader, and our friend. The engraving stated as follows: "To Professor Leo Frederick Rettger, Ph.D., L.L.D. in commemoration of the fortieth anniversary of his discovery of *Bacterium pullorum* 1899-1939, The Northeastern Pullorum Conference." This plaque suggested that CLWPDC changed to NPC, but unfortunately, this was not the case. The debate continued in 1946 when the Membership Committee was charged with considering a name change. The proposed name Northeastern Conference of Laboratory Workers in Pullorum Disease Control was not accepted. Finally, in 1957, the name was changed to NECAD.

THE OVERALL STRUCTURE OF NECAD

NECAD never had a formal structure with bylaws, rules, and regulations, but during the 23rd Annual Conference in 1951, a committee chaired by Henry van Roekel was charged to study plans to make NECAD a permanent organization. The next year, the committee reported that the informality, which had characterized the meetings, should be continued. The minutes of the business meetings did not provide the reasons for the continuation of the informal structure, which continues to date. The reasons that the informal structure was successful for many years probably reflect the strong leadership from people like Drs. Rettger and van Roekel during the beginning years of NECAD and by Drs. Jungherr, Snoeyenbos, and Levine, among others, in later years. Especially, the strong programs in, e.g., Connecticut, Massachusetts, and New York, were key factors in the continuing success and credibility of NECAD.

However, two other changes were implemented. Starting in 1953, the host organization was allowed to charge a registration fee to defray the expenses occurred in organizing the meeting. The second change was the establishment of a permanent committee consisting of Drs. F. R. Beaudette, P. P. Levine, H. Van Roekel (secretary), and E. F. Waller with an ex officio chair rotating with the organizer of the current meeting. The position of secretary became a more

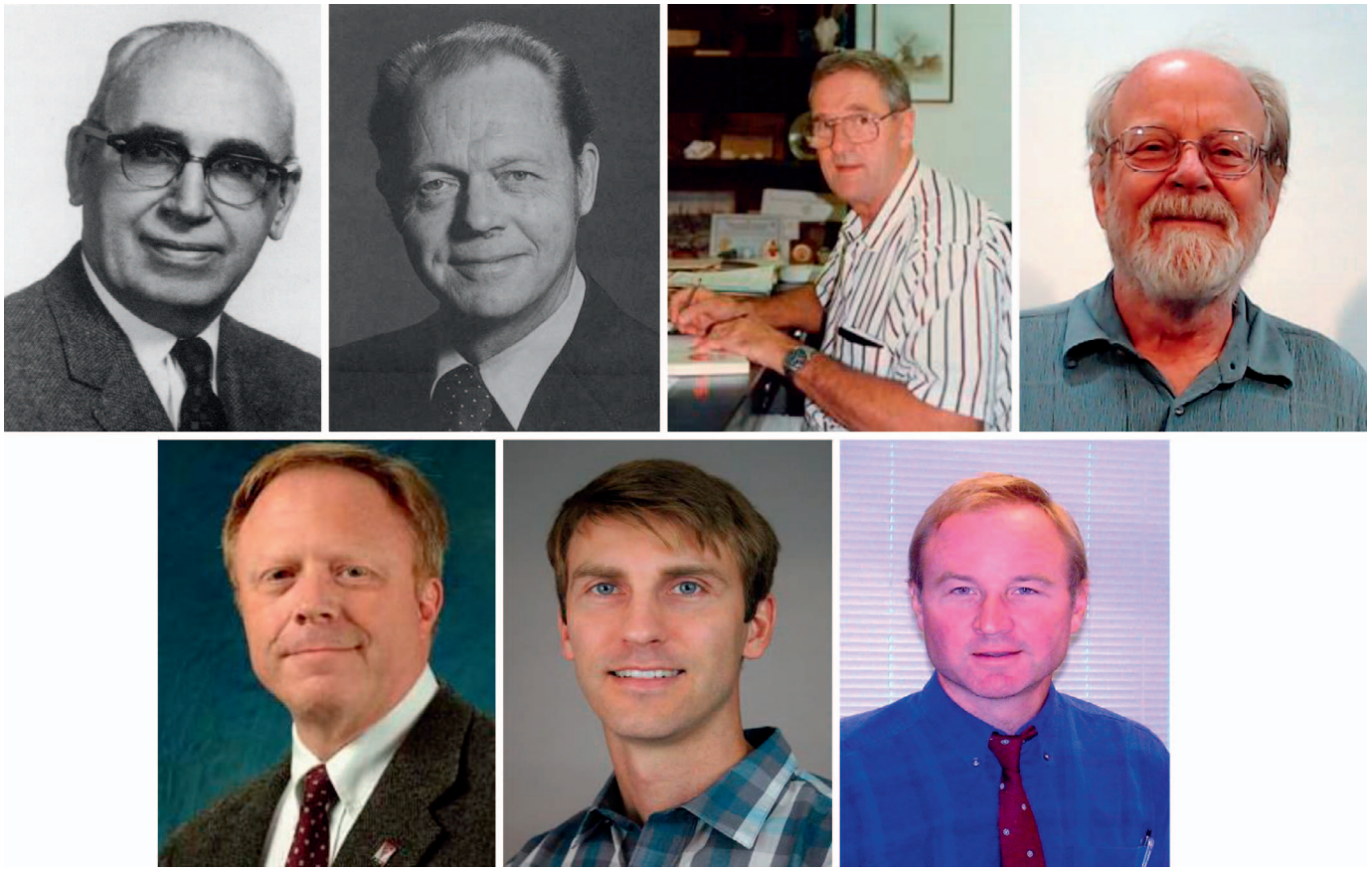

Fig. 4. The permanent secretaries of NECAD. Top row from left to right: Henry van Roekel (1957–1965), Glenn Snoeyenbos (1966–1983), Louis van der Heide (1984–1990), Ton Schat (1991–2000), Bill Pierson (2001–2013), Nicholas Evans (2014–2016), and Mark Parcells (2017–current). After 2006, the function changed to Chair/Secretary.

permanent position in 1956 with Van Roekel serving until 1965. Subsequent permanent secretaries were Glen Snoeyenbos (1966–1983), Louis van der Heide (1984–1990), Ton Schat (1991–2000), Bill Pierson (2001–2013), and Nicholas Evans (2014–2016). Mark Parcells is the current secretary (Fig. 4). After 2006, the function of secretary was combined with the chair position.

Another important change was the result of the questionnaire organized by Dr. Benjamin Lucio in 2005 and discussed in 2006 during the 78th Annual Conference in Guelph. The decision was made to have the 79th Annual Conference in 2007 together with the Pennsylvania Poultry Sales and Service Conference (PPSSC) in Lancaster, PA. The PPSSC meetings are organized each year in the fall, and the location rotates between Lancaster and State College in Pennsylvania. Since 2007, the NECAD Conferences are held in conjunction with PPSSC. The NECAD Conference consists of a half-day symposium organized together with the PPSSC and a half-day scientific session more specifically for NECAD participants. Attendance has fluctuated with low numbers during the scientific session and with somewhat higher numbers during the symposium part of the program. The number of participants in the scientific sessions since the 79th Annual Conference until 2019 is not clear from the proceedings but varies between 30 and 40. This attendance contrasts with the 1997–2002 period when the average number of participants was around 95 with a range of 65 to 125.

During the 75th NECAD Conference in 2003, Barnes and Vaillancourt (21) predicted that the 100th NECAD Conference in 2028 would likely consist of 1 day or perhaps only a half-day. These authors also compared the meeting in 1978 (50th NECAD Annual Conference) with the meeting in 2003. By comparing their analysis with the average number of papers and participating research institutes over the period of 2010–2018 (Table 3), it was shown that the predictions by Barnes and Vaillancourt were rather optimistic with only half-day scientific sessions since 2008.

During the discussion on the future of NECAD in 1997, Dr. Lucio mentioned the problem of filling a 2-day program. Dr. Fabricant and Dr. Dohms reemphasized the importance of the NECAD meetings as a good opportunity for graduate students to present their work. The discussion on the future of NECAD returned in 2005 with the discussion of Dr. Lucio's questionnaire about the future of the meetings. As mentioned above, the results were discussed the next year during the 78th Annual Meeting in Guelph. Dr. Calnek once more promoted the meeting as an opportunity for graduate students, but Dr. Schat argued that it would be better for graduate students to present their research at the annual AVMA/AAAP meetings to reach a wider audience. There was also a divergence in opinion between the "field" veterinarians interested in actual disease problems and the "scientific" community with presentations seen as esoteric by the former group. This problem has become even more important during recent years with papers that were scientifically important but without direct interest to the veterinarians and others working in the poultry industry.

The meeting in 2020 was unusual because of the SARS-CoV-2 pandemic. Like most of the meetings starting in March to April 2020, this meeting was "virtual." The 93rd NECAD conference

Table 3. Time of year, duration, and attendance for NECAD meetings in 1978 and 2010–2018. Data for 1978 and 2003 from Barnes and Vaillancourt (15) and for 2010–2018 from the NECAD proceedings.

Parameter	50th Anniversary (1978)	75th Anniversary (2003)	Average for the 82nd–91st Annual Conferences (2010–2018)
Time of year	June 19–21	June 11–13	September[A]
Duration (days)	2.3	1.5	0.5–1.0[B]
No. of papers	31	28	Avg: 12.4, range:10–14
No. of Speakers/Chairs	38	29	11 Speakers, 2 chairs
No. of affiliations	21	18	3 Universities, 2 other (2018)

[A]Meetings together with Pennsylvania Poultry Sales and Service Conference (PSSC) in Lancaster, PA, or State College, PA.
[B]Excluding the symposium, which is part of the joint NECAD and PSSC program.

returned to an "in person" meeting held in State College in Pennsylvania.

THE DECREASED ATTENDANCE IN THE NECAD MEETINGS

As mentioned before, the attendance in NECAD meetings has gone down over the years. This decrease contrasts with other regional meetings, which are certainly viable at the current time. The WPDC has a steady attendance between 137 and 182 participants during the period of 2013–2017, when the meetings were held in the United States and 236 attendees when the meeting was held in Vancouver, Canada. These numbers are lower than those in the 1980s and 1990s when there were up to 350 participants (D. D. Frame, pers. comm., 2021). Likewise, the NCADC is well attended with 110–130 registered participants for the recent years (C. C. Wu, pers. comm., 2021). Data for SCAD are not available because for approximately the last 20 years, the registration for the SCAD meetings has been combined with the Southern Poultry Science Society (SPSS) meetings. The combined meeting usually attracts between 1500 and 1800 people who can attend any of the sessions of SCAD or SPSS (M. Jackwood, pers. comm., 2021).

One of the reasons for decreased attendance at the NECAD meetings is that the poultry industry has declined in the NECAD area with the exception of Pennsylvania, Delmarva, and Virginia. This reduction decreased the number of poultry veterinarians in the region. In addition, over the last 20 years, the number of research programs on poultry diseases has been reduced or eliminated at several research universities. Finally, the continuing consolidation of the poultry and vaccine companies reduces the number of poultry veterinarians and others who go to meetings. These factors are not unique to the Northeast Region of the United States, but the impact of the combination of factors is more severe in the NECAD region.

THE MANY COMMITTEES OF NECAD

From its beginning in 1928, NECAD was characterized by instituting many committees to address important issues. However, during the 82nd NECAD Conference in 2010, a motion was accepted to dissolve all standing committees for the following two reasons: three committees had not provided reports for several years and the AAAP had committees addressing the same issues.

The start date for many committees are found in the reports of the business meetings, which are included in the annual proceedings, but it is not always clear when a specific committee was dissolved. In many instances, the annual proceedings do not include the committee reports, which complicates the determination of when a committee was dissolved. Nonetheless, from a historical perspective, it is important to discuss some of these committees.

THE PUBLICATION COMMITTEE

The Publication Committee started with the second meeting in 1929 and became the first standing committee consisting of Drs. Hinshaw (chair), Rettger, and Weaver. Its charge was to issue all news releases, publish reports, and approve the distribution of all publicity. It is not known why the annual reports had to be confidential if the overall goal was to eradicate pullorum disease. This committee remained active for a long time, and on several occasions, overviews of the activities were submitted for publication in the Journal of the American Veterinary Medical Association (JAVMA). For example, in 1953, JAVMA had a report that the Northeastern Pullorum Disease Conference celebrated their 25th Anniversary (22). In the same year, a table showing the incidence of positive pullorum tests in the NECAD area was published in JAVMA (23). It is not clear how long this committee remained active.

THE MEMBERSHIP COMMITTEE

As mentioned before, the first conference was closed to outside groups and researchers, although in the following years, additional states were invited to participate in the program and nonmembers were invited to present lectures on topics of interest to the group or to participate in selected subjects. Early on, the Membership Committee would propose to invite additional states to join NECAD, sometimes with success. There were also suggestions from time to time that membership should be opened to individuals other than academics and government workers. Following Bruce Calnek (pers. comm.), Dr. Roy Luginbuhl (Fig. 5) was a strong proponent of this viewpoint. On the other hand, there was strong opposition by some of the membership, including P. P. Levine (Fig. 5), who considered that persons from industry could be biased. Nonetheless, in 1962, a committee consisting of Drs. P. P. Levine, A. E. Ferguson, N. O. Olson, and P. H. Seitz was formed to study this issue. The committee took its time, and in 1968, after considerable debate, NECAD finally voted to allow AAAP members from the region, who were not associated with academia or governmental organizations, to participate in the meetings. This change allowed well-respected persons, like Dr. Lasher, Dr. Hitchner, and others with industry ties, to attend and participate in the meetings. Ironically, both Drs. Lasher and Hitchner had been members of NECAD prior to starting their commercial careers. Lasher was a member from 1948–1950 when he worked for the Delaware State

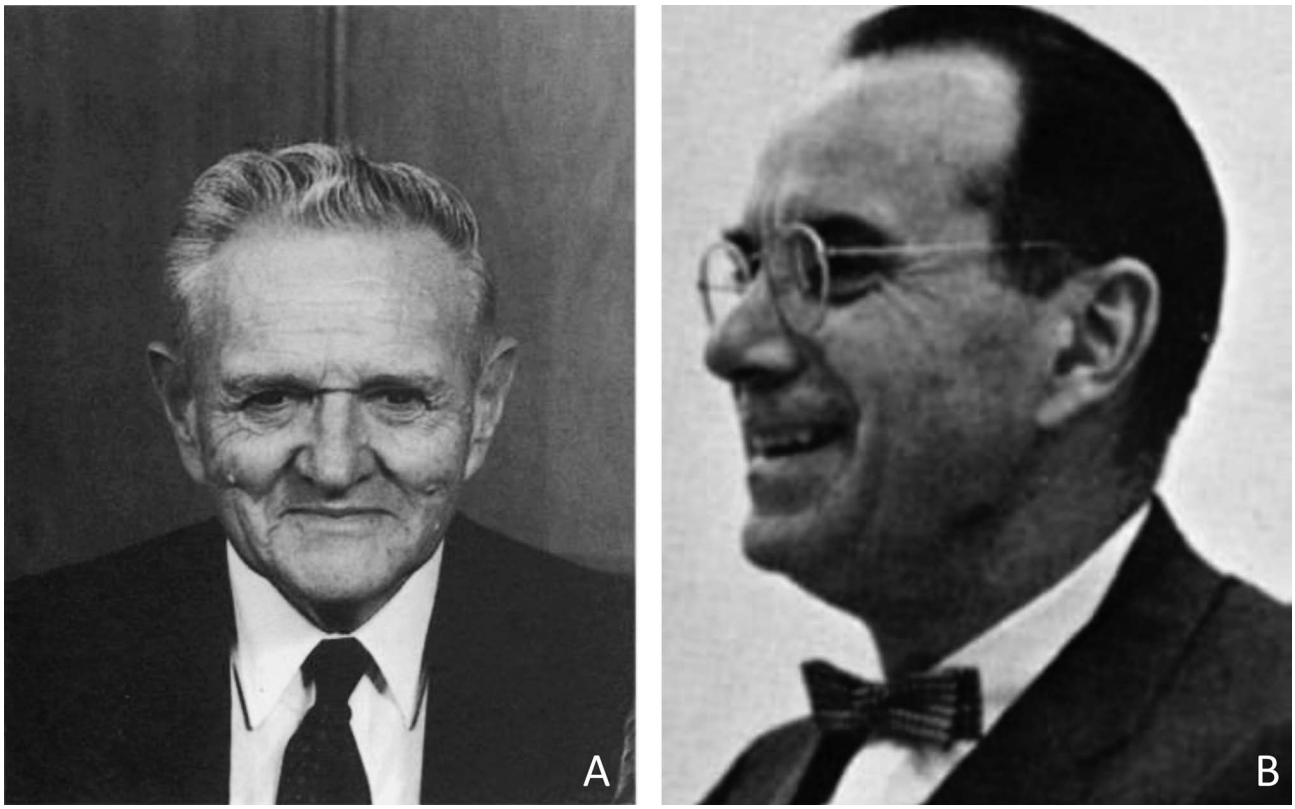

Fig. 5. The main proponent, Dr. Roy Luginbuhl (A), and main opponent, Dr. P. P. Levine (B), to allow membership of commercial workers in NECAD.

Board of Agriculture (1948–1950) (24), and Hitchner was a member when working at the Virginia Agricultural Experiment Station and the Department of Veterinary Sciences of the University of Massachusetts (1947–1952) (25). In the proceedings of the 41st NECAD Conference in 1969, the following statement was inserted after the list of participating academics and government workers: "AAAP industry members' addresses may be obtained from Dr. G. Snoeyenbos." Interestingly, C.A. Bottorff was listed in the Proceedings of 16th Annual Conference (1944) with the following address: Poultry Pathologists, Lederle Laboratories, Pearl River, NY. Dr. Bottorff had been associated with the University of New Hampshire since 1928 but left in 1940 for Lederle (26). At the 18th Annual Conference (1946), he presented a paper entitled "The use of chemotherapeutic agents in control of the pullorum disease" together with his coworker Dr. J. S. Kiser. Dr. Levine was present during that meeting, but history does not mention if there were objections to a "commercial" presentation.

There was a concern expressed in 1966 that accepting papers from persons outside the official NECAD footprint could weaken other regional meetings, and there was a particular interest in seeing that the Poultry Disease section of the AAAP/AVMA meeting should be encouraged as the premier meeting for the field. It was not until 1977 that the NECAD members voted to welcome all AAAP members at future meetings and the Membership Committee ceased to exist. Since 1975, the AAAP has provided financial support for regional meetings, and speakers invited from other regions and, indeed, from overseas became important components of NECAD.

At the 69th NECAD Conference in 1997, the presence of AAAP members from outside the Northeast Region raised the question of who can vote. This was relevant because a motion on the use of excess funds to be given to the AAAP and to be split equally between the Dr. Kenneth Eskelund Preceptorship Award Fund and the Reed Rumsey Award Fund (both AAAP awards) was passed with 18 yes and 4 nay votes. The question of voting rights was not clear. During the AVMA meeting that year, Secretary Schat consulted with the previous secretary Dr. Louis van der Heide, who suggested that based on historical grounds, AAAP members as listed in the AAAP directory, living in the geographic area of NECAD, and present at the business meeting can vote.

THE ANTIGEN COMMITTEE

The Committee of Standardization of Test Fluids, consisting of Drs. E. L. Brunett, L. F. Rettger, R. E. Lubbehusen, and E. F. Sanders (Chair), was the second important standing committee formalized in 1929. The committee was charged with selecting the cultures for the 1929–1930 test fluids (antigens) and recommending the method of preparation, pH, and turbidity of the test fluids. Dr. R. P. Tittsler was added to the committee and charged with testing the different strains for their electrophoretic migration velocity (EMV) because he had found that decreased EMV of *Salmonella* Pullorum strains correlated with increased agglutinability (27). The EMV characterization apparently did not contribute to an improvement in the selection of strains for the preparation of antigens, and subsequent reports do not mention the use of EMV. In 1930, the committee was renamed the Antigen Committee with Henry van Roekel as Chair. Van Roekel would play an important role in NECAD, especially in the Antigen

Committee, until his retirement in 1965. Dr. Rettger remained involved as an advisor in this committee after his retirement. With few pullorum cases reported in the late 1960s, and the increased importance of *Salmonella* infections other than *Salmonella* Pullorum, the committee became the Salmonella Testing Committee in 1972.

The Antigen Committee selected strains for antigen production, which were distributed on a yearly basis to the participating groups, which used these "conference strains" to produce their own antigens. Samples were submitted back to the Antigen Committee for comparative testing. For example, the participating member organizations were still asked in 1972 to submit the following information: 1) the behavior of the conference strains, 2) the number of *Salmonella* Pullorum and *Salmonella enterica* serovar Gallinarum isolations, and 3) the number of *Salmonella* isolations from tested flocks and routine diagnostic cases. In that year, six states submitted subcultures of the conference strains to the Antigen Committee for evaluation. The comparative testing of antigens and known positive and negative sera continued at least until 1986.

The Salmonella Testing Committee was charged in 1988 with developing a model plan to combat the human health risk of *Salmonella enterica* serotype Enteritidis. Many of the suggestions were incorporated in the NPIP program following the 1990 report of the Committee. The complete model plan is available in the proceedings of the 62nd NECAD Conference (Guelph, Canada, June 18, 1990 to June 20, 1990). After a hiatus, the committee reported, in 1994, on the development of quality assurance programs and the use of *Salmonella* Enteritidis vaccines, with continued reporting on *Salmonella* Enteritidis in 1995. The Committee since then became more or less dormant.

THE COMMITTEE ON UNIFORM TERMINOLOGY AND THE COMMITTEE ON PULLORUM TESTING

Both committees dealt specifically with pullorum disease. The different states participating in NECAD used different terminology to indicate the status of pullorum testing. Some of the terminology was misleading and used in advertisements. Because the original goal of NECAD was to eradicate pullorum disease, nomenclature like "officially pullorum disease tested" was not acceptable. This committee became very much involved in the controversy with the NPIP over nomenclature. The committee on pullorum testing reported the incidence of *Salmonella* Pullorum isolation for the participating states, and the results were reported in *Avian Diseases* as part of the abstracts of NECAD in 1959. This included the reports from 1959–1960 (28,29). The reports for 1961–1965 were published as freestanding articles (30,31,32,33,34).With the retirement of Van Roekel in 1965, the reports were no longer published in *Avian Diseases*. However, the reports were still printed in the proceedings of the NECAD Conferences and, in addition, included the incidence of other *Salmonella* strains. These reports continued until 1971 but then became part of a report on *Salmonella* infections in general, including tables on paratyphoid isolations. Apparently, the two committees merged in 1972 because the term Pullorum-typhoid Antigen & Testing was used for a joint report and the next year this committee became part of the Salmonella Antigen Committee.

THE COMMITTEE ON NOMENCLATURE AND REPORTING OF DISEASES

This Committee was established in 1934 as the Committee to Collect Data on Flock Mortality. Over the years, it was also known as The Committee on Diagnostic Methods and Mortality Statistics and the Committee on Uniform Terminology and Standard Methods for Diagnosis of Poultry Diseases. In the early 1930s, there was a lack of accepted definitions and nomenclature for the different diseases affecting poultry. The goals of the committee were to solve these problems and to collect data on the incidence of the different diseases. During the annual meeting of the AVMA in 1936, a committee consisting of Drs. C. L. Stubbs, J. R. Beach, C. A. Brandly, F. R. Beaudette, and H. J. Stafseth presented the list of uniform terminology to the AVMA Board, where it was formally moved, seconded, and accepted (35). This was an important endorsement for the NECAD Committee on Nomenclature. Beginning in 1956, the committee annually published the incidence of the different diseases in the proceedings. In 1958, these lists were published, for the first time, in the fourth issue of *Avian Diseases* (36) with the hope that "a nomenclature and system of reporting of diseases can be developed, which may serve to standardize the reports from the various laboratories." These reports were published annually in *Avian Diseases*. In 1963, NCADC followed the NECAD format, publishing their data on disease incidence starting in volume 7 of *Avian Diseases* (37). SCAD and WPDC published their data for the first time in 1967 (38) and in 1970 (39), respectively. Starting in 1976, the AAAP Committee on Disease Reporting and Nomenclature summarized the data for the four regions. The separate regional reports were no longer reported after 1978. The last report on disease incidence was published in *Avian Diseases* volume 32 (1988) with the data for 1987. However, NECAD proceedings provided information on disease incidence until 1995. These reports were forwarded to the AAAP who had developed a standardized reporting system. In 1996, the Committee decided to stop collecting data based on problems with Russia concerning the export of poultry to that country.

Clearly, the work of this NECAD committee had an important impact on clarifying the nomenclature of poultry diseases in the United States and probably for the rest of the world as well.

THE MYCOPLASMA COMMITTEE

This committee was started in 1969 following the idea of the Antigen Committee that comparative tests for *Mycoplasma gallisepticum* (MG) and *Mycoplasma synovia* were needed to standardize the testing procedures. Problems like those previously seen with the pullorum testing program were encountered, e.g., differences in interpretation of agglutination tests. One of the issues addressed during the first 6 years was the lack of appropriate antigens and the need for the United States Department of Agriculture to support antigen production. Starting in 1992, the emphasis switched toward the use of vaccines like the F strain, the 6-85 strain, and TS-11 and the use of PCR techniques for the detection of MG. The 1995 report mentioned the isolation of MG from house finches (*Haemorphous mexicanus*), which had a devastating effect on the house finch population in the NECAD region. The Committee intermittently published reports until 2010 when all NECAD committees were terminated.

THE IMPORTANCE OF NECAD FOR THE START OF *AVIAN DISEASES*

Dr. P. P. Levine described, in some detail, the origins of the journal *Avian Diseases* (40). The proceedings of the annual NECAD Conferences were distributed to members of the group in mimeographed form for 28 years. Because the proceedings contained valuable information about poultry diseases, requests for copies from libraries and individuals increased steadily. These requests became a major burden for NECAD. A committee, consisting of Drs. M. S. Cover, H. L. Chute, R. F. Gentry, E. Jungherr, H. Van Roekel, and P. P. Levine, was appointed in 1956 to study the problem and recommend a solution. After some consideration, they decided to publish a quarterly journal devoted to avian diseases. Dr. Levine, with the encouragement and help of Dr. John H. Whitlock, business manager of the *Cornell Veterinarian*, convinced the directors of Cornell Veterinarian, Inc. to sponsor a second scientific journal to be named *Avian Diseases*. The members of the committee served as the first editorial board, and in May 1957, the first issue was published. It mostly contained papers delivered at the 28th Annual meeting of NECAD. For the first 4 years, abstracts or full-length papers delivered at NECAD meetings formed a major part of the content in *Avian Diseases*. In 1959, the newly formed AAAP voted to have *Avian Diseases* become the official journal of the organization. The Board of Directors of Cornell Veterinarian, Inc. granted the request from the AAAP, and in January 1960, *Avian Diseases* with all its assets was officially transferred to the AAAP. Bruce Calnek relayed that he vividly remembers seeing Dr. Levine cut and paste his edited copy together. Another of his recollections is that, to move things along, Dr. Levine rewrote parts of some of the submitted papers rather than lose the time in sending them back to authors. Luckily, he was a fine writer and a superb editor. Calnek wrote an extensive review of the origin and the history of *Avian Diseases* (41).

THE IMPORTANCE OF NECAD AND OTHER REGIONAL CONFERENCES FOR THE BIRTH OF THE AMERICAN ASSOCIATION OF AVIAN PATHOLOGISTS

The evolution of NECAD, from a forum for developing methods to eradicating pullorum disease, to a forum for discussing other poultry diseases, started in 1931. Soon afterward, the annual NECAD conferences became a major avenue for the dissemination of poultry disease reports and research results. Clearly, NECAD had shown the importance of their annual meetings to discuss poultry diseases. In the mid-1950s, discussions during the regional meetings, the Lederle Bear Mountain meetings, and the poultry section of the AVMA Annual meetings pointed to the need for a national organization. In 1958, the American Association of Avian Pathologists was officially established (42). At least two researchers of the NECAD group, namely, Drs. Henry Van Roekel and P.P. Levine, were very much involved in the formation of the AAAP.

SOME OTHER HIGHLIGHTS FROM THE MINUTES OF THE BUSINESS MEETINGS

The yearly reports not only provide information on the scientific aspects of the meetings but also often include the minutes of the business meetings. Some of the more important or interesting highlights will be briefly mentioned.

The 12th Annual Conference in College Park, MD (May 4, 1939, to May 6, 1939) honored Dr. Rettger during the banquet because it was 40 years after the discovery of *Salmonella* Pullorum. Dr. Elmer Hitchner provided the first overview of the history of NECAD during the ceremony (2), and several other speakers provided overviews on the progress of programs for controlling pullorum disease in their state. Also noteworthy is Dr. Rettger's response to the proposed changes in the NPIP program, which is quoted as follows: "It is unfortunate that the formulation of any so-called National Plan of disease control must, to be carried out fully, be a levelling plan. By this I mean that the rigid requirements in some states (meaning the NECAD states, inserted by Schat) must be brought to the level of what the majority of the states or so-called planning body working for the states as a whole adopts, and what, on the other hand, the states which have no definite system or which are backward in their control measures must be brought up to, to be active participants in the Plan."

The 25th Annual Conference was held at the same location as the first one (Paige Laboratory in Amherst, MA) on June 17, 1953. The following five charter members were present during the official banquet: Miriam K. Clarke, William. R Hinshaw, Elmer R. Hitchner, John B. Lentz, and Leo F. Rettger. Dr. R. Gwatkin presented each one with the following certificate: "The Northeastern Conference of Laboratory Workers in Pullorum Disease Control on its Twenty-fifth Anniversary presents this certificate to (name of honored guest) in recognition of his contribution to Veterinary Science in the founding of this conference, June 16, 1953, Amherst, Massachusetts." This was the last time that Rettger participated in the meeting. He presented a short talk in which he emphasized the objectives of the Conference and commended the group for its accomplishments. Fig. 6 shows the participants in this meeting.

The minutes of the 25th Conference business meeting mentioned that a letter was received from Dr. L. de Blieck (The Netherlands) suggesting the formation of an international organization of poultry pathologists. The NECAD group suggested that Dr. Jungherr would discuss this idea with Dr. de Blieck during the XVth International Veterinary Congress in Stockholm, Sweden (August 9, 1953, to August 15, 1953). It is not clear if this meeting took place. Professor Peter Biggs, in his review of the history of the World Veterinary Poultry Association (WVPA) (43), indicated that the formation of the WVPA started in 1955 during the International Veterinary Congress in Paris, France. Biggs also mentioned that in 1956, Dr. R. F. Gordon, the Provisional President of the WVPA, had been in contact with Van Roekel and Jungherr and received their full support for the formation of the WVPA. However, the formation of the WVPA was not mentioned in the minutes of the NECAD business meetings.

To defray the costs of organizing the Annual Conference, registration fees were charged for the first time in 1953. In 1975, NECAD obtained, for the first time, financial support from the AAAP. The support was used to sponsor a symposium on diseases in wild birds. Three years later, commercial companies provided additional financial support for the first time. The extra funds were mostly used to invite speakers from outside the NECAD region, enriching the overall scientific program.

In 1991, for the first time, an award for the best presentation was given to stimulate the participation of graduate students. Unfortunately, the name(s) of the 1991 awardee(s) were not recorded in the minutes. For many of the winners, the award became the start of a successful career in avian medicine, e.g., the current secretary of NECAD, Mark Parcells, who received the award in 1992 and 1993.

Fig. 6. Participants of the 25th Annual Meeting of NECAD. Amherst, MA; June 16, 1953, to June 17, 1953. From left to right: front row: Jack. E. Gray, Angstrom, Kilmade, Wasserman, Burr, Smyser, L. F. Bennett, Graziadei, E. R. Hitchner[a], S. B. Hitchner, Baker, Peckham, Seitz, Boyer, Frank, Gwatkin, Glasiuk. Second row: Van Roekel, Bullis, Gianforte, Wright, Glover, Hendershott, Hinshaw[a], Williams, Narotsky, Lentz[a], Reising, C. G. Gray, Fabricant, Rountree, Corbett, Strout, Brown, Gordeuk, Crawley. Third row: Greene, Toortellotte[b], Yates, Sanger, Teeter, Olson, Hanley, Joseph. E. Gray, Bowles, Beninato, Witter, Kathey[b], Adler, Johnson, Packer, Kaggins, Luginbuhl. Fourth row: R. A. Bennett, Habermen[b], Hutchins, Cover, Waller, Helmboldt, Barber, Evans, Snoeyenbos, Gallardo, Sickles, Clement, Bolton, Clarke[a], Gordy, Jungherr, Cuozzo, Chute, Marston, Hammar. Fifth row: Levine, Ingersoll, Merrill, Cooperrider, Litsky, Jacobs, Shipkowitz, Hudson, Dougherty, Eggert, Beaudette, Sperling, Barnhart, Thompson. [a] Members of the original meeting in 1928. [b] Spelling not verified due to poor reproduction of original document.

Some of the other winners with a great career in avian medicine include Sandra Rosenberger (Cloud) in 1992, Rahman Omar and Jarra Jagne in 1995, Erica Spackman in 2001, and Mohammed Abdul-Careem in 2006. Since 2018, awards have also been given for the best presentation by a postdoctoral fellow.

THE SOCIAL ASPECTS OF NECAD

The first meeting focused not only on science but also on the development of fellowship between participants. A trend of adding some social and vacation flavors to the meeting, including a suggestion to bring your spouse, was noted in the registration form for the 1935 meeting in New Brunswick, NJ. A further suggestion to bring golf clubs was inserted in the registration form for the 1936 meeting in Durham, NH. It is not clear how frequently spouses came to the meetings or how many scientists did bring golf clubs. In 1951, there was even a softball game organized between the Northeastern Poultry Pathologists and the Connecticut Hatchery Association. The winner of the game was not recorded in the minutes of the business meeting, but afterward, everyone enjoyed the chicken barbecue organized by the Connecticut Hatchery Association. Certainly, social events were part of most, if not all, meetings as the years passed.

WHAT HAS NECAD OFFERED OVER THE YEARS?

Dr. Van Roekel, in his historical account of the Conference (3), pointed out that it "was probably the first of its kind to be held in the United States." Certainly, it set the precedent for the other regional meetings, and for many years, it was arguably the most important forum for disseminating new knowledge on avian diseases in the United States. Many graduate students as well as established researchers presented new findings first at the NECAD meeting, especially prior to the advance of the AAAP annual meetings. Even after the AAAP program became the premier forum at which to present new research, NECAD as well as other regional meetings remained an excellent training ground for young scientists to present their work in front of a critical audience. It is noteworthy to mention that Dr. Julius Fabricant was often in the audience, and he never hesitated to point out that critical controls were lacking and that he had presented similar data a long time ago, of course with the critical controls included. As was mentioned before, the reduction in the NECAD program and the disconnect between cutting-edge research presented by graduate students and postdocs versus more practical information for the poultry veterinarians in the field has led to a minimal program. In my opinion, it is uncertain if NECAD will survive to 2027 to celebrate its 100-year anniversary and its 99th Annual Conference (there was no annual conference in 1943 due to the Second World War).

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