of the English Squarehead wheat with the winter hardiness of the old Swedish strains. Thanks to the varieties bred at Svalöf, giving an increased yield of as much as 40 per cent., and a bigger acreage, Sweden is nowadays self-supporting in regard to wheat.

A small amount of hard wheat has still been imported to give strength for baking purposes, and the objective now is to encourage the growing of more hard wheat at home. A stiff straw that will stand up to generous manuring and grain of good baking quality are the essential considerations. It should be noted that the farmers of Skåne use fertilizers freely to bring second class, as well as naturally fertile, land to full production, and they realize well the advantages of clover leys in building up fertility.

With the method used in the Svalöf baking tests 100 gr of flour from Squarehead wheat give on an average 450–500 ccm bread, whereas the same amount of flour of the old Swedish wheats, which are poor croppers, gives 600 ccm. Combining the merits of the two, the new variety Steel gives an increased crop of 41 per cent. compared with the old Swedish wheats and a bread yield of 636 ccm. per 100 gr flour, which is quite satisfactory. This is the kind of achievement which makes the plant breeder's work appreciated in Sweden.

A BIOLOGICAL FILM

EVERETT IDRIS EVANS, of the Physiological Laboratory of the Bureau of Dairy Industry, Washington, D. C., writes that numerous requests have been received from teachers of biology and physiology for information concerning the film, "Ovulation, Fertilization, and Early Development of the Mammalian Egg," which was released by the Department of Agriculture in 1935.

This is the same film that has been shown at the meetings of the Federation of the Societies for Experimental Biology and Medicine, The American Association of Anatomists and The American Association for the Advancement of Science, Rochester meeting.

Briefly, this two-reel film is intended to portray some of the fundamental processes of the physiology of reproduction as they pertain to the mammal. The actual process of ovulation in the rabbit is demonstrated, using the living animal; there is considerable footage showing living spermatozoa, alone, and in their attack upon living rabbit ova. The process of fertilization is shown by animated diagrams.

Almost one full reel is devoted to showing of the actual division of rabbit ova, by time lapse photography, from the one cell to the blastocyst stage, that is, the first four days of the early development of the rabbit. The film closes with a demonstration of the development of the cow foetus.

The film is available in either 16 mm or 35 mm size in the silent version. In the near future a sound version will be released; it may be only in the 16 mm size.

This film is available to high schools, colleges and universities and may be either purchased outright or obtained for loan from the Division of Motion Pictures, United States Department of Agriculture. Because of the heavy demand, it is advised that those who may be interested in obtaining the loan of this picture for the next school year should apply as soon as possible to Raymond Evans, chief of the Division of Motion Pictures, U. S. Department of Agriculture, Washington, D. C.

THE BOSTON MEETING OF THE ACADEMY OF PHYSICAL MEDICINE

THE Academy of Physical Medicine will hold its annual meeting in Boston at the Hotel Statler on October 20, 21 and 22. The program contains symposia and reports on the newer studies and clinical developments in physical medicine presented by recognized authorities in the various fields of medicine and basic sciences.

The meeting will open with reports of the standing committees and of special surveys by Dr. William F. Roberts, Minister of Health, St. John, N. B., Dr. Franklin P. Lowry, Newton, Mass., and Dr. William D. McFee, Boston, followed by presentations on the physics and biology of physical medicine by Dr. E. Leon Chaffee, Gordon McKay professor of physics and communication engineering, Harvard University; Dr. Byron Sprague Price, of New York, and Dr. Heinrich Brugsch, of Tufts College. At 12 o'clock, Dr. Frank Hammond Krusen, of the Mayo Clinic, Rochester, Minn., will give his presidential address on "The Present Status of Physical Medicine." The afternoon session will open with an address by Dr. Winfred Overholser, commissioner of the Massachusetts Department of Mental Diseases, and a paper by Dr. William Benham Snow, New York, followed by a symposium on fever therapy, in which Drs. Frank H. Krusen, Robert E. Peck, Clifton T. Perkins, Harry Solomon, Clarence A. Neymann and Hudson Hoagland will participate. In the evening Dr. Stafford L. Warren, of the Strong Memorial Hospital, Rochester, N. Y., will give the Arthur H. Ring Foundation Lecture, entitled "Fundamental Principles Concerned in the Treatment of Gonoccocus Infections by Artificial Fever Therapy."

On the second day a symposium on physical education under the chairmanship of Dr. R. Tait McKenzie, of the University of Pennsylvania, will include: Harold T. Edwards, Harvard Fatigue Laboratory; Dr. Josephine Rathbone, Teachers College, Columbia University; Dean Ernst Hermann, Sargent

College, and Sir Robert Stanton Woods, London. Papers on orthopedic subjects will be presented by Drs. Frederic Jay Cotton and Gordon M. Morrison, of Boston, and by Dr. Fred H. Albee, of New York. Drs. Abraham Myerson, H. Houston Merritt and Isador Coriat will present subjects in neuro-psychiatry. Dr. Rebekah Wright will discuss the technique of hydrotherapy. Clinical papers will be presented by Dr. Mary Arnold Snow, New York; Dr. Claude L. Payzant, Boston, and William J. Schatz, Allentown, Pa.

On Thursday, October 22, the speakers in a symposium on dermatology, under the chairmanship of Dr. Francis P. McCarthy, will include Drs. Francis M. Thurmon, William J. Macdonald, William Boardman, Austin W. Cheever and C. Guy Lane, of Boston. The academy will be addressed by Dr. L. L. Campbell, professor of physics, Simmons College, on "The Radiation Energy of the Electromagnetic Spectrum." A motion picture by Dr. A. Rollier, Leysin, Switzerland, "Heliotherapy and the Work Cure at the International Factory Clinic at Leysin," will be shown. Papers on radiological subjects, on physical medicine in gynecology and in gastroenterology will be presented by Dr. J. Gershon-Cohen, Philadelphia; and by William D. McFee, Charles W. McClure and Herman A. Osgood, Boston. A symposium on electrosurgery will be conducted by Dr. Benedict F. Boland. Drs. Lester R. Whitaker, Prodromos Papas and DeWitt G. Wilcox, Boston, and William H. Schmidt, Philadelphia, will participate.

An informal dinner at the Ring Sanatorium has been arranged for Tuesday evening, October 20. The annual banquet will take place on the following evening, at the Hotel Statler.

Officers of the society are: *President,* Dr. Frank Hammond Krusen, of the Mayo Clinic, Rochester, Minn.; *Chairman of the Executive Committee,* Dr. William D. McFee, Boston; *Secretary-Treasurer,* Dr. Franklin P. Lowry, Newton, Mass.

ELECTROCHEMISTS AT NIAGARA FALLS

THE birthplace of the American electrochemical industry is Niagara Falls. Here are the large-scale plants for the production of alkali for soap, chlorine for bleaching, carborundum and alundum for abrasive wheels, carbide for acetylene, cyanamid for fertilizer, ferro alloys for special steels and many other products. The birth of the Electrochemical Society corresponds closely to the birth of the industry. On October 8, 9 and 10 electrochemists from all over the world again convened at Niagara Falls. The Hotel General Brock, on the Canadian side, was the headquarters. Great are the advances that have taken place during the thirty-five years since the society first met at Niagara. Plants have been expanded, new ones have been erected and, above all, the hydroelectric power supply has been vastly increased.

The Thursday morning session was devoted to "What the Electric Furnace Has Done for Civilization" and experts in the field from the Westinghouse Company, Shawinigan Chemicals, Ltd., the Acheson Graphite Corporation, the Norton Company, the Tennessee Valley Authority, the Aluminum Company of America and others discussed the basic importance of the many electrochemical products. Without the modern abrasives, ferro alloys and electric steels, the automobile industry would be non-existent. Aluminum and magnesium are largely responsible for the upbuilding of our airplane and airship industry. The United States Navy has an airship, the ZMC–2, the "bag" of which is made entirely of aluminum in place of organic fabric. During these thirty-five years many new products have been made electrochemically on a large scale that have been heretofore either non-existent or mere museum curiosities: silicon, a very essential reducing agent; barium, the king of getters; beryllium which, when added to copper, makes it as hard and as strong as steel; phosphorus by the ton; carbide to acetylene, to alcohol and plastics; chromium into rustless and stainless steels, and many others.

The electrochemical industry is one of the largest consumers of power and, on this account, the afternoon of October 8 was devoted to a discussion of present-day power economics. A. J. Wager, well-known consulting engineer of Milwaukee, Wisconsin, presided. L. W. W. Morrow, editor of *The Electrical World,* and H. A. Person, of the Federal Light and Traction Company, New York City, spoke on the advantages of steam power, and R. J. Gaudy, engineer, of Chicago, and James W. Rickey, of the Aluminum Company, spoke on hydroelectric power for the aluminum industry. Carl F. Floe called attention to the vast blocks of hydroelectric power soon to be available in the Pacific Northwest. America's coal supply is good for many hundreds of years. Water power, however, is very limited.

Among the speakers to address the gathering was Vice-president Willis R. Whitney, of the General Electric Company, who emphasized the importance of "more research." Without research there is no industrial progress.

Among other topics discussed was that of corrosion of iron and steel, and how to prevent porosity of zinc coats and porosity of nickel coats on steel. Newcomers in the electroplating field are molybdenum and zirconium. W. P. Price and O. W. Brown, of Indiana University, have discovered how to plate molybdenum on copper and other metals, and W. E. Bradt and