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## MEAT RESEARCH IN THE PROGRAM OF THE NATIONAL LIVESTOCK AND MEAT BOARD

By R. C. POLLOCK

The policy of the National Livestock and Meat Board is not only to keep in step with progress, but in so far as possible to keep a step ahead of progress in every way which will promote the interests of the livestock and meat industry. Producers and manufacturers of foods have recognized the importance of conducting or sponsoring research that will reveal the dietary value of their products; which information they, in turn, may pass on to the consumer.

When the National Livestock and Meat Board was organized in 1923 its comprehensive program included research as one of the major projects, and throughout the years of its existence the board has been able to report very satisfactory and gratifying results from the research which it has sponsored.

Since this talk must of necessity be condensed I present to you the place of meat research in the board's program under four main heads.

### **Survey of Retail Marketing of Meat**

The first study of any magnitude ever made of the retail marketing of meat was provided for by Congress in the act making appropriations for the United States Department of Agriculture for the fiscal years 1924-25 and 1925-26. This appropriation amounted to \$50,000.00 and the National Livestock and Meat Board was responsible for the act of Congress which made provision for the study.

This study of the methods and practices of retailing meats was made by the Bureau of Agricultural Economics in twenty cities and towns. These cities were selected according to geographical locations and consideration was given to the sources of income in each case. It may be said to represent a fair cross-section of our population.

The facts revealed by a study of such magnitude and scope are of prime importance to the retail meat trade.

### **A Study of the Factors Which Influence the Quality and Palatability of Meat**

May I review briefly the history of one of the most outstanding projects ever undertaken in the interests of the livestock and meat industry. I refer to the co-operative project, "A Study of the Factors Which Influence the Quality and Palatability of Meat."

The question of such a study was first brought to the board's attention at the annual meeting of 1924. This project was adopted as a part of the board's research program.

In September, 1924, the board called into conference representatives of the Department of Agriculture and the state experiment stations to outline this study. At that 1924 conference a committee, composed of F. B. Mumford, M. D. Helser, H. J. Gramlich, C. R. Moulton, and E. W. Sheets, was appointed to make recommendations for the inauguration of co-operative experimental work between the state agricultural experiment stations and the United States Department of Agriculture. The recommendations of the committee were accepted by this society at its 1924 meeting and a committee to be known as the Committee on Co-operative Research was appointed to represent the society.

In April, 1925, this committee had the project well outlined when it met in St. Louis, when the Association of Land Grant Colleges was in session. At this time the directors of the state agricultural experiment stations included as one of four subjects in their program for research to be done under the provisions of the Purnell Act one entitled, "Factors Involved in the Production, Quality, and Palatability of Meat."

Steady progress continues to be made by those engaged in this, the largest of all co-operative projects. During the past year twenty-one state experiment stations and the U. S. Department of Agriculture were engaged in this project.

Preliminary plans have already been made for joint publication by five or six institutions on the influence of sex in cattle upon the quality and palatability of beef. It is probable that a second joint bulletin will be issued by four or five stations on the influence of breeding in cattle. Others are expected to follow. Several manuscripts to report meat studies by individual stations in co-operation with the U. S. Department of Agriculture are now in preparation.

Of greatest interest in connection with new work is the step taken in pork studies. For a number of years soft pork investigations have been conducted by a group of stations with the Bureau of Animal Industry. This year the bureau made a definite proposal to expand the soft pork investigations to quality in pork and to make the work part of the national quality and palatability study. It is expected that this phase of the national project will show great development in the near future. Factors which will probably hold the early attention of the co-operators will be feed, age, degree of finish, type, and retarded growth.

The board believes that this national project is doing big things in a big way and is willing and ready to further in every possible way the work being done by the co-operators.

### **Investigations Conducted or in Progress Under the National Livestock and Meat Board Fellowships**

Another way in which the board has furthered scientific meat research has been through fellowships which have been granted to men interested in establishing the place of meat in the diet of man. There exists in the minds of some a prejudice against meat which, while it does not rest on fact, can best be corrected by investigations which are conducted and interpreted in such a way that there can be no question of bias on the part of the investigator.

The fellowships supported by the board have been administered by the National Research Council. The problems supported fall into two chief groups. The first is the place of meat in relation to blood formation. The fellowship granted in 1924 to Mr. R. P. Kennedy in the laboratory of Dr. George H. Whipple at the University of Rochester Medical School has had far-reaching results since it facilitated the development of the idea of the importance of liver in relation to the prevention and management of anemia and the fact that meat and meat products have a favorable influence on the regeneration of hemoglobin in secondary anemias. This study has opened up avenues of scientific thought since it appears that there are still unknown factors that must be determined to explain the beneficial effects of meat and meat products.

A second phase of the relation of meat to blood formation has been and is still supported in fellowships granted to work-

ers under the direction of Dr. E. B. Forbes, Pennsylvania State College. This is a concerted attack on the utilization of the iron of meats as compared with the iron of other protein foods such as milk, eggs, and legumes. As a sidelight this study will furnish information of the protein value of these foods. The work as planned this year will throw some light on the significance of iron in nutrition.

This second group of studies relates to the value of meats for lactation. The question of diet in lactation is of great clinical importance in meeting the requirements of the growing child.

This study was begun by Miss Florence MacLeod at Columbia University, but at the end of a year was transferred to Rochester Medical School. The work on rats has shown that meat protein is better suited to lactation than vegetable protein. This year the work is being conducted to supplement the information on the value of liver, eggs, beef round, and particularly kidney, and to study the milk-stimulating factor in meats.

The board has contributed a fellowship to a worker in the Foods and Nutrition Department of Iowa State College who is investigating a phase of this same subject.

Certain grants have been made to the University of Missouri to assist in the study of the surface area of animals to include the beef animal. This problem is of greatest importance in determining the economy of animal production.

### **Development of New Cutting Methods**

Another type of research undertaken by the board has been the development of new and improved cutting methods. These methods reflect the best thought of the retailers and packers throughout the country. The lamb and beef cutting demonstrations which most of you have seen are quickly and expertly done, but the perfecting of those methods took long hours of study over a cutting block in order to produce cuts which are attractive, convenient in size, and up-to-date in every particular. In this phase of meat research the board is keeping step with what other food interests are doing to put out an attractive package.

I trust I have been able to get over to you the scope of this phase of the work of the board to bring meat into its own as one of our basic foods.