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The WM-7 Poultry Marketing Project

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The Western Regional Poultry Marketing Project WM-7 was in existence from 1948 to July 1, 1955. During this period a number of interrelated topics in the field of poultry marketing were investigated. A close look, in retrospect, at the framework and the background of these projects should help to improve regional research in general and the capacities of the individual research workers.

The termination of this project coincided with a committee report to the Western Agricultural Economics Research Council on evaluation of regional research projects. This report was accepted by the Council in January, 1955 and was distributed to all technical committees by letter dated March 24, 1955. The report stated, in part, "This Committee recommends that an evaluation of research projects be made as each regional project is terminated so that future research in the same general area can be resumed with a minimum of loss of time and effort on the part of the research workers."

The principal objective of this paper is to present a critical review of the work done under this project in the field of marketing poultry meat. The paper will present some of the assumptions underlying the work, will discuss the methods of collecting and processing the data, will show the number of subprojects and their relation one to another, and will show some achievements and deficiencies of the work.

History of the project

The project began in 1948 with three states, Oregon, Utah, and Washington, as members. The initial project investigated the experimental retailing of cut-up turkey. This project was the result of requests from the turkey industry to investigate possibilities for the merchandising of turkeys as other than whole birds since the size of a bird deterred its frequent purchase by an ordinary family.

In 1949, the state of California and the USDA joined the project. The field of major interest during the remaining life of the project was the marketing of chickens and chicken meat. The membership remained stable except for the temporary withdrawal of Washington during one year. The USDA made its contribution in two ways -- by financing the employment of a cooperative agent at the California station and through coordinating advice and assistance from representatives of its Bureau of Agricultural Economics and Production and Marketing Administration, and, later, the

^{1/} The author is indebted to Roice H. Anderson, Charles M. Fischer, and Haruo Najima for many helpful criticisms and suggestions in preparing this paper.

Agricultural Marketing Service. These contributions enlarged the scope and volume of work done and helped guide it through the experience of other regional projects.

The Technical Committee met twice during each year for the purposes of coordinating its efforts, reporting on the progress of work in each state, allocating funds to alternative uses, and detailed planning of field and office activities for the future. The Committee met in the major poultry-marketing centers of the cooperating states and at various agricultural experiment station offices. When meeting at the large marketing centers, conducted tours of marketing and processing facilities were made, and visits with poultry-marketing people in those firms were made. These activities tied in closely with the research work being conducted and kept industry people better informed of our interest and activity.

On July 1, 1954, the Committee was reorganized and directed its attention to problems in the field of egg marketing under the new authorization WM-18. Activities under WM-7 during 1954-55 were confined to the California station where writing of the final reports was completed.

Concept of the problem

The problem to which the Technical Committee addressed itself was efficiency of marketing chickens and chicken meat, broadly conceived. Efficiency is used here to include any or all aspects in which efficiency is measured and to include any stage in the marketing process from farms to retail stores. Since price is the heart of most marketing problems, several subprojects which made up this work related principally to prices received and the price-making process.

The Committee's concept of a marketing problem was that of a situation in which one or more of the agencies or parties involved in the marketing of chickens expressed dissatisfaction with the operation of the marketing system. Frequently the expression of the dissatisfaction was a complaint about a symptom of some unknown disorder. Most of the complaints received by Committee members came from poultry farmers and their marketing organizations. These complaints were screened, classified, and usually rephrased or reoriented to a problem suitable for attack by economic analysis.

Examples of complaints which were received follow:

- a. Consumer preferences for different grades of chicken meat were not being rapidly and accurately transmitted by price to producers;
- b. Insufficient information was available upon which to make wise and profitable decisions about the number of hatching eggs to set;
- c. Insufficient information was available upon which to decide when to sell broilers most profitably.

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The concept of the problem was expressed as follows in a special report to the Council dated November 1, 1950.

The Poultry Technical Committee, supervising and doing the work of the Western Regional Poultry Research Project, feels that the fundamental problem in poultry marketing in the Western states is the level of efficiency. Level of efficiency is a question of degree--the degree to which equality of bargaining power between buyers and sellers exists; the amount and kinds of information which buyers and sellers have available to them; and the degree to which the existing capital equipment and plant capacity of any firm is utilized. In this light, level of efficiency is nearly synonymous with level of competition. The Committee also feels that the primary objective of research in poultry marketing is to improve the marketing system, or to raise the level of efficiency and competition of the marketing system as it operates in a free enterprise economy.

Although maximum marketing efficiency in the theoretical sense can never be realized, improvement can be made in reducing waste and increasing satisfaction of producers, processors, middlemen, and consumers, when that increase serves to equalize the advantages of the marketing system. This improvement must be made while maintaining freedom of choice of consumers and freedom of production of business men.

For want of a better name, the Committee used the "problem approach" to its research projects. The general objective of each subproject was to present new data not previously available, to show the true relationships between the pertinent economic variables involved, to dispel myths or unsound ideas about marketing, and to point the way toward improvement in practices or organization of the industry. It was believed that these improvements would lead to increased consumption of the product, to increased satisfaction of producers and consumers, and to a higher level of competition in the industry.

Each subproject represented a different "problem" as defined here. Hence, although each subproject was separate in the sense that each could have stood alone and was a worthy project in its own right, they were all part of one large problem--efficiency in the marketing of chickens and chicken meat.

The model used as a guide in directing the research procedures was a hypothetical marketing system operating under conditions of pure competition. The use of this model led the Committee to collect data which would permit the comparison between present results and theoretically perfect results. The use of this model led the Committee to ask: "How would this industry be organized and operated to achieve the results of pure competition?"

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The method of analysis differed with each subproject. The method selected usually governed the kind and extent of data collected. The principal method used was the tabular method, using IBM or hand-tabulating procedures. This was augmented by simple and multiple correlation and by controlled experiments to test hypotheses. In general, original data were collected from farmers and marketing agencies, and then they were arranged and analyzed to show the relationships among the pertinent variables. In arriving at conclusions, the Technical Committee was guided

by these relationships, by economic theory, and by a knowledge of the characteristics of the products and the practices of the industry.

The concept of the problem of marketing efficiency changed somewhat by 1952 after several of the subprojects were completed. It changed from emphasis on the price-formation aspect of efficiency to the resource-allocation problem in production because of its great impact on marketing efficiency. It had become increasingly evident to the Committee that the number-one marketing problem of the commercial broiler industry was erratic fluctuations in production and price. In view of the enormous and rapid growth of the industry, little research into this problem had been conducted.

The "growing pains" of the industry offered great challenge to research. This problem was so large and complex that it was necessary to break it into two phases and proceed with each separately. Although it was classified as a marketing problem because it affected prices and the flow of supplies through trade channels, it was more accurately a problem in economic development of an industry.

Subprojects studied

The following listing of titles under each subproject heading shows the scope and identity of the various problems to which attention was given.

- I. Grading and quality problems (relation of grading to the pricing system).
 - A. The relation of farm to plant grading of chickens in Utah.
 - B. Determination of the quality of dressed chickens handled by processors in Los Angeles.
 - C. Determination of price-quality relationships for chicken meat at retail in Los Angeles.
 - D. Controlled experiment in consumer acceptance of uniform grading of fryers at retail.

- II. Interregional trade problems (adjustment of local to national marketing developments).
 - A. Receipts and per-capita consumption of chickens in Los Angeles.
 - B. Trends in production and prices, by regions, for chickens and turkeys.
 - C. Special studies in turkey marketing in the Western states.

- III. Industry organization and operation problems.
 - A. Operation and practices of first handlers of chickens in Oregon, Washington, and Utah.
 - B. Broiler-processing plant efficiency.
 - C. Optimum time and weight for marketing broilers.
 - D. Retail advertising and merchandising practices for chicken meat.
 - E. Experimental sales of cut-up turkey in Oregon and Washington.

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- IV. Allocation of resources in commercial broiler industry (price and production fluctuations in the broiler industry).
- A. Influence of hatcheries on broiler output.
 - B. Influence of short-term credit and vertical integration on broiler output.

One or more publications was issued for nearly all of the 14 sub-projects which were studied. Some regional publications contained reports from more than one of the subprojects listed. A complete list of the publications issued under WM-7 is contained in the annual reports of the project forwarded to the Office of Experiment Stations.

Limitations of the study

It is quite likely that the limitations discussed in this section apply to other regional projects, but no detailed statements of such limitations are known. Short statements of evaluation are contained in the "Proceedings of the New England Research Council on Marketing and Food Supply," held at Burlington, Vermont, June 1954.^{1/}

1. The first limitation which restricted the value of the research work done was that too broad an approach to the marketing of poultry and poultry products was taken. The list of subprojects in the previous section suggests that a "scattergun" approach was taken. Even though it can be argued persuasively that all these subprojects were tied together by the broad concept of marketing efficiency, it is probable that a more accurate identification and isolation of each problem could have been done had the project been more narrowly defined. For instance, it appears now that it would have been wise to write a separate project for the experiments and other studies of turkey marketing, another project for the chicken-grading and pricing studies, another for the industry organization and operation studies, and another for the study of production fluctuations.

In my opinion, no rule can be given for defining how narrow or how broad a regional marketing project should be organized. If the project is too narrow, it will be unrealistic because it will fail to consider relations between different agencies or influences in the industry. If it is too broad, it will fail to isolate the important answerable questions about the industry.

2. Another limitation was the problem of integration of efforts of all members of the Technical Committee. Even though the members could agree on the importance of studying some certain phase of marketing, the occurrence of that problem and the organization of the industry in each state made for difficulties in coordination. In addition, each station member had different ideas on how to study a certain problem. When some one member of the Committee offered a problem current in his state and of importance to his producers, he made it a state project and also included it under the regional project even though it was not

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^{1/} "Proceedings of the Annual Meeting of the New England Research Council on Marketing and Food Supply held on June 24-25, 1954 at Burlington, Vermont," New England Research Council on Marketing and Food Supply, 1625 Post Office Building, Boston, Massachusetts.

directly related to the major work of the entire Committee. This suggests that the project problem be selected before membership on the Committee is finally decided. It also suggests that other state projects which arise after the regional project is launched be eliminated from inclusion in the regional project. The WM-7 Committee did not have any standards or instructions about how far to go in permitting related state projects to be included under the title of the regional project.

3. Another limitation which occurred occasionally was inadequate data and inadequate planning for the collection of data. These problems plague all research work of this type and must be guarded against as much as possible.

The data were occasionally inadequate simply because they were not available. As a result, a certain question which should have been answered could not be attacked in the most profitable manner. An example was in the study of vertical integration in the broiler industry. It was felt desirable to collect data pertaining to price and output results obtainable with vertical integration as well as with the nonintegrated system. Although production is conducted under these systems side by side, data for comparing the systems were not available.

The Committee also found that at times it had made inadequate planning for the collection of data. It found, upon analyzing the data, that additional questions should have been asked and additional series collected. It found occasionally, after starting collection of data, that there were aspects of the problem which had been unknown in the planning stages. These criticisms and experiences suggest that more rigorous control of planning be exercised. They suggest that in so far as possible the exact use and value of each piece of data be studied and related to the project objectives prior to collection.

One of the general results of the limitations listed above is that the final publications which report the results of the work are not as analytical as the Technical Committee hoped they would be. By this I mean, they do not report many new economic relationships or come to many conclusions which were not already known to the well-informed operators in the industry. However, the opinions of members of the trade were unconfirmed and in many situations were conflicting until our data threw more light on the subject.

In my opinion, none of the failures or limitations of this project can be attributed to lack of funds. The financial support given this project was adequate and generous. The administrative support given was adequate at all times. The limitations which occurred were primarily the result of inadequate skill and experience of the members of the Technical Committee.

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Principal strengths of WM-7

1. The principal value and benefit of the research done under this project has been the large amount of new data pertaining to the poultry industry which were collected, analyzed, and published. This is shown in part by a study of the list of topics covered by the research and by a study of the publications issued under the auspices of the Committee.

However, the collection and presentation of data in itself may not be of significant value. The data have to be relevant to a significant problem, and the conclusions and recommendations have to be supported by the data. It is not necessary that the conclusions always lead to changes in the methods of operation of the industry because the most obvious solution to a problem may be one which upsets values of a higher order.

The fact that some of the recommendations have not yet been adopted does not mean that they do not have value. The time for implementation may not be here yet. Furthermore, the results of the last and one of the most important subprojects are not yet published.

The fact that some of the recommendations of the projects under WM-7 have been adopted by industry shows some value in that direction. Evaluation of this point is difficult because it involves comparing the record of this project with that of other regional projects.

2. Another value is the data furnished the Extension Service personnel in the states of the region, and the extension or educational function performed by the Technical Committee members. This is a value incidental to the main purpose for which the funds were appropriated but an important one. In the course of collecting and analyzing data, the Committee members helped educate many poultrymen, dealers, and other members of the trade. This education covered old well-established economic truths as well as the new ones arising from the research. The opportunity for this educational activity arose out of the fact that it was known we were "conducting research" in the poultry field. Hence, it is a value to be attributed to WM-7.

3. Another important strength of the work under this project was the appropriateness of the methods for collecting data and the methods of analysis. With the minor exception of difficulties mentioned previously, the bulk of the data collected was relevant to the problem at hand, and was useful in pointing out different ways to solutions to the problem.

One member of the Technical Committee suggests, in retrospect, that our methods of analysis were too detailed and too sharp for the purely descriptive portions of the work, but were not sharp enough to achieve the analytical results desired. He suggests that the truth of this statement is shown by the fact that we did not "solve" the problems which led to and which justified the research projects; i. e., we did not always have a united recommendation to make upon completion of a subproject.

I cannot accept this entirely because much research work is necessarily exploratory--it is almost impossible completely and accurately to isolate the "problem." Even with the best of planning, unforeseen relationships arise which might have caused a different approach to be taken. By the time the data are collected, it is usually too late to revamp the project and change directions or objectives of the work. Furthermore, it is the nature of our society that economic problems do not arise in a vacuum of economic values. Economic activities are an inextricable part of social, religious, and political activities. The tools for the isolation of economic factors alone either are not yet available to the economists or, if available, their use would be unrealistic.

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4. There is a temptation to claim the use of the regional approach as another strength of the WM-7 project. However, candor forces me to take the qualified position that although there were important advantages in the regional approach, they were not important enough to say that the major value of the findings relied upon them. This conclusion is reached by attempting to answer fairly this question: What benefits and advantages occurred in conducting the research under regional auspices which would not have occurred had the same amount of money been spent on these projects under state auspices only?

Under the WM-7 project, at least three benefits occurred as a result of the regional approach. They were: (1) a saving of time, (2) higher quality research work, and (3) greater validity of the results.

The saving of time occurred by joint planning of the projects by personnel from each of the states participating. As plans for each project and subproject were presented and discussed by the Committee, the experience and knowledge of persons from different states who had observed and studied different methods of operation and organization of the industry were of value in appraising each plan. This joint appraisal permitted blind alleys to be detected early, weak points to be detected, and much saving of time to be gained.

By the same token, the joint approach of the Committee to each project raised the quality of work which was done. A greater degree of frankness in questioning the conclusions of each subproject was experienced than would otherwise have been possible. This forced each worker to examine his data more carefully for the real meaning, if any, to be found there. In view of the joint approach to each project and the more careful scrutiny given each project both during the conduct of the research and in appraising the final publication, the validity of the conclusions was enhanced. Instead of representing only the conditions prevailing in one part of the region, the results had to cover most if not all the region. In so far as the validity was increased, their usefulness was also increased.

On the other hand, a far greater contribution of the regional approach was the benefit of the additional funds toward broadening and enlarging the scope of the work done during this period. It is of great significance to the poultry industry that by reason of the regional approach and sponsorship the research achieved much greater coverage than it would have under state sponsorship alone.

However, if there is nothing different to be gained by the regional approach to marketing research, then it is simply a way of spending more money on research--of expanding our old-style methods. This expansion should not be belittled--but neither should it be confused with the quality of the research work itself. Regional Research

5. Another strength of the WM-7 project is that through careful consideration and evaluation of the problems in the marketing of poultry meat, the most important ones were selected for study. In other words, present opinion of the Technical Committee is that the process of selection was a proper one, and the most significant areas were studied during the 5-year period. This selection was important because the commercial

broiler industry has been the fastest growing agricultural industry during the past 10 years and a number of areas for research had not been attacked in this or other regions of the country.

With respect to economic theory, it can be stated that no new contributions to theory arose as a result of work under this project. However, certain aspects of the theory of the firm arose which were somewhat obscure and which need clarification. One aspect is the action of the firm under the impact of vertical integration.

Another aspect which is somewhat obscure is the difference between the activities of a firm handling one product versus the firm handling many products. This has significance in the retailing of farm products. In retail food stores, the action of the firm toward one item in a "basket" of food items is quite different from that of a firm handling only one item. The effect of this difference on marketing practices needs to be clarified.

With respect to research methodology, no new research techniques were developed or utilized in the WM-7 project. It was found that the deficiencies which did occur were mainly the result of lack of rigorous application of known techniques. In general it was felt that the traditional techniques were adequate and proper had all other conditions been optimum. The controlled experiment was used to some extent and with considerable value. It might have been used more frequently.

What remains to be done

More work remains to be done in order to finish the allocation resource problem which occupied the Committee for the past two years. The reason for this is that what is a marketing problem from one viewpoint turns out, on closer examination, to be an industry development problem. The broiler price and production fluctuations project (the last project completed) arose because of the difficulties in marketing commercial broilers under conditions of erratic supply. Therefore, the Committee attempted to determine the cause of the erratic fluctuations. The basic cause was the uneven flow of resources into and out of the industry. It was found that this flow of resources was greatly affected by the agencies controlling the flow of credit and thereby, indirectly, under conditions of vertical integration.

The work which is needed then, in order to complete this study, is a broader view of vertical integration and the way in which it affects basic production decisions in the broiler industry.

A side problem to the above is the price and production policies of the mixed feed industry. This industry is a major one in the allocation of credit to broiler production and a major one in the determination of the cost of credit to producers. Therefore, the influence of cost of credit cannot be determined until more is known about the complex policies and organization of the mixed feed dealers in the industry.

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