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THE RELATION OF ECONOMIC RESEARCH WORK TO OTHER RESEARCH IN THE STATE

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It is admittedly presumptuous for one of the younger directors of state agricultural experiment stations to attempt in a brief paper to answer the questions which are bound to arise from any consideration of the problem implied in the title of this paper. I have no apology to offer other than I should never have undertaken the task before me had I not been asked by your officers to do so.

No one can overlook the rapidity with which economics is assuming a prominent place in agricultural research, nor can one fail to note an increasing tendency on the part of researchers in other fields to stress the economic angles and bearings of their respective projects. There is justification, therefore, for considering the relation of economic research to other research in a state, if for no other reason than to stimulate constructive thought on this point; for there can be no doubt that a full and proper relationship should be established and maintained.

THE ECONOMIST A NEWCOMER

Economics had no officially recognized position in organized agricultural research until a few years ago. In other words, the agricultural economist, one of the most recent additions to the ever growing staffs of agricultural research agencies, finds himself with no prior rights such as those held by the chemist; and he can claim none of the traditional background shared by the botanist, horticulturist, or entomologist. A youngster in the field, he may still be regarded by some of his elders as having much to learn.

This is not unusual. Every other researcher in the field of agricultural science has had to travel the same road. It is scarcely more than a hundred years since Boussingault, Liebig, Lawes, and others began their epochal studies which demonstrated the practicability and importance of applying science to agriculture; and during that century the world has witnessed the conception, birth, and development of our agricultural research machinery.

ECONOMIC RESEARCH READILY ACCEPTED

The acceptance of agricultural economics as a legitimate field of research has, in reality, been more rapid than that of almost any other science since the first years of organized agricultural research. I vividly recall that when I first entered federal employ, in the Bureau of Plant Industry in 1910, the U.S. Department of Agriculture supported no economic research, except what may have been included in crop reporting and in a struggling Office of Farm Management. Then an Office of Markets was created, and this later was expanded to include Rural Organization. At that time,

the chief concern of the new Office seemed to center around efforts to organize the southwestern growers of long staple cotton. Marketing, I gathered, meant the careful handling of bales of Egyptian cotton so as to get them from Arizona to Manchester, England, in a commercially attractive form. At about that time Congress, spurred on by a Secretary of Agriculture with an economic bent, began to appropriate money for economic research; and before long the new Office had a building of its own, and the title of Bureau was bestowed upon it. This Bureau still occupies the Bieber Building, but it has over-run it and is scattered all over Southwest Washington. A proportionate growth is to be seen in the department of agricultural economics in nearly every state college and experiment station.

ECONOMIC PROBLEMS NOT NEW

The recent advent of agricultural economics into the field of research cannot be taken to mean that all of the difficulties it is seeking to relieve are of recent origin. Many of them have long affected agriculture but until recently they were seen, if at all, only through the eyes of men trained in the older sciences. Just as questions of soil fertility and plant nutrition existed for thousands of years before the arrival of Boussingault, Liebig, and Lawes; just as animal diseases took their annual toll through century after century before such researchers as Smith and Dorsett pointed the way to exterminate them; so, too, economic ills of agriculture existed long before economists were assembled and organized to attack them. True, in recent years, the ills of agriculture taken as a whole seem to have become more numerous, more pronounced, and more complex; but there is room for reasonable doubt as to whether this seeming complexity is real or merely the result of man's increasing ability to diagnose these ills.

Agriculture has been quick to adopt and utilize discoveries made in the physical and biological sciences, and it will be equally receptive to the findings of economic science. But the economist will contribute most if he strives always to discover and clarify economic laws which can be brought into position alongside of and in harmony with the physical and biological laws upon which agriculture is founded.

ONLY ONE CHALLENGING PROBLEM

For, after all, the really great problem challenging agricultural research agencies, is the baffling farm problem, embodying at the same time physical, biological, economic and social relationships. Each scientist may attack this problem from the angle of his peculiar training and experience; but each will fall short of making his greatest contribution, if he fails to realize that there are other angles than his own and that all research, directed from whatever angle, must be coordinated if a solution to the problem is to be found.

In advancing this viewpoint, I am not losing sight of the importance of research in pure science and of the tremendous value to agriculture of some facts which have been discovered by researchers in fields ever so remotely related to the farm problem. Such researches should always be encouraged. There are always a few qualified and interested persons who would choose to work in no other way, and the contributions from their kind are too numerous and too valuable to be overlooked.

FARMERS WANT RESULTS

But while some provision should be made in every research program for work not likely to have any immediate bearing on the great problem constantly confronting agricultural research agencies, especially the smaller state agencies, like the one I represent, the fact remains that the citizens who are expecting to be benefited by agricultural research are not concerned much with anything other than results. They do not worry about the internal troubles of an organization supported for the purpose of getting results. They are not concerned with the division of labor within the organization. They do not care whether the results they can use come from the chemist's test tubes or the economist's charts, neither are they losing sleep about who gets the credit for whatever useful results may be coming from the organization they support. They are paying for a service, and they expect, and have a right to expect, results. They are surprisingly tolerant with delays they cannot understand; their patience with the plodding pace of the researcher is astounding; and their trust in trained minds is the world's greatest tribute to science. But in the end, the public research agency is expected to justify its support by contributing to a solution of the farm problem.

Contributions have been, and are being, made -- enough, I believe, to justify the support these agencies have enjoyed. My point is, not that these agencies still have to justify their existence, but that by fully coordinated effort they can come nearer than by any other means to a fulfillment of their purpose.

REGIONAL RESEARCH PROGRAMS DESIRABLE

For this reason, I regard favorably the plan advanced by Congressman Victor Christgau providing for regional research programs. For the same reason, I feel that the districting of a state according to type of farming is a good thing. I hope that this general scheme of organization may be realized. But at the same time I hope that it will be supported, not by economists only, but by everybody interested in agricultural research of whatever nature. It would supply a much-needed approach to the farm problem for workers in every line of investigation.

Against the foregoing background of generalities I propose now to project more specifically one man's opinion on the relation of economic research to other research in the state.

DEVELOP A COMMON VIEWPOINT

In the first place I feel that all research agencies within a state should develop a common viewpoint with respect to the major agricultural areas of the state and the type of farming characterizing each area. The number of agencies within a state may be large or small, but in any event they should be talking a common language.

The results of a type of farming study, it is plain, would lose a great deal of their value, if they could not readily be accepted by other interested agencies and especially by all departments within the agency conducting the study.

In Utah, as a forerunner of and an accompaniment to a proposed type of farming study, all agencies other than the state experiment station, and all departments within the station, are being brought to see the study is of as much concern to them as to anybody else. It is not a study for the department of agricultural economics to play with. The department of agricultural economics would conduct the study for the benefit of agriculture and every other agency interested in the welfare of agriculture, and every department that has anything to contribute is being afforded an opportunity to have its contributions incorporated in the general plan of procedure. Clearly, the time for consultation, conference, criticism, and suggestion is before, not after, such a study has been made.

AN EXAMPLE OF COOPERATIVE RESEARCH

My conception of the relationship of economic to other research is clearly illustrated, I believe by the organization and progress of a cooperative project outlined three years ago at the Utah Experiment Station. Originally the proposed study was outlined as one to be conducted by a simgle department, the department of irrigation and drainage engineering. The object of the study was to determine and weigh the factors influencing the financial status of two small irrigation projects, each clearly representative of a particular type of irrigation enterprise, and each in financial straights.

Such a study, in a state where agriculture is almost wholly dependent upon irrigation, is one to invite serious attention, and, as director, I was glad to see the proposed study undertaken--but not as one to be carried on by a single department. That the study was conceived by an irrigation and drainage engineer was logical enough, since he had been called upon, time and again, to help the settlers in those projects. They were heavily involved financially, litigation had sapped their savings, bonding houses were calling for payments past due, and tax collectors and mortgage holders were becoming desperate. It was to have been expected, therefore, that the engineer should be perturbed and wondering what influences were at work to break down the promise of success on these projects.

But simply because he had sensed the presence of these unseen influences and because he had proposed to seek them out and correct them, commendable as his thinking has been, could his single-handed attack on the situation have been justified administratively? Or did his sensing of a need more logically call for a cooperative attack in which the different training of other minds would be brought to his assistance?

After a number of conferences it was agreed that the proposed study should be made cooperatively by four departments of the station. A lump sum would be provided on the basis of an accepted outline of procedure, and the expenditure of this fund would be in accordance with the joint recommendations of the departments involved.

By mutual agreement, the engineer planned to confine his efforts to the engineering aspects of the cooperative study. The soil aspects would be studied by the man in charge of soil investigations, and the economic aspects by the agricultural economist. The fourth party to the group was the sociologist whose primary interest lay in knowing the people on the projects,

whence they came, why they came, and their present social difficulties.

Through the three years that this study has been in progress -- and it will be completed soon -- the engineer has found as much as he could attend to in the strictly engineering aspects of water-supply and distribution, the soils man has clarified a direct relationship of soil type to water requirement. This soil and water relationship, moreover, has helped the economist to understand wide differences in farm expense and labor income.

While these three departments by mutual agreement of all concerned have been concentrating on these respective assignments, the sociologist has been making his preliminary observations and is ready now to make his advance upon the human factor. This year by coordinating all their efforts the study probably will be brought to a satisfactory stage of completion.

In the meantime certain supplementary work has been done by other departments. The irrigation projects being studied are heavy producers of alfalfa seed. Seed growing is so prominent as to make the agriculture of the region largely dependent upon this single crop. Good years have followed bad, and the seasons of plenty have been frequent enough to sustain hope even in the face of disastrous years.

One-crop farming is not advocated in Utah any more than in other states. But the farmers who practice it are neither to be abandoned nor condemned. Their investments are at stake and they have their obligations to meet. Obviously, also, they cannot change overnight to a diversified agriculture even if advisable; especially under the circumstances which I have already described as influencing success on the land these farmers occupy. Finally, too, alfalfa seed is peculiarly adapted to that region and probably always will be an important cash crop, even in a more diversified agriculture. Diversification, moreover, may not prevent "stripping", and stripping is the chief cause of short crops of seed.

But what is stripping? What causes it? What is the relationship to stripping of insects, soil, water, humidity, farm practice, and so on? It has been upon these angles of the situation than our supplementary attacks have been directed, with promising effect.

As a means of clarifying our objectives, all cooperating units united last winter in making a joint report of progress in which the outstanding aspects of the situation were defined and all pertinent facts analyzed. This report is not for publication, it is a kind of trial balance -- a checking up -- before the next attack.

But how, you may ask, have the settlers benefited in the meantime? Briefly, they have been kept advised of progress by personal contacts and public meetings. The county agricultural agent has been in touch with developments, and the Station staff workers have cooperated with the Extension Service specialists in disseminating information available for release.

I have cited this cooperative study not by way of setting it up as ideal, but merely as illustrative of what we regard as effective cooperation in research and the relationship of economics to other fields of research.

Whether such cooperation would be practicable in other studies, I do not know. Obviously it is not needed in some project work. But it is serving as a pattern, at least, and we are applying it as we go along whenever circumstances seem to warrant.

THE GREATEST OBSTACLE TO COOPERATIVE RESEARCH

The greatest obstacle in the way of effecting satisfactory cooperative projects in which the economist plays a part is fear or misgiving among the older departments. This has been encountered by economists in the formulation of their own projects, especially with respect to commodity studies. I believe it is less of an obstacle now than it was five years ago. I believe it will disappear ultimately, as it should. But one of the surest ways to put it definitely out of the way is to make plain to all concerned the purpose and probably benefits of such a study. This calls for concessions on the part of the economist as well as on the part of other researchers. The economist in undertaking a commodity study, for example, makes a mistake if he assumes the role of a specialist with respect to that commodity, whether it be wheat, apples, poultry, prunes, or potatoes. He should, instead, make it perfectly plain to all concerned that he proposes merely to measure the status of that commodity by an economic measuring stick, as a means of showing it to growers, dealers, consumers, and the research department primarily concerned with the difficulties of the commodity under observation. By this study the economist may find that the more important aspects of a commodity situation are essentially production in character, to which the department most immediately concerned could devote its efforts with renewed interest. Or, difficulties of distribution may be emphasized and further efforts could best be made jointly by the two departments. Again, the situation might be strictly economic; or, of a mixed character demanding attention from various other angles. In any event the production department could well afford to welcome the economist as he and his department stand to benefit by whatever the economist finds to be true with respect to the commodity studied.

OVERCOMING DISTRUST

A primary cause of fear or misgiving on the part of the production department approached by the economist is lack of confidence in the economist's knowledge of the commodity he proposes to study or, what amounts to the same thing, doubt as to the value of the results to be recorded by the economist. As a rule the older departments are headed by men who for years have held full sway in all matters pertaining to the commodity they claim as falling wholly within their province. Hence, they are disposed reluctantly to share any responsibility with the newcomer. What, they ask, does the economist know about squash, for example? What right, they demand, has he to meddle in this field? All he can learn about the squash industry they think, will be of little value to the growers, anyway; and besides, if there is more to be learned about squash than this department already knows, the acquisition of further knowledge in thie field is claimed exclusively as the responsibility of this department. Let the economist stick to his last, they proclaim, as there are enough problems for the economist without his delving into the affairs of every other department on the campus!

Such an attitude, while natural enough, is one that is soon destroyed by effective work on the part of the economist. Granting the production department's greater knowledge of the industry as at present understood, the economist, if he is wise, will stick to his last -- he will utilize all available information in order the more intelligently to apply his economic measuring stick. He will, moreover, keep his economic glasses on while assembling,

analyzing, and interpreting his data. He will proceed, in other words, with a belief in his ability to be of service to producers of the commodity under study, realizing the while that his is but another approach to the ills besetting that commodity.

It is apparent, of course, that there is reason for each of the older departments sticking to their respective lasts, also. For it is as much to be expected that the economist knows his squash as that the squash department knows its economics. The important thing to keep in mind always is that there is room for all parties to work, if a coordinated program is set up.

ECONOMICS A PROVEN FIELD

By stressing in this paper the need of common viewpoints, mutual understanding, and effective interdepartmental cooperation, I may have given the impression that, as economics takes its rightful place in organized agricultural research, it will become more and more a service department; that it will be primarily concerned with the task of showing other departments the economic ills of different commodities and of indicating how these ills may be cured. If I have left such an impression it has been unintentional. I am not presuming to say what should be or will be the ultimate place of economics in agricultural research. But even if the department of agricultural economics should find itself in the role of a service department, it would need to have no fear as to its usefulness. It has already proved that it has a function, that it can help to clarify the great farm problem and contribute substantially toward a solution of it.

SUMMARY

So, in conclusion, I should say that the relation of economic research to other research in the state is exactly the same relation as that of any other science. It is an accepted part of the organized forces that have been marshaled for the benefit of agriculture. From these forces agriculture expects results. The economist, working in close harmony with all other researchers in the common cause, can help to get results that agriculture can use with profit and satisfaction.