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Planning agricultural extension work in Wisconsin : a series of discussions on extension projects and their significance to the improvement of county agricultural programs of work. 1938

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Planning
Agricultural Extension
Work in Wisconsin



A series of discussions on
Extension projects and their
significance to the improve-
ment of county agricultural
programs of work



County Agent
Specialist
Supervisor

Alone we can do little.
Together we can do much
for Wisconsin Agriculture

C O N T E N T S

1. "Around the Conference Table" --- a foreword

2. Departmental Reports.

Agricultural Economics

Agricultural Journalism

Agronomy

Boys and Girls, 4-H Club Work

Dairy Husbandry

Dairy Industry

Home Economics

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Horticulture

Plant Pathology

Poultry

Rural Sociology

Soils

Soil Erosion Control

3. "Relationships" --- a summary.

AROUND THE CONFERENCE TABLE

A start has been made, but,
--there's much yet to be done.

Realizing the importance of technical agricultural service to the farmers of Wisconsin, extension specialists of the College of Agriculture have made and completed a review of all existing extension projects as the first step in a reappraisal of agricultural service to farmers.

Back of this special series of discussions was the conviction on the part of many extension people that:

1. There is a new and pressing need to coordinate the work of the specialist, the County Agent and the Supervisor in the development of county agricultural programs.
2. The specialist must drop the role of being solely an expert adviser to individual farmers on subject matter and take his rightful place in the larger field of educator and planner. This new role is particularly needed now with the many agencies operating in the field.
3. Specialists should be, now more than ever before interested in coordinating their services with that of other specialists and newer public agencies for the welfare of rural people.
4. Specialists are willing to take advantage of the experience and knowledge of other specialists about the limitation and advantage of the regions in which they work -- why and how some farmers succeed or fail, and why some communities prosper and others do not.
5. Extension specialists should have a broad social philosophy of the service they can render as they work with rural people.

Coordination has begun

Some real progress has already been made in coordination in both the Research and Extension fields which may serve as a pattern for the future. Seldom does a department have a research project that is begun and carried to completion within that department alone. The Soils, Agronomy, Animal Husbandry, Dairy and Agricultural Economics staffs are jointly involved in their research work. In Agricultural Extension, if we follow the problem approach, we will do

- more -

likewise. In southwestern Wisconsin, for example, where soil erosion problems are the most acute, soils, forestry, engineering, agronomy and farm management specialists work together in determining and developing procedures for soil erosion control practices on Wisconsin farms in cooperation with farmers and farm leaders. Here each area presents somewhat different problems requiring the combined judgment and experience of specialists in several fields.

Constructive Suggestions Were Made

Out of this special series of informal discussions, many constructive suggestions for improving extension work were made. For purpose of brevity eight of these suggestions are here given:

1. That the specialists be informed of the administrative, financial and budgetary relationships existing between the Federal Department of Agriculture and the State Extension Service; that they be informed of some at least of the most important financial difficulties with which the administration of the State Extension Service and College is confronted.
2. That in view of the immediate necessity for curtailment of expenditures because of limited state appropriations that an opportunity be provided for a clear and unbiased discussion of the advantages and disadvantages of a central state booking agent.
3. That a closer relationship be established between the staff of the Experiment Station and the Extension Service in order that the extension specialists might be better informed on Research work completed and in progress in subject matter fields other than their own.
4. That a County Agricultural Agent, a Club Agent, and a Home Demonstration Agent be given the opportunity to discuss with the specialist group how in their judgment the specialist can be of greater assistance to County Extension Agents (i.e.) in preparing more bulletins, special articles, more publicity, more help at meetings, demonstrations, fairs, tours, at planning conferences or in personal visits to county agents in arranging work.

5. That the Presidents or Secretaries of the General Farm Organizations be given an opportunity to explain their programs and to suggest how, in their judgment, the Extension Staff might, in an educational way, be of greater assistance to them in advancing the cause of organized agriculture.
6. That because of the many new federal agencies operating in Wisconsin such as the F.S.A., S.C.S. and Agricultural Conservation, all with a large staff of field personnel, the subject matter specialists might arrange, in many cases, to advance their work much more rapidly by conducting more "training schools" for the personnel of these agencies.
7. That because the demands on the various Branch Experiment Stations Field Days have already grown beyond the possibility of the Research director to carry out with his limited staff, a special committee of Extension specialists be appointed to plan and assist the resident director in making the most of his Farmer Field days.
8. That the new administrative project, County Land Use Planning, be fully presented to the specialist group and their counsel and assistance be secured in the development of this project.

Much Remains to be Done

It will take much time and effort to put into effect only a few of the suggestions already made at these discussion conferences. Above all else two points stand out clear. First, before any large-scale, long-time plans for the farm and the farm home can be put into effect, it is vitally important that certain basic facts -- out of which the elements of the plan are composed -- be obtained. Second, if a satisfactory, profitable and dignified agriculture is to be made, real and lasting in this America of ours, there be a clear and common understanding of the objectives ahead. This is the fundamental reason why the series of discussions was begun in Wisconsin.

Extension Committee for 1938-39
W. A. Rowlands, Chairman
Marie Kellogg
R. H. Rasmussen

REPORT OF EXTENSION ACTIVITIES
for the
DEPARTMENT OF AGRICULTURAL ECONOMICS
I. F. HALL
NOVEMBER 1938

Economic information is vital, and gathering, interpreting and disseminating such information has become one of the primary functions of Extension Workers in Agricultural Economics. The economic phase of extension work here in Wisconsin has received much emphasis during the recent years. We now have nearly the full time of one man on land zoning and land use. The full time of one man and one-half time of another on outlook interpreting and disseminating economic information especially in regard to the AAA action programs. The extension work in marketing requires the full time of one man and one-half time of two others. The farm record and farm management phase requires the full time of 2 men and three-fourths time of another. Besides these, there are several occasions where other members of the department are speaking at meetings which if an extension man took the assignment, it would be called extension.

The objective of economic extension work is to bring before farmers either in groups or individually a solution to their problems. The farm management phase is to help the farmer make a higher labor income. It proposes to help the individual farmer to apply the business principles in farming to his own farm. It aids the farmer in the organization and management of the farm enterprise for the purpose of securing the greatest continuous profit. Extension work in farm management deals with the farm as a unit and considers the welfare of the operator of this unit the important part. Successful farming demands an understanding of business organization and management for the efficient use of capital, labor, livestock and equipment.

Long ages of experience and a generation of scientific research have resulted in a fund of popular knowledge on how to raise crops and care for livestock. But there is less background of tradition concerning business methods on the farm. The success of the individual farmer is as much dependent on the application of business principles as it is on crop yields and production of animals.

The surest way to find out what methods of farm organization and management pay best is to study the methods now used, showing profits secured on large numbers of farms and determine how the more successful ones differ from the others. The charts shown brought out these differences in labor income.

The economic extension specialist and the work he does are generally regarded as being attached to some section of the agricultural department such as marketing, land economics and farm management. The subject matter used by the Extension Specialist usually originated in the respective departments. However, there is a great deal of extension work done which does not readily attach itself to any particular section, such as outlook, rural discussion work, credit, taxes, etc.

The present policy of the College is for the extension work within a county to be carried on with the cooperation of and through the County Agent. This is the most desirable way to administer the various extension projects in order to correlate the extension activities of a county. During the past few years, action programs of the A.A.A. have demanded large proportions of the County Agents with the result that some of the extension projects of the department have not been too active.

It now looks as though these action programs will result in new emphasis on more thorough planning. This will require more coordination of the various agricultural activities of the county and all different available agricultural extension activities which contribute to the solution of the county agricultural problems.

The results and effectiveness of some of the recognized extension activities in the Agricultural Economics Department cannot be measured by any of the usual standards. Some phases of marketing extension work consists of service to cooperatives. A careful study of the problems and the situation is required before a picture of the problem can be presented to the local committee but action taken by this committee may affect the financial status of several hundred farmers. Yet the report shows only one factory visited. Much work in outlook and interpretation and dissemination of economic information is difficult to show in a satisfactory way.

EXTENSION WORK NOW BEING CARRIED ON BY THE DEPARTMENT

I. FARM MANAGEMENT

The farm management work, which centers around farm incomes, has been carried on not only in connection with County Agent activities, but also with vocational agriculture pupils, 4-H Club members, youth vocation guidance groups, and with agencies loaning money to farmers.

The types of work done in this field may be classed as follows:

1. Farm business record keeping. A simplified farm record book is used by farmer cooperators in keeping a record of the farm transactions and facts which directly affect their business. These records are sent to the College where they are summarized and analyzed, after which a summary containing helpful suggestions is returned to the cooperating farmer. The summaries form a basis for general meetings throughout the areas from which they were obtained.
2. Farm management surveys. Surveys are useful in those areas where there are not enough farm record books to justify summarizing separately. The Extension Specialist can well use 100 to 150 farm business records yearly from each of the more distinctive farming type areas of the state. These records are put to the same use as those taken from the farm record books.
3. Outlook information. Outlook information has been published in the "Economic Information to Farmers" and in the "Dairy Herd Improvement News Letter". In the past, outlook meetings have been held with farmer groups, and the economic situation has been presented over the radio. This information is useful to farmers in planning their operations.
4. Farm Program Building for counties. Several counties have asked for help in planning the farm programs for their counties, and some work along this line is now being done in these counties.
5. Credit needs of farmers. Work in cooperation with such agencies as the Farm Credit Administration has attempted to show the need for credit among farmers and the conditions under which farmers might well use additional credit.

The personnel is, I.F. Hall, full time; A.O. Follett, full time; and P. E. McNell, three-fourths time.

II. MARKETING

The demand for extension work in marketing has been along many lines, most of which can be classed under the following activities:

1. Operating problems of cooperatives or other marketing groups.
2. Consolidation of cooperatives and integration of marketing functions.
3. Organization of new cooperatives and of other marketing ventures.
4. General extension in marketing and in cooperation, with special emphasis on marketing problems.
5. Miscellaneous activities, such as talks over the radio and before meetings and rural discussion groups, together with correspondence and conferences; dealing with phases of marketing or cooperation.

The division of work among members of the staff is largely, though not wholly, upon a commodity basis, such as 1, dairying, 2, livestock and 3, cash crops. Purchasing associations form a notable exception.

Personnel: P.K. Froker, half time; H.H. Erdman, full time; H.H. Bakken, half time.

III. LAND ECONOMICS

The development of a satisfactory land use program is the goal of this work. The contribution of the extension specialist toward this goal has been in working with local committees of the county board which have before them the practical problem of administering county lands as well as the regulation and control of development on private lands. Such committees consist of county zoning committees, county forestry committees, county land committees, county agricultural committees, county planning committees, county tax delinquency committees, and planning boards and county park commissions.

Before any program can be worked out with a county board, special studies and surveys are made of the potential and developed resources of the county. These studies and surveys involve the participation by many departments of the state and are based upon what previous research has shown to be the necessary criteria in developing land programs.

More than five million acres have been closed to agricultural development and legal settlement under the county zoning ordinances now in existence. Most of the land now closed to agricultural development is already inside the boundary of a federal, state, county, or private forest, Indian Reservation, game area or recreation district.

Much of the time of the extension specialist has been given to committees in developing policies for local administration of zoning ordinances and management of forest lands.

Personnel: W.A. Rowlands, nearly full time.

IV. OUTLOOK AND ECONOMIC INFORMATION.

The purpose of the Outlook and Economic information work may be outlined as follows:

1. To supply information for farmers which will be of assistance in planning their farm organization (See Farm Management Section)

2. To supply necessary information and analysis for farmers and other people of the state to determine the merits of proposals affecting public policy.

3. To supply practical information necessary for an intelligent discussion of topics of an economic nature. This leads ultimately to the exercise of better judgment in matters of a public, cooperative, or individual nature.

4. To meet current demands of organized groups for material to be used as a basis for discussing various economic subjects affecting agriculture.

The methods used in disseminating this type of information are printed circulars ("Economic Information" and "Dairy Herd Improvement News Letter", radio talks and meetings.)

Personnel: Don S. Anderson, half time; I.R. Hedges, full time

RECOMMENDATIONS WITH REFERENCE TO FUTURE WORK AND PERSONNEL

I. FARM MANAGEMENT:

1. Farm Program Building within the county. More time be given to supply information to the county agricultural committees and other county groups which have responsibilities with reference to the agricultural planning of the county of their agricultural position, trends, and problems. This work, if done effectively, will reach more farmers and will be more useful to them through their organized projects than an equal amount of effort expended in general extension activities. No additional personnel requested.

2. Farm management surveys. Farm management surveys to be made in those areas where farm management extension work is requested and where there are not enough farm record books being kept in cooperation with the College to show the relationship of the more important factors contributing to net income. Separate funds and personnel will be required for this work.

3. Farm credit. Credit requirements and needs of farmers cannot be discussed satisfactorily in general farm management meetings. The conditions under which farmers can use credit effectively, and the amount as well as the type of credit they can be expected to use satisfactorily, should be presented to farmers of the state by special meetings for this purpose. Half time of one man can be used upon this work at the present time.

4. Outlook Information. The work in farm management requires not only the preparation and publication of timely outlook data, but it also requires a series of meetings each winter at which outlook data in its relation to the organization of the farm will be discussed.

II. MARKETING

a. That the extension work insofar as reasonably possible be conducted on a problem-solving basis including the "trouble-shooting" type of extension.

b. That the problems directed to the extension specialists of the College are becoming increasingly more technical and will often demand special analysis.

c. That the extension specialists in marketing need to have their work rooted deeply in research if they are to meet present day demands.

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d. That the extension specialists in marketing feel that there has not been full understanding and recognition of the problems peculiar to this type of extension work.

e. That the yardsticks for measuring results now used often fit poorly the work of marketing extension specialists and frequently leads to false impressions.

f. That there are several fields of work in marketing that are not now being serviced as fully as the opportunity and the conditions seem to warrant,--such as consolidations that should take place among the dairy plants in the state, to purchasing and service associations, and to a general improvement in business operations of cooperatives.

III. LAND ECONOMICS.

Many changes in local government, in consolidation of schools and of school districts, and adjustments in taxes on land in the restricted forestry districts are logical and must inevitably follow the enactment of rural zoning ordinances. In order, therefore, that the full benefits of land utilization plans and rural zoning ordinances be achieved, it is important that the extension specialist in land economics continue to devote a considerable amount of his time working with county boards, county committees, and state departments in order that these worthwhile adjustments be made. Since changes in the land pattern and in local government organization can only be brought about gradually and as a result of adequate public discussion, it will take a major part of the time of the specialist in land economics for the next decade to bring about these desirable and necessary adjustments.

IV. OUTLOOK AND ECONOMIC INFORMATION

The publication of economic information of pertinent interest to Wisconsin farmers should be continued, and arrangements should be made for the presentation of this information at meetings held throughout the state. This work should form a part of the farm program building work for the respective counties.

V. DISCUSSION GROUPS OF YOUNG MEN.

These discussion groups apparently constitute a part of the larger field of vocational guidance. If there is a project on vocation guidance, administrative procedure would suggest a rather close association of this work with that project.

At the present time most of the subject matter which serves as a basis for this series of discussions is derived from the field of agricultural economics, although in the present development of the work it is not limited to subjects within the department. During the past few months, requests have been made by individuals within the various groups for discussions of topics involving the natural sciences. The specific subjects for which information is desired include the feeding and management of livestock, types of crops to produce and best methods of production, soil testing, fertilization and management and measures for disease control in plants and animals.

The work has reached a state where it can be carried on to best advantage only with the full time of a specialist. The committee recommends that the organization and administration of this work be placed in the hands of someone so situated as to handle the enlarged project.

Communication
in
Extension Work
The printed page - The spoken work
by
The Extension Editor and Staff

Editorial Service

A. Press Section

Objectives: The extension press service strives to service impartially and effectively the press of Wisconsin with news and timely information regarding the activities of the extension service in agriculture and home economics. The press which are important cooperators in the extension service includes 320 weekly newspapers, 39 Wisconsin dailies, several farm journals and magazines, and wire news services.

How the Service Operates: News releases and informative material are supplied by the extension editors to the groups as listed below. These services are open and available to the workers of the Wisconsin extension staff.

Weekly Press: News releases are mailed every Thursday to 320 weekly papers.

Dailies: News releases are mailed to 39 Wisconsin dailies.

Wire Services: Spot news is supplied as the occasion demands to wire services which in turn service Wisconsin dailies.

Farm Journals and Magazines: News releases especially adapted to farm journal treatment are supplied as occasion demands to members of this group.

County Extension Agents: News releases and timely informative materials are prepared in release form for the exclusive use of county agents and mailed to them regularly every Wednesday.

University Press Bulletin: News of campus activities, extension personnel, and extension activities at Madison are supplied regularly to this bulletin which is published every other week.

How the Extension Personnel Can Cooperate: Important extension news oftentimes goes unreported for the simple reason that it has never been called to the attention of the extension editor. It is impossible for the extension editors to ferret out all the news without the help and cooperation of the entire extension personnel. Knowing of important coming events or something important which has just occurred extension workers will do much toward extending the effectiveness of the entire extension program if they will call it to the attention of the extension editors. This is what extension workers can and should do:

1. Report coming events--Include meetings on the campus as well as those off the campus which staff members will attend or at which they will speak.
2. Report upon significant results of important meetings.
3. Report upon situations that develop and are to be met, such as, crop conditions, outbreaks of animal diseases, insect trouble, etc.
4. Where important talks are to be given before county, district, or state meetings, copies should be supplied to the extension editor in advance of the time given.
5. In general, report what is new when it is new.

Occasionally extension workers receive calls direct from the press for information about their activities. Extension workers can widen the effectiveness of their efforts if, instead of reporting direct to a single paper, they will give the information to the extension editors who in turn can serve the entire press impartially. This procedure not only saves the extension worker's time but will avoid unnecessary duplication in reporting and will avoid offending other editors who might not have received the information. Should any extension workers have a special problem in regard to the treatment of news, he should feel free to call upon the extension editor.

B. Circulars

The Situation: Printed material, in the form of circulars and bulletins, has been found to be an important aid in extension work. These publications may be used as supplements to talks given by specialists or to furnish information to farmers and homemakers in connection with extension projects. They provide an inexpensive way of reaching thousands of persons with timely information in case of emergencies, such as drouth. Printed publications serve to relieve county agents and extension workers from much correspondence. In other words, publications are amplifiers of extension teaching.

At present (May 1939) there are available to those who request them about 285 printed and stenciled circulars on many different subjects. These include (1) dairy manufacturing, (2) farm management, cooperation and markets, (3) field crops, (4) forestry and land utilization, (5) fruits and vegetables, (6) livestock, (7) poultry, (8) soils and fertilizers, (9) tobacco, (10) home grounds and landscaping, (11) rural life, (12) home subjects.

Much of this material was prepared and issued to meet the needs of farmers and homemakers as indicated by their requests made directly to the College of Agriculture or based on the suggestions of county extension agents, specialists and field workers. In addition to the demand for the new circulars prepared and issued each year, there is a steady request for information on many other subjects of general and special interest, as Wisconsin residents are constantly writing for available publications on every possible subject.

Distribution: To distribute the available publications effectively a mailing list is maintained. Each resident of Wisconsin whose name is on the list has definitely requested that it be placed there and has indicated the subjects. This list consists of one large farm group and 50 smaller lists. Any resident of Wisconsin interested in these subjects may have his or her name added to the list. Rather heavy demands are also made by rural,

state graded, and high schools. Other special groups requesting circulars and bulletins include legislators, libraries, faculty members, 4-H clubs, homemakers groups, and farmer groups.

The total number of Wisconsin publications sent out the past year is 861,000 copies. Last year 652,000 copies were sent out, representing an increase of 209,000 copies.

There is the definite policy in the College of Agriculture that extension publications be distributed on a basis of request. Indiscriminate handing out of printed material at meetings has been found to be both wasteful and inefficient and for that reason is definitely discouraged. It is urged that provision be made where circulars and bulletins are displayed at public gatherings to furnish cards or slips upon which interested persons may check publications desired which will be mailed to them. For example, special exhibits of popular publications have been sent to the Wisconsin State Fair and other large gatherings such as Farm and Home Week and farmers field days, but mailed out later only to those who sign for them.

Looking to the Future: A continued effort is being made to correlate publications with extension teaching in considering material to be printed. A definite check is made with the director of extension to see which projects will be given emphasis in the course of a year. New circulars are planned as much as possible to fit into special information campaigns.

The need for the future publications is for more readable material. Effective action pictures, clear and simple wording and timely information will all contribute to the effectiveness of our circulars. Improvements in publications can be brought about with the aid of the members of the extension service.

How Extension Workers Can Help:

- Suggest subjects for circulars based on their observations in the field.
- Take pictures of unusual interest or instructive value.
- Write in the same direct understandable language that they use in their talks and demonstrations.
- Keep their farm and home readers in mind while writing circulars.
- Use printed material effectively, that is, distribute on the basis of actual requests rather than indiscriminate handing out.
- Use publications to save correspondence and to follow-up meetings and demonstrations.

C. Exhibits

The Situation: One of the media employed by extension workers for reaching the public at gatherings is the exhibit. Unfortunately, however, the extension worker finds few sources to which he may turn for information regarding exhibit technique. The Office of Extension Editor is striving to keep informed upon the latest methods used with the hope of giving helpful suggestions to extension workers on their exhibiting problems.

Principles Involved: Exhibits, to be effective, must take into account and employ basic principles involved. In general, it has been found that visitors will stop at an exhibit but a very short time. This means that if an exhibit is to meet its objective, it must tell its story quickly and in an impressive way. Things which the exhibitor should consider when planning an exhibit include: a center of interest; a central theme quickly told; readability of lettering, pictures, or other material used; proper size and style of lettering; proper use of color; and arrangement to direct eye to center of interest.

Many of these same principles apply to the making of charts for meetings.

Service Available: While the facilities of the Office of Extension Editor are limited regarding the preparation of exhibits, every assistance possible will be given to specialists and extension workers in planning exhibits for the various extension events.

D. Radio Section

Objective: To enable the extension workers to widen their contacts and to supply information direct to listeners throughout the state; to improve farming by supplying up-to-date information on production, marketing, and allied activities.

The Program: The plan of service given by the state radio stations includes service to the extension workers which will enable them to carry to listeners information regarding projects now under way. There is also provided service to such governmental agencies as the Soil Conservation Service, the Farm Security Administration, the Agricultural Adjustment Administration, and similar groups, service to adult farmers on production and marketing of crops, livestock, livestock products, and upon rural life; service to Wisconsin homemakers on problems of health, food, clothing, home management, etc.; service to junior farm groups including members of 4-H clubs, Future Farmers of America, and the large group of unorganized and out-of-school population; service to organized and out-of-school population; service to organized farm groups, such as the Wisconsin Council of Agriculture, the Farmers' Union, the Farm Bureau, the State Grange, and similar groups.

Opportunities and Responsibilities of Extension Workers: While radio may be used to supplement other extension methods, it has already demonstrated its effectiveness in extension work. In the future it will be still more desirable for extension workers to canvass the possibilities of reaching larger numbers through the effective use of this medium of communication.

What of the Future? Radio gives promise of being too valuable an educational aid to be allowed to develop without careful study and planning. Educational radio needs funds and trained personnel to enable it to plan and present programs that will compel attention by reason of their interest, to check on reception of programs, to learn consumer preference for programs, and to make radio a still more effective means of aiding farm folks in improving farming, developing farm life, and increasing farm income.

The problem and job of the Agency Department is undertaken to meet the needs of the state in the following way:

REPORT OF EXTENSION ACTIVITIES OF THE AGRONOMY DEPARTMENT.

George H. Briggs
December, 1938

I presume a preface of what is our aim in extension should be included in the opening paragraph but in that we are one of the many departments of a great institution that has a common aim toward betterment in rural Wisconsin living, it would be useless to elaborate excepting on the crop extension program.

I presume our aim could consist of spreading the gospel of crop management so that the following situation would be realized:

1. That there is a common knowledge of the varieties of grains, corn, forage and pastures, and special crops, so that non-adaptable ones would not be used, and money would not be wasted on seed of same.
2. That different ways of utilizing crops as pasture, forage, silage should be well known.
3. That crop sequences and crop management should be well enough known so as to make for maximum production with the least detriment to soils and greatest value to livestock production.
4. That seed production be promoted, so as to afford a source of dependable seed, and to make for increased income.
5. That there is a common understanding by Wisconsin farmers of the part that good crop management takes in making for success, in that good soil, disease prevention methods, good seed, and proper machinery all are factors, the one equally dependent upon the other.

With these aims in mind, the Agronomy Department through its extension force, who are nearly all part time on research and teaching staff, so arrange their extension program as to bring about the above aims through resident students as well as the usual direct contact with the farming public.

To cover our topic in fairness to all, in the allotted time, I am following the suggested outline of the program committee.

1. The situation that prompts the specialists or department programs.

Problems in crop production are numerous and varied, when one considers that field crops include root crops, pastures, forages, grains, corn, special crops, preservation of crops and incidental seed crops. The specific problems concerned with all of these sub-divisions are variety behavior and adaptations to soils and climate, together with the feeding and keeping quality of all crops. As the extension worker is constantly confronted with the problem of new crops or new ways of handling crops, so a part of the problem consists in anticipating the unknown and when the facts are not known, to arrange with the research staff, and other interested agencies to have demonstrations so as to determine the value of such new crops and new methods of handling the same.

The problem and job of the Agronomy Department is undertaken to meet the needs of the state in the following way:

(1) Crop adaptation. Two to two and a half million acres of low land, large areas of light soil, considerable hard pan areas and some prairie soils. On the low areas, crops adapted to the higher soils were not suitable and did not thrive and so the place that reed canary grass came in its own. On the lighter soils alfalfa with its deep root system and the rye crop to prevent late fall and early spring soil erosion. The area known as the Colby silt loam extending into Marshfield and other parts of Clark and Marathon Counties, where the water level was close to the surface and preventing ease in establishing deep rooted legumes.

(2) On non-erodable soils little attention is paid to the types of rotations or kind of crop seeded but on real rough areas deep rooted crops and hardy grass plants that make thick turfs are very essential to keep the soil from washing. Where changes in cropping systems are advisable it often requires more pasture and forage crops, and unusual material, tact and persuasion ability to meet these changes.

(3) Another factor which helps determine the type of project is the needs of the livestock kept on farms. This subject is closely allied to the farm management problem and one can not speak of crop management without involving the farm management phase. In analyzing the needs of the livestock unit there is a certain amount of roughage in the form of hay, pasture, and silage that must be arranged for. While goals for states and counties may be a great value, a more impressive procedure is to set goals for individual farms based on the number of animal units that the farm is equipped to handle.

(4) The needs for farm seed production is one of the problems of the state because knowing that seed adapted to the state is of greater value in making for more positive crop production and less weed seeds than imported seeds. With two and a half million acres of corn raised in the state, about two and three-quarter million acres of oats and nearly a million acres of barley, this problem of seed demands is a very important one. The small seeds needed for maintaining alfalfa, sweet clover, timothy, red clover alone or in combinations, are all of concern to people within the state so as to bring about a more dependable source of seed.

(5) Wisconsin cash crops such as peas, flax, sugar beets, canary grass seed, legume seeds, pure bred grains, seed corn, soybeans, hemp, and other minor crops, demand the consideration of this department. Many of these crops are concerned with certain communities where disposition through factories and processing plants is made possible.

(6) Along with the crop production problems comes the weed problem, not only from the standpoint of weed preventative measures but weed control measures. This involves a relationship between people in the community much more than other topics in field crops are concerned, but is involved in many ways in crop production problems.

THE CROP PROBLEMS ARE STATE WIDE for the most part with the exception of a few of the special cash crops which are concerned with those communities where the processing plants are located, such as canning peas, sugar beets and hemp. There might be a local slant for the pasture renovation work, and certain weeds that demand consideration in certain sections of the state, otherwise all the problems in the field crops department are of state wide importance.

Certain phases of the agronomy work are concerned with manufacturing of the finished products, otherwise much of the work in our department is concerned with individuals. To cite some of the groups that do have definite interest. I might state the canners who are interested in the canning pea industry and edible soybean industry; the sugar beet factories interested in this crop; Experiment Association members interested in the pure bred seed grain; hybrid corn organization interested in hybrid corn seed production; elevator men and shippers interested in the malt barley business; retail and wholesale seed distributors interested in the seed and weed control work.

Agronomy extension work lends itself to demonstration work throughout the growing season and for meetings during what are considered the winter months. Due to the fact that there are so many activities carried on during the summer months, the winter months are the time of year when most plans are made and the details of various crop programs are outlined and procedures determined.

2. What the specialist and department is doing to meet the situation.

The Agronomy Department is actively carrying on work at the present time in the following projects:

Hybrid Seed Corn Production which is being conducted in cooperation with the hybrid corn committee and the Agricultural Experiment Association. This work consists in carrying on demonstrations showing the performance of different hybrids in many areas of the state and in training producers, there being 250 of the commercial producers and 50 home producers throughout the state this year. Concerned with this is the development and execution of a certification service specifically applicable to hybrid seed corn. This year approximately 175,000 bushels of hybrid seed corn will be certified.

Crop Adaptation Work which consists in establishing demonstration plots in various places of the state to determine local adaptation and behavior. Inasmuch as we are surrounded by states with aggressive crop programs, all who have improved varieties of grains, corn, forage and pasture crops, it seems very necessary to follow through with this kind of a program. Even though the branch experiment stations all carry on adaptation work, the varied condition of soils and climate warrant these adaptation trials in addition to the experiment stations. Among the crops that are being demonstrated are the following: lespedeza, Jerusalem artichoke, spring rye, speltz, small grain varieties from experiment farms and adjoining states, soybeans and combinations, millets, peas and combinations.

Forage Crop Problems. Forage crop work as carried on shows the most ideal arrangement for carrying out findings from the investigational field to the practical application. By a part time arrangement with the investigational staff, varieties of alfalfa and other pasture crops, as well as other legumes and grasses for hay and seed are demonstrated in many areas of the state. This phase of extension consists in working with cooperators in establishing such new practices, then extending the value of such practices by various extension methods of field tours, pictures, articles, etc.

The Pasture Improvement Program consists in demonstrating the following crops and practices. Annual crops for pasture as sudan grass, rye and nurse crops. Renovation practices like incorporating legumes and grasses in old bluegrass meadows, and other rougher areas where plowing up the surface would cause the loss of soil. The conversion of rough crop land to pasture. Pasture schedules showing how perennial legumes and grasses and annual crop sequences may be arranged so as to have full growing season pastures. In cooperation

with the Entomology Department and the Soils Department, the advantages of pasture renovation practices are demonstrated in reduced grub injury, and increased values where proper fertilization is made.

Agricultural Conservation Program. In connection with the Agricultural Conservation Program one of the members of the Agronomy Department, Mr. Turner is working with the state committee to help interpret and present to county committees the agronomic phases of the program. This includes (1) Assistance given in the training of committeemen working under the Agricultural Conservation Program; (2) Speaking at meetings of farmers on Agricultural Conservation; (3) Preparation of material for use by Agricultural Conservation Committeemen; (4) Work with Smith-Hughes teachers and Future Farmers in analyzing the aims and methods of the 1938 Agricultural Conservation Act, and its application to the Wisconsin farmer; (5) Explore the possibilities of acquainting upper grades in country schools with farm programs; (6) Assisting state AAA educational committee in preparation of materials; (7) Assistance given to County AAA educational committees in working out educational programs.

Clean Seed and Weed Control which is being promoted through county boards and county agents. This phase of agronomy is being promoted mostly through county agents, who in turn seek support from their county agricultural committees. At the present time every one is in one accord that a weed survey is of greatest concern so as to more easily enthuse people as to what the situation is and bring about effective action. Two counties are now completely organized on the so-called Minnesota section control plan, five more have partially organized on this same system. Two counties used the soil A.A.A. reporters in the organization of preliminary surveys. Two others used short course alumni, and one used the rural schools.

By the surveys we have had made up to the present time, it appears that there is much more field bindweed in the state than anyone even imagined, at the time the survey was made.

Another very favorable reaction that is developing is the appointment of weed committees by county board, whereby this committee outlines practical weed control program for the county and reports back to the county board for action.

Rock County has been one of the leading counties in the United States to authorize the highway department at county expense to apply chemical to noxious weeds, and to encourage townships to supply chemicals to individuals at half cost. Raymond Township, Racine County, provided the help and machines for applying chemical while the farmer furnished the material. In one township in Kenosha County two thistle headers are in use, owned by the town, for anyone's use within the town.

SPECIAL CROPS. (Canning peas). The improved varieties of canning peas for quality and disease resistance are developed at the experiment stations and these are followed through with canners in commercial production and in the increase for seed production. Often seed increases are made at points outside the state and then brought back for adaptation tests in cooperation with canners in various parts of the state.

Reed Canary Grass. This crop is now being produced in most of the low soil areas of the state. Up to the canary grass period, except for an occasional wild hay crop growing on it, this soil was left for weeds and was unproductive and non-profitable. Early in the promotion program it was apparent that some way of reducing seed costs would be the most effective way of increasing the acreage. In cooperation with the agricultural engineering department, a seed harvester was produced. These machines as well as combines are now being used extensively in the canary grass areas whereby canary grass seed is available at one-third to one-half the old price and the acreage of this crop has expanded beyond all expectations. The use of canary grass as pasture has long been demonstrated and we are now entering upon a period where its use for silage is being practiced, and there may be a further use in with the first crop of alfalfa that is to be used as silage, to help reduce the amount of molasses required.

Soybean Seed Production. Soybean seed production has been hastened by three factors: first, the combine; second, the introduction of an improved variety of soybeans that can be depended upon to mature under creditable farming practices; and third, by the Archer-Daniels Soybean Company of Milwaukee, through their field man, encouraging exchange of soybeans for soybean meal, and for a cash market at home. This is the first year soybean fields are being inspected for seed purposes, and yields are being reported at from 20 to 30 bushels per acre.

Sugar Beets. The sugar beet industry is mostly centered in eastern Wisconsin. There are many problems concerning varieties and value of fertilizers that are being demonstrated on several soil types, in cooperation with the Soils Department and the various sugar beet companies.

Hemp. The hemp program consists in meeting with producers and mill operators to work out relationship as required in growing and handling the crop. A service is maintained for supplying seed sources, information on cultural and marketing problems and the past few years some consideration to wild cat promotion schemes for both hemp and flax fiber.

COOPERATORS in these various lines are situated throughout the whole state the sugar beet growers in the eastern part of the state, the soybean producers in the southern part of the state, the canary grass seed producers, while mostly in central and eastern Wisconsin, could be any place throughout the whole state; hybrid corn quite general throughout the state; alfalfa problems are state wide; while the pasture renovation work is mostly concerned with the rougher areas.

The work of the Agronomy Department is closely related with other agencies as one might expect. The plant improvement work is closely connected with the Genetics Department, with the Agricultural Engineering Department for the machinery for growing and handling the crop, with the Bacteriology Department for proper inoculation and with the Soils Department for soil testing and other problems concerning soil improvement, and the Plant Pathology Department on plant diseases, with the Entomology Department on crop insects, and with the U. S. Department on diseases and variety adaptations.

I believe we need not feel that we have been asleep at the switch, however there is a vast amount of work for the future. About the time that one feels the sufficient demonstrations and publicity has been given so that it would seem as though a majority of the people in a community should be awake to a new crop, or

a new method of handling a crop, one is often appraised of the broad gap that exists between those that are awake to the situation and those with only passive interest. And so it would be difficult to know whether we have accomplished as much as we sometimes give ourselves credit for.

As far as the department is meeting the situation, I might state that when we have a county agent organization so thoroughly covering the state as we do at the present time, it would seem as though we could contact people easily on most problems, through this means of extension. Other means of getting this work before people, are well known to all extension people. However, they consist in the regular news items, radio broadcasts, farm tours, farm demonstrations, farm meetings of many types.

3. What of the future?

Very few of us can possibly see more than a year ahead. Crop demands may change with government policies as brought forth in the soil conservation program. It is true the needs of the farmer for crops that prevent soil erosion are probably well known but with the soil consciousness that is being developed by government programs, much more emphasis and practical application must be worked out. Change in prices and labor, and with the development of new machinery farmers might be driven to shift their type of production so that expansion along other lines may be probable. This is well illustrated by the shift that is taking place at the present time which probably can be given credit to the type of new machinery that is being brought into the state and also is definitely related to labor demands, whereby five years ago I question very much whether Wisconsin farmers would have considered increasing soybean seed but at the present time the combine is being used more and more and the soybean crop is handled so economically by this machine that acreage is fast expanding. The same thing could be said of reed canary grass seed.

I believe the people of the state are becoming conscious of a serious weed menace, especially insomuch as a new weed known as field bindweed has made its appearance in the state. Therefore field crop work in the future will have more to do with pure seed and weed control and the working out of practical preventative measures and closer cooperation with Department of Agriculture, farm organizations, educational groups, implement dealers, county and town boards, seed dealers, railroads and all agencies that have anything to do with rural life and the handling of farm seeds, and feeds.

There is also a vast amount of bacterial wilt spreading through alfalfa fields of the state which will necessitate more attention to wilt resistant varieties and perhaps change crop management practices somewhat. Insomuch as better quality hay and the use of more good roughage, are being considered one of the greatest factors in economical livestock production, there is no question but what in the future this problem will be a very important one, not only as it relates to better varieties of forages, but as it relates to better curing methods. Likewise if Wisconsin dairymen are to maintain a profitable dairy business their attention must be directed toward efficiency of production through full season pasture schedules, which would include pasture renovation practices and the utilization of legume silages either alone or with other crops and molasses.

Insomuch as over a great part of our state rye as a grain crop is annually producing 10 to 40% greater yields than other grains, it would seem logical that part of our extension opportunity lies in having this crop acreage expanded and with it a better understanding of how the crop can be fed or utilized to advantage. As long as we have the north, the new beginner, the small farmer, it will always be our obligation to keep such people informed and arrange for demonstrations that will help farmers learn about their opportunities to use root crops, sunflowers for silage and to prevent unadapted varieties of grains and forages from being used.

It appears to me that in planning for the future there is a decided need of bringing every agency together in mapping out programs. No longer can we work independently. The crop extension man not only must know his crops but the soils, the diseases, and problems of handling the crop so as to make it produce the maximum feed units. The soils specialist is equally as hopeless when he talks soils in that if he doesn't know crop habits, his conclusions may be wrong, and likewise the plant disease man, the agricultural engineer, the bacteriologist, the plant physiologist, the animal husbandman all must know the characteristics of plant life. As Joseph Edwards in the September issue of Nature states, "There is an inseparableness of the main constituents - animal husbandry as feeding and management of stock, animal breeding and disease control. Gone are the days when any one of these constituents could claim to be more important than others." And so we might show how most departments have a common interest.

The extension personnel of the Agronomy Department with budgeted time for the academic year is as follows: O. S. Aamodt (15%), G. M. Briggs (80%), F. V. Burcalow (100%), E. J. Delwiche (20%), L. F. Graber (5%), Dave Holden (50%), Dale Smith ($\frac{1}{2}$ grad. asst.), F. H. Turner (100%), A. H. Wright (65%).



4-H Club Work is a phase of the Agricultural Extension program carried on through a cooperative relationship between the College of Agriculture, University of Wisconsin, and the United States Department of Agriculture. It is recognized as a part of every county extension agent program and since it deals with almost every department in the College of Agriculture it receives more or less assistance from each of these departments.

PURPOSE - an educational program to help rural boys and girls.

OBJECTIVES -

- to teach better farm and home practices
- to develop rural leadership
- to teach standards and ideals in agriculture and home economics
- to aid in the general problems of rural living
- to develop habits of health and efficiency
- to develop an appreciation for parents, friends, home, community and county
- to provide rural youth with a wholesome good time.

MOTTO - "Make the Best Better".

PLEDGE -

I pledge my HEAD to clearer thinking
my HEART to greater loyalty
my HANDS to larger service
my HEALTH to better living
For my club, my community and my country.

CREED -

I believe in 4-H Club Work for the opportunity it will give me to become a useful citizen.
I believe in the training of my HEAD for the power it will give me to think, to plan, and to reason.
I believe in the training of my HEART for the nobleness it will give me to become kind, sympathetic, and true.
I believe in the training of my HANDS for the dignity it will give me to be helpful, useful, and skillful.
I believe in the training of my HEALTH for the strength it will give me to enjoy life, to resist disease, and to work efficiently.
I believe in my country, my State, and my community, and in my responsibility for their development.
In all these things I believe, and I am willing to dedicate my efforts to their fulfillment.

HOW DEPARTMENTS ARE HELPING IN CARRYING ON THE PROGRAM -

Besides a staff of five State Club Workers (three men and two women) many departments have aided materially in the carrying out of the club program, providing lessons and personal help in the field. Specialists in the several departments have aided materially in subject matter and local leaders schools.

The Agronomy department has provided one-half the time of a specialist (E. D. Holden) to aid in carrying out crops projects.

The Poultry department provides a half time man (G. E. Annin) to aid in poultry projects.

The Dairy Industry department gives a portion of the time of Mr. E. Wallenfeldt.

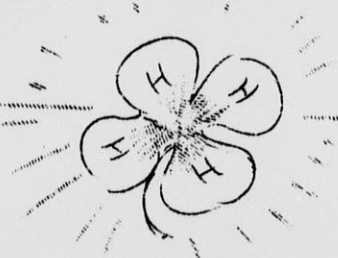
The Livestock department provides several specialists who have been of considerable aid.

We have splendid cooperation on the part of the Home Economics Extension department, where, perhaps, a third of at least two specialists' time has been assigned to girls' work. This does not mean that these are the only specialists giving aid to club work. For many others when they find the opportunity have been generous in working with the 4-H Club boys and girls.

OTHER SERVICES FROM THE COLLEGE -

Many faculty members have aided in preparing or reviewing bulletins and lesson leaflets that are provided for club members. Thousands of record books are distributed among the club members that are provided by the College of Agriculture without charge. Mimeographed songs, games, plays and other recreation programs are provided for organized clubs without charge.

Prospects for 1939 are bright. Already over 32,000 have been enrolled.



DAIRY HUSBANDRY EXTENSION

One of the major goals of our Dairy Husbandry Extension program is the establishment of practices which will contribute to more profitable dairying and a more permanent agriculture on Wisconsin farms. The success of such a program depends largely upon the cooperation between the department specialists and the county agents, agricultural teachers, breed association fieldmen, and other agencies. Insofar as we can integrate our activities into the Wisconsin Extension Program as a whole will maximum results be obtained.

MAJOR ACTIVITIES IN DAIRY HUSBANDRY EXTENSION

Dairy Herd Improvement Association Testing

While we point with pride at our progress in this project during the past few years, we must admit that the surface is barely scratched at the present time. It is not enough to merely increase volume of testing on Wisconsin dairy farms. The merit of our herds must be improved if we wish to materially influence the production of the great mass of herds not enrolled in Dairy Herd Improvement Associations. This is being forcibly revealed to us as a result of a research project now under way. This project is attempting to shed some light on the extent of the indirect influences of Dairy Herd Improvement Association testing.

Sire and Herd Analysis

Records are of little value unless they are used. During the coming year we expect to put these Dairy Herd Improvement Association records to work on the farms where they are made by preparing simple sire and herd analyses which will be interpreted on the farm by the specialist with the help of the herd owner. We believe that this project will interest breeders in developing sound and constructive breeding programs in the future. This work will be made possible by coordination of our program with that of the Department of Dairy Herd Improvement Investigations in the Department of Agriculture in Washington.

Cooperation in the Use of Sires

In order to secure the use of better sires on Wisconsin farms, we must foster more cooperative bull rings or associations. During the year, considerable attention will be given to the organization of cooperative groups interested in more widespread use of outstanding sires through artificial breeding. This method constitutes the most powerful tool for universal livestock improvement since the discovery of Mendel's Laws. However, it must be used with full knowledge of its limitations as well as its advantages.

Calf Club Activities

We believe that the sire situation on Wisconsin dairy farms warrants increasing support of 4H Bull Clubs during the coming year. We are also convinced that our program should encourage Calf Club membership as a project extending over several years, with the development of a better herd on the farm as a goal.

Aid in Organizing Dairy Cattle Sales Associations

Considerable interest has developed in some counties concerning improved methods of marketing surplus cattle. In addition to increased attention to the breeding of better cattle for sale to out-of-state markets, we hope to cooperate with the breed association groups within the counties in perfecting cooperative associations for marketing such cattle.

EXTENSION WORK IN DAIRY INDUSTRY

H. C. Jackson and E. Wallenfeldt

I. Analysis of the Present Situation

A. Commercial Outlets for milk - in Wisconsin and the United States.

1937 -	<u>Wisconsin</u>	<u>United States</u>
Creamery Butter	35.9%	41.15%
Cheese	32.3	8.12
Condensary Products	14.4	6.17
Market Milk and Cream for city population	17.4 (Includes all others)	40.70
All other		3.86

B. Total Volume of Milk

	<u>Other States</u>		<u>Other States</u>		<u>Other States</u>	
	<u>Wis.</u>	<u>1923</u>	<u>Wis.</u>	<u>1933</u>	<u>Wis.</u>	<u>1937</u>
	11.4	88.6	10.6	89.4	11.0	89.0

C. Wisconsin's share of the nation's market for manufactured dairy products has declined.

	<u>1923</u>		<u>1933</u>		<u>1937</u>	
	<u>Wis.</u>	<u>Other States</u>	<u>Wis.</u>	<u>Other States</u>	<u>Wis.</u>	<u>Other States</u>
Cheese Production	75.5	24.5	58.9	41.1	49.9	50.1
Butter Production	11.8	88.2	9.0	91.0	10.8	89.2
Evaporated & Cond. Milk	30.9	69.1	38.1	61.9	27.9	72.1

D. The changes in dairying

1. The trend is towards larger plants.

	<u>1910</u>	<u>1916</u>	<u>1922</u>	<u>1928</u>	<u>1930</u>	<u>1934</u>	<u>1937</u>
a. No. of creameries	1005	923	667	571	516	539	502
b. No. of cheese factories	1928	2363	2807	2400	2245	2136	2070
c. Receiving plants	88		675	833	735	532	637
d. Condenseries						83	76

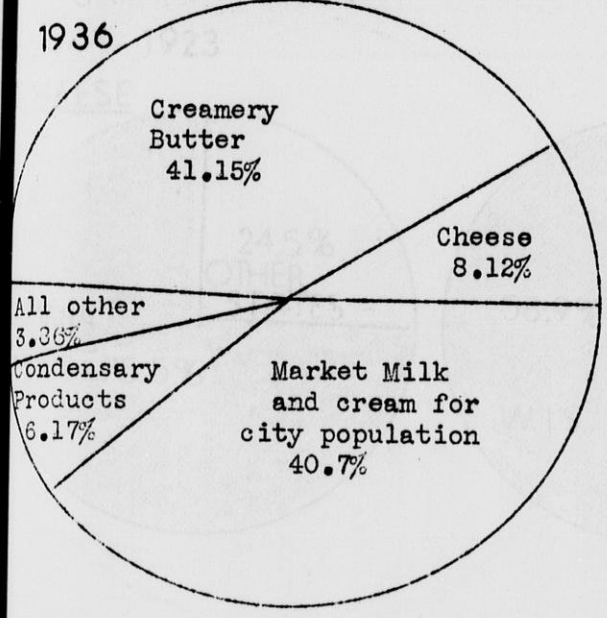
e. The number of farmers served by each group.

	<u>No. of plants</u>	<u>Total Farmers</u>	<u>Average Number of Farmers per Factory</u>
Butter	500	70,000	140
Cheese	2000	65,000	32
Condenseries	70	30,000	430
Receiving plants	637		
Ice cream plants			
Fluid milk "			
Distributors			
Miscellaneous		About 35,000	

COMMERCIAL OUTLETS FOR MILK

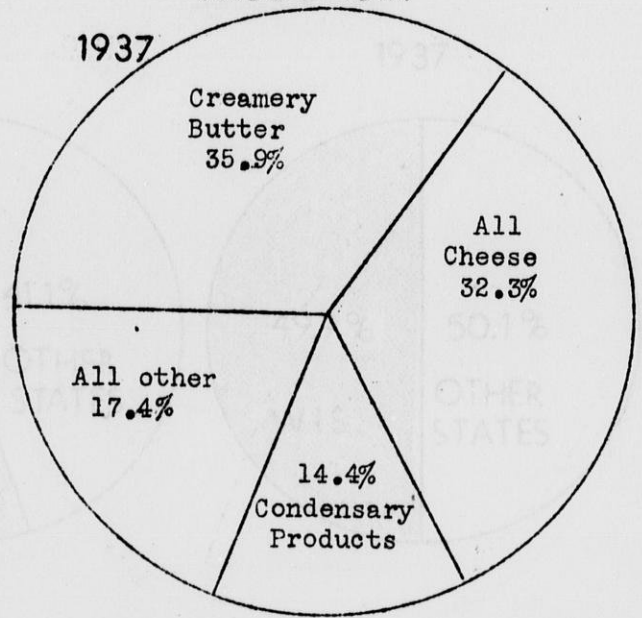
UNITED STATES

1936



WISCONSIN

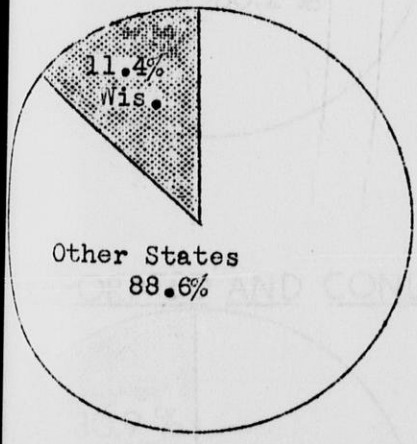
1937



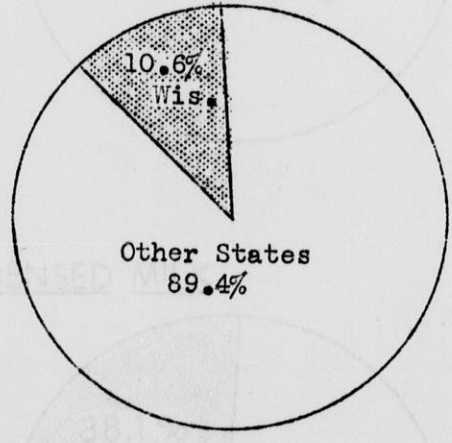
TOTAL VOLUME OF MILK PRODUCED

WISCONSIN COMPARED WITH TOTAL IN U.S.

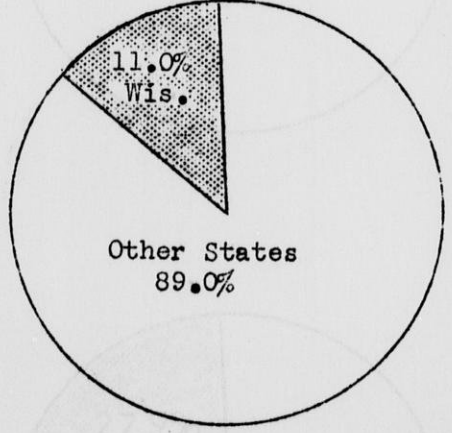
1925



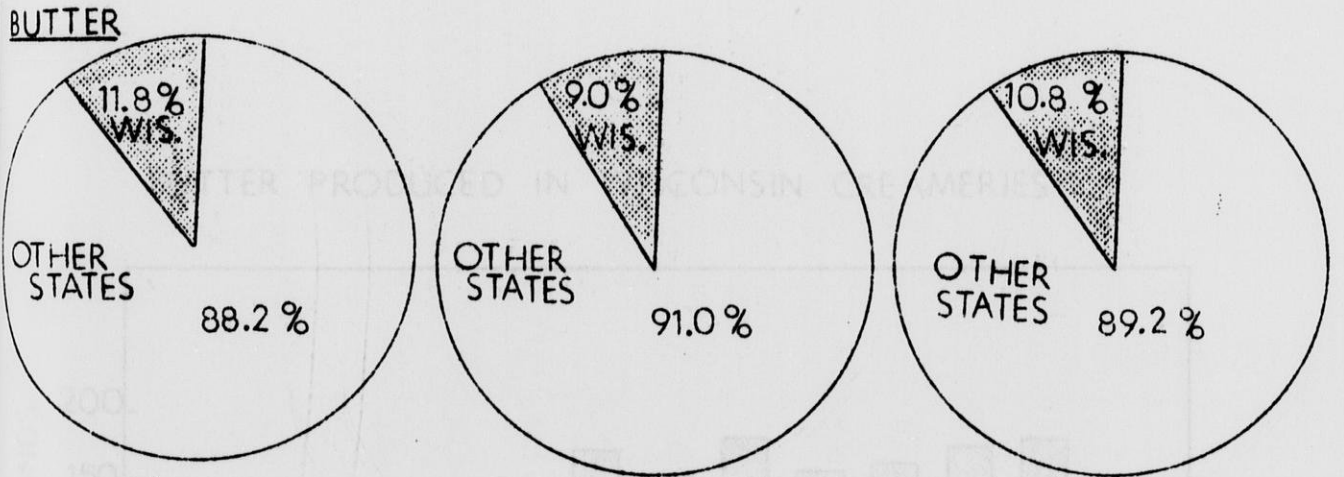
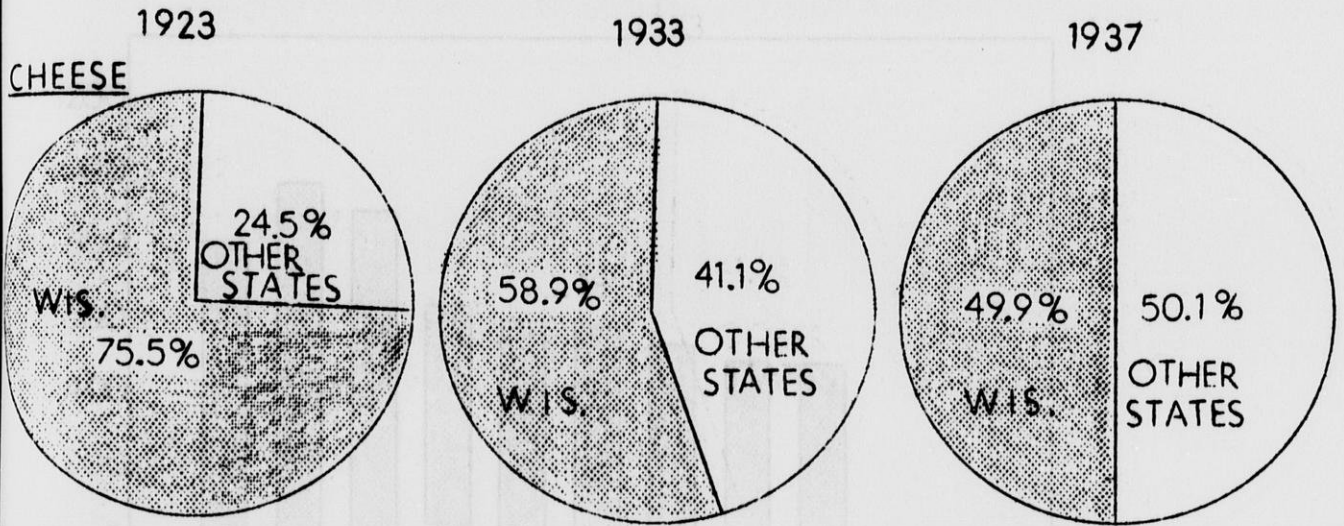
1933



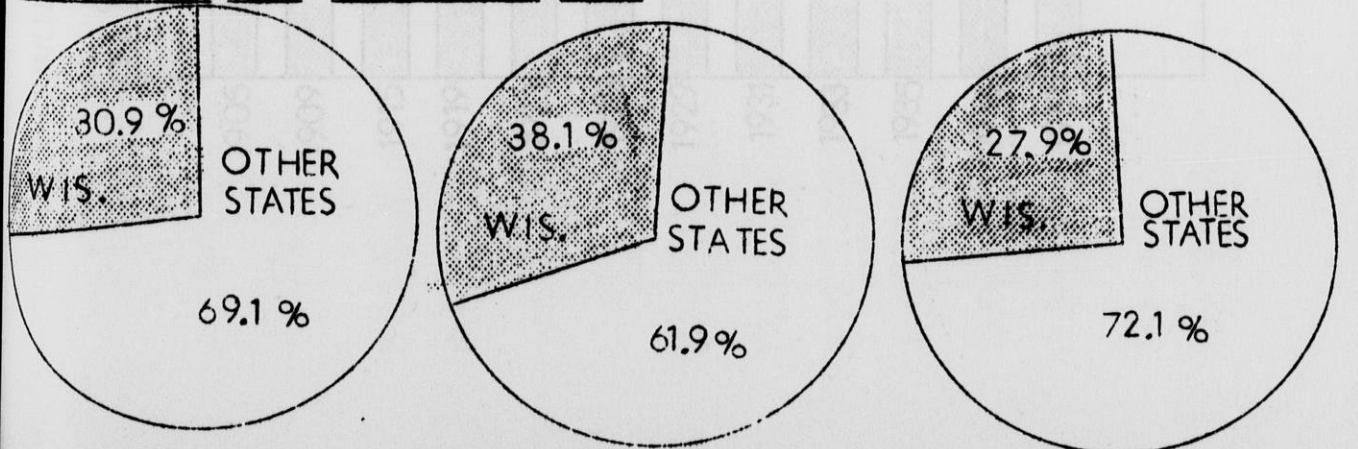
1937



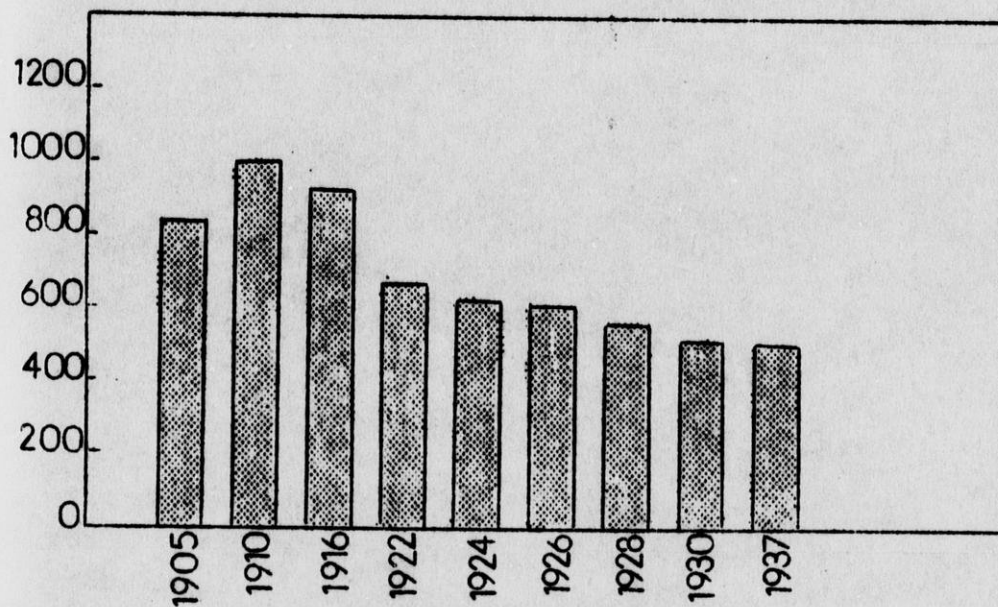
THE DECLINE OF WISCONSIN'S SHARE IN THE NATION'S MARKET FOR DAIRY PRODUCTS



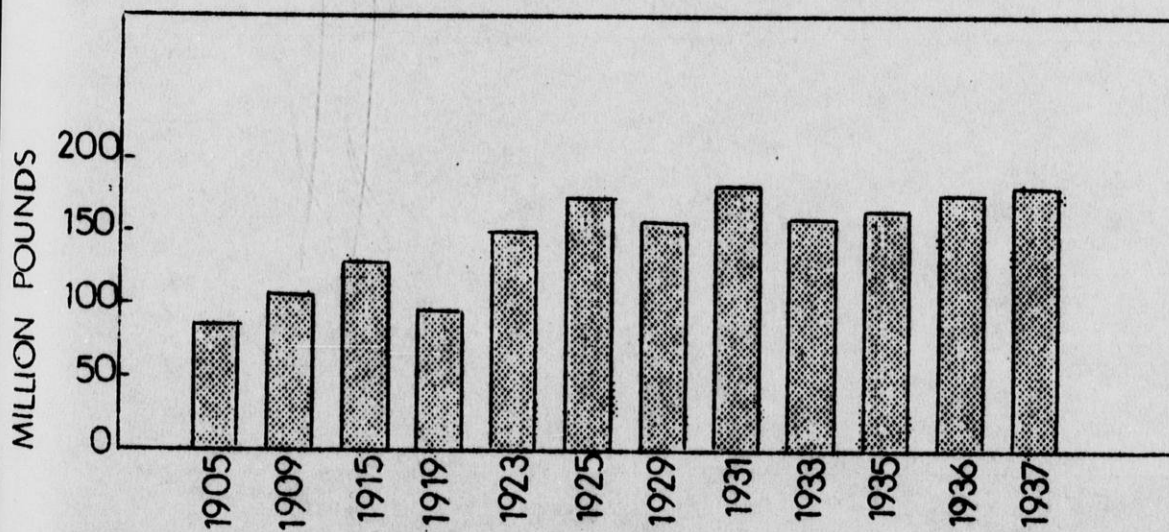
EVAPORATED AND CONDENSED MILK



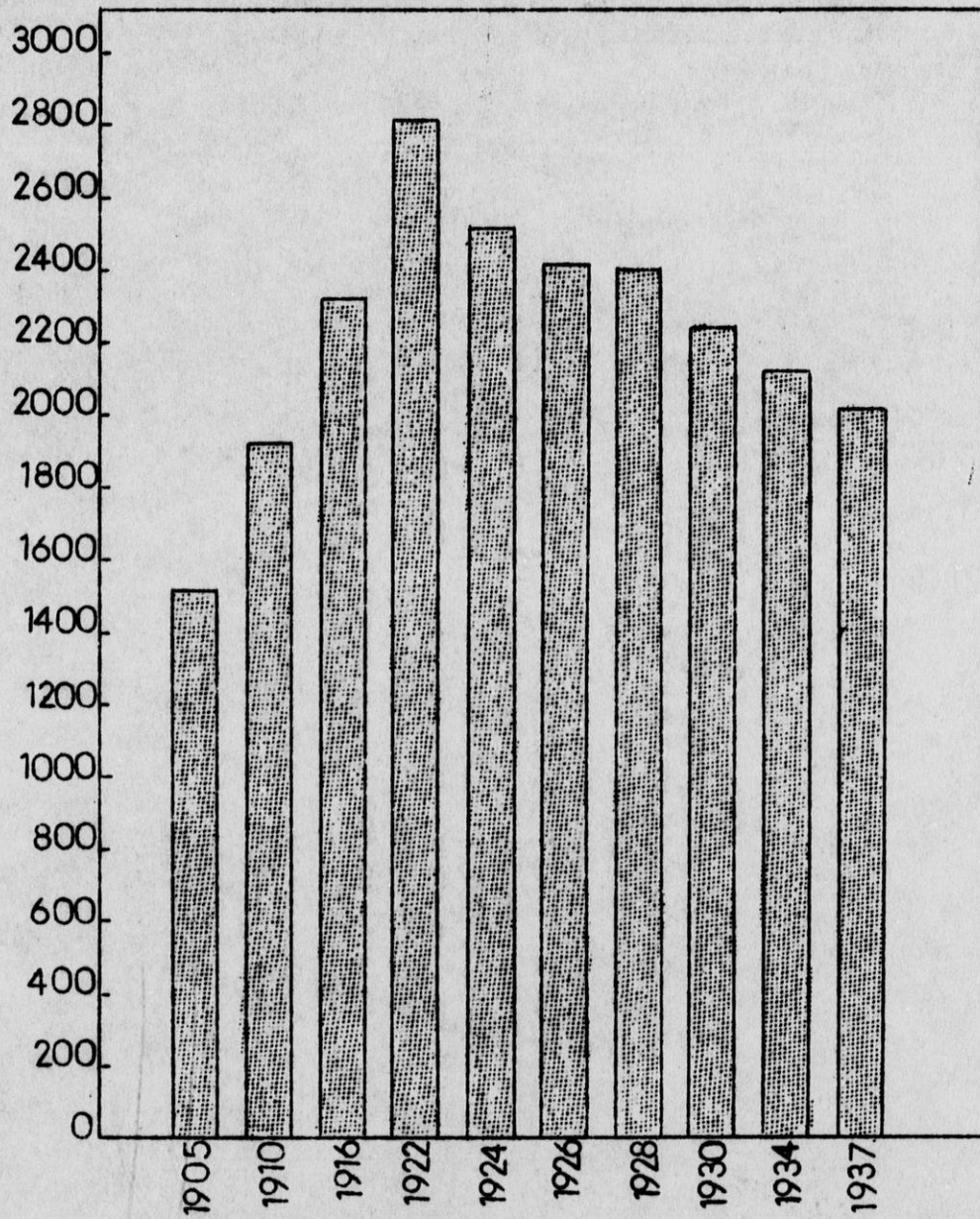
NUMBER OF CREAMERIES IN WISCONSIN



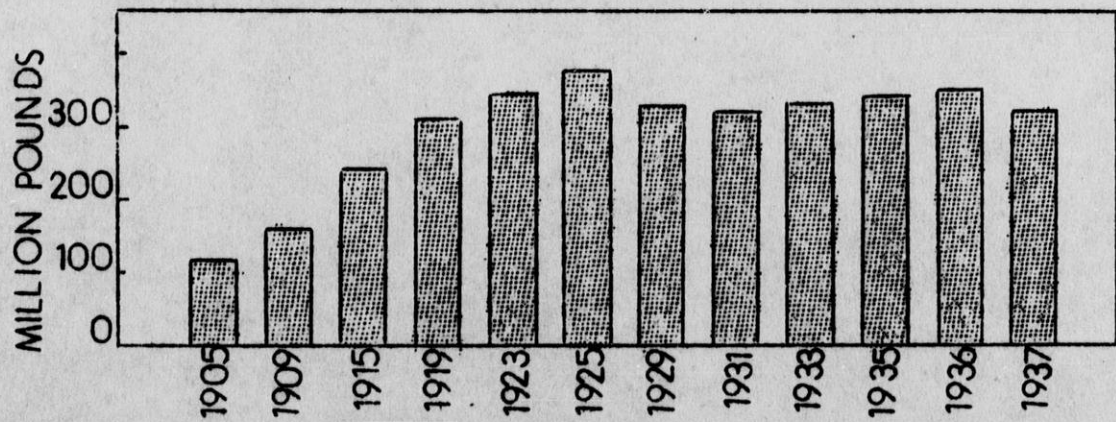
BUTTER PRODUCED IN WISCONSIN CREAMERIES



NUMBER OF CHEESE FACTORIES IN WISCONSIN



CHEESE PRODUCED IN WISCONSIN FACTORIES



II. Objectives of Dairy Industry Extension

- A. To improve dairy products so that they will command the greatest possible consumer desire and confidence.
1. To develop the concept that no one is justified in expecting to market his product for human food unless it is wholesome and produced under sanitary conditions.
 2. To develop a consciousness of the importance of the most essential factors of wholesome milk production among:
 - a. Local group leaders
 - b. Dairy farmers
 - c. Dairy plant operators and fieldmen
 3. To develop the desire and ability to apply these principles to everyday dairying.
 4. To develop an intelligent and reasonable concept of the dairymen's public health responsibility on the part of health department officials, plant operators, group leaders and farmers.
 - a. To secure uniform reasonable board of health ordinances and uniform, intelligent and reasonable enforcement of the regulations.
 - 1) To raise the standards and qualifications for all dairy inspectors so that all of them will be adequately trained to intelligently interpret and enforce the various parts of the regulations from the economic and psychological as well as the technical aspects.
 - b. To insure a safe, wholesome and palatable fluid milk and cream supply for every village and city in the state.
 - c. To get the management of every dairy plant and producers' organization to provide for adequate fieldwork to harmoniously secure effective quality effort on the part of all producers or the exclusion of milk from the dairies that produce milk unfit for human food.
 5. To discourage from dairying, those individuals whose lack of sanitary consciousness is such that they will never be satisfactory dairymen, and guide them into other work to which they are better fitted.
 6. To get grocers and other food handlers to appreciate quality in dairy products and the factors most essential for their preservation.
 7. To get consumers to more fully appreciate quality in dairy products and the factors most essential for their preservation.
- B. To secure the greatest possible efficiency in the production, processing and transportation of high quality dairy products.
1. To bring about the most harmonious producer-manufacturer relationships to reduce to a minimum the wasteful shifting of patrons from one plant to another.

- 2. To reduce trucking expense by close cooperation between plants.
- 3. To efficiently and accurately control the composition of the products manufactured.
- 4. To reduce the cost of the various plant operations.
- 5. To obtain greater labor efficiency in plants.
- 6. To improve general plant efficiency.

III. Methods and organization of dairy manufacturing extension.

A. Through regular county agent extension service:

- 1. Preparation and distribution of subject matter material:
 - Bulletins and circulars
 - Mimeographed material, circular letters, etc.
- 2. Participation in programs at meetings arranged by county agents, farmer meetings, county 4H club camps, etc.
- 3. Assisting local leaders in training 4H and F.F.A. members:
 - a. Dairy quality improvement demonstrations for local meetings, rural district school P.T.A. meetings, dairy plant patron meetings, farmer picnics, etc.
 - b. Application of quality improvement principles through directed practice on home farms.
 - c. Dairy products judging.
- 4. Standardization of local milk ordinances and improvement of enforcement methods.
 - a. Market milk surveys and analysis of local situations.
 - b. Cooperation of producer-distributors' associations with local health departments in quality improvement work.
 - c. Improvement of local laboratory quality testing methods.
- 5. The solution of dairy manufacturing problems of producers and plants coming to county agents' attention.
- 6. Cooperative work with dairy herd improvement association fieldmen on quality improvement.

B. Extension directly from the Department of Dairy Industry.

- 1. Monthly educational scoring and analysis of dairy products sent in from the dairy plants throughout the state.
- 2. Emergency plant and producer problems.
- 3. Improvement of routine practices

a. Grading milk and cream as received at plants.

- 1) Regular receiving room grading.
- 2) Methylene blue testing.
- 3) Direct microscopic examinations.
- 4) Sediment testing.
- 5) Acidity testing of cream.
- 6) Visits to farms of patrons where the need for quality improvement is most imperative.

4. Conferences with dairy plant operators and other group leaders.

5. Meetings of patrons arranged by plant managers.

6. Preparation and distribution of subject matter material for agricultural high school teachers and other local group leaders.

7. Work with local health officers and dairy inspectors on standardization of milk ordinances and standardization of methods of enforcement.

8. Work with local laboratories on standardization and improvement of laboratory methods as applied to milk and its products.

a. Health department laboratories.

b. Dairy plant laboratories.

9. Cooperative work with dairy associations.

a. Participation in planning of programs at meetings.

b. Planning and carrying out of quality improvement projects with producers.

c. Quality improvement projects with plants.

IV. Opportunities for cooperation with other departments of the College. - Other departments have contributed towards the improvement of dairy conditions. The following are only brief examples, as no attempt is made to include all that has been done.

A. Agricultural Economics

1. Giving quality considerations a prominent part in the handling of planning organization and management problems of cooperatives.
2. In all marketing work, placing stress on the importance of high quality from the longtime viewpoint.
3. In farm management extension, emphasizing the fact that it does not cost appreciably more to produce high quality wholesome milk than unsanitary milk.
4. Vocational Guidance. Guidance away from dairying for those who will never be satisfactory dairymen.

B. Agricultural Engineering.

1. Promoting satisfactory but inexpensive milk houses and adequate cooling facilities.

2. Giving sanitary factors prominent consideration when giving instruction and advice on farm layouts and farm building plans.

C. State 4H Club extension staff.

1. The promoting and conducting of quality improvement demonstrations and projects; i. e. rural schools, annual meetings of dairy plant patrons, local, county and state contests, 4H club camps, etc.
2. The promotion of the use of dairy products through foods and nutrition projects and demonstrations.

F. Agricultural Journalism

1. Discouragement of unfavorable publicity especially that on bacterial counts of market milk and other similar subjects so commonly misunderstood by the public.
2. Encouragement of the inclusion of comments on the importance of milk quality wherever the opportunity presents itself to the press and radio.

E. Agronomy

1. Research - Developing plants which will improve the chemical and physical nature of the milk produced; i. e. susceptibility to fat oxidation, composition of milk fat and flavor.
2. Extension
 - a. Consideration of the effect of feeds upon milk composition, flavor, etc. when promoting their use by dairymen.
 - b. Relation of weeds to milk quality. (French weed, pepper grass and others)

F. Dairy Husbandry and Dairy Herd Improvement.

1. Education on proper feeding time for silage of all kinds and other strong flavored feeds.
2. Planning rations so that they will not have too high proportions of feeds which cause serious difficulties in processing and marketing, alfalfa, cottonseed meal, etc.
3. Discouragement of too abrupt change from dry feed to all pasture in the spring.
4. Encouragement of D. H. I. fieldmen to act as leaders for 4H and other quality improvement clubs and projects.
5. Culling out mastitis infected cows.

G. Economic Entomology

Control and elimination of insects in dairy plants, flies, cockroaches, etc.

Control of insects, particularly flies in milkhouses and stables.

H. Home Economics

1. Application of the housewife's standard of cleanliness (in the care, preparation, and serving of food) to the care and handling of milk, washing and sterilizing of milk utensils and separators, cleanliness of milkhouses, cooling of milk, etc.
2. Encouragement of more dairy food education in the home economics departments in schools and 4H clubs:
 - a) Quality Improvement demonstrations.
 - 1) Proper cleaning and sterilization of milk utensils, separators, etc.
 - 2) Most advantageous uses of dairy products.
 - a. Use of milk and milk products wherever the opportunity presents itself.
 - 3) The value of high quality vs. low quality dairy products, teaching how to judge dairy products.
 - 4) The importance of securing milk from healthy cows handled properly under sanitary conditions, the importance of laboratory control in dairy plants, etc.

I. Horticulture

Beautification and landscaping of dairy plant grounds and farmsteads.

J. Rural Sociology

1. Vocational guidance away from dairying for those who are not fitted for dairying.
2. Questions for public discussion groups.
 - a. How should the producer of inferior quality milk be educated or his product excluded from the market?
 - b. Public health obligations of the dairyman.
 - c. Should the dairymen be licensed?

K. Veterinary Science

1. Detection, control and elimination of diseases in dairy cows.
2. Improvement in animal sanitation
3. Cooperation in the training of dairy inspectors.

COOPERATING AGENCIES AND OTHER AGENCIES DOING DAIRY MANUFACTURING WORK

Statewide Agencies

1. Other Departments of the Wisconsin College of Agriculture
2. Wisconsin State Department of Agriculture and Markets
3. Wisconsin State Board of Vocational and Adult Education
4. Wisconsin State Department of Public Instruction
5. Wisconsin State Board of Health
6. Wisconsin Buttermakers' Association
7. Wisconsin State Cheesemakers' Association and Sectional Cheesemakers' Association
8. Wisconsin State Dairymen's Association
9. Wisconsin State Ice Cream Manufacturers' Association
10. Wisconsin State Milk Dealers' Association
11. Wisconsin Federation of Cooperative Creameries
12. Wisconsin Council of Agriculture

Local Agencies

1. County Agricultural Agents
2. County Home Agents
3. 4H Club Leaders
4. Agricultural High School Teachers
5. Home Economics High School Teachers
6. County Superintendents of Schools and Rural School Teachers
7. County Boards of Supervisors
8. High School Boards of Education
9. Local Health Officers
10. Local Dairy Inspectors
11. Local Board of Health Laboratories
12. County Fair Secretaries
13. Managers and Directors of Dairy Plants:
 - Fluid milk:
 - Pasteurizing plants
 - Receiving plants for larger city markets
 - Producer-Distributor
 - Creameries
 - Cheese factories
 - Condenseries
 - Ice Cream Plants
14. Other Local Producers' Organizations
15. Other Local Group Leaders

HOME ECONOMICS EXTENSION SERVICE IN WISCONSIN
as presented to
Wisconsin Extension Workers
March 6, 1939

Note: It is taken for granted in the material which follows that the Wisconsin Home Economics Extension Service looks to the teaching and research departments of Home Economics and allied subjects at the University of Wisconsin and to the Bureau of Home Economics of the United States Department of Agriculture for guidance and help in subject matter offerings and to the State and Federal Extension Directors for guidance and help in Extension Organization policy and procedure.

Personnel

State Home Demonstration Staff

- 1 State Leader of Home Economics Extension: Blanche L. Lee
- 1 Assistant State Leader of Home Economics Extension: Josephine Pollock
- 1 Specialist in Child Development and Education for Family Life
(on part time basis only at present time): Ralph Bridgman
- 2 Specialists in Clothing: Gladys Meloche, *Ellen Carlson
- 3 Specialists in Foods and Nutrition:
*Mary Brady, *Charlotte Clark, Gladys Stillman
- 1 Specialist in Home Furnishing: Wealthy Hale
- 1 Specialist in Home Management: *Margaret McCordic
- 1 Specialist in Family Economics: Clara E. Jonas

At least two of the above specialists (Charlotte Clark and Ellen Carlson) spend approximately one-half time on 4-H Club work during each year. All specialists give some assistance with the 4-H Club program.

*During the present year, beginning with September, 1938, four of the above specialists will have had leave for study during a semester or one or more summer sessions.

County Home Economics Extension Staff

27 counties will have County Home Agent service this year.

Last year we had a 33-1/3% turn-over in personnel of County Home Agents.

Up to January 1st of this year no agent had been in her county longer than 3 and 1 quarter years. This rapid turn-over represents one of our most difficult problems in maintaining continuity of service within a county and in the time required for "in service" training of agents by supervisors and specialists.

Extent of Program

Home Economics Extension Service is being conducted upon a systematic and organized basis at the present time in 25 Home Agent counties and 21 non-Home Agent counties. Forty-six counties total.

Methods of Service

1. Meetings - (Method demonstration, or discussion, or both - with any kind of group interested - might be neighborhood, community, homemakers', women's club, P.T.A., Mothers' Clubs, Farm Bureau groups, Farmers Union, church groups, etc.)
 - a. Local group meetings, held by home agents, specialists or project leaders. (Since the development of people is considered of greater importance than the teaching of subject matter, we believe a certain amount of training of project leaders is highly desirable.)
 - b. Interest group meetings which need not necessarily be county wide in nature but given to a group of people who need help with a particular problem in which all women are not interested at the time. Child development, children's clothing, water systems, etc., might be cited as examples. It is believed that this type of meeting should increase in numbers if we are to make use of "timeliness", one of the very important principles in Education, particularly for adults.
 - c. Open meetings - inter-community, county-wide, district, state, including Achievement Days, Farm and Home Week, field days, institutes, etc.
2. Individual Service - Thru conference (telephone, office call or home visit), correspondence, bulletins or mimeographed leaflets. (There is need for more brief bulletins of a popular and specifically helpful nature which can be used for general distribution.)
3. Radio - Our office averages at least one radio presentation over WHA per week. Home Agents and rural women make contributions also.

4. News Releases - All Home Economics Extension workers use this means of reaching beyond the groups which are definitely organized for Home Demonstration work. Some Home Agents maintain regular columns in weekly newspapers.

Nature and Purpose of Program

1. Home Demonstration programs are based upon problems, needs, and interests of families and individuals with whom we are working in so far as we are able to determine these needs, (thru collection, summary and study of available data, thru observation, discussion, survey, questionnaire, etc.). We believe these fundamental or basic needs can be used just as effectively in planning 4-H and youth as well as adult programs.
2. We consider it essential to the success of our endeavor that as large a number of persons as possible participate in the planning process. We believe that cooperation and action come about most readily, if and when, people have been "in on" the plan from the beginning. (It may well be noted here that some authorities in Family Education offer as one reason for the so-called "youth movement" of today the fact that young adults have not been given the privilege of being "in on" things either in or outside the family.)

What are the major problems of Wisconsin Farm and Village families?

As expressed by the farm women themselves, they run about like this:

1. Too little income to provide the kind of a living desired.

Too little income due to:

Low prices of farm products in comparison with

High prices of products which must be purchased

High taxes

High cost of farm labor (85% of the women and girls on 891 farms in

Marathon county recently reported they were helping with some phase of farm work. 29% helped with harvesting.)

Rising standard of living which demands more cash to purchase things

desired by the farm family (education, health, better houses, equipment and furnishing, automobiles, radios, good clothes, etc.)

Lack of knowledge or skills to increase the income.

2. Poor mental as well as poor physical health

Due partly to confusion and frustration caused by rapidly changing conditions, which produce feeling of insecurity (economic, emotional and social).

3. An expressed desire for more satisfying family relationships. A desire for understanding, harmony, and appreciation within the home are frequently mentioned by the women with whom we work. (Feelings of frustration, uncertainty, discouragement, lack of privacy and independence in some homes, lack of facilities to carry out one's ambitions,--all these have their effect upon family members.)

4. A desire for wholesome and satisfying re-creation as well as the need for employment and education for all family members, particularly for young people, is of major concern to most parents at the present time.

What are we in Home Economics Extension doing to help farm families solve some of the major problems with which they are faced:

Increasing the income

We are attempting to be sufficiently intelligent about such things as diversification, land use, soil conservation, herd improvement, etc., which are generally recognized as important factors in making for greater cash income on the farm so that we can be helpful, at least to the extent of lending encouragement to families striving to improve their incomes.

What is the amount of farm income available for family living in Wisconsin?

A study made in 1935-36, on 783 Dane County farms, by the Bureau of Home Economics, U.S.D.A., in its Consumer Purchase Study indicates that on the average a non-relief farm family consisted of five members, and was not able to "get ahead" financially until its net income for family living was approximately \$1300.00. Of this amount \$750.00 was in cash and the balance of \$550.00

was the value of farm furnished goods. Farm furnished food valued at farm prices amounted to about \$300.00; house rent furnished by the farm and other things such as fuel, etc., were valued at \$250.00. No attempt was made to measure the adequacy of this income in terms of family living.

We are not assuming that this study gives a picture of farm incomes in Wisconsin nor that Dane county is typical of the state. It was probably chosen because it is considered a "typical" dairy region. (Combined figures from all farm families studied in the U. S. indicated that the family of five needed on the average a net income of approximately \$1000 in order to "get ahead".)

According to the total farm income and the number of farms in Wisconsin many farm families do not have even \$400.00 for family living. Inasmuch as many farm enterprises do not produce enough cash for family use, much of our emphasis is placed upon activities and projects which include:

1. Food production, preparation, and preservation needed to:

- a. Maintain good health.
- b. Reduce medical and dental service.
- c. Reduce cash expenditures for food by producing on the farm as much of the family food supply as is possible, and thus release cash for other things including some essential foods which must be purchased.

The Food and Nutrition Specialists last June valued the liberal farm furnished food supply, adequate for a family of 5, at approximately \$570.00 at retail prices in Madison. When figured at farm prices this amount of food would have been valued at between \$275.00 and \$325.00.

2. Clothing planning, selection, and construction are essential to good

physical and mental health, and give a feeling of social security, self respect and self confidence. These cannot be maintained upon a low income unless the girls and women in the family know considerable about clothing construction, remodeling, buying, etc. A recent study

of "Saving by Home Clothing Construction" made by Dr. May Cowles shows that a substantial cash saving, ranging from 30 to 64% on some garments, can be realized by good home sewing.

3. A knowledge of materials, colors and design is essential in the selection, arrangement and use of all household furnishings, equipment and supplies if the maximum amount of satisfaction and service are to be derived from their use. The fact that some colors are stimulating and that others are restful, cheerful and soothing give us some idea as to their best use in house furnishing.

The fact that some designs or arrangement of house furnishing are restful and pleasing may give a suggestion with regard to one means of reducing some of the feeling of confusion which is all too prevalent today.

4. The evaluation, management and development of all resources (money, time, energy, abilities, skills, and materials) which the family possesses are extremely essential to the family's well being. For this reason, home management, consumer education, home production, home crafts, etc. are stressed throughout our Home Economics Extension program.
5. A better understanding of people (including ourselves), as well as a better understanding of conditions (local, state, national and international) are essential to desirable and happy working and living arrangements both within and outside the family. Psychologists tell us that we have less fear of those things with which we are familiar. It is for this reason that we encourage or give help with principles of child development, child psychology, group discussion, and adult education (including a study of national and international situations and problems which affect farm families).

6. Since we do not live by "bread alone" we encourage and give help, where we can, with those things which are "re-creative" as nature study, social recreation, music, drama, play and other reading and crafts, such as the making of rugs and the refinishing and remodeling of furniture which for many are a means of re-creation. These also have a money value, since if families had such services otherwise, money would need to be expended.

It is well to note also that just the going to a meeting and getting away from one's "four walls" and troubles at home is a means of recreation to many people, particularly to many women who are confined so much within the house and work so much alone.

Assistance Needed from Other Departments

1. An appreciation on the part of the agricultural staff of the University of Wisconsin of the contribution of all family members to the success of the farm enterprise, to the extent that they are willing to help create this same understanding and appreciation on the part of the farm men with whom they are working will help a great deal, since these men are the husbands, fathers and brothers of the women and girls with whom we are working.
2. We desire to see the "democratic family approach" on a "problem basis" become a reality in program planning and execution in Wisconsin as soon as this is psychologically and physically possible.
3. We desire to see the cooperative relationships which have been established with the following departments continued:
 - a. Animal husbandry and poultry on meat cutting and production with meat preservation and meat utilization. We believe that greater use could be made of facts which show that it pays to produce meat and poultry for family use regardless of whether or not they are being produced for market.

- b. Horticulture - There is need for giving increased attention to planning and producing the family's supply of vegetables and fruits. Again we need more records which prove that a home garden pays good dividends in labor income, as well as in better health and increased satisfactions. (In answer to the questionnaire recently used in Marathon County, previously referred to, 20% of the 891 families did not report any fruits or berries raised on the farm.)

Landscape gardening help will of course continue to be desired.

- c. Dairy - We believe that we in Home Economics Extension could be increasingly helpful in connection with the sanitation and "clean up" phases of the dairy program, as well as in continuing our educational program to encourage people to consume milk, cheese, and butter, since both are concerned with better health and increased incomes.
- d. Agricultural Economics - We desire to see more joint endeavor by men and women and older boys and girls (where there are such) in setting up farm and home management plans both with individual families and on a group basis. We believe farm families should be assisted in planning a satisfactory standard of living which they can afford and enjoy.
- e. Agricultural Engineering - We desire to have the continued cooperation of the Department of Agricultural Engineering with all problems related to house planning, remodeling, water supply, sewage, lighting and heating systems, etc. We would like to see concerted effort on the part of the Departments of Agricultural Economics, Agricultural Engineering, and Home Economics in giving guidance and help to farm families in deciding when and how they can have these improved comforts and conveniences at costs which will make it possible for them to enjoy them, without having to worry too much about how and when they are going to be paid for,

- f. Rural Sociology - We recognize the values of such activities as social recreation, drama, music, group discussion, etc., and believe that these should be definitely planned as a vital part of the county agricultural and home economics programs which are designed to contribute to a good living on the farm.
- g. 4-H Club Work - We believe that 4-H Club work can contribute to the solution of most of the problems we have mentioned (such as supplementing the income, better health, recreation, more worthy home membership, gainful employment and better citizenship.)
- h. We appreciate the facilities afforded us thru the department of Agricultural Journalism for getting our message to the people of Wisconsin thru the radio and the press.
- i. We appreciate very much the assistance which is being made available to us from the Federal Office of Cooperative Extension work, including help with methods of program planning, project execution and supervision as well as assistance with subject matter.
- j. We are finding our contacts with such other state and federal agencies as the Farm Security Administration, Department of Vocational Education, the State Board of Health, State Nurses Association, State Department of Mental Hygiene, Free Traveling Library, University Extension Service, etc., both stimulating and helpful. It is believed that thru careful planning at county, state and federal levels, that the services offered by each of these various agencies can and should be so coordinated as to avoid duplication and confusion in the minds of those for whom the services are intended. It is being generally recognized that the Extension Service can and should continue to assume the role of coordinator, particularly at the county level of these services which are designed for rural people.

Summary

Although we still feel greatly handicapped because of inadequate personnel, particularly in counties, we are attempting to make a vital and worthwhile contribution to rural living in Wisconsin. We believe that Wisconsin has reason for being proud of its past record of Home Economics Extension Service but we are constantly striving to "make the best better".

OUTLINE

HORTICULTURAL

EXTENSION

SERVICE

LANDSCAPE EXTENSION

- The grounds of a vast majority of homes, schools, and rural public buildings are in a sadly neglected condition and fall far short of fulfilling their possibilities as a source of enjoyment and cultural development.

The aims of the landscape extension service are:

- To stimulate interest in the improvement of home, school, and public grounds.
- To train local leaders to the extent that they may give assistance to other members of their community interested in improving their grounds.
- To furnish information about and give assistance in grounds improvement projects.
- To establish a series of meetings within a community which will stimulate grounds improvement and serve as an example of improved methods.

OUTLINE

HORTICULTURAL

EXTENSION

SERVICE

- The work is not localized but is needed in every community in the state. Its development is entirely by personnel and facilities for furnishing the work has been done in all but four counties of the state in the past five years and in all but two at some time since the beginning of the project.

- Work being done may be roughly grouped under three classes--Home Grounds, School Grounds, Individual problems. The latter includes church grounds, community halls, grounds of county buildings, rural parks and rural cemeteries. The latter group is included on the basis that grounds improvement on public grounds stimulates a desire for improved home grounds.

Largely outside of college extension funds an extensive program has been carried on with Cheese Factory operations.

IV. Cooperators

County agents, home demonstration agents, high school agricultural teachers, garden clubs, Parent-Teachers' and similar organizations, school boards, state, district, and county school officials, county officials, cemetery associations, rural park boards, church officials, individuals.

V. Activities

A. Home Grounds

- Landscape schools--A series of 4 lecture and demonstration meetings at which a definitely enrolled group study the fundamentals of grounds improvement and develop a planting plan for their own home grounds.
- Adult home ground improvement projects--regular enrollment of cooperators,-- lecture on ground improvement. Visit of the homes and suggestion as to best methods of improvement. Demonstrations of planting methods.
- Garden clinics--
For those more advanced in grounds improvement (garden club members), lectures and garden tours in which are considered specific garden problems.

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4. F.F.A. Grounds Improvement Contest.

Cooperatively with teachers of Agriculture in high schools. Lectures, - home visits, -development of planting plans by the boys, - planting demonstrations, - in some cases exhibits, - judging and criticism of improvement work.

5. 4-H Grounds Improvement Project.

In cooperation with 4-H Club Department. A project in growing plants for grounds improvement and their use on the individual home grounds.

6. Individual problems.

Consultation and suggestions on special problems, not in a definite project, with individuals or official groups.

7. Lectures before interested groups not presently connected with an organized project.

B. School Grounds

1. County Contests -

Cooperatively with County Agent, teachers, county school superintendent. Conducted similar to A-4 except specialist makes the planting plan. In some cases project covers a three year period.

2. Institutes

In cooperation with teachers, school board members, and Parent Teachers' organizations. Similar to A-1 except 2 meetings instead of 4.

3. Individual help

Where necessary data is furnished, suggestions and sketches are furnished schools not members of an organized project.

4. Lectures

Before--District meetings of School Board Members; County Teachers' Institutes and local Parent-Teachers' groups.

C. Individual Problems.

1. Landscape problems other than those connected with home or school grounds.

Procedure varies with the problem. May include consultation, field sketches or completed plans.

VI. What of the Future?

Problems will remain the same.

Methods may vary, as has been the case formerly, when apparently more effective methods are discovered. Facilities are inadequate to meet present demands. Extension of activities in the future is limited only by facilities.

HOME AND COMMERCIAL GARDENING

These lines of work are quite distinct and therefore are considered separately. As organized projects both are of comparatively recent initiation although some work has been done on both for a number of years.

The facilities for carrying on extension activities in gardening are woefully inadequate; there being available at present $2/3$ of one man's time; this representing an increase of 100 per cent over the time available prior to this year.

HOME GARDENING-

I. Situation and Problem

A. The home garden is one of the most poorly conducted features of farm production.

To correct this situation two seemingly almost impossible tasks must be accomplished;

1. To get the farmer to recognize the true relative value of the garden as a feature of farm activity.
2. To overcome the impression that anyone knows how to garden successfully and that very little attention to planning or even to good cultural practice is necessary to success.

B. The job to be done:-

1. To convince farm folks that the garden is a worthwhile enterprise on any farm.
2. To furnish information as to:
 - a. What the vegetable needs of the family are.
 - b. How to plan the garden to meet the needs-including the best kinds and varieties of vegetables to use.
 - c. Cultural practices best fitted to produce most efficient results.
 - d. Methods designed to keep to the minimum the expense of time and energy.
 - e. The control of pests.
 - f. Methods of preserving and storing vegetables for winter use.

C. Area

1. Practically every community in the state could profit by this service. At present due to insufficient help the work is limited to Ashland, Polk, Tremoeleau, Adams, and Manitowoc Counties.

D. Groups

1. Largely home-makers groups and a few special interested groups.

II. Cooperators

County agents, home demonstration agents. Close cooperation with Home Economics Extension.

III. Methods have varied with the particular situation.

When practical the project has consisted of 3 lectures and demonstration meetings, - one each on Planning; Planting and Culture; Pest Control; Harvesting and Storage.

IV. Future-

There is urgent need for expansion in home garden work. There should be available as a minimum the equivalent of full time of one man.

The problems and the line of attack will doubtless remain the same for a considerable length of time.

COMMERCIAL GARDENING-

Commercial gardening extension, as related to Horticultural phases, has just completed its second year as an organized project. The problems of commercial gardening are numerous and varied. Limited facilities necessitates confining activity largely to the most important problems. At present these appear to be those associated with production of canning crops, especially tomatoes.

I. The problem to be solved

- A. What crops and what varieties of these crops can be successfully produced.
- B. Cultural practices best fitted to produce profitable returns.
- C. Best practice as regards harvesting and marketing.

II. The aims are:

- A. To familiarize growers with the best production methods and adapted varieties as revealed by research and observed experiences.
- B. To demonstrate the value of recommended practice.

III. Areas

At present the areas served are limited. Major emphasis is in Racine and Kenosha counties with some additional demonstration work in Dane and Sheboygan counties and discussion meetings in Milwaukee County.

IV. Cooperators

County agents and individual growers. Work correlated with Department of Economic Entomology and Plant Pathology.

V. Expansion

In relation to the extent and value of the industry and the urgency of the problems the service now available is exceedingly inadequate.

HOME AND COMMERCIAL FRUIT GROWING

I. Fruit Extension Work in Wisconsin aims to:

1. Encourage the farmer to grow both tree and small fruits for family use as part of a "better farm living" program.
2. Assist the farmer with the marketing of his surplus in the local markets.
3. Teach him approved practices of practical farm fruit growing.
4. Aid farmers in cooperative purchasing of spraying machines, spray materials, fertilizers, harvesting and packing equipment, nursery stock, and other fruit growers supplies.
5. Keep the farmer informed on up-to-date methods of fruit pest control as learned through the research work of the departments of plant pathology and economic entomology.
6. Keep in touch with county agent changes so that new appointees, inexperienced or untrained in fruit work may be coached to continue the work developed by their predecessors.
7. Assist county agents with organization of cooperative spray rings and county fruit grower's associations and their activities after they are organized.
8. Assist high school teacher's in agriculture with planning and supervision of boys' fruit projects.

II. Fruit work is distributed quite generally over the state. During the past few years the major activities have been in the eastern part of the state. The counties in which intensive work is being done change from year to year.

III. Extension Methods Which Have Been Found Productive of Results:

1. The Fruit Course--a course in fruit growing practices consisting of four half day demonstration-lecture meetings with community groups enrolled by the County Agent.

Results:

- a. Neighborhood interest in farm fruit culture.
- b. " spray rings.
- c. " effort in surplus disposal.
- d. County wide interest in farm fruit problems.
- e. Organization of County Association to assist with the solution of problems.

2. Farm Visits with County Agent to

- a. Procure local leaders for the organization of fruit course groups.
- b. Check on results obtained in spraying, pruning, young tree training, etc.
- c. Coach cooperative roadside market operators.
- d. Study field conditions in preparation for winter meetings.
- e. Check up on Fruit Course follow-up practices.

FRUIT GROWING CONT'D.

3. Orchard Tours--County and Regional.

These tours advertise results obtained and do much to give the grower a balanced conception of what a fruit grower's problems are and the solutions which are the most practical in his own case.

4. County Apple Shows

These shows have been very helpful in finding a local market for the small grower who produces marketable fruit above his own needs. At these shows the grower learns the principles of grading and marketing, makes acquaintance with the consumer, wins his confidence and thus gains customers for his surplus crop.

IV. Cooperation is had with the County Agent or Smith-Hughes teacher of the community, and with local organizations such as spray rings and local fruit growers' associations.

V. What of the Future!

1. The cooperative spray ring seems to be the only practical solution for the small grower in areas where the orchards are too small to make individual ownership of a power spray outfit practical and where the orchards are too large for efficient hand spraying. This concerns practically all of the southern, eastern, and southwestern counties.
2. Orchards must be rebuilt in central, western, and northern counties. Great need exists for this work inasmuch as much of the fruit tree population in these areas was lost in the years of draught and the severe winter of 1935-36. The work has already been undertaken in a number of counties through cooperative arrangements between the county agent and high school agriculture teachers whereby the high school agriculture students are instructed in farm orchard and small fruit planning, selection of adapted varieties and cultural practices suited to local conditions.
3. A need exists in most northern counties for additional cash income from the small acreage farm particularly where the soils are light. It is probable that part of this need should be definitely met by growing strawberries and raspberries for local resort trade, if not for the distant market. Some work has already been done in a few counties but so far intensive work has not been possible because of lack of time and funds.

Increased facilities can be efficiently used whenever available.

COMMERCIAL FRUIT GROWING

Extension activities in commercial fruit growing are carried on primarily as lectures before organized groups or as consultation on special problems of a district.

Reports are prepared at end of season and are available to County Agents and interested growers.

POTATO EXTENSION SERVICE

WISCONSIN POTATO GROWING AREA COMPRISES 5 MAIN DISTRICTS.

- I. The Northwest District
- II. The North Central District
- III. The Northeast District
- IV. The Central District
- V. The Southeast and Lake Shore District.

Regional Factors: Demonstration projects relating to such phases as Variety Adaptation, Seed Potato Improvement, and Production Methods are planned with many widely varying conditions in the above districts taken into account.

PROJECT I: SEED POTATO AND VARIETY DEMONSTRATION PLOTS.

Emphasis in northern districts placed mainly on seed potato production and improvement. In central districts and southern districts mainly on seed potato distribution problems.

Main Objects: To demonstrate (1) the advantage in planting the best adapted varieties, and (2) the use of healthy productive seed stocks.

To promote the production of improved seed stocks and to direct distribution according to the requirements of the area covered.

To familiarize growers with the maladies associated with degeneration or deterioration of seed stocks and to promote effective control measures.

To demonstrate performance of both old and new varieties in respect to yield, type, and quality.

Project on a Farm Scale Basis: The use of 100 pound samples permits all operations to be performed in accordance with regular farm methods and use of machinery in planting, fertilizing, spraying, harvesting, and handling.

APPLYING RESULTS OF THE PROJECT TO THE AREA

1. One (sometimes two) field days are held during the summer and harvest season.
2. One "Special Potato Day" program is conducted at each location after the harvest season.
3. Programs include inspection of the plots--discussion of yields and important records obtained with varieties and seed stocks--soil improvement problems--disease control--grading and standardization--cultural subjects.

Cooperating Agencies

Extension Specialists of Departments of Horticulture, Soils, Plant Pathology, The Wisconsin Department of Agriculture and Markets, County Agents, The Wisconsin Potato Growers Association and Participating growers.

Reports are prepared at end of season and are available to County Agents and interested growers.

PROJECT II: SEED POTATO IMPROVEMENT PROGRAM

Tuber Indexing Service (A) This service furnishes certified growers with a record on their seed stocks with special relation to mosaic, but also including other factors relating to seed standards.

Tuber Indexing Service (B) Includes cooperative arrangement with growers favorably suited to grow foundation seed stock. Enough tubers are indexed to plant a large sized tuber index plot to be increased and distributed as foundation seed.

Production of Seed on Branch Stations. Under department supervision a limited acreage of improved seed stock is grown on Branch Stations for distribution to growers.

Variety Plots on Branch Stations.-Trial plots conforming to the "Seed and Variety Demonstration Plots" are located on the Spooner and Sturgeon Bay Stations.

Seed Potato Certification. Through this service 250,000 to 275,000 bushels were produced. Wisconsin growers depend mainly on this supply in furthering all seed and variety improvement projects.

The Certification Service involves joint or cooperative relationship with the Wisconsin Department of Agriculture and Markets in the matter of the Carlot Inspection Service - the use of the Official Bag, tag, and seal.

POTATO EXTENSION AGENCIES AND ACTIVITIES ORGANIZED BY THE DEPARTMENT OF HORTICULTURE

THE WISCONSIN POTATO GROWERS' ASSOCIATION:

Organized by the Department of Horticulture in 1912. A voluntary association of Wisconsin potato interests serving as a potato extension agency. Association by-laws provide that the staff member of the Wisconsin College of Agriculture in charge of potato extension work shall be the Secretary of the Association.

This arrangement has continued since 1912, and during this period the following state events have been conducted.

1. The annual convention of the Wisconsin Potato Growers Association and State Potato Show.
2. The Wisconsin Potato Field Day.
3. The Wisconsin Potato Tour and numerous similar county and community projects.

REPORT OF EXTENSION ACTIVITIES

PLANT PATHOLOGY DEPARTMENT EXTENSION WORK

R. E. Vaughan, Extension Plant Pathologist
J. W. Brann, Assistant Plant Pathologist

The aim of the Plant Pathology Department in its Extension work is to cooperate with the Wisconsin County Agents and Agricultural teachers in putting on such field demonstrations and hold such discussion meetings regarding the nature and control of plant diseases as they may desire or are needed. Usually these demonstrations or meetings are held in collaboration with the Department of Horticulture when the problem has to do with potatoes, garden, truck, fruit or flower crops; the department of Agronomy when the problem pertains to cereals or forage crops; and the Department of Economic Entomology where insects are concerned. Cooperating agencies outside the College of Agriculture have included the State Department of Agriculture and Markets, U. S. Department of Agriculture, Bureau of Plant Industry, and the A.A.A. From time to time various chemical companies have donated materials which it was mutually desired to have included in the demonstrations. We have always felt that such contacts in the counties were more effective when all college departments concerned had their representatives present or advised of any demonstrations.

Effective field meetings and demonstrations include:

Orchard spraying	Truck garden tours with 4-H & adult groups
Potato seed treatment	Flower disease clinics with adult garden clubs
Potato selection for dis. resistance	
Potato spraying	Grain seed treatment
Potato tours	Grain tours
Cabbage seed treatment	Barley schools
Cabbage selection for dis. resistance	Canners schools or short courses

The division of time is for Vaughan, 9/10 on plant pathology extension, and 1/10 on short course teaching; for Brann, 4/7 on plant pathology extension and 3/7 on horticulture, potato project.

The extension Plant Pathologists will be glad to go into more detail on any points desired by other members of the extension group.

REPORT OF EXTENSION ACTIVITIES

of the Department of Poultry Husbandry

J. B. Hayes

January 9, 1939

The projects previously submitted and discussions that followed would lead one to believe that there are two types - the one cultural and the other cultured. It has never been my feeling that our project had other than cultural implications. It is purely an attempt at either proving that more profit could be made by a change in methods or the same amount could be made with less effort.

Our one effort is that of increasing income.

There always seems to be more avenues open to spending any available cash than there are sources of income. Give any American sufficient money and he will both find needs to which it could be put and use for his own leisure time.

We are, in this field, competing with commercial interests. They are offering comparable services profitable to themselves. The choice of following one or the other entails no psychological deduction. It becomes a question of assured profit with the secondary satisfaction that always comes from a good job performed at a profit.

Cost should always accompany any recommended practice in the cultural class of projects. Yield is intangible, for increasing yield does not necessarily mean increasing profit. In fact, any suggested practice is not worth the paper required to outline it until it has been tried out on farms as a result demonstration and yielded a cash return. Cost accounts and extension recommendations are one and inseparable.

Poultry is an added source of farm income - a means of diversifying.

In 1911 poultry returned 6.4% of the gross farm income. In 1915 the return was 5.9%. Each period has shown a substantial increase, that is, 1921 - 8.3%; 1931 - 10.6%; and 1938 - 11%.

Poultry keeping has graduated from the back lot, doorstep class of "kept-by-the-farm-wife-for-pin-money" to an accepted place in our farming program.

In this development the cooperation and assistance has been solicited and secured of many other agencies and departments such as:

Agricultural Engineering, in the early days of old fashioned housing bees where with the help of the neighborhood we would build a Wisconsin type 20x20 house in a day. Later assistance included the perfection of plans and demonstrations for other buildings and conversion jobs.

Veterinary Science, in laboratory diagnosis and holding clinics with veterinarians, hatcherymen, feed dealers, etc.

Animal Husbandry, in the original "Ham and Egg" meetings to stress

sanitation and later in marketing by the meat meetings.

Home Economics, in the canning of cull hens.

Farm Management, in stressing the use of good flocks for diversification and better farm management.

Commercial agencies, such as, the Carbolineum Company of Milwaukee in furnishing supplies of their products for control of mites in the poultry house.

Oscar Mayar Company with car lot rates on meat scraps to promote summer feeding of a dry mash containing animal protein.

Yocum Faust Company with cost rates on cod liver oil for feeding demonstrations.

Public utilities in a cooperative demonstration of electric brooding trials that included motor installations for obtaining costs.

Masonite Company in furnishing insulation board for brooding trials.

Marketing agencies in special shipments to try sales and packages.

Department of Agriculture and Markets, in establishment of grades and formation of Breeder organizations.

Livestock Sanitary Board, with a trailer exhibit for promotion of sanitation and production in Avian T.B.

Swift & Company in Turkey killing and dressing schools.

Project S. L. 23 is generalized as Poultry Management. This covers the routine of feeding, management, care and the other accepted items in good poultry husbandry.

As a means of checking our general recommendations in practice and to better gauge the profitableness of poultry we conduct Record Flocks.

General farm flocks report each month the egg production, feed consumption, feed prices, mortality and egg price. From this report a computed feed cost record is made and returned to the owner with so-called "Hints" or suggested new practices, reemphasis on old or news.

This sheet also gives the county agent a news release for each month and is a contact with Smith-Hughes teachers, farm papers and some other institutions by request.

The nine year average for these flocks shows a return over feed of \$1.51 per bird per year or better than \$150.00 per 100 hen flock from eggs alone.

The Poultry Program is given in the following outline:

1. A farm flock of 150 with increase in multiples thereof or only sufficient hens, possibly 30-40, to supply fresh eggs and some meat for the family. Elimination of the uneconomic farm unit of about 60 which offers neither an added source of farm income or an economical use of time, equipment or buildings.

2. Early hatching.

- a. Selling cockerels as broilers on the highest market.
- b. Having pullets matured and in production during the late fall and early winter period of high egg price.

3. Following a strict sanitation program.

4. Building or remodeling to combine the principles involved in the Wisconsin Straw Loft Poultry House.

5. Feeding home mixed rations that utilize to the fullest extent home grown products supplemented by necessary concentrates and minerals to maintain a consistent 50 percent production from the laying flock and steady growth with young stock.

6. Producing the kind of product when and as the market wants it. Demand for:

- a. Clean, fresh eggs with uniform golden yellow yolk from cod liver oil fed hens.
- b. Early broilers; well fleshed roasters and capons.
- c. Well finished 10-16 pound turkeys.

7. Marketing to the best advantage through the most profitable outlet.

- a. Cooperative marketing from some regions of large volume.
- b. On a graded basis for the state generally.
- c. Through the special Chicago & Milwaukee buyers along the Lake Shore region.

8. Cost Records. Utilizing the data obtained from production costs as a guide to changes required in methods.

In the selection of sub-projects we have others than "culling". An increase in problems presented by increased poultry population has meant attention to other special phases.

Culling and Pullet Selection - Culling gained instant acceptance because it was that type of demonstration that could become immediately applicable. It is now an accepted practice.

Pullet selection is a newer phase of the same general recommendation. Some pullets should never be housed.

Poultry House Construction and Equipment - Housing bees were a means of establishing a few permanent result demonstrations. Since that time plans have been made to provide for larger buildings and such other equipment as colony house, range shelter and furnishings.

Chick Rearing - Establishment of result demonstrations with growing costs to broiler age. Brooding report, cost sheets, brief series of post card reminders and special circulars on chick feeding and sanitation furnished.

Sanitation and Adult Mortality - Mortality in adult flocks is the problem of immediate and greatest concern at this time. This project deals with care and management from source of chicks through the growing and production period to reduce this loss.

Egg and Poultry Marketing - Conference and suggestions on set-up and production problems. Now considering car lot marketing of dressed turkeys on grade.

Turkey Rearing - Encouraging large commercial flocks and discouraging small units that do not receive adequate care and management. Probably a minimum would be a colony house and 200 poults started. Maximum size in the state last season was 20,000 started on one farm.

Progeny Testing - With the advent of R.O.P. has come the necessity for better organized and properly planned breeding programs. Special attention needs be directed toward longevity, low mortality and the identification of individuals and families that meet specific requirements. Cooperating with the larger breeding plants and commercial, poultry farms.

4-H - This project is referred to G. E. Annin (half-time extension) in organizing and training. Includes project selection and information.

I carried a special Junior project the last two years in cross breeding Dark Cornish males and New Hampshire females for the production of heavily breast mented capons.

References:

- Bulletin 433 - Produce Good Eggs for Hatching
- 434 - Chick Feeding
- 371 - New Chick Feeding Facts
- Circular 56 - Fight Poultry Lice & Mites
- 141 - Feeding for Eggs
- 177 - Control Round Worms and Tape Worms in Poultry
- 180 - Cull Your Flock
- 208 - Colony Houses for Poultry
- 210 - Tuberculosis in Poultry
- 228 - Coccidiosis of Chickens
- 231 - Turkeys
- 256 - Disinfectants
- 284 - The Straw Loft Poultry House
- 285 - Chick Brooding

- Special Circulars - Produce Pullets that Live
Care & Feed of Baby Chicks
Poultry on the Dairy Barn
Coccidiosis in Chickens
The Range Shelter for Wisconsin Farms

RURAL LIFE EXTENSION PROGRAM

from

RURAL SOCIOLOGY DEPARTMENT

Presented to

WISCONSIN EXTENSION WORKERS

November 7, 1938

I. Analysis of Present Situation

1. Assumptions on which program is based

- a. We assume that we are interested in seeing that people have an opportunity to function as individuals and as members of a well-rounded and satisfying rural society.
- b. We believe that rural people as a whole have fewer opportunities than urban people. These opportunities vary from one situation to another.
- c. We believe that the sound approach to a rural life program starts with the local situation and grows from there outward. This program of work is, therefore, based as far as possible upon analysis and interpretation of local social needs. (Local is used here to mean neighborhood, community and county situations.)

2. The emphasis of the program last year was centered around three major needs:

- a. Greater coordination of local activities and agencies.
- b. Better understanding on the part of rural people of vital social and economic problems of the day.
- c. More group cultural activities and increased personal development through such means as:
 - (1) drama
 - (2) discussion
 - (3) music

II. Methods of Carrying on this Program

1. Analyzing local needs

- a. Local situations are analyzed to discover local needs and as a means of interesting and informing local people of the social situation in which they live. Interpretations are then made in light of the relation of the local to broader situations.

b. Such analysis and interpretations are undertaken by the following means:

(1) Interviews, conferences of leaders and committee meetings.

(2) Cooperative-self-surveys. Examples:

(a) Recognition of the general social needs of a local situation on the part of local people came out of the Kenosha County "Citizens' Survey" of 1928-1931.

(b) Appreciation of the needs of a special age group came out of the "Youth Surveys" in Douglas, Waushara, Taylor and Washburn counties.

(3) Regular departmental research. Example:

(a) Original urge for drama, group discussion and leader training came out of the "Special Interest Groups" study of 1925-1927.

2. Planning with existing groups and agencies

a. Planning is carried on in cooperation with existing local, county and state groups and agencies. Meetings may be on county or state basis.

b. The purpose of planning is:

(1) To decide upon the objectives to be sought.

(2) To develop means of accomplishing these objectives.

(3) To stimulate individuals and groups to action.

3. Developing leaders

a. Emphasis is on developing volunteer local leaders. (The turnover of officers and committee members is from two to three years.)

b. Training is available to all who are interested irrespective of organizational affiliations.

c. Most of training schools up to this time have been of one-day duration set up on a county basis. We are doing some experimental work with larger schools and schools in series.

d. A few schools are set up on district and state basis. (Some of these are not recognized as an extension function.)

(1) Discussion and recreation schools on district basis.

(2) State Recreation Leaders Laboratory.

(3) Summer School for Rural Clergy

4. Furnishing materials

- a. One of the most important services is the preparation of useful and interesting materials which people can use with respect to their local programs of work.
- b. Types of materials takes two forms:
 - (1) Free materials (with Agricultural Journalism Department)
 - (2) Loan materials (with Dept. of Debating and Public Discussion, University Extension Division.)

5. Assisting with or sponsoring events

- a. County and State Demonstrations
 - (1) Drama festivals
 - (2) Music festivals
 - (3) Group discussions
 - (4) Social recreation programs
 - (5) Athletic events
- b. Importance of such demonstrations
 - (1) Teaching devices
 - (2) Methods of setting standards
 - (3) Creating public interest
 - (4) Demonstrating possibilities of achievement
 - (5) Providing expressional outlets for rural people
 - (6) Giving rural people an opportunity to secure wider social and cultural contacts.
- c. State wide conferences
 - (1) Rural organization leaders conferences - Thinking together at a state wide level is essential to local cooperation.
 - (2) Youth conferences - It is proposed to broaden the base another year in order to secure a cross section of the older rural youth of the state, both in school and out of school.

6. Measuring results

- a. Techniques for measuring - Satisfactory techniques have not yet been devised for measuring results of educational enterprises. It is felt that the true measure in this program, however, should be based upon personal development and group participation.
- b. Convenient measures at hand include the following:
 - (1) Numbers participating in group enterprises.
 - (2) Benefits and pleasures of participation as indicated by individual expression and his willingness to take part another time.
 - (3) Higher standards in terms of:
 - (a) Better plays
 - (b) Good reading material
 - (c) Better music
 - (d) More carefully planned discussion
 - (4) Leadership
 - (a) Numbers engaged in programs
 - (b) Evaluation of what leaders do in program
 - (c) Development of leadership characteristics
 - (5) Achievement in terms of:
 - (a) Getting jobs done
 - (b) Objectives reached

III. Looking to the Future

1. Approach to the program

- a. The service of this department is essentially concerned with assisting in the coordination of the social, educational and cultural programs of groups and agencies in the county and community. One phase of this coordination consists not only of helping these groups and agencies directly but also of promoting cooperative enterprises which reach across group lines, and which are intended to accomplish general as well as specific objectives. This requires cooperation at the following levels:
 - (1) Federal
 - (2) State
 - (3) County and "community"
 - (4) Inter-cooperation of the above levels, as failure of cooperation at the state or federal level can easily negate any locally coordinated plan.
- b. There is similar need for this coordination in dealing with problems of the home and problems of the individual farm. We construe our task as being that of working with individuals and groups on the "community" level.

2. University Relationships

- a. Staff members of this department in drama and group discussion are also staff members in their respective university subject matter department, namely Speech. In addition one of the teaching staff members of the Speech Department devotes part time as advisor to this phase of our program.
- b. It is hoped that similar arrangements can be worked out for music with the School of Music, and in Recreation with the departments of Physical Education.
- c. Arrangement with the Department of Debating and Public Discussion of the Extension Division makes possible the distribution of loan materials for practically every phase of this program.

3. Assumptions for the future

- a. Our approach to the future assumes that the county extension agents will think of themselves as coordinating administrators of local, out-of-school social, educational and cultural programs.
- b. It assumes that each college specialist will have a greater appreciation and understanding of the total extension program.
- c. That a greater amount of attention on the part of the administrators of the state extension service will be given to the analysis of local situations and to the coordination of local and state efforts.

4. Emphasis for the future

- a. We recommend the following points for emphasis

- (1) More satisfying living for rural folks including:

- (a) Cultural expression (drama, music)
- (b) Individual and group expression
- (c) Constructive use of leisure time
- (d) Better understanding of the processes of consumption in the broad sense including health, education, recreation, etc.

- (2) More logical thinking processes in dealing with local, state and national issues. (Demonstrations should begin at home and cannot exist nationally unless they function locally.)

- (3) Better coordination of individual and group efforts as a means of achieving these emphases.

EXTENSION WORK IN SOILS--PAST, PRESENT AND FUTURE

As reviewed by

C. J. Chapman

The question is sometimes asked "Just what has been accomplished in all these years of extension work?" As individuals turned loose in a great state we ask ourselves "Just what can we do that will influence the thinking and improve practices of 190,000 farmers in the state of Wisconsin?" Have we accomplished anything? Are farmers doing a little better job of farming as a result of our efforts in their behalf? Is the social and economic outlook any better for the years of effort we have poured into a great educational program on behalf of Wisconsin's agriculture?

As I go back twenty-three years to my early work in 1916, 1917, and 1918 and review the elementary beginnings of soils extension work in Wisconsin, as I recall the negative attitude of farmers toward liming, the growing of alfalfa, a new fangled crop that was being heralded in farm papers and by college professors, and who advocated this ridiculous practice of grinding up limestone rock and spreading it on our fields, as I review the confusion (even prejudice) that existed throughout the state on the subject of commercial fertilizers, as I recall an experience of almost forcible ejection from the store of a prominent merchant and owner of a big farm when I offered to supply free fertilizers for a demonstration on corn on his farm; yes, and as I recall the early antagonism of some of our college professors and county agents against the use of fertilizer, and then jump over the years and come right now to the year 1938 and see the revolutionary change that has taken place, it is indeed gratifying to know that the early prejudices have been wiped out, and surely it is true that a great change has taken place in the thinking of our agricultural leaders relative to soil conservation. And I firmly believe that extension work in soils has played an important part in this changed attitude.

When a yearbook by the United States Department of Agriculture devotes 1231 pages to the general topic "Soils and Men", when on a wave of interest in soil conservation the thinking of agricultural leaders is completely dominated by this soil conservation idea, where meetings attended by the hundreds and thousands of farmers are given over almost completely to discussion on soil conservation topics, when the agricultural press and radio devote much space and time to heralding the story of soil conservation, when the President of the United States in talking of national problems and our economic security will make the statement "The history of every nation is eventually written in the way in which it cares for its soil", I am convinced that the influence of our educational work in the field of soils, soil fertility maintenance and conservation has been effective.

And I recall vividly years ago at our Farmers' Institute meetings when 95% of the emphasis was placed on livestock feeding, care and management problems. If I was lucky enough to get a place on the program, my talk would frequently be knocked into a cocked hat by a Jacobs, Cummings, Emery Scott or Imig, who would admonish farmers that they had better go slow on the use of commercial fertilizers. That in a livestock system of farming such as practiced in Wisconsin where we are growing legumes in the rotation, where the manure produced from the feeding of crops grown on the farm was returned to the land, we were keeping our fertility in circulation and that Wisconsin dairy farmers never would come to the general use of commercial fertilizers.

But we have made progress. In a period of the past twenty-five years a total of better than 5,000,000 tons of lime have been used on Wisconsin farm lands. A total of more than 500,000 tons of commercial fertilizers have been used.

The early work of Herman Ullsberger, W. W. Weir, Griffith Richards, and Otto Zeasman, the great contribution of Professor Whitson, a pioneer to recognize the importance of mapping and classifying soil types, the distribution of thousands and thousands of soil survey bulletins and soil maps which evaluate soils, outline soil and crop management practices best adapted to these soil type areas, the thousands and hundreds of thousands of soil bulletins and press articles on soil topics that have been distributed and read by Wisconsin farmers and laymen--yes, all this work has had a profound influence on the thinking of our Wisconsin farmers. We have gradually built up a greater appreciation of the importance of soil fertility problems.

The State Soils Laboratory and the detailed surveys of better than 5,000 farms with reports to these individual farmers outlining specific soil and crop management practices has been an effective means of stimulating interest in and starting them on soil building programs.

The perfection of soil testing equipment by Emil Truog, tests for soil acidity, available phosphorus and available potash with the enlargement of our facilities in our central University laboratories for testing of soil samples which now permits turning out from 15 to 20 thousand tests a year, the use of these soil testing kits by Smith-Hughes teachers of agriculture, county agents, fertilizer companies, the advent of the soil testing clinic idea with the holding of hundreds of soil testing meetings throughout the state--all this work has had a great influence on the soil mindedness of agricultural leaders and farmers and has resulted in a more wide spread use of lime and fertilizers, and at the same time a more intelligent basis on which to make our recommendations.

And I come now to the more recent coordinated program relating to soil improvement. Farmers had been pretty well educated to the value and importance of liming acid soils, and by the year 1934 had used a total of about 2,000,000 tons of lime. But still cost of the lime was the big factor which limited its use. So, we went a step further and made it possible for farmers to purchase this lime at reduced prices. The year 1932 marked the beginning of county work relief programs. Work projects on lime and marl production were set up, but only to be stopped by certain legal restrictions. A bill was introduced into our 1933 Legislature, and in March of that year a law was passed legalizing state and county participation in lime production projects. A state-wide lime production project was set up as a part of the drought relief program in 1934 and was prosecuted through the facilities of the Federal Emergency Relief Administration. In 1935, this liming project was reworked and set up as a WPA work project and has, as most of you know, resulted in a tremendous increase in the use of lime in our state. Better than 3,000,000 tons of lime and marl have been made available to farmers at greatly reduced prices in these past four years. In fact, more lime has been produced, delivered and used on Wisconsin farms during the past four years than had been used in all history up to 1934. Our alfalfa acreage has more than doubled in the past four years. (Right now it is estimated that we have better than 1,500,000 acres of alfalfa--new and old seedings--on Wisconsin farms as compared to 525,000 acres in

1934.) This has been made possible by our liming and fertilizing program, augmented, of course, by the corn, hog and A.A.A. program. We have cut our \$30,000,000 feed bill substantially. It is estimated that as a result of the expansion of our alfalfa acreage and the liming of an additional 1,000,000 acres of farm lands in the state of Wisconsin, we are adding annually better than \$7,000,000 a year to the net income of Wisconsin farmers.

Our present state-wide soil testing project set up and prosecuted as a WPA program in cooperation with county agents throughout the state, will, in my opinion, make a great contribution to our soil improvement program. Not only will this soil testing program result in the more general use of lime and fertilizers so badly needed, but it will result in the more intelligent use of these fertilizing elements. When the soil testing project was first announced, one county agent (you all know him)--the wise old sage from Lincoln County--in his slow, conservative way wrote back, "Congratulations, for the good work in getting this fine project set up. Who can say but what this project will be more far reaching in its results than the lime program."

Well, we think we are making a contribution, and that Smith-Lever money is being spent on a worthy cause. As an Extension Specialist in Soils I am but one of the players on this great team. Certainly it is true that the interference by our Dean, K. L. Hatch, by our present Director of Extension, by extension leaders--Russey, Rowlands and good old Bob--interference by Whitson, Truog, Graul, Musbach, Albert and others has made possible a few touchdowns. Yes, there has been plenty of tackling by the defense too, and I have fumbled the ball occasionally, but I am still in the game giving everything I have for the good of the cause. But I would like a little more help in the backfield--another halfback and a good linesman. I just mentioned the fact that Dean Christensen was running interference. Yes, and he has even been carrying the ball on this soil improvement program. I have heard and you have heard our Dean time and again lay emphasis on soil improvement when discussing our economic problems.

It is true we still have a big job to do. There are still some 6,000,000 acres of acid soils in the state that need a good 15,000,000 tons of lime to bring about a lime balance. The present use of fertilizers is but one-tenth of the amount required to balance our soil fertility budget.

In this hasty survey of work that has been accomplished in the field of Soils Extension, I have purposely omitted any reference to another very important phase of soil conservation. I have not mentioned the excellent work of Otto Zeasman in the field of soil erosion control--one of the most vital problems confronting Wisconsin's agriculture. I am going to let Otto tell his own story of what has been accomplished in battling this most devastating menace.

EVOLUTION OF THE SOIL EROSION CONTROL PROJECT

Presented at Extension Workers' Luncheon

by

O. R. Zeasman

Dec. 5, 1938

Progress of the soil erosion project varies in different parts of the state because the extent of erosion and recognition of the seriousness of the problem varies in different localities. The elements that determine the degree of erosion at any particular time, such as type of rainfall, system of farming, period of land use, etc., are so similar over the entire state that they need not enter this discussion. However, two factors affecting rate of erosion, type of soil and subsoil, and topography make for different erosion rates and logically divide the state into regions.

The coulee region of western Wisconsin, largely unglaciated, occupies a belt 50 to 80 miles wide extending from the southern boundary of the state up to about the northern boundary of Pierce County. It is unnecessary to describe the topography of this region because all of you have seen it. It is easy for you to appreciate that run-off from torrential rains is excessive and swift. Mention of a few soil characteristics may be enlightening. Before the glacial period, the Mississippi River system had been cut down to an elevation about 200 ft. lower than its present flood plain. The melting of the ice sheet produced large quantities of run-off laden with soil materials. Rivers such as the Chippewa, Beef, Trempealeau, Black and many smaller tributaries carried such large sediment trains that the Mississippi with its flat gradient could not carry away. Its flood plain and that of the lower reaches of these tributaries became filled to a depth of about 300 ft. After the glacier had melted, the Mississippi River cut irregularly downward about 100 ft. into this alluvium flood plain and the lower reaches of the tributaries did likewise, leaving large areas of level river terrace soils as benches along the valley margins. The soil of these terraces is variable, but large areas of it are among the best soils of the region. Notable among them are the Menomonie plain along the Red Cedar River, the North Bend, Melrose area along the Black River, the West Salem prairie, etc. These terrace soils are being dissected at a rapid rate by run-off water from the ridges that flow over these benches and drop off the abrupt faces in escaping to the flood plain of the streams. The energy of these waterfalls cuts enormous gullies into these most level valuable soils of the region.

It was in soil of this kind in Buffalo County that our erosion control project started over 15 years ago. We built structures, so-called dams, that were pictured in government bulletins of the time but found to our sorrow that they had nothing to commend them except cheap first cost. Maintenance was so high that within a year or two it was apparent that more permanent structures would be cheaper in the long run and immeasurably more effective. Occasional farmers here and there built demonstration dams with our help and supervision.

The ridge land of this coulee region is peculiarly susceptible to sheet erosion, the wasting away by run-off of a more or less uniform layer of surface soil. This ultimately reduces productiveness of all rolling land. A large part of the ridge soil of this coulee region was brought in by the wind, probably in the early post-glacial period. Transportation by wind

produced a peculiar soil, one very high in its content of silt and very fine sand, and low in clay and colloid, the binder materials. Such a soil is especially erodible. Gradually some farmers became interested in controlling the sheet erosion on ridge fields. Terracing and strip cropping are the approved methods used for this purpose.

For the period 1922-29 only about one month a year of my time was devoted to this erosion control project. Very few people around the College aside from Professor Whitson thought the effort worthwhile. In fact, the general assumption was that under our system of livestock farming with a good acreage of meadow crops and rotations, you could have no destructive erosion. In 1929, Director K. L. Hatch, Dean Russell, and our late Professor E. R. Jones took field trips with me at various times and became interested in the problem. From then on I have used most of my time on the project. The Lake States Forest Experiment Station cooperated in the summer of 1929. They paid an assistant, H. D. Bruhus, who helped me with field work in building structures for three months.

The end of 1932 marked the end of the early pioneer demonstration stage in this coulee region. We had constructed about 85 demonstration dams controlling watersheds from 25 to 250 acres in area, had terraces on about 250 farms, considerable strip cropping and made a start on stream bank control.

We had used the circular on strip cropping published in 1914 by Professor Whitson and Dunnewald as a result of observations from soil surveys and had added two other publications. Interest in the project was increasing in western Wisconsin.

With the inauguration of C.C.C. came an expansion. This organization was intended for forestry work only, but California, Iowa and Wisconsin applied for camps to be used on control of soil erosion. Noble Clark and Adj. Gen. Immell represented Wisconsin at Washington and "brought home the bacon".

Early in June, 1933, we were notified that we would receive 10 camps. On the 10 we started conference and field training for 80 engineers from the Ag College and College of Engineering. Our organization was U. S. Forestry service, fiscal agent, Noble Clark, administrator, E. R. Jones, field director, with myself serving as general assistant. On June 21 the camps began to arrive.

During the season we built about 225 dams in major outlet gullies. Under the regulations we were compelled to call the work flood control. We were not authorized to do any sheet erosion control work but did build a few terraces and called them diversion dams.

Late November of that year another New Deal agency, C.W.A. donated some help to the erosion control project. We were given about 3,000 men in 20 groups to work on stream bank control. The late E. R. Jones served as administrator and I acted as field director with about 200 engineers making detailed plans and supervising construction. This was the period of expansion of stream bank erosion control. The C.W.A. organization was disbanded in the spring, 1934.

That summer we worked 9 C.C.C. camps as in the previous season. Our tenth camp was given to the Coon Valley project of the Soil Erosion

Service which started functioning early that year. This year somewhat fewer dams were constructed but decided expansion was permitted into the field of sheet erosion control. We constructed terraces on several hundred farms, started more strip cropping and added considerably to the forestry work.

In April of 1935 the Soil Conservation Service was added as a bureau of the U. S. D. A. They were given direct charge of the C.C.C. camps and had their number increased to 17. They continued building dams but placed emphasis on complete plans for erosion control of every farm unit on which they worked. During the three years they have worked about 2,000 farms. In the meantime, two projects, Fennimore and Independence, were added to the No. 1, Coon Valley.

The gross accomplishment of these federal services is considerable but the rate secures control on only 1% of the farms a year that need work right now. In an effort to speed up this rate, the soil conservation district's law was enacted by the last legislature. This is enabling legislation that prescribes methods by which farmers can organize districts as political subdivisions for purpose of receiving some federal and state aid in intensive planning for erosion control. Districts are now being organized in western Wisconsin.

Eastern and northern parts of the state have a milder erosion problem. Only about 20% of the land is threatened with sheet erosion, but of course the distribution is not uniform. Work here is in early pioneer demonstration stage. The occasional farmer becomes interested in one or another phase of erosion control. In much of this area one desirable supplementary weapon is available. Many of the farms contain some good quality marsh land that can be tile drained and used for corn, and release the rolling upland largely for alfalfa.

The sand plain of central Wisconsin has a serious wind erosion problem. A. R. Albert, and more recently Mr. Trenk, pioneered work in shelter belt planting. For the past year we have had an assistant, Albert Hanson, located at Wautoma helping with this development and with expansion of strip cropping for control of wind erosion.

With the development of the Federal Soil Conservation Service our work in erosion control has grown into a cooperative effort. They help finance two assistants, one T. R. Pattison in the northern part of the coulee region, and Albert Hanson in the sand plain. We help with the general educational work and the Soil Conservation Service does the detail demonstrations in western Wisconsin and the extension men attempt the demonstrations in the newer territory of eastern and northern Wisconsin. The Agronomy Department has F. V. Burcalow as a department specialist working especially on pastures and crop cover in the coulee region to help in the erosion control field by securing adjustment of land to its proper use.

In summary, it is apparent that this project is carried on in different stages of development because needs are variable and readjustments in land and farm management are involved. In the development wherever and in whatever stage it occurs we must keep it technically sound. There are only two fundamental principles of water erosion control: (1) reduce run-off

by storing more of the rainfall on or in the soil; (2) dispose of the unavoidable run-off in a safe manner. We need to do all we can under principle (1) by modifying cultivation to conform to the contour, increase the acreage and improve stand of the meadow cover, improve pastures and increase forestry area, increase the organic matter (perhaps I should say maintain as nearly as we can). After we have done all we can of the above under a system of livestock farming, we will still have plenty of run-off concentrate in the main draws. Unless this is disposed of safely we will lose many individual farms by dissection of the field areas with outlet gullies. This is the more difficult and expensive feature of erosion control, but it is an essential part of a sound program. Well managed, grassed waterways and correctly designed well built and maintained structures are the answer. Not all farmers can afford dams at once and it is not the point of wisdom to insist on installation in such situations. But it is equally poor judgement to dismiss an essential part of a complete program because not all farmers are in a position to adopt all of it at once. We do not in general discourage building of good barns and farm homes because not all farmers can afford to build now. Some farmers feel now that they can better afford to build dams than to have their fields cut in patches. Let's keep each essential feature in the program, help farmers adopt them individually as their needs and means dictate and permit.

"Relationships"
by
Arlie Mucks
Program Coordinator in Agricultural Extension

This year's series of monthly luncheon conferences marks a new step in the policy of this unofficial, voluntary group.

Before cooperation or coordination can be carried out it is necessary for us to appreciate the position and the job of the other fellow. Thus the committee was under the necessity of reviewing or having reviewed all extension projects by all of the departments doing extension work in the College. This has been a long job and a necessary job. I believe all of the departments and individuals who participated in these past meetings are to be commended on the clear and concise way in which they presented, on the scope, on the objectives and the cooperation involved in the various projects.

Need for Coordination

The day of individual, isolated, separated specialists projects, is past. The Federal Department of Agriculture has recently, January 1, this year, established a special administrative, coordinating project, called County Agricultural Planning. This project was created and financed largely by the United States Department of Agriculture and today we have five Assistant County Agents in Five selected Wisconsin counties for the purpose of giving special assistance to the County Agent in doing in the field a job of coordination between all federal agricultural action agencies.

Director Clark in our first meeting pointed out the question of relationship between the federal Department of Agriculture and the College of Agriculture insofar as finances was concerned. We get practically eighty per cent of our Extension funds in Wisconsin from the federal government, and twenty per cent from the state, and there is constantly before us the question of meeting federal requirements as well as state objectives in agricultural extension work.

Some Considerations

This group has attempted first to get a picture of what Extension projects there are and the cooperation existing between them. The job is not completed, however. In fact, it is hardly begun and I should like to suggest specifically some things that might be considered by the new Committee in furthering the objectives of this program. These are:

1. That a County Agent, a Home Agent and a Club Agent be selected to attend one of these luncheons and to indicate how in his judgment and from his experience the specialists might better assist him in carrying out his county agricultural program of work. Does he need more bulletins? Does he need more specialist's help at meetings, conferences, in planning and carrying out projects? Will assistance in publicity matters, will assistance in coordination of the various agricultural interests in his county be of assistance to him?

2. We have in Wisconsin a Council of Agriculture which includes in its memberships practically all of the existing farm organizations in the state. Since Extension workers in this group meet periodically with the local organizations included in this Council, it might be well worth-while considering having the President or the Secretary of this Council appear before this group and indicate how in his judgment we might be of further assistance to them in planning their programs.

3. There is need today to bring the Extension Service men into the planning of our Experiment Station Field Day programs. In the past the administration of Station Days has been left largely to the resident Director who has been principally concerned with research.

The attendance at these Field Days has passed beyond the ability and the time of one man to plan and carry through.

Perhaps much more might be made out of our summer Field days if a committee of specialists in Extension work were to carefully plan the programs for these stations.

4. In the past recent years the question of College of Agriculture exhibits at the larger exhibitions in the state, particularly at the State Fair, has been left to Rasmussen and Jorns to develop and carry out. There should be coordination between the interests of the teaching groups in the College, the Extension group and the Experiment Station group in order that a complete picture of these three facilities of the College be presented.

5. At the last Extension Workers conference a question was raised as to what had been done in the development of a routing or booking agent for Extension people. I believe there is a wide difference of opinion as to the advisability of having such a personnel or office. Would not this be the proper place to bring this up for impartial discussion? Could not the experiences of other states that have at present a booking agent be worthwhile to consider?

6. The question of publications particularly is a vital one to specialists. Specialists should keep in mind that elaborate, highly illustrated publications on expensive paper naturally cost much more than do plainer publications.

7. How can specialists be best used -- as speakers at meetings, in assisting County Agents and County Agricultural Committees in planning their programs of work, in holding schools for Agricultural Conservation Committeemen, for Farm Security Administration County Supervisors, for Soil Conservation Project men and Smith-Hughes teachers, - with a small Extension force in the College and with a large number of county workers in the state in many different agencies handling many different projects. It would seem that the ability, experience and judgment of the specialists could be used to better advantage in training these people rather than in holding individual small subject matter meetings.

Sweeping Changes Taking Place

I believe that while this past series of luncheon conferences in directing attention to the fundamental objectives involved in assisting specialist work, yet too little time has been given for consideration and discussion. We have attempted to cover a lot of ground in a very short time and all of us recognize the rapid changes that are taking place in agricultural extension work. It seems that these changes come increasingly more rapid.

In my judgment the supervisors and the County Agents both will need to rely more and more on the use of specialists in planning county and regional agricultural programs. Some real progress has been made in this work in the last few years, particularly in the case of Hall, Lacey, Hayes and Chapman. Duffy mentioned in his report that the whole question of economical size of farm, the changes in housing facilities and in the operation of machinery is undergoing a sweeping change and this is true in all departments in the College.

It means that the specialists group which is the group to recommend changes in farm practices and farm procedures needs to be constantly alert not only to the changes taking place in their field but in other fields which will directly affect their work.

I believe we can consider this series of meetings has opened up a vitally important field and I believe that it would be wrong to do anything other than follow through on the foundation already laid.

The suggestions which I have offered are made merely to point out some things that need to be considered in the interest of better coordination.
