

**UNIVERSITY OF KENTUCKY**  
**COLLEGE OF AGRICULTURE**  
**Extension Division**

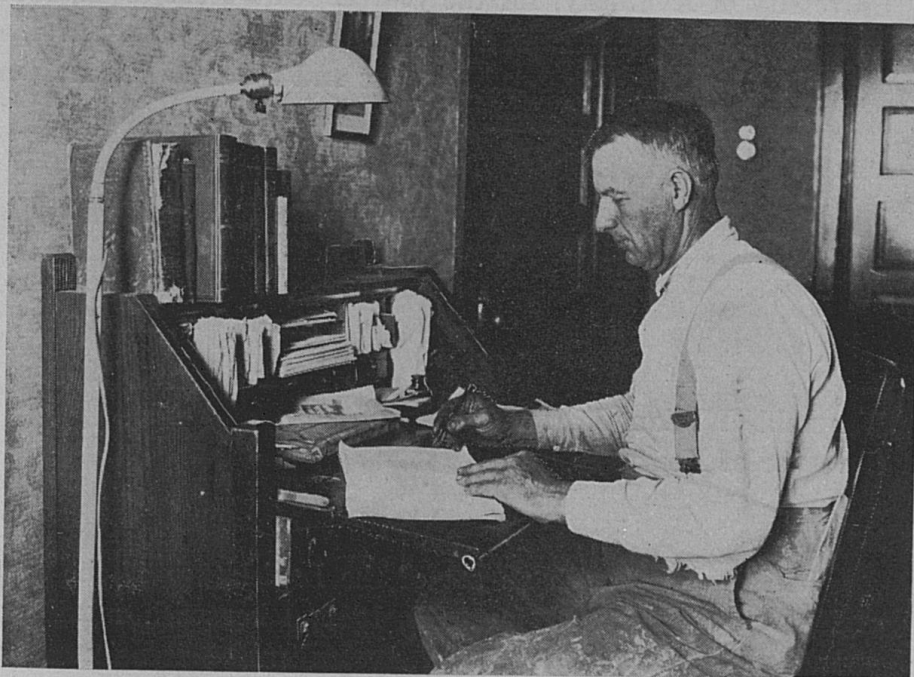
THOMAS P. COOPER, Dean and Director.

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**CIRCULAR NO. 196.**

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**ANNUAL REPORT**  
FOR THE  
**YEAR ENDING DECEMBER 31, 1925**



This Fayette County farmer finds the lead pencil "one of the most useful tools on the farm." He keeps accounts like any other business man and succeeds.

Lexington, Ky.

May, 1926

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Published in connection with the agricultural extension work carried on by cooperation of the College of Agriculture, University of Kentucky, with the U. S. Department of Agriculture, and distributed in furtherance of the work provided for in the Act of Congress of May 8, 1914.

*Letters of Transmittal*

Lexington, Kentucky,  
January 2, 1926.

President Frank L. McVey,  
University of Kentucky.

My dear President McVey:

I have the honor to present the annual report of the Division of Agricultural Extension of the College of Agriculture, University of Kentucky, for the year ended December 31, 1925. In this report will be found a statement of the various activities of the past year, a list of publications and a financial statement of receipts and expenditures.

Respectfully,

THOMAS COOPER, *Dean and Director.*

Lexington, Kentucky,  
January 15, 1926.

Honorable William J. Fields,  
Governor of Kentucky.

Sir:

In accordance with an act of the Legislature of the State of Kentucky, approved March 15, 1916, I herewith submit the annual report of the Division of Agricultural Extension of the College of Agriculture, University of Kentucky, for the year ended December 31, 1925.

Respectfully,

FRANK L. McVEY, *President.*

## CIRCULAR NO. 196

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### ANNUAL REPORT OF AGRICULTURAL EXTENSION WORK IN 1925.

T. R. BRYANT, *Assistant Director*

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The progress of Agricultural Extension Work in Kentucky has been quite satisfactory during the year 1925. This has not been marked by the increase in number of workers, but rather in the amount of work that the staff has been able to accomplish. This was made possible thru a better understanding by all workers of proper methods of approach, and of program building and execution and thru the development of local leadership.

Probably the limiting factor, at the present time, to the volume of work possible of accomplishment is the recruiting and training of volunteer leaders.

The projects as outlined by specialists are becoming more thoroly understood as to their feasibility under varying conditions, their adaptability and methods of promulgation. This better understanding is not only on the part of county agents, but also by project leaders and advisory groups within the counties.

An example of the increased thoroness of work secured thru better organized and developed local support is apparent from the increase in the percentage of projects finished by junior club members. During the previous year the per cent of finish was fifty and for the year just closed the per cent was raised to sixty.

It appears that the limit has been reached in the number of workers to be employed until substantial additions are made to the funds. The Extension Service is therefore embarrassed at the present time by its inability to place workers in new counties that have appropriated their share of the money to employ agents.

Home demonstration work still remains a more difficult field in which to secure adequate assistance from counties than is the case with agricultural work. Despite this fact it is easy to see development taking place. Appropriations by counties show a slight improvement. The organization of county homemakers' associations has placed an organized group of supporters behind the home demonstration agent, and the value of this arrangement has already been demonstrated.

The discovery of marl deposits in more than fifty counties and the striking demonstrations of the value of its use have made a profound impression upon farmers. The fact that Kentucky has taken the lead among the States of the Union in the progress of the Better Sires Campaign is a tribute to the efficiency of the work and it also indicates that Kentucky farmers when properly encouraged are as progressive and as anxious to improve their farming business as are the farmers of any other state.

The annual livestock show held by the junior clubs of Kentucky is the largest of any State in the Union and the quality is in keeping with the size of the exposition.

The progress made by Kentucky in the improvement of her sheep industry, especially her spring lambs has set the pace for the whole country and the methods of bringing about this improvement are being emulated by other States.

The increase in the use of lime and marl and in the acreage of legumes is beginning to offer relief from the greatest deficiency in Kentucky agriculture.

## COUNTY AGENT WORK

C. A. MAHAN, *State Leader*

In the 1924 report mention was made that the main effort of the County Agent Department was to help people help themselves, this being a job of such size that it is believed efforts in this line should continue to be the main feature for many years to come. Therefore, the building and development of community programs have been given major consideration in the year's work. To properly develop the community program special attention is being given the community project leaders by holding leaders' training meetings and giving them special attention as leaders instead of as demonstrators. It is planned that more leaders' training schools shall be held during the coming year.

During the past year the method of initiating work in counties has been improved. Instead of sending a representative of the University to a county to solicit and beg an appropriation from the Court the rural people of the county are approached by having a series of demonstrations scheduled at which extension specialists give demonstrations in different subjects distributed thruout the county and at different times of the year. At each of these the specialists indicate the need of follow-up work such as a county agent could do.

To supplement this an assistant state agent outlines and encourages the organization among farmers of an Extension organization with a small membership fee to be used for the sole purpose of supporting County Agent work in that county. This money usually is used to help pay for county agents' office supplies and expenses for a period of two or three years. The support then comes in response to local demand and this demand is made upon the basis of merit of the work.

A year ago it seemed that the top was reached in county agent numbers in Kentucky, but during the year the number has been considerably increased. This has been largely due to the efficiency of the improved methods of approach and to the improvement being made in the class of work being done. This

improvement in work is largely attributed to the closer supervision by assistant state agents who keep the county agents at work on lines planned instead of wandering around.

The number of community programs has increased from 173 in 1922, 439 for 1923, and 539 for 1924 to 550 for 1925. In 1924 there were reported 2,914 community leaders, but for 1925, this number has been increased to 3,542 leaders. Thru the help of these local leaders our demonstrations have grown to the figure of 24,940, or an average of 328 for each county having an agent. Such figures could not be reported with the present number of county agents unless the people were making a real effort to be of assistance in improving the communities in which they live.

Kentucky agents are rather proud of the fact that they have been able to hold the position of first place in the United States purebred sire enrollment campaign; they have also made marked progress in Junior Club work by increasing the enrollment a few hundred and increasing the number finishing from 50% to 60%. The marl demonstrations have increased in number and spread over about 50 counties, using 9,311 tons.

Program record books for County Plans, were furnished again this year and the agents were called upon at the end of the year to check their work against these books to show they had used careful thought in planning the work, and that they were making a conscientious effort to follow out these plans. This method has been so helpful to the assistant state agents that the plan will be continued next year.

Since comparative figures show in a general way the volume of work accomplished by county agents and local leaders assisted by the extension specialists the following figures, taken from their annual reports for 1924 and 1925 are given below:

	1924	1925
No. counties with Agents .....	67	72
No. communities building extension programs .....	539	550
No. community leaders in community-built programs ..	2,914	3,542

No. dems. (result and method) by County Agents and community leaders .....	21,471	24,940
No. result demonstrations carried thru year .....	11,622	12,213
No. farm visits made by Agents .....	40,786	43,866
No. farms visited .....	16,900	19,745
No. home visits made by agents .....	4,940	5,972
No. homes visited .....	3,008	6,029
No. office calls relative to work (office) .....	47,849	57,981
(telephone) .....	27,352	42,605
No. individual letters written .....	46,347	32,184

## MEETINGS HELD

No. training meetings for local leaders .....	408	333
Attendance of local leaders .....	2,063	3,243
No. demonstration meetings held .....	4,927	6,331
Attendance .....	89,750	97,437
No. farmers' institutes and short courses.....	429	154
Attendance .....	8,062	4,787
Junior Club camps assisted .....	34	49
Total attendance (including adults) .....	36,482	18,095
Other meetings .....	2,874	4,176
Attendance .....	180,409	328,836

## MISCELLANEOUS

No. breed associations organized dairy cattle.....	88	3
No. breed associations organized, other stock .....	15	23
Total No. members in purebred sires campaign .....	2,087	3,375
No. farms installing drainage systems .....	71	88
Acres drained .....	2,045	1,088
No. water systems installed .....	43	47
No. lighting systems installed .....	33	27
No. farms clearing land .....	279	248
Acres of land cleared .....	2087	1,461

CROPS	1924 No. result dems. started	1925 No. result dems. started	1924 Number completed	1925 Number completed	1924 No. acres involved	1925 No. acres involved
Corn .....	430	355	250	372	1,599	2,620
Wheat .....	125	79	66	48	944	699
Oats .....	78	84	67	73	282	376
Rye .....	83	333	69	125	435	785
Barley .....	173	11	146	5	2,566	111
Alfalfa .....	612	817	510	707	3,215	4,739
Soybeans .....	1,201	1,997	928	1,846	8,119	10,301
Sweet clover .....	310	580	251	491	1,460	4,128
Crimson clover .....	36	46	19	31	133	341
Clover .....	378	364	212	299	2,530	2,001
Cowpeas .....	216	219	202	212	1,508	1,187
Lespedeza .....	243	542	164	321	1,449	4,617
Pastures .....	184	264	175	191	1,675	1,975
Other Legumes .....	42	49	16	42	61	411
Irish potatoes .....	603	413	512	334	801	1,154
Sweet potatoes .....	20	83	16	69	9	69
Cotton .....	409	75	304	56	514	254
Tobacco .....	1,141	867	782	554	3,458	941
Other crops .....	122	50	122	54	1,152	89
Tree fruits .....	614	849	470	654	1,646	3,497
Bush and small fruits .....	83	148	66	119	104	78
Grapes .....	54	84	34	56	33	172
Market gardening .....	91	497	121	365	86	621
Home gardening .....	199	741	115	257		
Totals .....	7,447	9,547	5,617	7,281	33,829	41,166



## HOME ECONOMICS

MYRTLE WELDON, *State Leader*

It is not uncommon to hear the remark, "The American home is going to smash," or "The home is not what it used to be." Those who have made this remark have never had the opportunity to witness the mobilization of the rural American homemaker, and to see the constructive effort she is making to make the rural American home not "what it used to be," but better, finer and more far reaching than it has ever been.

The Home Economics Extension movement has made it possible for the rural homemakers of Kentucky not only to gain information which makes it possible for them to apply the contributions of science and art to their chosen profession, homemaking, thus simplifying the mechanical tasks of homemaking and making the home a more healthful and beautiful place in which to live, but to get together in groups, as homemakers. It has stimulated a new attitude toward homemaking, a keener appreciation of the bigness and importance of the job, has opened new fields of interest in the mental, moral, social and spiritual aspects of homemaking, and in community homemaking which involves the problems of better rural education, community health and sanitation and more wholesome rural recreation.

The Home Economics Extension program is carried on thru a county organization known in Kentucky as the County Homemakers' Association which is composed of women who wish to receive the benefits of the Home Economics Extension program. Each interested community in the county is organized into a community homemakers' club which is the local study group. Each group selects its own officers and project leaders for adult and junior work. The chairman of each community club is ex officio a member of the county advisory council whose function it is to direct the affairs of the association in the county. These councils have planned programs of work, promoted fairs, raised funds for various purposes and cooperated with the county home demonstration agent in many ways in executing the program. In

so doing the women have developed powers of initiative, self confidence, poise and leadership.

The officers of all community groups have been given training in their duties at an officers' training school. It would be a real surprise to many to walk into a rural homemakers' club meeting and see the presiding officer conducting the business according to the best rules of parliamentary procedure, secretaries with minutes well written up and committee members making reports with ease and self confidence. A president of a Daviess County Club sent in the following report: "Our women have been taught proper methods of business procedure in conducting meetings and our officers have put into practice the training received. We all stand when we address our chairman for we want to do it right." The development of the Homemakers' Association has given a new impetus to the work. Altho only one new county has been added during the year, the number of community homemakers' clubs has increased from 294 with a membership of 2410 to 377 with a membership of 4124 during the past year. Not only has the number of clubs and members increased, but it has become, thru organized effort, a real power for good in the county.

The effort of the past years to develop local leadership on the part of rural women has met with noteworthy success. The development of an organization and a county program of work, has made possible a rapid development of leadership. All the work of home Economics Extension specialists in organized counties is carried on thru the local project leader who receives training from the specialists at regular intervals, and in turn repeats the work to the women in her community.

Quoting from an annual report from Graves County: "The most outstanding accomplishment of the year has been the securing and functioning of local leaders. These leaders have developed remarkably. Trained leaders are one of the best assets a community can have and do more to put the extension program on a sound, firm basis than any other thing. These leaders have not only given excellent lessons to their clubs and have practiced

what they preach, but have endeavored to reach the women in the community who have not yet become sufficiently interested to join the Homemakers' organization and have thus made the work much more far reaching and, best of all, these trained leaders are a permanent influence in their own communities."

#### PROGRAM OF WORK

The extension projects carried on in Kentucky may be classified under five main headings: Food, Clothing, Home Improvement, Home Health and Sanitation, Community Activities. The program carried on in any county is of its own building. A community program planning meeting in each community forms the basis of a subsequent meeting of the advisory council, at which time the county-wide program is planned. The county major project is carried on cooperatively by the specialists, home demonstration agent and project leader. The specialist trains the local leader who is the teacher in her community. The home demonstration agent helps to select the leader, makes all local arrangements, checks upon local leaders, secures local cooperation, plans local meetings, secures records and supervises demonstrations. In addition to her part in the county major program the home demonstration agent carries on a local program in the county based on the particular interests of the community groups.

#### CLOTHING

##### *Selection*<sup>b</sup>

Selection is a fundamental clothing problem of interest to every woman. Whether she sews or whether she buys her clothing ready made, every woman desires to be as beautifully, appropriately, suitably and comfortably dressed as possible. To do so, she must select the color most becoming to her, the design which emphasizes her good points and conceals her bad points, the material and style suitable to her occupational and social needs. Since selection is fundamental to all clothing work, the beginning course in clothing is selection supplemented by simple

constructive processes applied to the construction of undergarments. The object of the selection course, as stated by the clothing specialist, is:

1. To develop an appreciation for the beauty of simplicity in clothing, and a feeling for real values.
2. To enable women to make simple and attractive clothes that do not bear the stamp of "home made."
3. To develop a true conception of what is meant by being "well-dressed."
4. To make possible for these women the achievement of poise, confidence, and consequent usefulness which comes with the realization of being well-dressed.
5. To develop a spirit of cooperation and helpfulness thru the use of local leaders.
6. To bring about a better understanding and cooperation between dry-goods merchants and their rural customers.
7. To lead the women to see the relation existing between a correct body posture and the desired style effect of a garment.
8. To enable women to effect an economy of time and money thru the adoption of simpler and better methods of sewing.
9. To influence as many as possible to adopt comfortable and hygienic clothing for themselves and their families.
10. To lead women to plan in a systematic manner the clothing for each member of the family, thinking in terms of clothing units rather than of isolated articles, as a hat, a coat and so on.

This year 122 communities have been carrying on this program. Altho it is difficult to count results of this course since it does not involve articles made, striking results can be seen in better dressed women and consequently greater poise and self confidence on the part of the women. One county home demonstration agent reports that "When we look over the groups of women at the close of this year we realize that our year has been well spent, especially the time spent in studying line, color, design and selection of material."

Several counties have followed the clothing selection course with clothing construction. Here again are evidenced the results of the selection course in the very high standard of work done.

In the clothing construction work the women of Kentucky are learning:

1. Short cuts in sewing thru better understanding of the sewing machine. An expert demonstrator is furnished by the Singer Sewing Machine Company for each lesson, who gives instruction in the following:
  - a. Care and operation of the sewing machine.
  - b. Machine troubles, and their causes.
  - c. Use of attachments, and
  - d. Practical short cuts thru their use.
2. Selection, testing, alteration and use of commercial patterns.
3. Fundamental constructive processes such as seams and their uses, bindings, facings, pipings, hems, collar and neck openings, how to set in sleeves, to insert flares, godets and inverted pleats.
4. The making, mounting, covering and use of the dress form.
5. Making a simple one-piece dress.

### *Millinery*

There are some who smile at the idea of the rural woman making her own hats, but here the old saying holds true, "He laughs best who laughs last." The rural women in Kentucky are not only learning to make their own hats at a saving of money, but they are learning to appreciate a beautiful hat, to choose the color and line most becoming to them, and they are wearing hats and better looking hats than when they used to buy them.

The rural woman has had little opportunity for creative expression of her innate love of the beautiful. The millinery work has given this opportunity for self expression, and many women have been surprised at the work of their own hands. Sixty-two hats were made by the women in three clubs in one remote mountain county at an estimated saving of \$250.00. The home demonstration agent says, "This short course in millinery was a bright spot in the lives of these women and has given them more joy than we can realize."

*Tailoring*

There are a limited number of women in the state who have done considerable clothing work and who wish to go on and attempt something more difficult. A course in the making of tailored garments has been offered to these groups. Since this project is not of interest to every homemaker, leaders have been chosen from those who were interested in learning to make tailored garments. This course has not been repeated in the communities, but these leaders have taught the women in their communities such common constructive processes as every home sewer needs to know, such as tailored pockets, plackets, seams and some tailored finishes. Reports show coats made and remodeled, dresses remodeled, boys' coats and suits made. Here again, the women are surprised at their own accomplishments.

While basketry has not been emphasized as a project, there has been considerable interest among the women in making baskets for home use, for decorative purposes and for sale. This work has been carried on by the home demonstration agent and many useful and beautiful baskets, trays, lamps and even some wicker furniture has been made.

## FOODS

The food project as carried on in Kentucky may be classified under four headings: Selection, Preparation, Production, Preservation.

*Selection*

The selection of the food thru the whole of life and particularly from infancy thru adolescence is fundamental to growth, vitality, resistance to disease and general health. Since the homemaker selects and prepares the family meals, it is in her power to determine whether her family has the food which will furnish the necessary elements to build strong bones, pure blood, strong nerve and muscle, provide for maximum growth and development, maintain good digestion and elimination or the reverse. Malnutrition, particularly among children, low standards of health, frequency of minor ailments, indicating low resistance,

are evidences of poor food selection. The purpose of the food selection program is to teach the homemaker: (1) the importance of food in relation to health; (2) the food requirements of people of various ages and in various conditions and occupations; and, lastly (3) how she in her own particular locality and on her means can provide for her family a healthful diet. The immediate results of this program are shown in increased consumption of milk, fruits, vegetables, more thought given to preservation of foods necessary to provide a healthful diet during the winter, more carefully planned gardens, decreased consumption of rich pastries, fried foods, sweets and meat, particularly pork. We find numerous homemakers who are not just preparing what happens to be handy, but who are planning their meals in advance, keeping in mind the importance of an intelligent selection of foods. Henderson County culminated a program in food selection with a nutrition contest. The women entering the contest kept an exact record of their meals over a period of several weeks. The requirements of an adequate diet were arranged on a score card, each given a numerical value, and these menus were scored at the close of the contest. Each woman wrote a story in connection with this contest. It was interesting to note the improvement in health reported over the relatively short duration of the contest.

#### *School Lunch*

Not as much time is given to the school lunch project as heretofore. This has been taken over in many instances by the Parent-Teachers' Association and the home demonstration agent acts only in an advisory capacity. Many school lunches have been promoted by and are under the supervision of the county extension worker.

#### *Preparation*

The selection of food is the first and fundamental step in a satisfactory family diet. Once selected, food must be prepared, so it is appetizing, attractive and digestible and must be attractively served. The aim of the food preparation project is to teach

the principle of cookery of the different food groups, to teach enough nutrition to stimulate an interest in better meal planning, and to provide better cooked, more digestible, more appetizing and more attractive meals for the family. This has been a very profitable project in Kentucky during the past year. Standards of food preparation are poor. It is the rule rather than the exception in rural homes to find food poorly cooked, poorly seasoned, carelessly and unattractively served. One rather interesting extract from a county report states that one husband was so pleased with the improvement in his wife's cooking that he bought a new car and taught her to drive it that she might not miss any meeting. Another county reports that the course has been invaluable and has reached not only the club members, but all their neighbors and relatives. Along with improved methods of cookery are evidenced increased consumption of vegetables.

#### *Preservation*

The number of jars of food preserved has decreased slightly this year, probably due to the fact that the dry weather made gardens unproductive. However, more people are thinking of preservation in terms of an adequate diet during the winter than in terms of jars canned and we find a better variety of preserved food, less jam and preserves, more canned fruits and vegetables. In most counties where extension work has been carried on for some time, canning methods are fairly well standardized. Increased emphasis is put on the making of a canning budget to meet the family needs.

#### *Production*

In order to have a well selected variety of fruits and vegetables during the summer and a surplus to be stored or preserved for winter use, the family garden must be given careful consideration. The garden specialist has given the Home Economics Extension Department invaluable help in carrying on a garden project. Six hundred and twenty-one women were enrolled in the garden project this year.



### HOME IMPROVEMENT

The object of the Home Improvement Project is to make the homes of the country more convenient and efficient workshops for the accomplishment of the many tasks of housekeeping and more attractive and satisfying places in which to live.

#### *Wife Saving Kitchens*

Last year nine counties carried on a wife saving kitchen campaign, the results of which were almost spectacular. While this program has not been carried on this year, it is interesting to note that 594 homes have obtained additional labor saving equipment, 155 kitchens have been planned and re-arranged thru the influence of last year's local leaders who have continued to function.

#### *Home Furnishing*

Six of the counties enrolled in the wife saving kitchen project have taken the Home Furnishing program this year. The



McCracken County project leaders learning to make lamp shades.

women are learning that a beautiful home environment is not a matter of expensive furnishing, but of wise and intelligent selection and arrangement. This course has taught the homemaker how to make her walls beautiful backgrounds for her furniture, pictures, and for the family itself; how to decorate and care for floors and woodwork; how to select and make curtains and draperies; to select, frame and hang pictures; how to secure pleasing color combinations in the home; the decoration of the mantel and use of other accessories. The results of this program have been very far reaching tho not as spectacular as the kitchen contest. One county reports that every club member has made some improvement. Over two thousand women were enrolled in this project and approximately 1,000 homes were improved. The program was terminated by a county tour of the homes showing greatest improvement. In McCracken County 70 people went on this tour. Six homes were visited, each of which had two or three improved rooms to show. Among the improvements, water systems installed, furniture remodeled, refinished and re-arranged, walls refinished, floors refinished, windows redecorated, useless bric-a-brac removed. Reports continue to come that new improvements are being made. Some of the tabulated results are as follows:

No. walls, woodwork, floors, improved .....	632
No. improvements in selection and arrangement of furniture .....	1421
No. pieces old furniture remodeled and refinished.....	697
No. bed rooms improved.....	475
No. living rooms improved .....	369
No. dining rooms improved .....	276

#### *Landscape Gardening*

Here, again, we have been fortunate in securing the help of the agricultural specialists in carrying on a landscape gardening project in 39 communities. Five hundred and fifty women were enrolled in this project and 376 home grounds were improved as a result. One county carrying on the project has 33 result demonstrations involving 20 homes and eleven school grounds which were landscaped according to suggestions. The work was

given in most instances to local leaders who, in turn, sponsored the project in their communities.

### *Home Health and Sanitation*

Altho the Extension Division does not maintain a specialist in health and sanitation, the Home Economics Extension service is working in all counties to secure higher standards of health. Many counties here are carrying on a health program and are studying such vital subjects as home and community sanitation, keeping physically fit, control of communicable diseases, home care of the sick, invalid cookery, control of household pests. Some of the immediate results are homes screened, water tested, wells drilled, sanitary toilets installed, fly traps constructed, rodents exterminated, school children weighed, measured and defects corrected, health clubs in rural schools. Two thousand two hundred and seventeen homes have adopted improved health practices this year.

### COOPERATION WITH OTHER AGENCIES

The Home Economics Extension Service is both giving and receiving greater cooperation. A conscious effort has been made to cooperate with such agencies as have mutual interest. Cooperative relations have been established with such organizations as the County Farm Bureau, the county health department, county Red Cross representatives, Parent-teachers' Associations, various women's organizations, boards of trade, chambers of commerce, merchants and churches and county fair associations.

### COMMUNITY AND MISCELLANEOUS ACTIVITIES

The interests of rural women are widening and with this widening interest they have sponsored many activities of community interest. Each Homemakers' Club is urged to build into its program a community project.

### *Fairs*

Home Economics Extension service took part in 23 county fairs this year and many community fairs. This is a fine oppor-

tunity to show the public the results of the extension program. Exhibits made this year were larger in number and decidedly superior in quality. One remote mountain county reports 2,775 visitors during the two days of the county fair. The exhibits in the women's department came up to a high standard.



A feature of the exhibit made by the Department of Home Economics at the State Fair. The idea is to show the unsatisfactory working conditions to which many farm women are subjected and which have caused their untimely death.

### *School Improvement*

The Homemakers' Clubs of Kentucky have done much during the past year to futher educational advantages for the children in their communities. School buildings have been re-decorated, grounds landscaped, water systems and sanitary toilets installed, equipment purchased, hot lunches served through the influence of the Homemakers' Clubs. In many instances the women have raised the money and have contributed their personal service in doing the work.

### *Rural Recreation*

More and better recreation is a real need if rural people are to be a healthy, happy, enthusiastic, contented people. Several County Homemakers' Associations have been sponsoring such activities as community dramatics, community singing, community picnics, community parties. Recreation is forming a part of every program in some counties.

### *Community Improvement*

Among some of the community projects adopted by the Homemakers' Clubs, are such things as clean-up campaigns, landscaping of towns, furnishing of rest rooms, erection of community buildings.

### *Homemakers' Camps*

Two counties, Jefferson and Christian, have held county Homemakers' camps. These camps have offered the rural woman an opportunity for a short vacation from her strenuous duties, at a very moderate cost. They have also given her the opportunity to spend that vacation profitably. The camp program was instructive, inspirational and recreational. More counties are planning to conduct homemakers' camps next year.

### *Farm and Home Week*

The Homemakers' Associations are taking an active interest in sending delegates to Farm and Home Week. These delegates will be their local leaders and will take back the message to the home county. Last year several counties sent delegations. This year many more are expected. Money has been raised to send these delegates by various community activities such as pie socials, box socials, amateur dramatics, moving pictures, food sales, etc.

## JUNIOR HOME ECONOMICS EXTENSION

The Junior Home Economics Extension program is a vital part of any extension program. The girls of today are the home makers of tomorrow. If they can, in their formative years, be

impressed with the importance of the profession of homemaking, and can be taught better homemaking practices, their influence for good on the future home life of America cannot be calculated.

In order for the junior program to be as effective and far reaching as possible, the interest of all the people in the community, especially the parents, is imperative. It has been the effort of the extension service in Home Economics to impress on every adult Homemakers' Club the importance of sponsoring a junior group, and of taking an active part in the junior program in the community. Several counties have responded 100% and every woman's group has adopted a junior group and furnished the junior project leaders. Most of the junior Home Economics Extension program has been carried on through adult project leaders trained at regular intervals by the subject matter specialists.

The homemaking projects forwarded this year were clothing, canning, room improvement and foods. They were selected with the purpose of teaching the girls to perform everyday tasks efficiently, to develop the right attitude toward homemaking, to make their own homes attractive, and to develop themselves.

#### *Clothing*

The aim of the clothing projects is to teach girls to construct clothing neatly, correctly and efficiently, to select the color, design and material which is beautiful, appropriate and durable, to the end that they may be well dressed and may acquire the ease and poise attendant upon proper clothing, also to develop in the girls high standards of personal hygiene and health. The clothing work has been arranged in four units. Usually one unit is completed in one year's work. By the time the girl has finished her clothing work she has learned all common constructive processes, has made for herself or others all types of garments suitable for a girl's wardrobe and has gained the standards in clothing which will enable her to be well dressed at all times.

*Foods.*

During the past year the foods project has been carried on largely by the home demonstration agents. The object has been to teach the girls how to prepare well cooked, palatable, appetizing foods and how to select the foods which will build strong, healthy, resistant bodies.

*Canning.*

During the three units of canning the junior club girls learn approved methods of canning fruits and vegetables, pickling, making jellies, jams, preserves, conserves, etc., and help to plan a canning budget for the family. Leaders have been trained to supervise the canning project. The result of the canning project, while exceptionally high in quality, has been low in number, because of the drought and consequent severe shortage of fruits and vegetables to preserve.

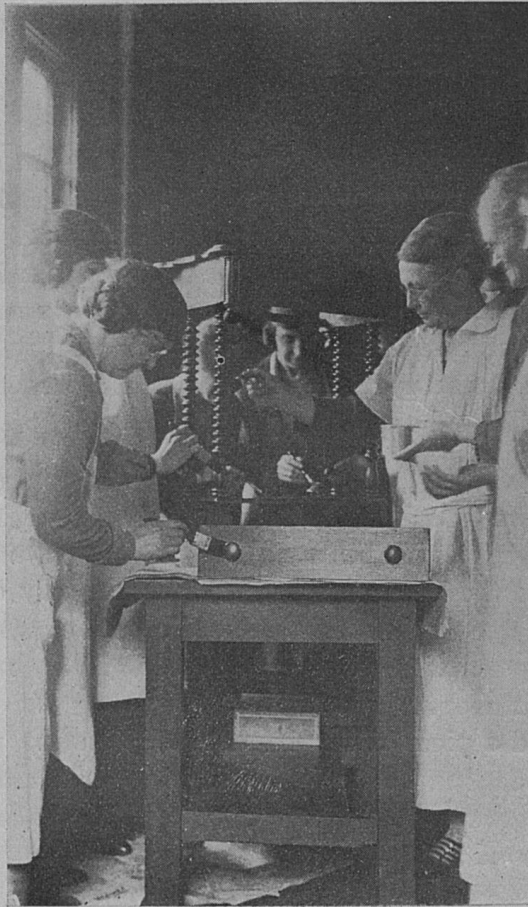
*Room Improvement.*

The room improvement project is new in Kentucky. Although many girls over the State have improved their rooms with the help of the home demonstration agent, only one group did outstanding work as a group. A group of six girls in Mercer County entered this project and made remarkable changes in their rooms. Most of them did over the walls and floors, refinished a piece of furniture, made curtains, table runners, lamp shades, and tinted pictures for their rooms. One girl from the group who exhibited at the International Club exhibit won second prize.

*Demonstration Teams.*

Since the object of junior club work in Home Economics Extension is not only to teach subject matter to the girl, but to develop leadership, a desire to serve, and to develop poise and power in the girl, emphasis has been put on getting the girl to teach others what she has learned. Since demonstration is one of the best methods of teaching a practice, each junior project group has been encouraged and trained to make demonstrating a part of its program. The girls who are most successful, form

a demonstration team to represent their club at a county contest. Each winning team in the county, later, represents its county at the state contest. It is remarkable to see the poise,



Daviess County leaders refinishing old furniture.

power, self confidence and ability of self expression, which these girls acquire and the amount of information which they have mastered.

#### CONCLUSION

Much of the success of the Home Extension program is due to the home demonstration agent. She is the hub around which



the entire county program revolves. She keeps the machinery working; she is the friend and helper of every homemaker in the county who is willing to receive her help. Her enthusiasm is the constant inspiration of the club members with whom she comes in contact. Her training in Home Economics make her of invaluable service in the establishing of better home practices.

It is impossible in this brief summary to give a comprehensive report of the Home Economics Extension program. It may suffice to give a "bird's-eye view" of the many interests and activities which are engaging the attention of the rural women in Kentucky. The results which can be counted are gratifying, but far more gratifying are the intangible results, the human values. We see happier homemakers, proud of their place in the scheme of things, and with a consciousness of power which comes from service to their homes and their communities. Initiative, poise, self confidence are being developed and with it possibility of greater service. A social consciousness is being awakened in the rural woman. This great woman-power of rural Kentucky can and will make a great contribution to a more satisfying farm home and community life.

#### STATISTICAL SUMMARY

The following figures taken from the reports of the county extension workers will give an idea of the activities and results of the Home Economics Extension program and of the growth and development of the work during the past year.

ACTIVITIES	Women	Girls
No. of communities carrying on extension programs ....	377	
No. local leaders actively engaged in carrying on extension programs .....	1,075	344
Membership in homemakers' clubs .....	4,124	
Membership in Home Ec. junior project groups .....		4,386
Home visits made .....	4,719	
Number individual letters written .....	10,667	
Training schools for local leaders		
Number .....	284	
Attendance .....	3,243	

Method and result demonstration meetings		
Number .....	3,762	
Attendance .....	57,182	
Miscellaneous meetings		
Number .....	458	
Attendance .....	23,998	
Demonstration teams trained .....		81

## FOOD PREPARATION

No. project groups .....	98	77
No. members enrolled .....	1,956	558
No. homes adopting improved practices in food preparation .....	2,631	

## FOOD PRESERVATION

No. project groups .....	62	
No. members enrolled .....	831	539
No. homes adopting improved practices in food preservation .....	1,649	

## NUTRITION

No. project groups .....	303	
No. members enrolled .....	1,535	437
No. homes balancing family meals .....	745	
No. homes carrying on improved practices in child feeding .....	772	
No. different homes adopting improved practices in nutrition .....	2,241	

## CLOTHING

No. project groups .....	122	221
Members enrolled .....	2,161	3,196
No. method demonstrations given .....	2,080	
No. individuals adopting improved practices in selection and reconstruction, costume design, renovation .....	3,654	
No. dresses and coats made .....	754	920
Undergarments made .....	1,578	3,106
Hats made .....	2,490	228

## HOME IMPROVEMENT

No. enrolled in home improvement .....	2,219	52
No. homes adopting improved practices in home furnishings .....	985	

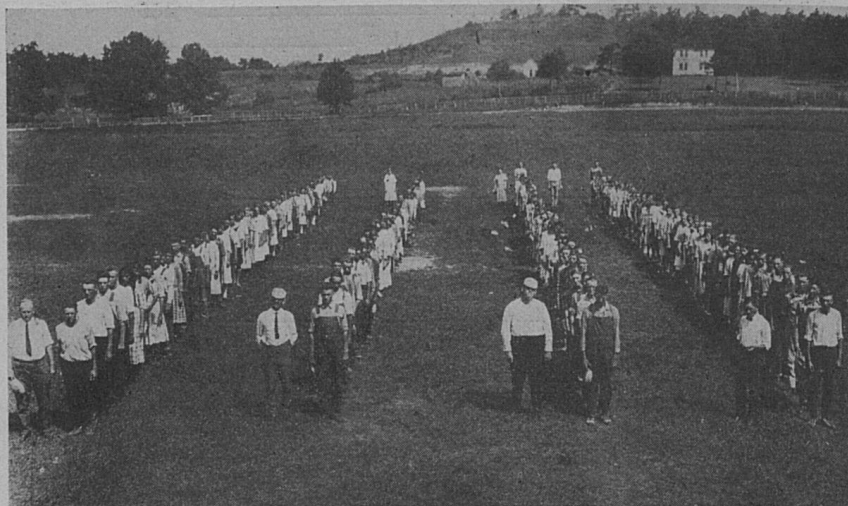
No. rooms improved .....	1,258
No. kitchens improved .....	155
No. homes obtaining labor saving devices .....	594
No. homes screened for first time .....	184
No. home grounds planted according to instruction .....	76
No. school and community grounds planted .....	15
Total homes adopting improved practices in beautifying home grounds .....	376

HOME GARDENS

No. project groups .....	49	12
Number members enrolled .....	621	90
Total number homes adopting improved practices in gardens .....	643	

MISCELLANEOUS

Members enrolled in miscellaneous projects .....	2,106	1,005
No. baskets made .....	2,469	
No. homes adopting improved practices in home recreation .....	300	
No. homes adopting improved practices in home health and sanitation .....	2,217	



At a Junior Club Camp. Groups or tribes lined up for recreational activities.



State Champion Home Practice Demonstration Team, 1925. "Room Furnishing." Dorothy Kirkpatrick and Elizabeth Warner, McCracken County.

## JUNIOR CLUB WORK

J. W. WHITEHOUSE, *State Leader*

### DIVISION OF ACTIVITIES

Each member of the staff of the Club Department has general charge of the Club Work done in the counties under his supervision. In addition to the regular duties, two members of the staff are promoting special activities which are of a state wide nature. These projects are baby beef and fat lamb. The field agent in girls' work has general charge of activities in home economics.

### SPECIAL STATE EVENTS

The special activities of a state wide nature fostered by the Club Department this year were: Junior Week, Fat Lamb Show and Sale, Camps, State Fair Exhibits, Livestock Judging Contest, Judging and Demonstration Teams at the National Dairy Show, Baby Beef Show and Sale and educational trips to the International Livestock Show.

### JUNIOR WEEK

Junior Week was held again this year, June 8-13, on the University grounds. Four hundred and thirty-one of the best club members from 67 counties attended. Forty-four county agents, 19 home demonstration agents and 40 local community leaders were also in attendance.

The program consisted of practical instruction on farm topics and rural home problems with plenty of time for play and recreation. The boys and girls were given an opportunity for self expression in some of the evening entertainments.

The State Demonstration Team Contest is one of the interesting phases of the Junior Week program. This year 17 county teams participated in the Home Practice Demonstration Contest and 20 in the Farm Practice Contest. No county teams were admitted to the State Contest unless they had won this right through a county contest. Three hundred dollars in cash was awarded in each contest. The county home demon-

stration agents are using their junior demonstration teams to improve farm and home practices in their counties.

A new feature of the Junior Week program was a training conference for the local community leaders. R. A. Turner of the U. S. Department of Agriculture gave the instruction. He met with the leaders each morning from nine until eleven. All of the leaders were well pleased with this part of the program.

#### FAT LAMB SHOW AND SALE.

The Animal Husbandry Department has been working diligently for the past four years to get Kentucky farmers to produce standard spring lambs. This was made a project for junior club members in 1924. In 1925, the second year of the project, 1478 lambs were exhibited by club members at the State Lamb Show and Sale. All of these lambs had been docked and the ram lambs trimmed. Practically all of these lambs had been sired by a purebred ram.

#### CAMPS.

Fifty counties sent 2169 club members to 29 camps this year. One hundred and ninety-five local leaders and 33,507 visitors also attended. These camps were held during July and August. Four camps were held simultaneously, each under the direction of a member of the Club Department. The camps start Monday noon and close Friday morning.

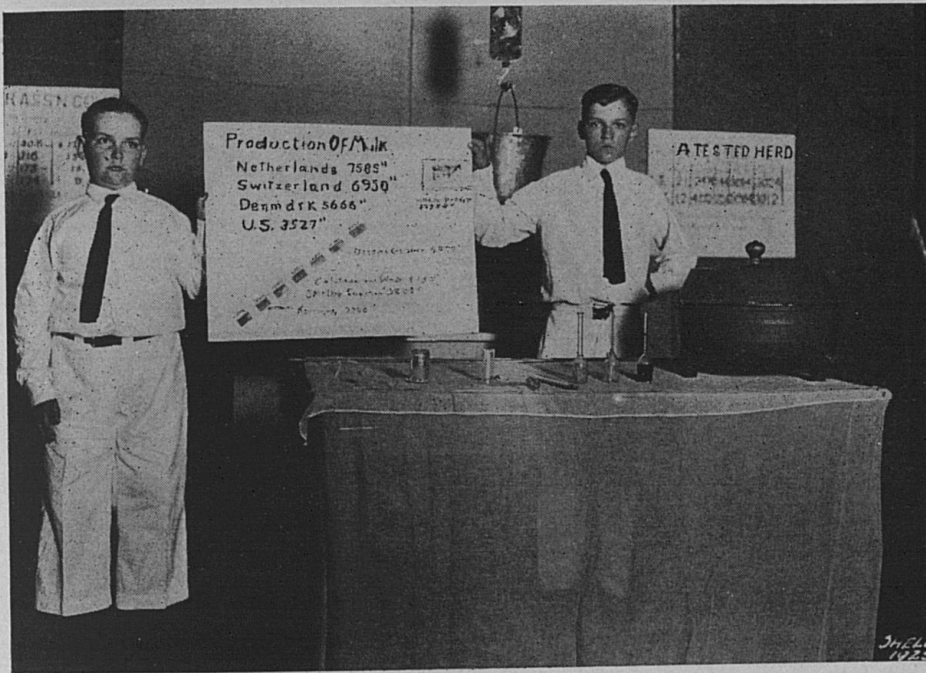
Instruction in agriculture, home economics and nature study was given in the morning and the afternoons were given over to play and recreation. Handicraft work was given this year which was enjoyed by the club members. The boys made rope from binder twine and the girls made attractive flower vases out of pickle bottles, coffee cans, etc., with the use of a little paint.

The State Board of Health also cooperated in health instruction at the camp.

#### STATE FAIR EXHIBITS

A separate department is maintained at the Kentucky State Fair for the exhibit of products made or grown by junior club

members. One thousand four hundred and fifty dollars was offered in premiums in this department. This year there were 153 entries of poultry, 24 dairy calf, 31 pig, 9 sheep, 141 canning and 183 clothing. The state champions in canning, clothing, poultry, swine and dairy calf production are selected at the State Fair.



State Champion Farm Practice Demonstration Team, 1925. "Dairying." John Trumbo and George Wells, Shelby County.

#### LIVESTOCK JUDGING CONTEST

Fifty-seven teams competed in the State Livestock Judging Contest which was held at the State Fair this year. Only one team from a county participated in the contest. To be eligible to enter in the State Contest a county contest was required. Five hundred and fifty dollars was given as premiums in this contest. The team which scored highest in judging dairy cattle was awarded a trip to the National Dairy Show.

#### NATIONAL DAIRY SHOW

Kentucky had a judging and demonstration team in the junior contest at the National Dairy Show.

## BABY BEEF SHOW AND SALE

Kentucky had the largest Junior Baby Beef Show this year of any state in the Union. Six hundred and fourteen baby beeves which had been fed by club members were exhibited and sold. This is the fourth year for the show and sale and each year there is a noticeable increase in the number of calves and improvement in the quality and finish.

The work of the baby beef project as carried on by club members is having a marked influence on the beef cattle industry of the state. Farmers are learning that it does not pay to keep steers until they are two or three years old before they are marketed.

## EDUCATIONAL TRIPS TO INTERNATIONAL LIVESTOCK SHOW

Twenty club members from Kentucky attended the International Livestock Show this year. All of these were winners of trips and had their expenses paid. On the exhibits in the girls' department Kentucky won the first in canning, second in room improvement, fourth in clothing and one girl won fifth place in judging canned products.

## LOCAL LEADERS.

The members of the Club Department have given a great deal of time during the year in helping county and home demonstration agents select and train local project and community club leaders.

Four hundred and nine local people have actually helped to carry on the junior club program throughout the state. To encourage these leaders the state club office gave to each leader a 4-H leader's pin. These pins were much appreciated, judging from the letters received from these leaders.

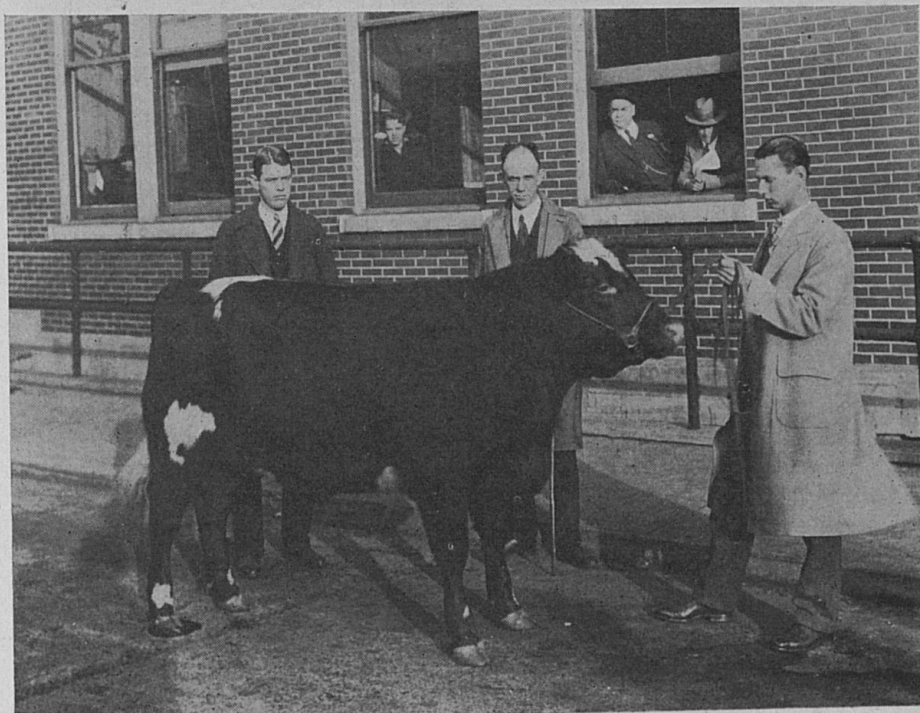
## COOPERATION OF SPECIALISTS.

The specialists and subject matter department prepare all of the subject matter material used by the Club Department. The specialists also meet with junior project leaders on request and give required instructions.





Arch Sears, Fayette County, and his champion Feland China Gilt, 1925.



Garvey Hayden of Washington County and his grand champion calf, State Baby Beef Show, 1925. The calf sold for \$1.20 per pound and dressed 67½ per cent.

One of the clothing specialists in the office of Home Economics Extension had given a large percentage of her time to training leaders in clothing projects for girls in counties without home agents. Some very excellent work was done by these groups of girls who received all their instructions from the local leaders. At the State Fair one of these clubs won first prize on a club exhibit of dresses which they had made.

#### COOPERATION FROM OUTSIDE SOURCES

Junior Club Work in Kentucky is splendidly supported by the press, railroad companies, business concerns, luncheon clubs and the public in general. The L. & N. Railroad Company gave a trip to Junior Week Exercises to one club member in each county served by the L. & N. and in which there was an extension agent. This company also gave trips to Junior Livestock Judging Teams from the same counties to the Kentucky State Fair. The L. H. & St. L. cooperated on the same basis as the L. & N. The I. C. Railroad Company furnished transportation to judging teams to the State Fair and gave educational trips to the International Livestock Show to seven club members. The other thirteen trips to the International were paid for by business firms most of which are within the state.

Seven club members were sent to the National Dairy Show by the Dairy interests of the state.

The money for the State Demonstration Teams was given by two business firms in Louisville.

#### INFLUENCE OF CLUB WORK

Club work has a wholesome influence on any community. A large number of county superintendents of schools say that a club in a community helps the school. It also inspires boys and girls for higher education. There are 160 former club members in the University of Kentucky this year and a larger per cent of them are in the Agricultural College than any other college. There are more than 100 former club members in Berea College and 80 per cent of them state that they got their inspiration for a college education from Club Work.

“A Just Reward Came to Him Who Was Faithful to His Club.”

Garvey Hayden, who has been a member of the Mackville Junior Agricultural Club of Washington County for four years,



Grand champion carload of baby beeves at the State show and sale, 1925. These animals were fed and fitted for the show by club members of Garrard County.

this year took for his project three Shorthorn calves. One of these calves developed into an especially fine steer. Garvey exhibited him at two state fairs and two county fairs and won in premiums \$385.00.

At the Louisville State Fair he was offered \$450.00 for the calf by an exhibitor. This was about \$300.00 more than the market value of the calf. Garvey refused to sell the calf for the reason that the boys back in his county were depending on this calf to make their carload win in the State Beef Show and Sale and he was not willing to jeopardise their chances of winning for his own personal gain. In other words, he was willing

to take a chance of losing two hundred or three hundred dollars rather than to be unfaithful to his fellow club members.

At the State Baby Beef Show and Sale, Garvey's calf was declared grand champion of the show and when it was brought



Junior Clothing exhibit at the State Fair, 1925.

into the ring to be sold the buyers were told of Garvey's faithfulness to his club. The calf sold for \$1.20 a pound and brought Garvey \$1,272.00. At the State Show the calf won \$233.00 in premiums, making Garvey's total income from this calf \$1,890.00. The other two calves sold brought him about \$100.00 profit each. He now has approximately \$2,000.00 made from his club work this year which he plans to use to pay for a four year course at the State Agricultural College. He will finish high school this year and enter the University of Kentucky next fall.

Garvey is also president of the Kentucky Association of Junior Agricultural Clubs.

#### STATISTICAL REPORT

Number of chartered clubs .....	41
Number of certificates of merit issued .....	323

Number of certificates of achievement issued .....	3109
Number of community or local leaders .....	1570
Number of clubs carrying on Extension work .....	847
Number of members in Junior Club Work four years or more (boys) .....	625
Number of members in Junior Club Work four years or more (girls) .....	783
Total number of club members in Junior Club Work four years or more .....	1408
Number of junior or judging teams trained .....	208

HIGH PER CENT OF FINISH

One of the tasks set for this year was to secure a higher per cent of finish. In 1924, 18,548 club members were enrolled and only 50% completed their projects. This year 20,493 club members were enrolled and 12,311 or 60% completed.

CLUB ENROLLMENT—1925

County Agents

Crops

Corn .....	880		
Soybean .....	292		
Potato .....	478		
Cotton .....	47		
Tobacco .....	260		
Miscellaneous .....	1267	3224	

Livestock

Dairy Calf .....	561		
Beef calf .....	479		
Swine .....	1829		
Sheep .....	500		
Poultry .....	5481	8850	
Food .....	60		
Clothing .....	1058	1118	13192

Home Demonstration Agents

Clothing .....	3196		
Food .....	1534		
Miscellaneous .....	1152	5882	5882

Colored Work

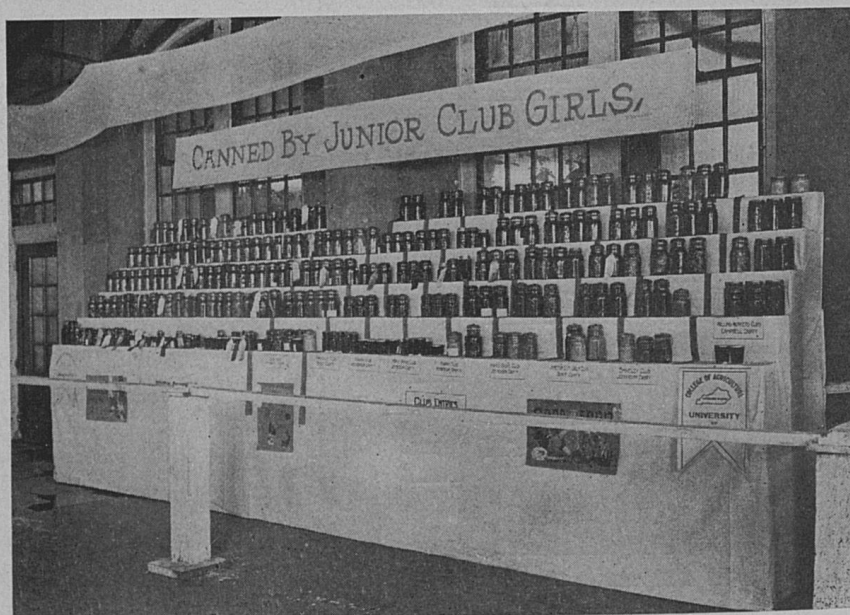
Crops

Corn .....	98	
Potato .....	145	
Tobacco .....	25	
Miscellaneous .....	186	454

Livestock

Swine .....	153	
Poultry .....	349	502

Food .....	463	463	1419
	<hr/>	<hr/>	<hr/>
	20493	20493	20493



Junior Club canning exhibit at the State Fair, 1925.

DEPARTMENT OF PUBLIC INFORMATION

C. A. LEWIS, *Editor*

During the year 1925, approximately 750 articles ranging from 100 to 500 words were distributed thru a weekly service going to all newspapers in the State, farm journals circulating in the State, a large number of newspapers and journals in other States, and the Associated Press. Other news syndicates also received this service.

A check was made during the year on the effectiveness of this service within the State. An Indianapolis bureau was employed for one month to clip items supplied by this service. Articles published in 74 Kentucky newspapers from April 8 to May 16 measured a total of 6,811 column inches, or a total of 340 columns, or an average of approximately 12 columns daily for the period covered.

Since this bureau does not clip more than 75 per cent. of the newspapers published in the State, and, in fact, misses some of the newspapers which make extensive use of material supplied by the Department of Public Information, it is safe to say that much more material was published during the period of the survey. Only material sent out from the Extension Division was considered. County and home agents furnish, in addition, a large amount of information to their local editors.

In addition to the regular weekly information service, an average of two articles a week were supplied the Associated Press correspondent at Lexington, and by him distributed by wire to the newspapers in the State which secure the Associated Press Service. This association's State correspondent also redistributes a considerable amount of regular weekly service.

A special weekly article dealing with home vegetable gardening, prepared by the field agent in vegetable gardening, was syndicated throughout the year with gratifying results. Many newspapers used this article weekly, reserving space for it, and information received thru letters to the author and from other sources indicate that this service was widely used both in and

out of the State. These articles were especially prepared for Kentucky conditions, and therefore appreciated by editors. This service is being improved, and will be used again next year.

Numerous special articles were furnished farm journals and newspapers during the year, giving information about special features of the Extension Division's activities, and about meetings and other special events. Particular mention should be made of the cooperation given by one Louisville newspaper. During the year this newspaper published three colored magazine pages of pictures of activities of the Extension Division, College of Agriculture or Experiment Station. This newspaper also used many pictures in its regular news columns, and published a large number of articles prepared by the College. Since this newspaper has a large circulation thruout the State, the value of its cooperation can hardly be estimated.

Plans for the coming year consist of continued improvement of the regular weekly service to newspapers, which is by far the most valuable and effective work that can be done; the syndicating of an improved vegetable gardening service; the supplying of more special articles and pictures to newspapers and journals which will use them, and the development of one or two special services, such as a market report from the Section of Markets, and possibly a special service from the Home Demonstration Section.



## MOVABLE SCHOOLS

N. R. ELLIOTT

*Leader of Specialists*

In 1925, nineteen Movable Schools were held in thirteen different counties, with a total attendance of 1,750. Practically all phases of Extension work were represented in these schools. However, never more than three subjects were given at any one school. It has been found that a two-day school having three subjects presented with enough local talent on the program to supplement the speakers from the Extension Division, is the most satisfactory arrangement.

Efforts are made to have these schools in different counties each year wherever possible. About eighteen to twenty-five schools are all that can satisfactorily be held, since it interferes too much with the other work of the specialists to schedule a larger number.

### EXHIBITS

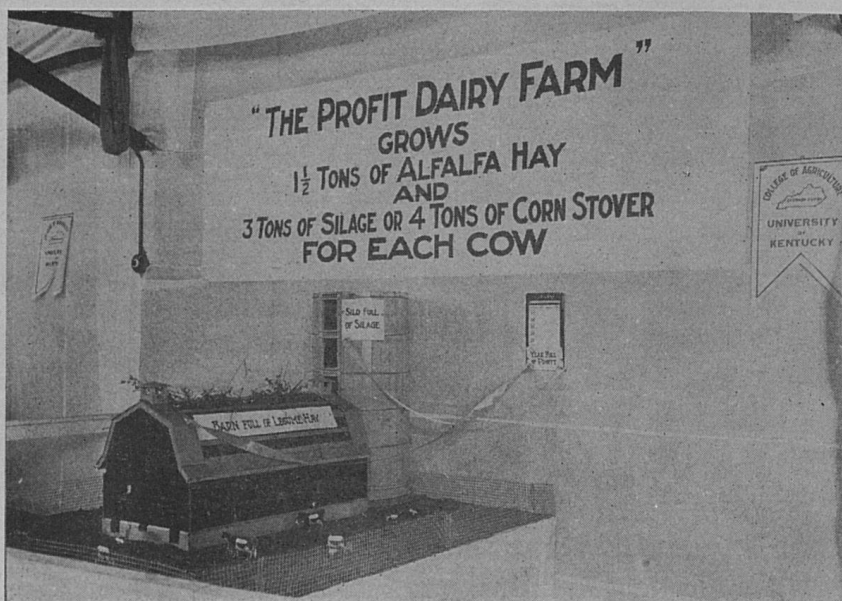
#### *International Live Stock Show*

An educational exhibit was installed at the International Live Stock Show in Chicago. This exhibit represented standardization work as carried on by the Extension program in sheep and poultry. The exhibit drew much comment and was selected as one of four state universities to be pictured in the annual international album.

### STATE FAIR

At the State Fair at Louisville, the College had educational exhibits portraying the work of the Extension Division in agriculture and home economics. The Animal Husbandry display consisted of exhibits in better sires and the curing of hams. The Poultry Department demonstrated the value of proper feeding; horticulture, the growing of better potatoes, and the varieties of apples adapted for use in home orchards in Kentucky; crops, the possibility of growing lespedeza on Kentucky soils, the value of lime and marl, while the agricultural engineering department showed the value of terracing. In dairying, the importance of

the farmer growing more of his feed was stressed, while in marketing the value of cooperation was shown. In home demonstration work, the exhibit portrayed the value of household conven-



A feature of the exhibit prepared for the State Fair.

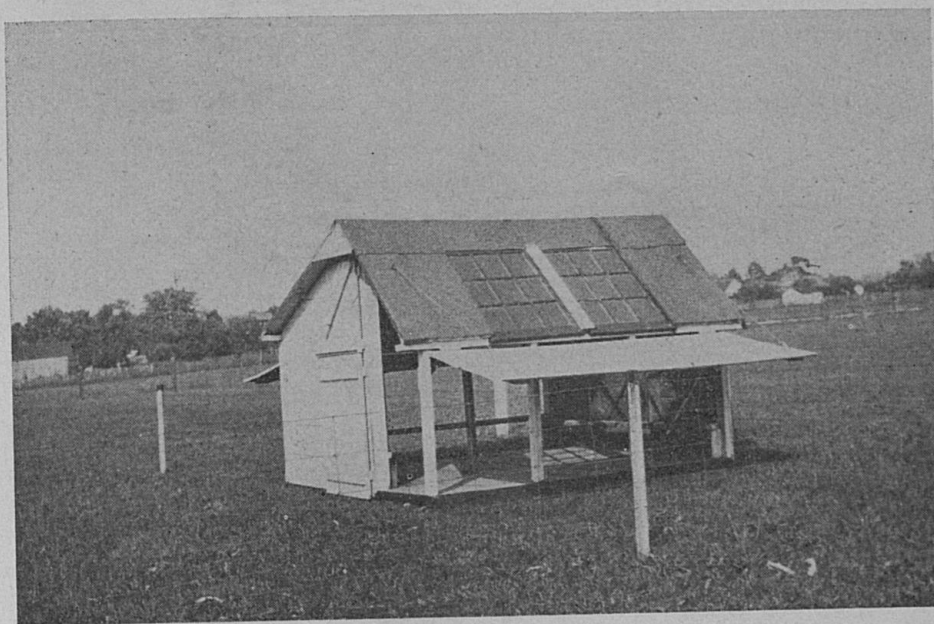
iences for the farm woman, while the junior agricultural club exhibit consisted of displays of clothing, and canned goods with a graphic representation of what club work means.

#### FARM AND HOME CONVENTION

The Farm and Home Convention was held at the University January 27, 28, 29 and 30. The attendance at this convention was good despite the fact that it was very unfavorable weather. Farm men and women were in attendance from forty-one counties. The program was divided into different parts, consisting of a general program, with livestock, agronomy, and farm economics work for three days, a home demonstration program for three days, a poultry program for one day, and a rural life conference for one day.

### BANKERS' DAY

On May 27th, the bankers from the fourth section of the State of Kentucky, representing 124 banks, held their annual meeting at the College. The Extension Division took advantage



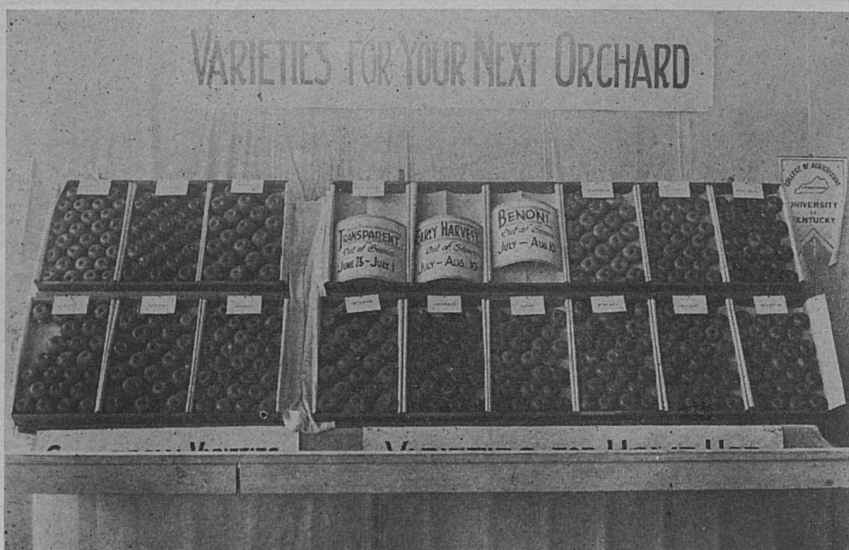
The sunlight portable hog house, designed by the agricultural engineers of the Extension Service and frequently exhibited at movable schools.

of the opportunity to present its work in agriculture and home economics by means of exhibits. The activities exhibited represented work in soils, crops, dairying, poultry, beef cattle, sheep, hogs, horticulture, agricultural engineering, junior agricultural club work, farm management, marketing and home demonstration work. There were approximately 325 visitors at this meeting. This meeting and the exhibits assisted in giving the bankers a better idea of extension work. Many of them are already cooperating in certain phases of the work in their home counties.

### LIME AND LEGUME MEETING

This represented the first meeting of this kind ever held in Kentucky. The success of the meeting can be judged by the fact that there were over 1,500 people present. An interesting and

constructive program made the two days especially successful from the standpoint of giving a large group of Kentucky farmers first-hand information on these two timely subjects, namely, lime and legumes. Interesting exhibits were on display, commercial



The exhibit and the movable school have done much to stimulate high quality fruit production in Kentucky.

lime crushers giving actual grinding demonstrations. The visitors were shown over the experimental plots of the Experiment Station farm.

#### STEREOPTICON SLIDES

Four new sets of stereopticon slides were completed on alfalfa, lespedeza, marl and poultry. These slides average from 20 to 30 per set and are all of Kentucky scenes. This brings the total number of slides up to 39 different sets dealing with agriculture and home economics.

#### MOTION PICTURES

During the year five new films, namely, *Birds of a Feather*; *Making Poultry Pay*; *Control of the Corn Borer*; *Four Men and the Soy*, and *Beans or Beetles*, were added to the collection of

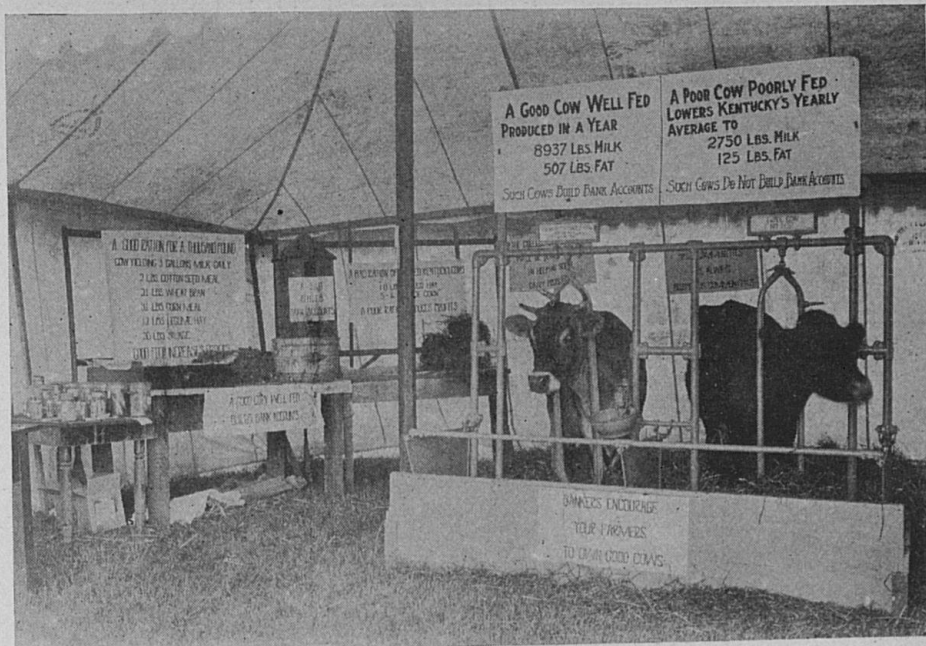
films owned by the Extension Division. This makes a total of forty different pictures consisting of one or more reels, owned by the Extension Division at the present time. Eighteen county agents now have their own picture machines and eight others have access to the use of a machine.

In 1925 the use of films increased so rapidly that it was impossible to supply all of the calls. Not only have the calls from the county and home demonstration agents increased, but schools, churches, farmers' clubs, cooperative marketing associations, all have made extensive use of films.

Valuable assistance has been given and much use has been made of the United States Department of Agriculture films that have been so generously loaned to supplement the films already on hand.

#### LANDSCAPE GARDENING WORK

Actual landscape gardening work was carried on in Garrard, Christian, Jefferson, Mercer, Graves, Oldham and Campbell counties. In all of these counties this work was carried on



Inside the dairy exhibit tent.

in cooperation with the home demonstration agents. The work consisted of rearranging and improving the home grounds, beautification of school grounds, as well as work in towns and villages consisting of making plantings in parks, vacant lots, as well as improving the lawns.

During the year definite plantings were made on twenty-three school grounds. The material used consisted of native trees and shrubs in most instances. In some it was a very fine collection of evergreens and the rarer shrubs, as one school in Jefferson County carried out planting plan that cost \$140.00 for trees and shrubs. It can well be said that this work is just starting and there is an unlimited demand for it.

In the beautifying of farm homes, eighty-four homes in six counties were touched by this work. The recommendations made to these homes consisted of rearrangement of plantings already made, adding of new material, and better care of plants already planted. In work in the towns and villages the home demonstration agent cooperated with the Federated Woman's Clubs. This work was carried on extensively in two county seats, namely, Harrodsburg and Lancaster. In Harrodsburg it meant the holding of a flower show and improvement in the keeping of the lawns. In Lancaster the cleaning up of vacant lots, the holding of a flower show, a contest as to the best kept lawn for four months during the summer, and the extension planting of additional flowers, trees and shrubs.

AGRONOMY

GEORGE ROBERTS, *Head of Department*

SOILS

Results from a dozen soil fertility Experiment Fields on the predominating soil areas, conducted by the Kentucky Experiment Station during the past fifteen years along with demonstrations conducted by county agents on hundreds of farms in the State, prove conclusively, that any system of farming to be most profitable for Kentucky, must of necessity involve a very material increase in the use of lime and phosphorus by Kentucky farmers. These findings were borne out by the chemical analyses of our soils along with the experiments and demonstrations and even before they were begun.

Furthermore the 1920 census showed Kentucky to rank forty-fifth among the 48 States in the percentage of improved land devoted to legumes. Vermont ranking first had 38 per cent while Kentucky ranking third from the bottom had only 3.3 per cent. It is no wonder that nitrogen in so many of our fields is the limiting element in crop production. The growing of more legumes as a source of nitrogen for nitrogen hungry soils, be-



A marl bed in Warren County from which 500 tons of marl have been removed.

comes a big problem in the building up of Kentucky soils, to say nothing of the value of legumes for feed as a substitute for commercial feeds for which Kentucky farmers are spending millions of dollars annually (\$25,000,000 in 1923). The legume acreage should be increased from 6 to 8 fold.



Five hundred tons of marl were removed from marl bed in the fall of 1924, only hard material being left, but it became soft during the winter and spring. This picture was taken May 1, 1925.

Another problem of first magnitude is that of preventing soil erosion, which with terracing and the growing of cover crops fits into the above outlined scheme of soil improvement. During the year much time has been devoted to Liming Demonstration or the promotion of a more general use of ground limestone and marl as sources of lime on the farms of the State.

#### GROUND LIMESTONE

There are two sources of ground limestone. First, commercial quarries and second ground limestone produced by portable crushers. The commercial limestone is shipped in car load lots to sections like the Purchase Region or portions of the coal fields that do not have limestone and to other sections having lime-



stone deposits, but obtaining commercial lime cheaper because of location.

In limestone sections where commercial limestone cannot compete, portable crushers supply ground limestone. County agents' reports show that 91,000 tons of ground limestone were used in sixty counties by approximately 3,500 farmers in 1925.

There was probably not more than 1/4 to 1/3 this amount used in counties not having agents, making a total of probably 120,000 tons used in the entire State during 1925.

Apparently there has been a decided increase in the amount of limestone used during 1925, over that used during 1924. The amount would have been considerably greater had it not been for the extremely wet fall.

The ten counties using the most ground limestone in 1925 are as follows:

County	No Tons per county.
Warren .....	16 900
Todd .....	7,500
Grayson .....	4,673
Mason .....	4,000
Breckenridge .....	3,500
Fayette .....	3,487
Graves .....	3,000
Taylor .....	3,000
Union .....	2,590
Caldwell .....	2,467
Total .....	51,117

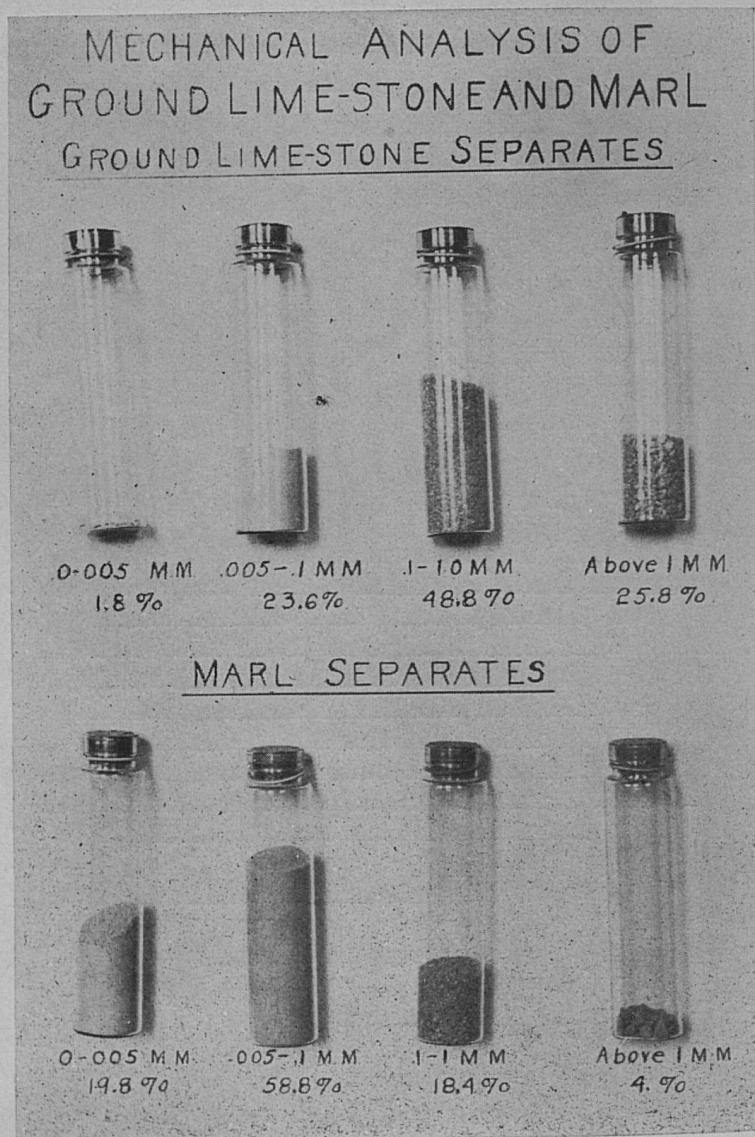
One hundred and six men in 21 counties used 1,147 tons of burned lime in 1925.

County agents in 38 counties report a total of 152 portable lime pulverizers in their counties.

#### MARL

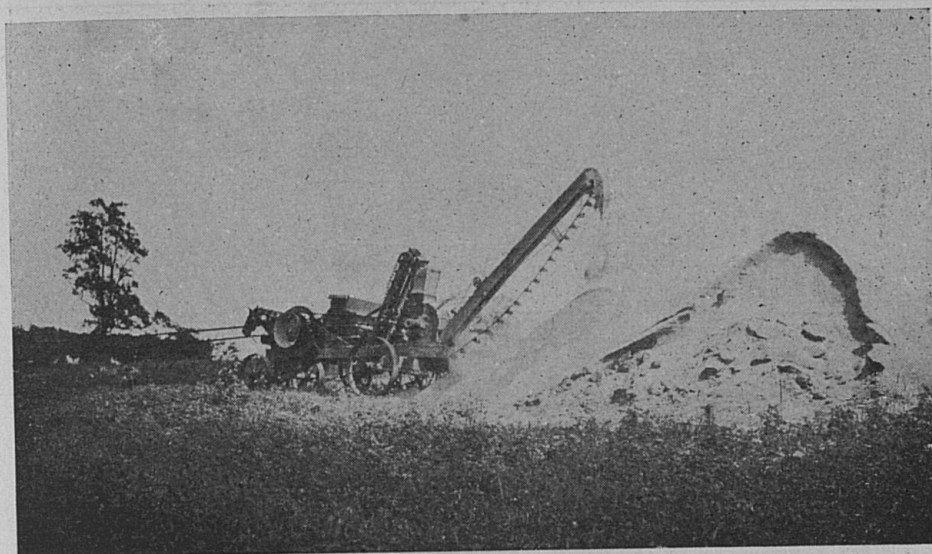
Especial attention has been given to the counties having marl, in the way of encouraging a more general use of marl on

alfalfa, sweet clover, the common clovers and other crops as well, placing emphasis on the importance of hauling out one or more loads of marl for demonstration purposes. Also the finding of



This shows the comparative amounts of separates (of the same fineness as those called in soil analyses, Clay, Silt, Sand and Gravel) in a typical ground limestone sample and in the average of the five Silurian marl samples used in this report.

new marl beds and the surveying of new territory containing marl has been continued through the year, especially in marl counties having new county agents.



Producing ground limestone with a portable crusher.

Since the discovery of marl (September 20, 1923), 1832 samples of marls collected by members of the Agronomy Department, county agents and farmers have been analyzed by the Experiment Station.

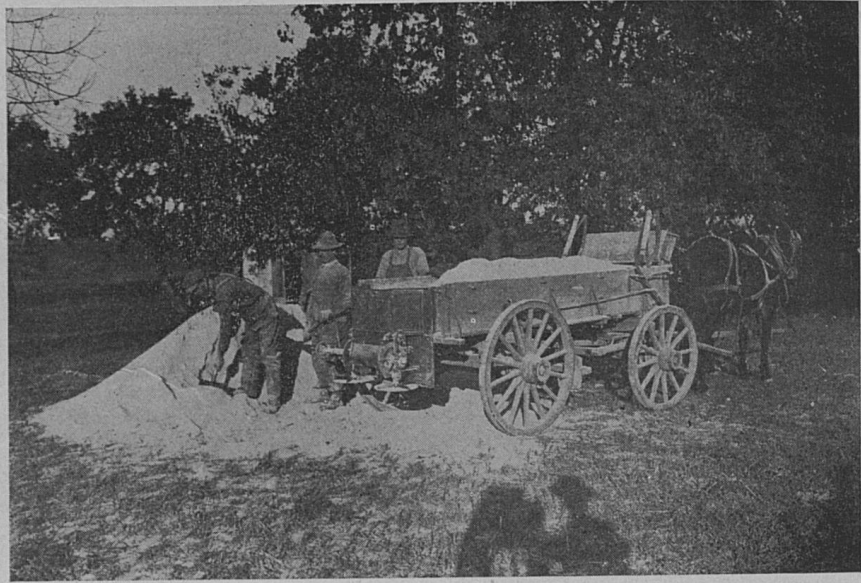
Hundreds of new marl beds have been discovered during the year, some having been found in practically all marl counties. In the counties of Oldham, Henry, Shelby, Spencer, Garrard, Lincoln, Bullitt, Madison, Trimble, Taylor and Green, especially, the marl area has been expanded.

In 1924, 138 men in 16 counties used 4,624 tons of marl.

1925, 437 men in 24 counties used 9,311 tons of marl.

Probably three-fourths of these men used marl as demonstrations not being fully convinced of its value as a substitute for limestone or burned lime. It will take a few years for these demonstrations to convince the average farmer of the value of marl.

A number of farmers reporting the cost of spreading marl show the cost to vary from 25 cents to 60 cents per ton for digging, hauling and spreading.



Loading finely ground limestone on a wagon to be spread with end gate spreader.

Then ten counties using the most marl were as follows:

County	No. Tons	No. Men
Nelson .....	2,285	41
Warren .....	1,200	15
Green .....	1,097	59
Taylor .....	1,000	125
Lincoln .....	850	36
Oldham .....	768	10
Garrard .....	330	8
Shelby .....	300	10
Meade .....	250	20
Adair .....	200	24
Total .....	8,280	348

The amount of marl used during 1925 would probably have been from one-third to one-half more had the fall weather been favorable for hauling and spreading.

While marl is found in greater or less quantities in one-half (60 counties) of the counties of the State, only about 30 counties contain extensive deposits. These thirty counties contain marl enough to lime from one-eighth to three-fourths of the entire county with a two or three mile haul.

#### *Marl Campaign in Oldham County*

Of all counties in the State containing marl Oldham county ranks first, from the standpoint of accessibility and distribution. For this reason Oldham County has been the first county selected for the purpose of putting on a large marl campaign. This campaign was started in the fall and is to continue thruout 1926.

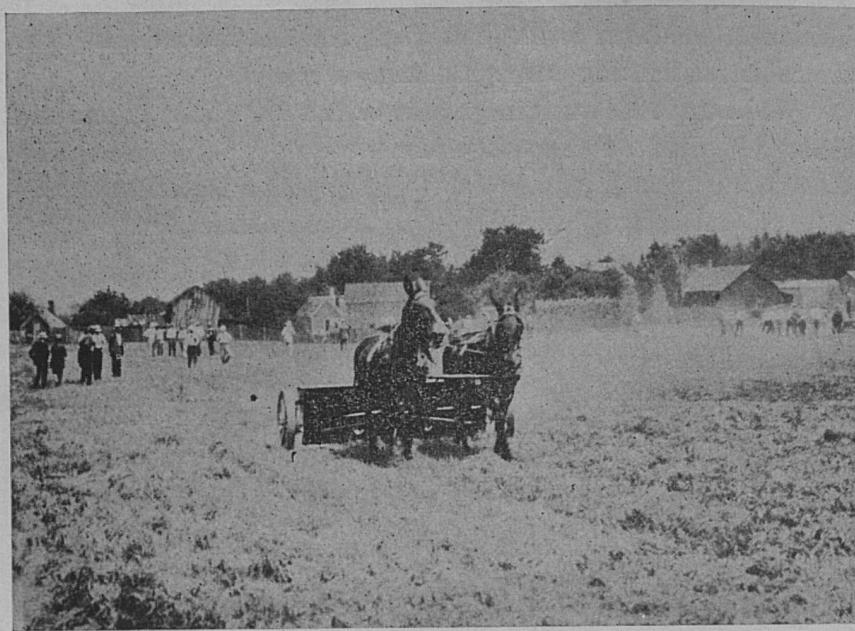
Samples of marl have been collected from all parts of the county and have been analyzed at the Experiment Station. Two hundred and one samples show on the average a neutralizing value of 61.4 per cent calcium carbonate equivalent.

#### PHOSPHATE DEMONSTRATIONS

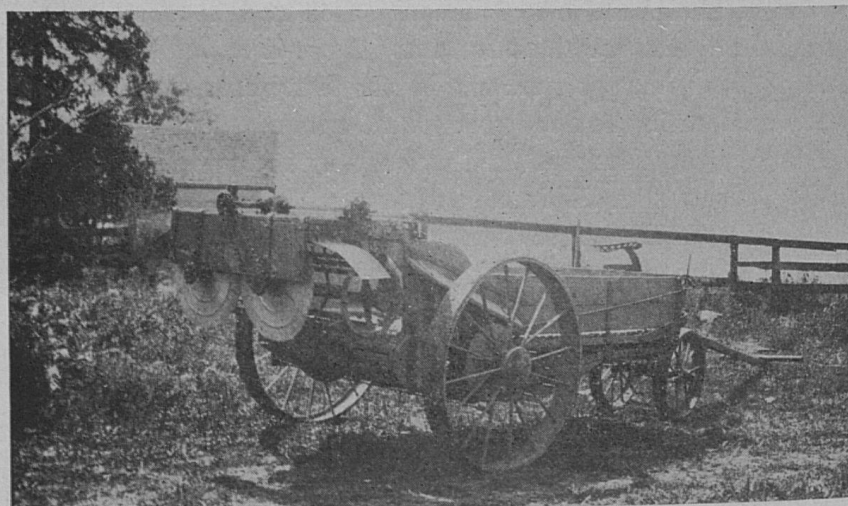
Acid phosphate is so commonly used now in most counties in the State that for the most part its use is beyond the experimental stage, except perhaps in the Bluegrass Counties. In many sections in the Bluegrass counties its use is just beginning.

Acid phosphate was used extensively in 55 counties during 1925. Practically all demonstrations with acid phosphate are confined in the Bluegrass counties to corn, wheat and tobacco and in some instances on alfalfa.

Reports from 20 counties in the State show that 1,256 farmers used basic slag as a source of phosphorus in 1925. These reports show that 58 farmers in 12 counties used rock phosphate in 1925. Probably more demonstrations were carried on with the use of small amounts of lime in connection with acid phosphate. In these demonstrations from 500 to 1,000 pounds of ground limestone or its equivalent is used with 200 or 300 pounds of acid phosphate per acre. Three hundred and eight men in 29 coun-



Lime spreader in action.



The marl was spread with this manure spreader.

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ties used this mixture during 1925. These, no doubt, were practically all demonstrators, who should furnish much valuable information on this project in the near future.

The use of sodium nitrate on tobacco beds is growing very rapidly.

During the year it was discovered that McLean County has some 10 or 12 outcroppings of limestone, some of which are almost inexhaustible, fairly well distributed over the county, that owe their origin to earthquakes or faults. McLean County lies wholly within the coal measures, which except for thin beds of coal-measure-limestone, is generally free from limestone.

These faults appear to have thrown up these massive outcroppings of limestone from the underlying Chester formation from some 700 to 1,000 feet below. The analyses of a number of samples from these outcroppings showed that these limestones vary from 80 to 95 per cent calcium carbonate.

The following is a quotation from County Agent P. R. Watlington's annual report for 1925:

"For the first time in McLean County ground limestone was made available to farmers, right at their door and at a



Alfalfa on marled land on the Old Kentucky Home farm at Bardstown, Kentucky.

reasonable price. This was done by a local crusher owned by an individual who moved the machine from one community to another and crushed the stone from local deposits. Upon investigation by the county agent and soils specialist, Mr. S. C. Jones,



The effect of a little phosphate fertilizer applied in the corn rows is evident on the second year's growth of clover. A little clover is seen in the rows but there is nothing but bare ground or plantain between the rows. Warren County, Kentucky.

it was found that there were ample local deposits of limestone near every farm in McLean County. During the late summer, three communities used 750 tons of the stone among 85 farmers. On account of dirt roads the early fall rains prohibited the hauling of more stone. This work was done through leaders in the communities and is on a firm basis to continue and be of inestimable value to the farmers in the future."

Farmers in Trimble and other counties, where dolomitic limestone occurs in such abundance near the top of the hills, have been under the impression that this yellowish granular stone was what they term a "free stone" or clayey sandstone. The fact of the matter is that it is one of the richest stones in neutralizing value to be found. Being a dolomitic or magnesium limestone it seldom contains less than 85 per cent neutralizing



value and in some instances shows more than 100 per cent, due to the fact that a pure magnesium stone has a higher neutralizing value than a pure limestone.

Farmers in Trimble County had been hauling limestone of 70 to 85 per cent purity from the valleys 400 feet below, when they might have had for one-half the cost this dolomitic stone that ranges from 85 to more than 100 per cent neutralizing value.

Thick beds of rich Silurian Marl have been found on Jephtha Knob in Shelby county and in the territory on the south slope of Pilot Knob in Garrard County. One extensive bed was found 40 feet thick on the very top of Jephtha Knob, that analyzed 72 per cent calcium carbonate equivalent. Both of these knobs are surrounded by hundreds of farms that are badly in need of lime, and especially is this true of Jephtha Knob. There is no doubt that this marl can be delivered to the farms within 3 to 5 miles of Jephtha Knob much cheaper than ground limestone. These two knobs are geological freaks, the results of earthquakes or faults which have resulted in the preservation of the marl formation that in the adjacent territory has been eroded away.

#### CROPS

Crops extension work in Kentucky has consisted in an effort to secure a rapid increase in the acreage of all legumes well adapted to the State. This work is divided according to the principal crops as follows:

##### *Soybeans*

A reasonable expectation of results as decided last spring was to increase the acreage as a whole 50 per cent and in this to secure 5,000 acres grown for seed. The total acreage reported by county agents in 63 counties is approximately 70,000, with 4,000 acres for seed. Forty per cent of the total acreage is planted with corn. Approximately 60,000 bushels of seed were used, and approximately 90 per cent of this was not grown in Kentucky. The increase in acreage is shown by 38 counties with comparable acreages reported for 1924. In 1924 the acreage in those 38 counties was 24,099, in 1925, 44,465, an increase of 85 per cent.

Thirty-eight counties report some local seed production whereas last year seed was harvested in only half of this number. There are 30 Carolina type soybean seed harvesters in Kentucky. Variety tests of soybeans were used by agents in several counties,



Chancy Bros. of Woodburn, Warren County, harvested 100 acres of sweet clover for seed. It was all cut with the binder.

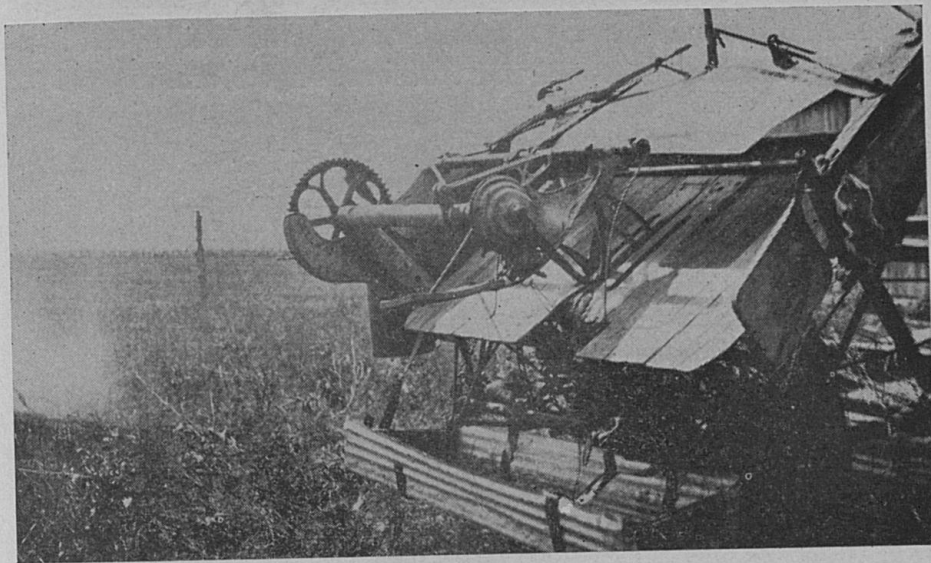
but no attempt was made to secure records of yields. Several tours were held featuring soybean variety tests and field demonstrations and soybean exhibits were put up by county agents at county and other fairs.

#### *Alfalfa*

With 15,000 acres of alfalfa sowed in 1924, the acreage was increased approximately 18,000 in 1925 in the 69 counties with reports available. The largest acreage was 2,000 in each of Campbell, Owen and Warren Counties, followed closely by Bracken 1,550, Nicholas 1,500, Mercer 1,300 and Grant 1,200. Four other counties sowed over 500 acres each. Thirty-four report a total of 315 men sowing alfalfa mixed with clover on 3,277 acres.

A field meeting on lime and legumes was held on the Experiment Station farm August 5 and 6 with attendance approxi-

mately 1,500 for the two days. With considerable interest aroused results are shown by Fayette County sowing 200 acres of alfalfa where but 45 were sown last year. Some alfalfa was sown in all but 7 counties with agents and these 7 are all mountain counties where interest is slower to develop.



Binder equipped to cut sweet clover for threshing. Note the galvanized iron pan under the packers.

### *Lespedeza*

Fifty counties report men sowing lespedeza, the number ranging from 1 to 1,000 with a total of 3,093 men using from 1 to 4,000 bushels per county. In these counties 13,500 bushels of seed were used. Nineteen counties report 122 men sowing lespedeza in a total of 1,338 acres of Bluegrass pastures. Ten counties saved a total of 5,600 bushels of lespedeza seed this fall. Drouth was unusually severe in the district where this seed industry is developing. Lespedeza hay was harvested in 13 counties on a total of approximately 800 farms.

Demonstrations for the past two seasons have shown Bluegrass farmers that lespedeza will grow and be a valuable addition to any other pasture they may have and at the same time reseeded enough for a next year's stand. One man in Shelby

County reported sowing \$100.00 worth of red clover seed and \$2.50 worth of lespedeza seed. He harvested ten times as much lespedeza as red clover.

#### *Sweet Clover*

Approximately 21,000 acres of sweet clover were sown in 55 of the 69 counties reporting. Warren County heads the list with 2,600 acres, Owen 2,500, Nelson 2,000, Campbell 1,500, Grant 1,200, Mercer 1,050, and 7 others range from 500 to 1,000 acres each.

#### AGRICULTURAL ENGINEERING

The extension work for the year 1925, was divided into six projects as follows:

1. Drainage.
2. Soil Erosion.
3. Sanitation and Water Supply.
4. Farm Buildings.
5. Lecture Service.
6. News Service.

#### FARM BUILDINGS

##### *Object of Project*

To give farmers, builders, lumber dealers and others interested a better understanding of the essential requirements of modern farm buildings and details of construction by furnishing them working plans, circulars, and where necessary, specifications and bills of materials as well as suggestions regarding the location of buildings.

##### *Chief Problems*

The reasons for establishing this service were as follows:

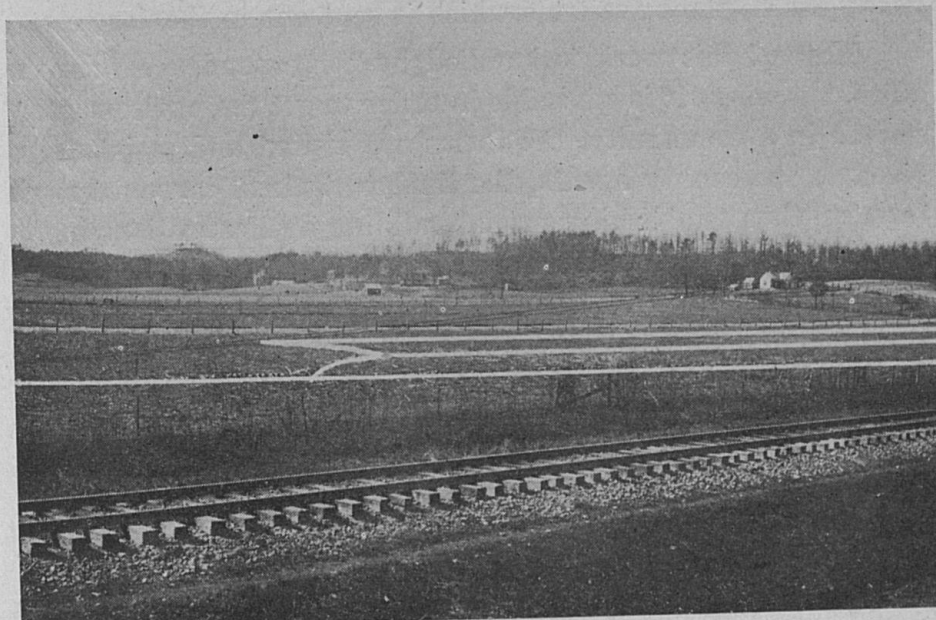
1. There was no competent agency in the State from which farmers could obtain assistance.
2. The local lumber dealers could not furnish farm building plans adapted to Kentucky conditions.
3. The architects in the State were not prepared to handle the farm building problems, and besides, could not afford to do so because only a few farmers would be willing to pay for services required.

4. Many of the country carpenters are unable to read blueprints and do not know the essential requirements of modern buildings.
5. Due to changes in the type of agriculture on many farms, there is a demand for new buildings and too often buildings are erected at great expense which are poorly arranged, insanitary, improperly lighted and ventilated and lacking the proper amount of storage space.
6. A large majority of the tenant houses in the State are not only unsightly, but are poorly arranged, often lacking all sanitary conveniences, consequently such places are furnishing surroundings which will not permit a tenant to live the most efficient life, nor help him raise a healthy, happy family, contented with farm life, of the kind which the State needs.

This is an important problem upon which a great amount of time should be spent in the near future.

#### *Goal*

The ultimate State goal is to have on every farm better tenant houses and more sanitary convenient farm buildings in keeping with the needs, size and income producing capacity of the farmer. It is desired this next year to start construction work



A drainage demonstration in Rockcastle County located between a state highway and a railroad.

on the tenant house problem and to extend the work already started so that every county in the State will be calling for assistance with its farm building problems.

#### *Methods of Conducting Project*

The department acts as a clearing-house for the best information regarding farm buildings and equipment. As soon as there is need for a particular building plan or piece of farm equipment, the members of the Department in consultation with farmers, county agents, and members of the other departments of the Extension Division of the College of Agriculture interested, determine what is needed and then prepare drawings and tracings from which blueprints are made to send out to the farmers on request. Usually an announcement is made thru the extension publicity department to the press calling attention of the people in the State to the fact that this information is available and how it can be obtained. The county agents and home demonstration agents are also notified and they spread the news thruout the year to the farmers wherever they see a need for such service. The department has for distribution a published list of plans available which is sent out to the farmers.

Most of this work is handled by correspondence thru the office, but where it is advisable in order to get the work properly started in a community, the farms are visited and assistance is given to the county agents, the lumber dealers, carpenters and farmers, thus establishing special building demonstrations in the community. The farmers are requested to furnish the department with an itemized account of the cost of constructing the buildings and to assist others in their communities having similar building problems.

#### SANITATION AND WATER SUPPLY

##### *Object*

To improve sanitary conditions and increase the convenience and comfort of homes in the country by encouraging and giving assistance in the installation of modern water supply and sewage disposal systems

### LIME AND LEGUME MEETING

At the lime and legume meeting held August 5th and 6th, at the Experiment Station farm, Lexington, Kentucky, in co-operation with the members of the Agronomy Department and



The first crop on this tile-drained land in Kentucky paid for the cost of drainage, the cost of growing the crop, and left a balance of \$27.73 an acre.

representatives of a number of machinery companies, the Agricultural Engineering Department exhibited and demonstrated two lime pulverizers, five lime spreaders, four gasoline tractors and a few clover-seed harvesters. During the two days 20 tons of limestone were crushed in order that the visitors could study the tractors and pulverizers and observe the quality of the work done. Questions relating to types of machines both for pulverizing and spreading, their cost, capacity, troubles and the like were discussed as the farmers inspected the machines and watched them operate. The morning of August 6th was entirely given over to field demonstrations and the people were keenly interested.

#### *Drainage*

An effort has been made to locate all drainage demonstrations so that they can be easily visited and where signs erected

on the fields will attract the attention of travelers. When result figures are obtained, they are displayed on appropriate sign boards together with the cost of doing the work.

The plans for tile drainage work in the State included demonstrations in several mountain counties; 19 demonstrations were planned in seven counties by the specialist in agricultural engineering, cooperating with county agents. On account of the difficulty of securing drain tile at a reasonable figure, drainage work in mountain counties has been rather expensive, but nevertheless has been a very good investment. Substitutes for manufactured tile have given good results.

In Knott County, Mr. Sam Magard built by using flat rock for the bottoms, sides and tops at a total cost of 14 cents per lineal foot. For each dollar put into drainage, the value of the crop increase was a dollar.

In Clay County at Oneida, 19 miles from the railroad, Mr. Chester Roberts, installed 1,260 linear feet of tiles at a total cost of 9½ cents per linear foot. Four-inch tile was made at a cost of \$55.00 per 1,000 linear feet.

In central and western Kentucky nine drainage demonstrations were planned by the extension specialist. The report on the Mr. George Johnson drainage demonstration, Muhlenberg County, is of special interest. The demonstration, as planned, covers 75 acres to be installed in units of ten acres each year. The cost per acre of the first ten-acre unit, \$47.50 per acre, was higher than the average cost for the entire area will be on account of the 8 inch main installed to provide an outlet for the entire system. Five acres were put into corn and five acres into tobacco. The corn yielded 60 bushels per acre, and the tobacco 1,250 pounds per acre. The total income from the ten acres valued at 80 cents per bushel for corn and 18 cents per pound for the dark tobacco was \$1,365.00. The Department of Agricultural Economics has determined that it costs \$17.05 an acre to grow an acre of corn and \$105.44 an acre to produce an acre of dark tobacco. Using these figures the total cost of producing the crops on the ten-acres was \$612.45. The value of the crops pays

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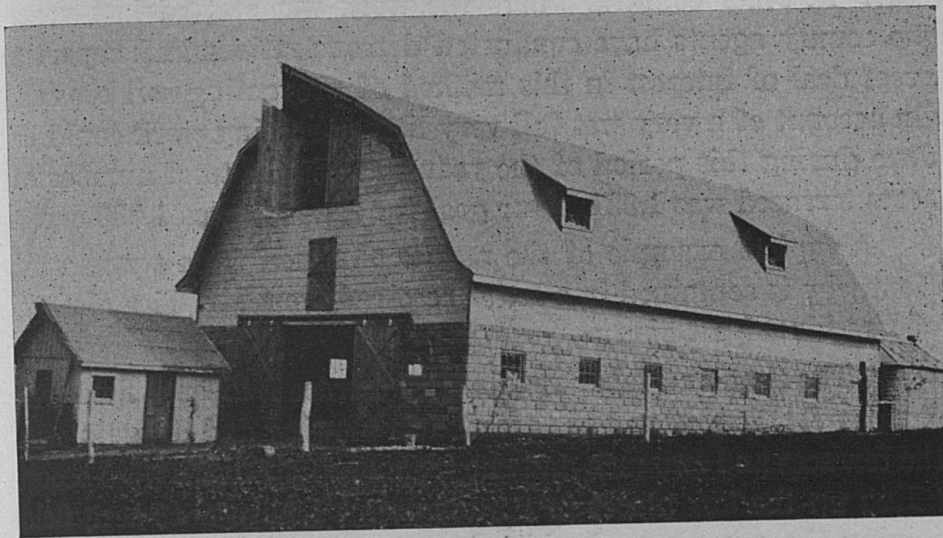
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for the drainage, the cost of growing the crop, and leaves a net profit of \$277.55. The land before drainage was too wet to be cultivated. Mr. Johnson has already cleared the land for the second ten-acre unit to be drained this winter.



Dairy barn and milk house erected on Mr. B. F. Well's farm, Fayette County.

A cooperative drainage project was planned in Franklin County in cooperation with county agent R. M. Heath, for the purpose of improving surface drainage on five farms located in the valley of an old abandoned channel of Elkhorn Creek. Each of the five landowners agreed to pay the expense of doing the work on his own farm which amounts to approximately \$4.50 per acre. A survey was made and a contract let for doing the work. The ditch to be straightened, cleaned and graded is four miles long. It will reclaim 150 acres of swamp and benefit directly 250 acres of cultivated land that, according to the soil survey of Franklin County, is the most fertile land in the county. One and a half miles of the ditch was completed before the heavy fall rains began. The work will be completed as early as possible the coming spring.

The second cooperative drainage project which was planned for the current year has been surveyed, but as yet not enough

money is guaranteed to complete the work and construction work will not be started until next year.

### *Terracing*

Terracing work has been emphasized in fifteen counties this year. In other counties where the work was started last year, the county agents have conducted demonstrations and report a great deal of interest in this method of preventing soil erosion. On account of a very wet fall very little terracing work could be done during this period of the year and yet the total number of acres terraced was 1,331. Our goal for the year was 1,000 acres.

A typical example of the results obtained from terraces in Kentucky is contained in a letter received from Mr. Tice McCoy, of Breckinridge County:

"The time and labor required to terrace a 25-acre field was one day for three men and three teams plowing and dragging up the terraces and two men and one team one-half day with a scoop filling up the low places in the terraces. I have a 40-acre field joining the one terraced which is not terraced. The lay of the land of each field is about the same. This second field was a heavy timothy and redtop sod, broken in the spring of 1924. I left a sod bed in all low places where I thought the land might wash. It was cultivated to corn and sown to wheat to stop the washes. I have done ten and one-half days' work with one man and team, hauling brush and straw trying to stop the gullies during the past winter and spring, to say nothing of the loss of soil and the small gullies than can only be leveled up when the field is plowed again. There was not a raw place in the field when I plowed it. I am expecting to terrace this field before I plow up the grass again."

If Mr. McCoy allows \$1.50 per day for men and \$2.00 per day for teams he spent \$13.00 in terracing his 20-acre field and \$34.75 in filling gullies in his 40-acre field.

### *Sanitation*

The simple hot and cold water supply systems have been advocated and the increased demand for information concerning

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them indicates an increased interest. Several hydraulic rams have been installed.

Septic tanks have been installed on several farms. In and around Lexington plans have been furnished individuals for building septic tanks to replace cesspools and for converting cesspools into single chamber septic tanks.

GOALS AND ACCOMPLISHMENTS

The extent to which the goals for the year have been reached are shown in the following table :

	Goal	Accomplished Work
Tile drainage demonstrations .....	30	27
Organized drainage projects .....	2	1
Special terracing demonstrations in 15 counties .....	30	*31
Acres terraced in Kentucky .....	1000	1331
Sets of building plans distributed	800	548
Special terracing demonstrations tions .....	20	14
Water supply demonstrations.....	60	52

A comparison of agricultural engineering work done in 1924 and 1925 by county and home demonstration agents is as follows :

	1924	1925
1. No. of farms installing drainage systems.....	71	88
2. No of acres drained .....	2047	1088
3. No. of farms constructing terraces or soil dams this year .....	60	100
4. No. of acres on which soil erosion was prevented ....	497	1331
5. No. of sewage disposal systems installed according to plans furnished .....	42	28
6. No of water systems installed according to plans furnished .....	46	52
7. No. of farms on which buildings other than dwell- ings were constructed or remodeled according to plans furnished .....	569	860

\* In fifteen counties.

## ANIMAL HUSBANDRY

E. S. GOOD, *Chairman of Animal Industry Group*

## BEEF CATTLE

A study of the beef cattle feeding work for the year 1925 shows that most of the better beef cattle feeders in the State are now fattening their steers with efficient, economical rations. Five years ago this was not the case for at this time at least 80 per cent of the cattle which were fattened in Kentucky could have been finished much more profitably had a more economical and efficient ration been employed. At the present time only about 20 per cent of the feeders of the State are using very inefficient and uneconomical rations.

There were two serious faults with the feeding of steers in previous years. The first was with regard to winter feeding where too much cottonseed meal was fed, and the other was the cattle carried thru the winter on shocked corn and pasture and no protein supplement given. With the latter method of cattle feeding, 50 or 60 bushels of corn per steer was the amount used for carrying the cattle thru the winter, an amount entirely too high. This is being reduced in nearly all cases to 20 or 25 bushels and balanced with about 1 pound of cottonseed meal per day. This winter ration is much more economical for cattle to be finished on grass than the allowance of large amounts of corn and cottonseed meal during the winter. Other incorrect practices which were prevalent in former years were lack of proper housing facilities, poor water supplies and the lack of a general knowledge of feeds.

Winter feed lot meetings and beef cattle tours were held in various counties this summer and have been one of the means of bringing these questions before the feeders. Records were kept of feeding demonstrations, the results of which were given to all demonstrators. There were 62 summer grazing and 25 winter feed lot demonstrations held in 1925. The cattle in these demonstrations returned a profit, ranging from \$5.00 to \$26.50 per head. Beef cattle feeding was more profitable in 1925 than in any other of the past five years.

In the grazing work those demonstrations showed up best where cattle were finished on grass by mid-summer. The cattle gained, on the average, about 100 pounds during the winter feed lot period. Grain was continued on grass from the time the cattle were turned out until they were marketed about the first of July.

Assistance was given county agents who were carrying on baby beef club projects. This consisted of helping to select animals and instruction work in baby beef feeding. Visits were made and aid given to most of the men in the adult division who were feeding steers to be shown at the Fat Stock Show in Louisville.

### *Sheep*

Demonstration work with sheep in Kentucky gains momentum as it progresses. Every year has been more successful than the one before. From the initial beginning in 1920, the sheep extension work has grown until it has touched for the better every phase of the sheep industry in the State. This campaign, known as lamb standardization, has been prosecuted along four main lines as follows:

- Castrating and Docking Lambs.
- Controlling Stomach Worms.
- General Use of Pure Bred Rams.
- Better Feeding and General Management.

### *Castrating and Docking*

Castrating and docking lambs is becoming a general practice in Kentucky. Sales records at the various stock yards this year show that more than 70 per cent of Kentucky lambs were castrated and docked while in 1919, the year previous to the beginning of the campaign, less than 2 per cent of Kentucky lambs were docked and castrated. This big increase is due almost entirely to extension activities. The improvement in Kentucky lambs due to standardization practices has been so noticeable that the big packers have been outspoken in their praise of the Kentucky campaign and have assisted other southern

states in starting similar work. To date 793 demonstrations in castrating and docking lambs have been conducted, 113 of which were held during 1925. One field agent handled over 60,000 lambs in these demonstrations. The methods have become so well known that most farmers now castrate and dock

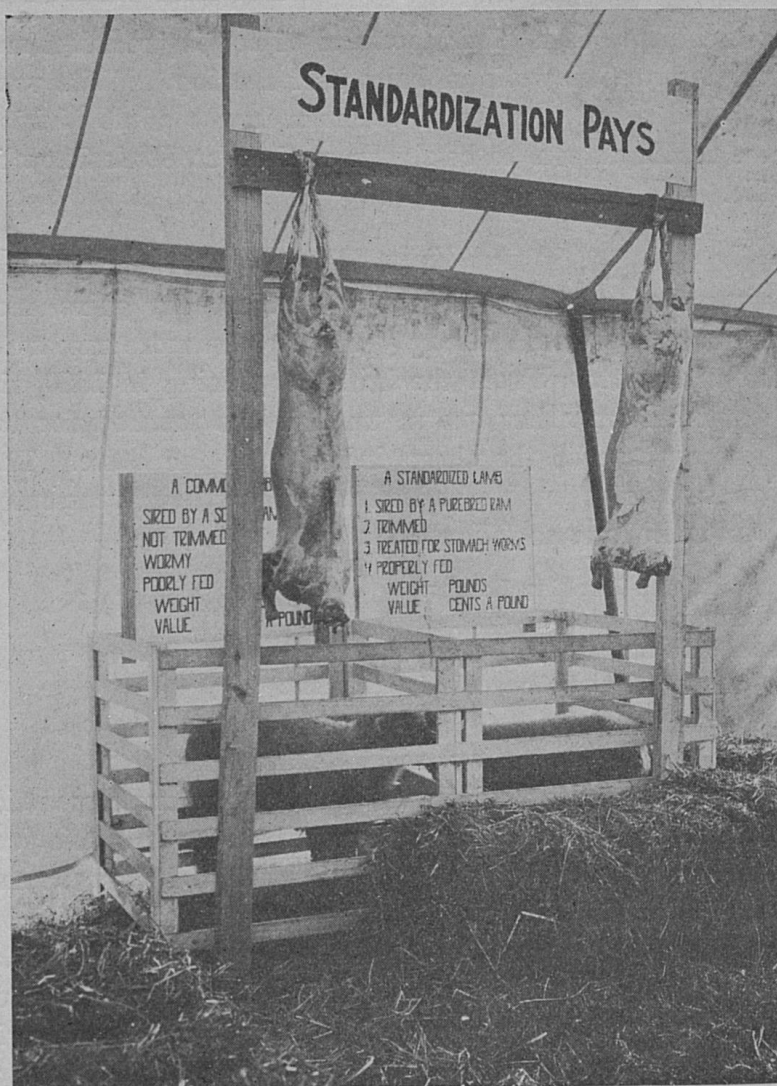


Exhibit of lamb properly bred, trimmed and fed as compared with one of poor breeding untrimmed and poorly fed. The exhibit also shows the carcasses of such lambs which makes the comparison more striking.

their own lambs. It is the exceptional man in Kentucky today who does not castrate and dock his lambs, and it is only a matter of a short time before the practice will become general.

Figures gathered from the sale of more than a million lambs during the five years of the campaign show that it has meant slightly more than \$1.00 per hundred pounds to the farmer to castrate and dock his lambs. This includes the premium paid and the decrease in the number of seconds due to castrating and docking and does not take into consideration the fact that this work helps to hold up the general price for lambs, especially during July and August when heavy gluts of bucky lambs bring down the price several dollars per hundred pounds.

#### *Stomach Worms*

Owing to a very dry season there has been less trouble from stomach worms this year than usual. However, the best sheep men have continued treating for stomach worms regardless of weather conditions. Three treatments are now in general use, the bluestone treatment and nicotine sulphate treatment, which are well known to Kentucky farmers' and the third, iodine treatment, which, while comparatively new, seems to be very successful. The iodine treatment has been used generally this year in connection with demonstration work, one county having treated 6,000 sheep and lambs with it. There is some indication that this treatment may substitute both the bluestone and nicotine sulphate treatments, as it seems to be more effective and less injurious.

Five years' work in lamb standardization has thoroly demonstrated the advisability of drenching all flocks periodically throughout the late spring and summer season, at monthly intervals until cold weather. Wherever such a system has been followed, flocks have gone through the summer in good condition and no trouble has been reported from stomach worm infection. There is no question but that stomach worms can be controlled if treated periodically as advised regardless of whether bluestone, nicotine sulphate or the iodine treatment is used. Pasture

rotation helps and is to be advised whenever possible, but no farmer should depend upon pasture rotation alone.

Seventy-one demonstrations in treating sheep for stomach worms were conducted during the year. Extension activities are largely responsible for the now almost general practice of drenching grade flocks for stomach worms. This work has made the feeding of native lambs possible and has saved thousands of sheep annually for Kentucky farmers.

#### *Purebred Rams*

The use of purebred rams at the head of flocks in Kentucky has more than doubled in the past five years yet a surprisingly large per cent of sheep owners still use grades and scrubs. This is despite the fact, that every good sheep man knows that the ram is half the flock. It was for the purpose of protecting the Kentucky pure-bred sheep industry and promoting the use of more and better pure-bred rams for the production of market lambs that the Accredited Association was organized. This association is fast shaping itself into an effective agency in furthering the pure-bred interest of the State and assisting the college in its standardization campaign. While the plan of organization originated with the Extension Department, the association is governed by an executive committee of representative sheep men as follows: William Belknap, Anderson Brown, Richard Cobb, Perry Gaines, Turney Collins, Jay Weil, Owen Booker, W. W. Cassidy, A. J. Thaxton, T. P. Black and S. K. Warrener. The association plans to promote a high class pure-bred sale at Lexington in 1926. Membership in the association is limited to breeders of accredited flocks.

The College has given assistance to desirable breeders in procuring the right kind of pure-bred sheep. Since the beginning of the campaign, the Extension Division has assisted farmers in selecting 21 carloads of pure-bred animals. These animals came from the leading flocks and are already having a big influence on the quality of Kentucky lambs.



*Standardization Meetings*

Forty-seven general standardization meetings in addition to the annual sheep breeders' meeting at Lexington were held at leading centers of sheep production thruout the State. Men from the Experiment Station, the stock yards at Louisville and Cincinnati and representatives of some of the large packers appeared on the programs of these meetings and helped to make them a success.

*Motion Pictures*

It has been comparatively easy to interest the first 50 per cent of Kentucky sheep owners in standarizing their lambs. To interest the other 50 per cent in the standardization campaign has been a more difficult problem. Many people who will not attend demonstrations or read the reports of standardization work will go to a motion picture show. In view of this fact, a two reel motion picture dealing with lamb standardization was produced and used in connection with the campaign last year. Records from county agents and field men show that this picture was shown 182 times during the year, and that over 18,000 people saw it. A third reel entitled "Blood Will Tell," dealing with the accredited flock association and showing the value of pure-bred rams as compared with the grade or scrub rams in producing lambs, has just been received and is available for distribution.

BETTER SIRES CAMPAIGN

The Better Sire—Better Stock work was a major project this year. The work was more completely outlined than any previous year. Meetings, campaigns for memberships and fair exhibits were the main avenues of procedure during the year.

Each county agent in the State did some work. Illustrative exhibits were shown at 48 county fairs or live stock shows. Some of these counties had as many as 5 different exhibits at different times. The exhibits were in the form of charts and posters showing the value of pure-bred sires over grade and scrub sires. In the exhibit at the State Fair the animals included beef cattle,

dairy cattle, sheep, hogs, and poultry. Pure-bred sires and scrubs together with their offspring were shown, giving a convincing example of the value of improving animals by the use of good

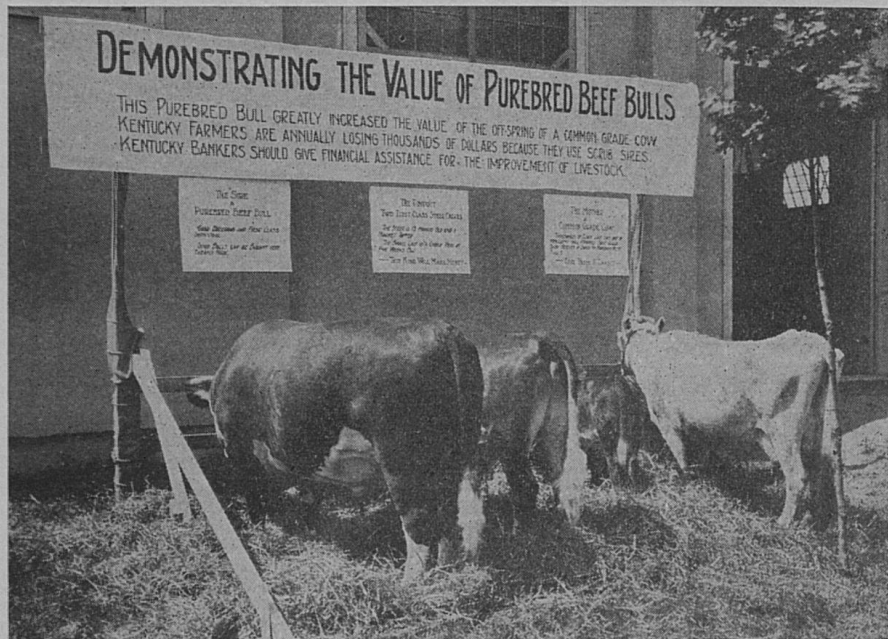


Exhibit of purebred beef bull and grade cow, also the improved calves produced by the use of the purebred sire.

sires. Placards and posters told the story of each animal. A total of 10,000 people saw this exhibit, most of whom grasped the lesson taught.

Kentucky remained at the head of the list of states in the enrollment of members agreeing to use pure-bred sires during the year 1925. The present enrollment for Kentucky is 3375, which is about 400 ahead of Ohio, the closest competing state.

While all the counties did some work along the better sire project, special effort was placed upon the work in Union, Spencer, Boone, Hopkins and Campbell Counties. Union County plans to lead the list of counties in the United States as to the total number of better sire enrollments. The total enrollment for the county at present is 547, which is only 53 behind the enrollment for Pulaski County, Virginia, which now heads the list.

In a survey made in a number of counties of the State, it is found that the percentage of pure-bred sires over previous years is now very much higher. Some counties are practically free of scrub sires and are now at work on eliminating the grade sires.

A survey at the beginning of the year showed that Union County had 103 pure bred bulls, 22 grades and 7 scrubs. After some publicity and a one week campaign, all scrub sires and all but four grade sires were eliminated from the county. The present owners of the grade sires have agreed to get pure-bred sires. Union County expects soon to have one hundred per cent. of pure-bred bulls.

During the year 1925, about 500 pure-bred bulls were placed on farms by the aid of the extension force and cooperating agents.

#### SWINE

The swine program for the year embraced the following lines of work: (1) "Ton Litter" Production, (2) Demonstrations of the cutting and curing of pork, (3) Demonstrations for eradicating round worms in hogs, (4) Demonstration for feeding and hogging down corn, and (5) assistance in locating breeding stock for farmers.

##### *Ton Litter Production*

One hundred and fifteen farmers entered this contest; 52 fed out litters, and 46 of this number produced ton litters in the allotted 180 days. So far as has been ascertained this is the largest percentage of contestants that has ever finished in any ton litter contest. Six of the 45 ton litters weighed above 2,500 pounds, one litter of 12 pigs weighing 4,323 pounds, which remains the world's record on individual weight per pig. The average number of pigs saved per litter by the ton litter producers was 10. The average weight per litter was 2,303 pounds or 230 pounds per pig. The cost per hundred pounds of pork produced was about \$8.32, and the selling price \$12.00. This shows that practically all the men made a profit. The ton litter contest is

thus proving itself a valuable aid in furthering economical pork production by improving hog breeding and feeding, the reasons for which the idea was originated.



Grand champion litter in the 1925 ton-litter contest. Twelve purebred Poland China hogs. Weight 4,323 lbs. at 180 days of age. This litter was produced by Sanders Bros. of Lancaster, Kentucky.

#### *Cutting and Curing Pork*

The pork cutting demonstrations again proved to be one of the most popular projects. Thirty-five demonstrations were given with attendance of 556 men and women. In one of the 17 counties in which the work was carried on the county agent reports that as a direct result of the demonstration 200 farmers have followed the recommendations. Reports show that a total of 975 farmers have followed suggestions on cutting and curing pork. In the discussion at these demonstrations the importance of securely wrapping cured pork to prevent insect attacks was emphasized. This will greatly decrease the loss of such products in Kentucky.



Showing the improper way of cutting pork. This system is followed on too many Kentucky farms.



Showing the proper way of cutting the farm pork supply.

*Round Worms*

Fifteen demonstrations, were given on worming pigs by the capsule method in which oil of chenopodium was administered. In each case following this treatment the pigs became more thrifty and made their owner a profit.

*Hogging Down Corn*

Since complete records were required from all ton litter growers, few demonstrations on feeding and "hogging off" corn were carried on. Four feeding demonstrations and five "hogging down" demonstrations were completed. One of the feeding demonstrations was a comparison of a highly recommended hog feed versus tankage for balancing corn on pasture. The results showed that this feed, which was selling for \$3.50 a hundred pounds, was actually worth \$1.95 a hundred pounds when the same amount of tankage could be bought at \$3.50. Such demonstrations point out the value of nitrogenous supplements and also show the farmer which supplements are most economical.

*State Fair Exhibit*

An exhibit, comparing hams poorly cured and well cured, sugar cured and salt cured, unwrapped and wrapped, and a skipper infested ham attracted wide interest from those attending the fair. One man was kept busy most of the time answering questions on putting up hams. Enlarged pictures showed the life cycle of the skipper fly. In this connection it was pointed out that secure wrapping of hams at the proper time greatly aids in keeping the skipper out. Fifteen hundred mimeograph sheets explaining the proper method of curing meat were given out.

There is now a brisk demand for well bred hogs for breeding purposes, which is being given expression in the request for such a stock. Assistance is frequently rendered in locating and placing pure-bred animals to be used for breeding.

## DAIRYING

J. J. HOOPER *In Charge*

### *Dairy Exhibit*

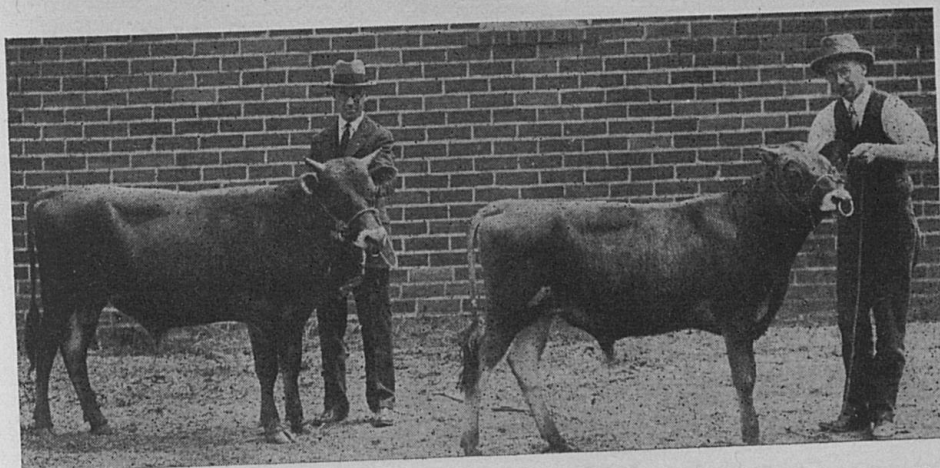
In order to carry to the people pertinent dairy information a dairy exhibit was sent to eight County Fairs. The educational exhibit, housed in its own tent 20x30 feet in size and transported from one fair to another on its own truck, was viewed by about 10,000 people. Inside the tent were to be found large pictorial charts and panels showing (1) value of silo, (2) necessity of growing dairy feed on the farm, (3) advisability of selling cream while fresh and sweet, (4) the way to properly construct a dairy barn, etc. Representatives of the College answered questions and gave information to visitors to the tent.

This dairy exhibit was carried to the following county fairs: Mercer, Union, Washington, Casey, Fayette, Larue and Pendleton. A purebred dairy calf was given free to a selected dairyman in each of the counties visited.

The expense of preparing this exhibit and of purchasing the calves was shared by the Kentucky Dairy Products Association.

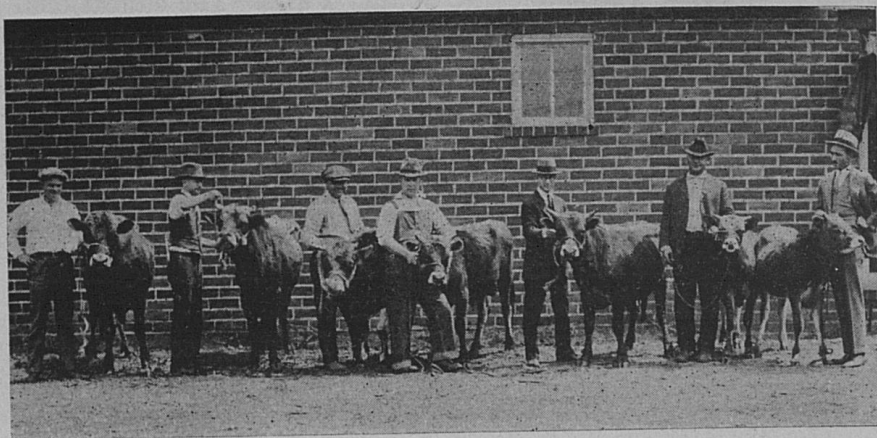
### *Cooperative Purebred Bull Associations*

There are now 18 Cooperative Purebred Bull Associations in Kentucky, formed for the joint ownership, use and exchange of



Two of the purebred sires brought into Hopkins County during the dairy campaign.

good bulls. The members of each association have cooperatively bought excellent bulls to use in their herds. These associations are located in the following counties: Warren, Graves, Grayson, McLean, Laurel, Campbell 3, Hopkins, Boyd 2, Taylor, Whitley, Fulton, Muhlenberg 2, Spencer and Bracken.



A representative group of young bulls brought into Hopkins County as a result of the campaign.

Assistance was given County Agent W. H. Rochester this past year to form a second Cooperative Purebred Bull Association in Muhlenberg County. The 68 farmer members of the new association have 192 milk cows, and have now cooperatively purchased four highly bred bulls.

#### *Junior Dairy Calf Clubs*

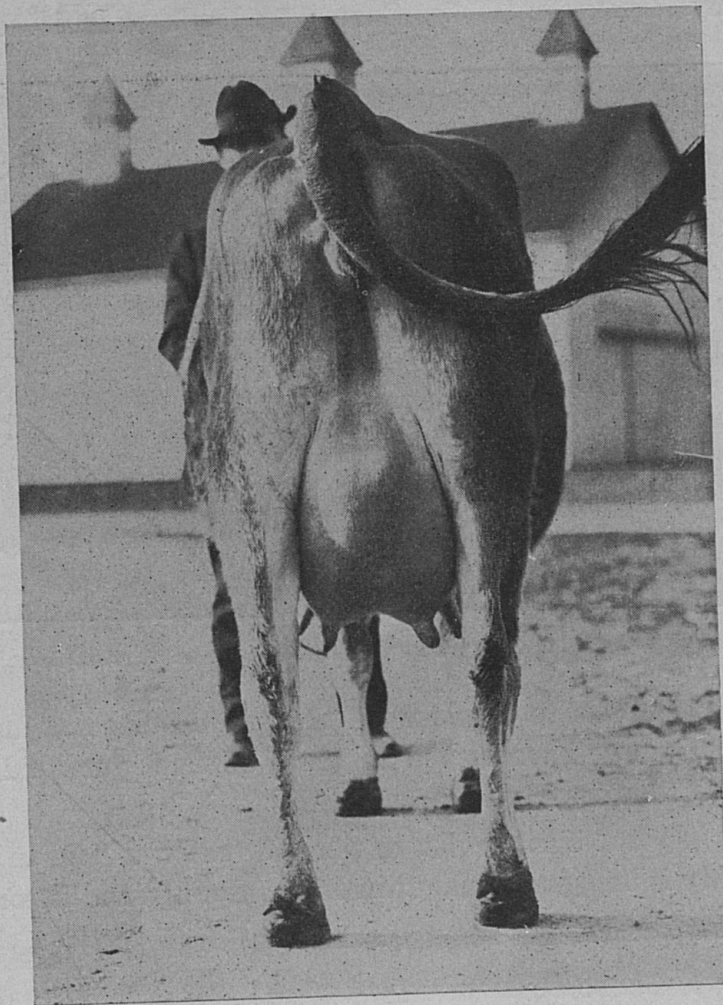
There are now 19 Boys' and Girls' Heifer Clubs in Kentucky. The dairy field agent has helped 15 of these clubs at frequent intervals the past year. Todd County has the largest dairy calf club in America, consisting of 115 members.

#### *Scrub Sire Eradication and Legume Campaigns*

During 1925, Scrub Sire Eradication and Legume Campaigns have been carried out in Hopkins, Shelby, Campbell and Boone Counties. In Hopkins County it was found that 81 farmers out of every hundred were using scrub bulls, and only 44



farmers out of every hundred were growing a legume crop. The campaign was staged cooperatively between the Extension Division of the Kentucky College of Agriculture, the U. S. Bureau of



A fine Kentucky Jersey heifer just ready to give birth to her first calf. Note large size of body udder and teats. Heifers often are bred too young. This heifer weighed 1,000 lbs. and produced during first lactation on official test 9,446 pounds of milk and 477 pounds butter fat.

Dairying, and the Madisonville Chamber of Commerce. Thirty meetings were held in Hopkins County with an attendance of 1,632 people. Frequent visits were made by the workers in the campaign to each farm in an effort to further the work of the campaign. As a result of this campaign 17 purebred Jersey

bulls were placed on farms in Hopkins County, where they displaced scrubs that had previously been used.

Thru a similar campaign 5 purebred bulls have been purchased by farmers in Shelby County to displace scrub bulls.

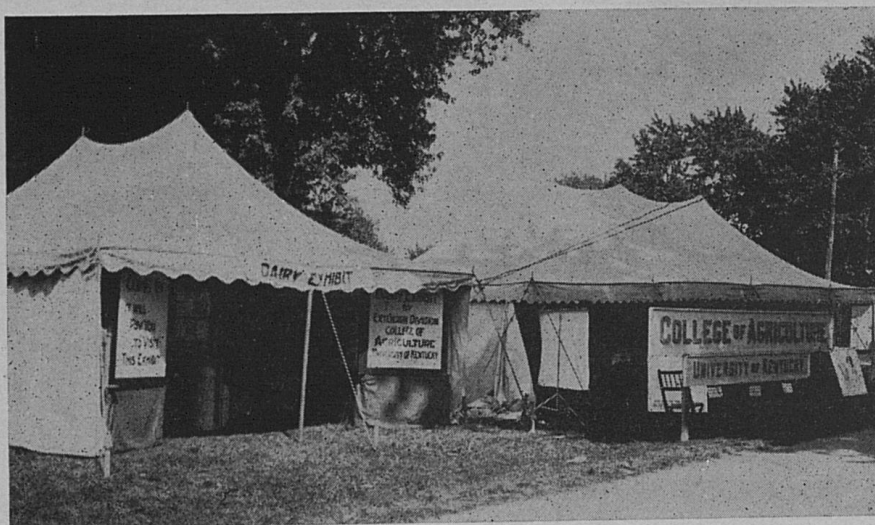


Exhibit sent to county fairs by the College of Agriculture.

Similar efforts to displace all the grade bulls now used in Campbell County have served to place 45 new purebred bulls on farms in that county.

A large campaign similar to the one that was held in Hopkins County is being carried out in Boone County and is continuing over into 1926.

#### *Miscellaneous Extension Work*

(1) The dairy extension specialists encouraged a large number of farmers to attend the National Dairy Show in October; as a result 250 Kentucky farmers attended that show. (2) The extension specialists prepared dairy exhibits for the State Fair. One served as assistant Superintendent of Dairy Cattle and another as Superintendent of Dairy Products at the State Fair; another served as Superintendent of Dairy Cattle at the Blue Grass Fair. (3) Dairy extension specialists judged the dairy

cattle exhibited at the Pennyroyal and Mercer Fairs, and dairy products at the State Fairs of Kentucky and Ohio, and were forced to decline to judge at other fairs because of pressure of other work. (4) The dairy extension staff have helped many individual dairy farmers with their problems during the year, have prepared numerous articles for the press and have assisted in the upbuilding of the dairy herds at the State Asylums.

## POULTRY

J. HOLMES MARTIN, *In Charge*

During 1925 the five year plan of "poultry improvement" was continued with a number of new counties starting on the plan of work and each of the old counties taking a step in advance. This plan includes the following five projects: (1) Standardization or Community Breeding; (2) Culling and Selection; (3) Winter Egg Laying project; (4) Farm Flock Demonstrations, and (5) Certification of Poultry Flocks.

*1925 Program of work*

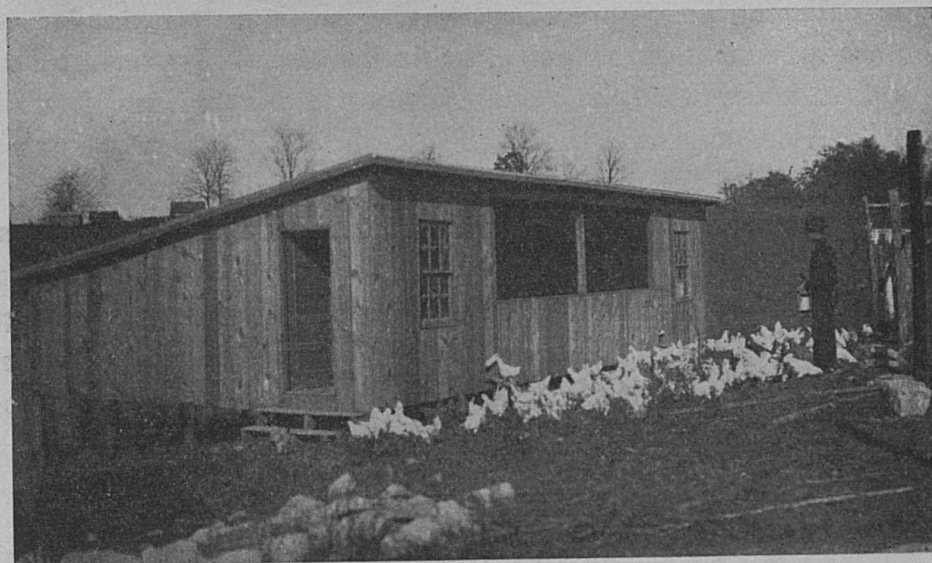
The plan of work centering around the five projects mentioned above is, to start a county with Project No. 1 and take it thru the five years of work, ending with the certification project. During the year work was carried on in 69 counties in which there were county agents and 13 counties in which there were no agents. Since a large number of counties have done work on the first three projects for a number of years, more emphasis has been placed on projects numbers 4 and 5.

The ultimate goal of this plan of work is to have established in each community a farm flock demonstration upon which the best methods of poultry management are used. To put purebred poultry on every farm in the State and to make culling, proper housing and the feeding of a balanced ration common practices. Also to have in each county at least one flock of each of the common breeds enrolled in the certification project. This will make available to every poultryman in the State breeding stock of known egg producing ability.

Subject matter is taught thru the following agencies: (1) County poultry associations; (2) Farm flock demonstrations, (3) General farmers' meetings; (4) Culling and caponizing demonstrations; (5) Poultry short courses; (6) Poultry shows.

A large number of the county poultry associations have adopted educational programs which constitute regular meetings that are held for the purpose of disseminating subject matter. The specialists attend some of these meetings and in other cases

assist in the preparation of talks to be given by local people. During the summer and fall a large number of these meetings are held on farms owned by the various members. These meetings



A profitable farm flock. Note laying and brooding equipment.

are very beneficial as they show in operation many of the recommended practices. The local people often take part in these programs. This not only adds interest to the meeting, but at the same time is developing local poultry leaders.

The demonstration farms are used as places for holding field meetings and tours. This is proving to be a very effective method of teaching subject matter.

Poultry specialists are often called upon to talk at general farmers' meetings. These meetings include movable schools, Junior Club meetings and programs put on by county agents in connection with community programs of work. At these meetings timely poultry topics are discussed.

At all culling and caponizing demonstrations, other poultry questions are discussed. This especially applies to housing, feeding, lice and mite control and breeding problems.

During the past year several poultry short courses have been given. At these meetings, nothing but poultry is discussed. The

meetings are usually for one or two days and in most cases the local people are asked to be on the program and tell of their experience with their flock. These talks are very good and are usually made by poultry leaders and demonstrators.

During the year the poultry specialists are often called on to judge at poultry shows. This work is done only when it does not interfere with the regular project work and in all cases awards are explained in order that the exhibitors may have a better idea of the requirements of the breed they are raising.

Practically all of the poultry work is done thru the cooperation of the county agents. In counties where there are no agents, work is undertaken only when the local people will act as leaders and arrange for all demonstrations and meetings. In some cases both the county agent and the Home Demonstration Agent cooperate in this work.

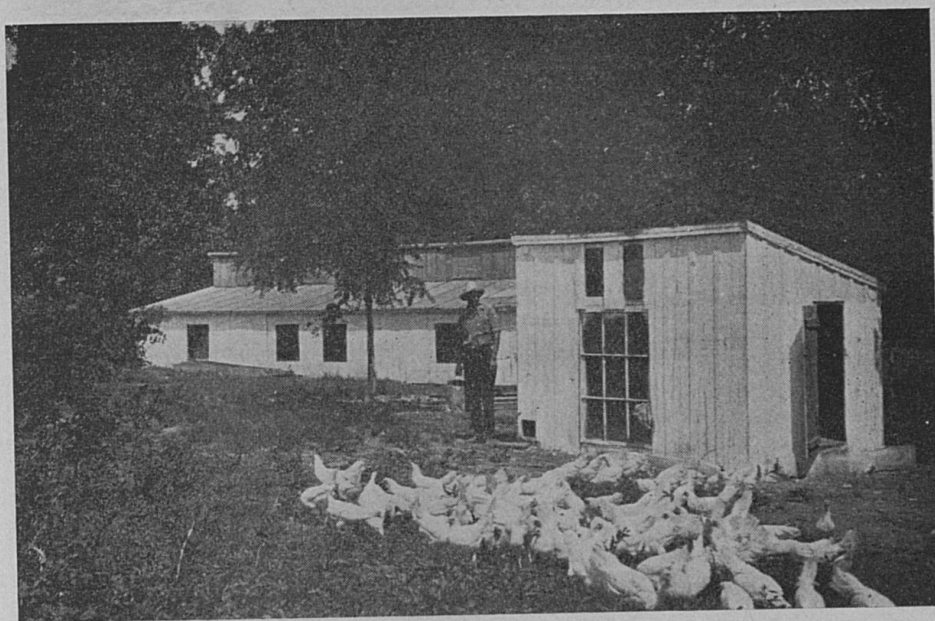
#### *Standardization or Community Breeding*

This project has been carried on for a number of years and each year more of the results derived from it can be seen. The project which was outlined for the purpose of putting more purebred poultry on the farms of the State, consists of the distribution of hatching eggs and breeding stock from purebred flocks. There are three plans of distribution of eggs used in the State. In some cases the person getting the eggs returns a pullet in the fall for each setting of eggs secured. A second method is to return two cockerels for each setting secured. The third method of paying for the eggs involves the return of poultry or eggs to the value of \$1.00. The last plan has been used for two years in Nicholas County and very outstanding results were obtained. The advantage of this plan is the elimination of a pullet sale in the fall and also that the people getting the eggs are allowed to keep all the chickens they raise. The financing of this work is done by banks, business men and county poultry associations.

During 1925 twelve counties distributed 80,925 hatching eggs on the above plans. Pullet auction sales were held in seven

of these counties. In the other five counties the pullets were sold privately or the plan of returning produce was used.

Largely as a direct result of the standardization project 42 county poultry associations have been organized. Four of these



Large numbers of poultry houses of this and other improved types were built under the direction of county agents and poultry specialists from the College, during the year.

have been organized during 1925. These associations have as one of their main features of work an educational program. In many cases this program included field meetings and tours. In addition several of these associations have taken charge of the poultry exhibit at their county fair and made it into a real educational show. Others are putting on fall and winter shows in the county seat.

It must be remembered that altho no check can be made in many cases, thousands of eggs are being distributed annually by breeders all over the State. After this project has been in progress in a county or community for a number of years, a large number of eggs are sold directly by the breeders who got their start from the project. In reality, the project itself stimulates

interest and those who were wise enough to get in on the start carry the work on and at the same time are getting the personal benefit.

#### *Culling and Selection*

This project has been carried on since 1918. Therefore, culling has become rather a general practice in this State. The poultry specialists plan to devote their time and efforts during the culling campaign largely in sections of the State in which there is no county agent, or in sections in which county agent work is relatively new. The reports of the county agents show that they have conducted a large number of culling demonstrations. In addition to the demonstrations given by the county agents, the poultry specialists gave 96 culling demonstrations at which 1660 people were in attendance. This is the smallest number of demonstrations ever given, but is explained by the fact that culling has become a general practice in many sections and that the demonstrations reported above were given in new territory in most cases. A number of these demonstrations were given in counties that have never had a county agent, but are contemplating the employing of one in the near future.

#### *Winter Egg Laying Project*

This project has grown until now it is used as a county or community project. Nearly all of the county agents are carrying on this project. The number enrolled in each county varies from 10 to 100. In this project the cooperators keep a record of their egg production, cost of feed and receipts each month from November 1st to April 1st. The county agents use these reports for newspaper stories to encourage better feeding and management practices. This project has done much to encourage better practices of management. Each person enrolled in this project is furnished a poultry calender (Extension Circular 175) that contains not only space for keeping the records, but also timely hints for each month. The requests for the calendars have been greater this year than ever before.



### *Farm Flock Demonstrations*

This project is growing in popularity each year. November 1, 1924, there were 217 cooperators started this work. Although a few of these were forced to drop the work before the year closed a large per cent completed the year's work. These flocks being distributed in most of the counties in the State serve as very valuable demonstrators in their respective communities. These demonstrators carry out to a large extent the proper methods of housing, feeding and flock management recommended by the Poultry Specialists.

During the year 25 field meetings and tours were held on the demonstration farms with a total attendance of 887. This type of work was very successful this year and will be given special emphasis during the next year.

Each demonstrator was visited at least once during the last year and in most cases twice. These visits were for the purpose of helping the demonstrators to make their flocks real demonstrations. In many cases breeding pens were mated and male birds selected to head the breeding pens.

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### *Certification of Poultry Flocks*

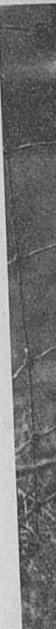
This project is growing in popularity each year as the poultrymen understand the purpose of it. The object of this project is to build up the egg producing ability of the farm flocks, by having available a source of breeding stock that has been selected and mated for high egg production. This project is limited to those who have completed a successful year as farm flock demonstrators. If the flock is eligible to be certified the outstanding hens in the flock are banded with a sealed leg band which is numbered and stamped "Certified U. of K." These hens are then mated to males from hens with records of over 200 eggs. The cockerels which are raised from the certified pens are handled by the poultry specialist and those which are suitable breeders are also banded with sealed wing bands. These cockerels can be sold as "certified cockerels."

During 1925 there were 145 flocks certified, containing 4,016 hens. These flocks are well distributed over the State and show an increase of 58 flocks over 1924. This should make an abundant supply of production bred cockerels for sale in the State next year. The addition of these cockerels to the farm flocks of the State should materially increase the annual egg yield.

#### *Miscellaneous Work*

In addition to the regular project work the poultry specialists gave talks at 112 farmers' meetings with an attendance of 4,639 people. Breeding pens were mated for 34 poultrymen. Fifteen poultry short courses were given thruout the State with an attendance of 618 poultrymen. Twenty-nine poultry shows were judged and demonstrations in judging given in most cases. Twenty-nine demonstrations were given in caponizing with a total attendance of 321.

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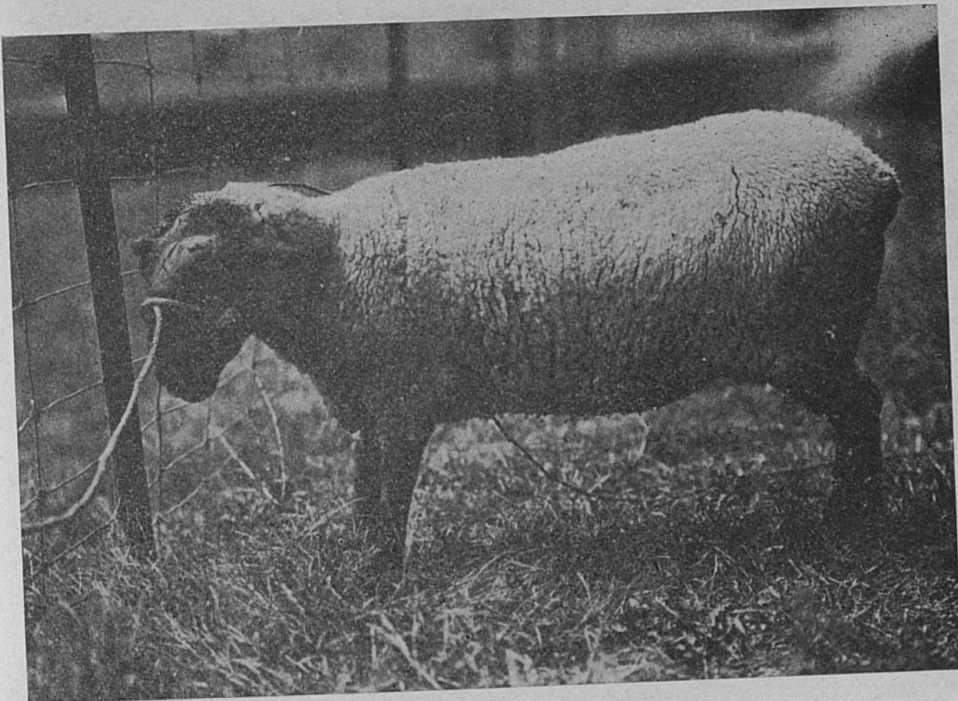
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VETERINARY SCIENCE

W. W. DIMOCK, *Head of Department*

During the year many requests have come to the Extension Department for assistance in the control of outbreaks of disease on the farm. By the frequent resort to post mortem examinations the field veterinarians have been able to make many positive diagnoses and give the proper advice to the stockman, always indicating the proper control measures.

Parasites are causing large losses in our livestock. Efforts have been made during the past year to render every assistance to the stockman and farmer to control these pests and stop the loss. Many post mortem examinations reveal that death has been due to parasites, when other causes have been held responsible. Educational moving picture talks were held in Spencer County. The interest shown by farmers and stockmen demonstrated the importance of this work, which we hope to increase next year.



A sheep affected with rabies. This picture was taken very shortly before the animal died. In the earlier stages the sheep are very violent. Note the head greatly swollen until the eyes are completely closed.

Educational work concerning tuberculosis has been conducted during the past year in McCracken, Washington and Meade counties. This work seems to be progressing in a very satisfactory way, due in a large measure to a better understanding of its value.

Rabies seems to be spreading over the State at an alarming rate. This disease has occurred in cattle, sheep and dogs and has been investigated to prevent its spread. Stray dogs running at large seem to be the chief source of spreading this disease.

Infectious abortion of cattle and swine is on the increase. Abortion causes one of the largest economic losses in livestock of any of the diseases. Control measures are daily becoming more apparent under the influence of proper education. Interest in control of this problem is increasing, due in a large measure to the heavy losses which occur not only through loss of the progeny, but also thru udder diseases and sterility. Over one thousand cattle tested last year by the field agent in Veterinary Science revealed a large per cent to be infected.

Farm Sanitation is one of the most important methods of disease control, and is not only of value in such diseases as hog cholera, blackleg, Johne's disease and infectious abortion, but in all diseases of a contagious and infectious nature.

Fake remedy investigations have been made for the protection of the farmers and stockmen. So-called cures have been sold to our people at excessive prices and have proved of no value. In these investigations assistance has been given by the Public Service Laboratories.

#### SUMMARY

1. Consultations with farmers, stockmen, veterinarians and county agents on disease and its control .....	1,035
2. Visits to farms .....	189
3. Tests made for infectious abortion of cattle.....	1,030
4. Tests made for infectious abortion of swine.....	18
5. Post mortems held in the field to determine the cause of disease .....	56

## HORTICULTURE

C. W. MATHEWS, *Head of Department*

### *Pomology*

The work in Pomology has been directed along four main projects:

1. Management of Commercial Orchards.
2. Planting new Orchards.
3. Orchard Renovation—farm orchards and spray rings.
4. Strawberry Production and Marketing.

Some of the problems confronting the Kentucky Fruit Growers in 1925 were as follows:

- a. Insect and disease control—especially scab and blotch.
- b. Pruning—Apple and Peach.
- c. Amount and Kind of Fertilizer to Apply.
- d. P. D. B.—How late in the fall can it be used?
- e. Marketing Peaches—Packing a standard pack.
- f. Keeping a cooperative feeding among the strawberry men.
- g. Type and kind of farm cool storage to use for storing fruit.

### *Teaching Subject Matter*

During January, February and March a series of field meetings are held in the commercial apple and peach orchards. Aside from pruning demonstrations, the whole season's program of orchard work is outlined for the orchard in hand, and comparisons are made with other orchards of the vicinity. The program of work offered the field agents is outlined and cooperators selected. In several counties all this work is carried on thru local Fruit Growers' Associations which meet at monthly or quarterly periods during the year.

In most counties it would be very difficult to do field work of any importance without the assistance of a county agent. Growers look to him for advice and he in turn consults the specialists.

### *The Complete Spray Schedule*

One very costly orchard practice common thruout Kentucky is the failure to apply the sprays during a season when

there is a very light set of apples. This was especially noticeable in 1925. The bloom cluster blight hit the apple trees when in full bloom, resulting in the killing of a very high per cent of the young apples. The amateur grower is unable to see a good set of fruit until after the apples are of considerable size, and by that time, unless the spray program is being carried on, insects and diseases have taken the crop. A series of news letters to growers, together with newspaper articles at this particular season was responsible for a large number of orchards being sprayed which would otherwise have been neglected.

The increased sale of spray materials, power sprayers, orchard fertilizer, orchard tractors, etc., shows the general spread of orchard interest thruout Kentucky. One county with comparatively few power sprayers in use, added eight outfits to the number being used or an increase of about 100%. Demonstrations of the past few years have made the use of orchard fertilizers, together with a complete spray schedule, general orchard practices.

The apple grower suffered a great financial loss during August and September when thousands of bushels of apples thruout Kentucky dropped on account of the hot and very dry season. This drop of apples produced great inconvenience in harvesting demonstration lots, testing out various fertilizers and pruning systems. No accurate results were, therefore, obtained.

#### *Peach Pruning Demonstrations*

The peach pruning demonstrations started in 1923, in Henderson, Jefferson and McCracken Counties, and are still being cared for annually. The orchards in Henderson and McCracken Counties bore fine crops in 1925. The harvesting results served as additional evidence that under Kentucky conditions, opening the centers and thinning out extra branches is better than severe annual pruning.

TABLE I

## Pruning Results, Henderson County—Elberta Peach, 4th Growing Year

Tree No.	Severe Pruning	Moderate Pruning	Very Light Pruning
1 .....	200	512	470
2 .....	120	480	337
3 .....	302	388	262
4 .....	275	216	232
5 .....	115	216	216
6 .....	233	412	440
Total No. of Peaches .....	1245	2648	2018
Average .....	207	441	336

TABLE II

## Pruning Results, McCracken County—Elberta Peach, 4th Growing Year

	Severe Pruning	Moderate Pruning	Very Light Pruning
Average Peaches Per Tree .....	324	375	582

The counts were made in July about 10 days before picking season. No difference could be observed in the size, color or condition on the three types of pruning. Ninety-eight per cent of all the peaches were eligible for the No. 1 basket, due to the very thorough spraying done in both the orchards.

Observation of these two blocks of trees after the leaves fell showed the severely pruned trees to be the tallest of the three types of pruning. They also had the fewest bloom buds for 1926. So far the demonstration would lead us to conclude that the thinning out with no cutting back is the desirable type of pruning on peach trees from one to five years old.

*Demonstration Peach Orchard*

A small demonstration peach orchard which has caused no little comment is the six year old block of 145 Elbertas, planted on less than one acre of land on the farm of B. W. Scott, of Kenton County. Very accurate cost accounting has been kept since the trees were planted in the spring of 1919.

In 1925, 552 bushels of peaches were produced which sold for \$1391.04, five hundred and twenty-two bushels of the No. 1 grade sold for \$2.52, the remaining 30 bushels bringing about \$1.50 per bushel. The records for the past three years are as follows:

1924—396 bu. @ \$2.85—or .....	\$1,028.60
1923—238 bu. @ 2.95—or .....	613.10
1922—138 bu. @ 1.60—or .....	220.80

The total income from the 145 trees on less than an acre of land has been \$3,253.00.

This orchard has been managed under the direction of the extension service since it was planted. In brief, the following program was carried out: Clean, frequent cultivation with a disk from early spring until late July, annual application of barn manure, application of the standard spray schedule with a power sprayer and thinning the fruit annually.

It is interesting to know that this orchard was the only block of peach trees in that whole neighborhood that bore a crop of fruit in 1925. At ripening season a field meeting was held in this orchard to study conditions which had been responsible for a good crop of peaches in this orchard. This meeting was attended by growers from five northern Kentucky counties. It is expected that this orchard will pave the way for other orchards receiving modern care in northern Kentucky.

#### *P. D. B. Treatment*

The P. D. B. (Paradichlorobenzine) treatment for peach tree borers, is rapidly coming into general use throughout the state. No injury has appeared on the several thousand young trees treated in the state during the past two years.

The leading question concerning this treatment is "How late can the P. D. B. be applied and 99% control result?" Several growers made the application as late as November 20th this fall. Close observations are being made on these late treated areas to detect any failure of the P. D. B. to give satisfaction



*Planting New Orchards*

Interest in apple and peach production has been greatly stimulated throughout Kentucky during the past 12 months. The result has been that several hundred acres of orchards are being planted in the fall and winter of 1925-1926. This planting is being done in the following counties: McCracken, Graves, Marshall, Christain, Hopkins, Union, Webster, Henderson, Jefferson and Kenton.

No effort has been made by the extension service to stimulate new plantings, but merely to guide the men who plant orchards, in the selection of varieties, locating the site and in planting.

Most of the new orchard men have been attending town and summer field meetings during the past few years and have decided that fruit as a cash crop will fit in as a good additional crop. It is made plain to the prospective grower that orcharding is a long-time proposition, and that success can be expected only where good orchard practices are being followed.

*Strawberry Fertilization*

Strawberry growers of the Purchase are very much interested in methods of increasing their yield. Experience has shown that new land gives far better yields, yet many producers have to use old land which has been cropped for years. Several men agreed to try acid phosphate in varying amounts as well as nitrate of soda. On account of the large amount of labor involved in harvesting demonstration plots only observation records were kept. On old land a treatment of 800 pounds of acid phosphate and 200 pounds nitrate of soda per acre proved to be a decided advantage. Incomplete harvesting results on one plot showed that this fertilizer treatment more than doubled the yield of berries, or in other words returned the grower more than \$10.00 to \$20.00 spent for fertilizer.

The success of strawberries as a cash crop in Kentucky depends on the ability of sections to pull together in a cooperative marketing association. The extension service uses every

opportunity possible to foster good will and content among the growers at all times.

#### *Exhibits.*

In spite of a light commercial crop of apples and an unusually dry summer and fall, the State Fair apple show was the best display of fruit ever exhibited at a Kentucky State Fair. The competition is becoming more keen each year and this competition has its place toward influencing the new exhibitors along the line of better spraying. According to the judges the general quality is better each year.

A "Peach Show," the first of its kind in Kentucky, was held at Paducah, at the close of the Elberta season. This was made possible by the "Paducah News Democrat" financing the whole show, and together with excellent space for the show furnished by Rudy and Company, who provided large show windows and a good room in the leading business section of Paducah.

The Fourth Annual Strawberry Show of the Purchase was again promoted by the Evening Sun, cooperating with the Extension Service. Seventy-three crates of choice berries were on display in competition for the \$125.00 prize money. The Strawberry Association is making plans in 1926 to enlarge this show to the extent that at least 300 crates of berries will be exhibited, then ship these in a solid car. Very good prices have been offered for a car load of such berries.

#### ORCHARD TOURS

Orchard tours continue to be a popular method of placing modern orchard practices before the growers. The attendance at the series of tours in July and August exceeded that of last year. It is very difficult to express in words the spread of influence from these tours. Henderson and McCracken Counties are being recognized as fruit counties for apples, peaches and strawberries. During July a peach tour was held in Henderson County; more than 200 growers from 24 Kentucky Counties at-

tended. About the only advertisement used to attract this group of men was that "the visitors would see a 4 year old orchard carrying an average of 3 bushels per tree, and a 5 year old orchard carrying 5 bushels per tree." The Annual Labor Day Tour, 6 weeks later, attracted over 150 growers from 18 counties.

Graves County held its first orchard tour this season. In spite of its being one of the hottest days of August, 90 attended.

A very gratifying feature of the McCracken County tour is the cooperation of the business men of Paducah. They well realize there are no city limits and that if they are to succeed, the farmer must have money and happiness. The first Fruit Growers Business Men's Banquet was held in July, the night before the tour. More than 80 attended this affair, and the fruit growers voted it a most pleasant occasion.

It is gratifying also to know that the newspapers of southwest Kentucky, especially the Paducah papers, are taking a big part in developing fruit interests in the Purchase. Their papers are never too full of general news for the editor to find a front page for any orchard story.

#### *Outlook for Future Work*

For the coming year, all the same phases of work done in 1925 will be continued. In addition the following will be undertaken:

Timely sectional spray service. Plans are now being made to divide the state into five sections, namely: (a) Purchase, (b) Henderson, (c) Lexington-Louisville, (d) Northern, (e) Mountain. Field observation as to the condition of the trees with reference to leaves, blossom, emergence of codling moth, curculio, scab, bitter rot, will be given consideration, and timely spray instructions sent to each section.

Modern farm cool storage will be stressed in certain sections. Definite pruning work, especially on apple orchards in Henderson County, which are old enough to bear. Definite harvesting records to be kept.

Sectional apple shows and fruit growers, short courses at Paducah, Owensboro, Covington and eastern Kentucky, probably Morehead.

Organize community packing of peaches in Purchase.

### *Vegetable Gardening*

The vegetable sub-projects under way in 1925 dealt with:

1. Potatoes
2. Canning Tomatoes
3. Pickle Cucumbers
4. Home Gardens
5. Miscellaneous—including market garden, sweetpotato growers and workers with special crops.

### *Potatoes*

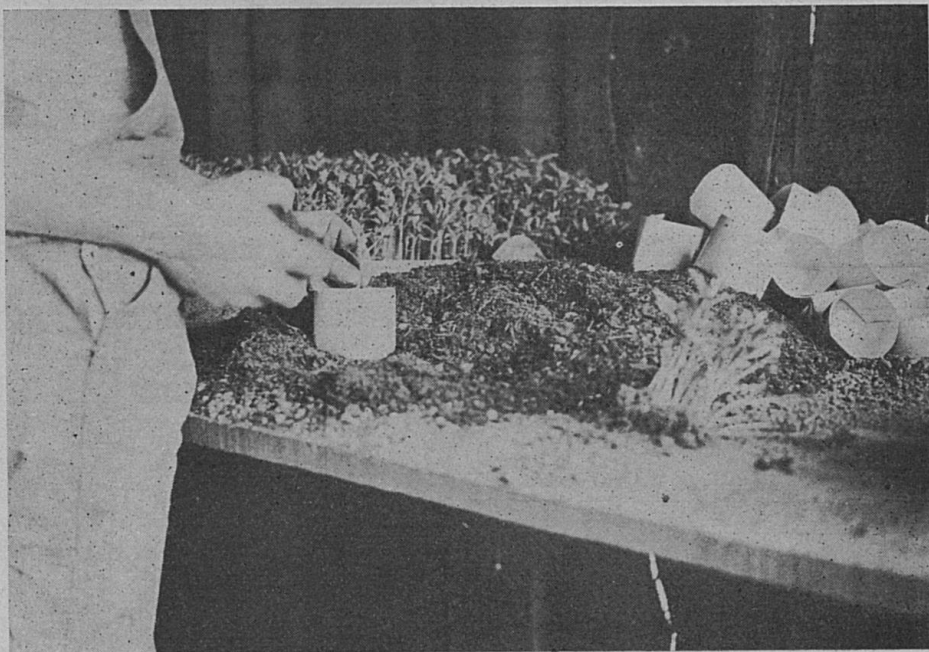
The acre yield of potatoes in Kentucky is lower than it should be; the use of diseased seed is largely the cause. Even when the gross yields are satisfactory, the presence of scab may materially cut the price received. This year, as previously, emphasis was placed on using Certified seed to escape the "running-out" diseases, and on treating the seed for elimination of scab and scurf. The expansion of Kentucky Certified potato acreage was also planned.

It is the ultimate goal to have nothing used but first class seed, whether Kentucky grown or produced in other States.

To stress the desirability of importing good seed, a letter was written each county agent, recounting results of previous tests and suggesting reliable seedsmen who incidentally agreed to furnish introductory lots of seed at reduced prices. Copies of the letter dealing with potato scab were sent county agents and two hundred potato growers.

In eighteen counties, twelve of them new, there was placed a known total of 984 bushels of Certified potatoes, as the result of a specific campaign. In McLean County, notably, 642 bushels were almost automatically placed as a result of the introduction, in 1924, of 43 bushels with 41 men.

From the largest seedsmen and jobbers in Kentucky, and from those in adjacent states, who sell seed in Kentucky, it is learned that a total of 4,395 bushels of northern grown Certified



Potting transplants pays. A single paper pot made of newspaper, requires only a wooden block and a No. 2 tack.

seed potatoes were sold in Kentucky in 1925. The Kentucky certified seed growers' associations report the sale of 2,270 bushels within the State.

Concerning seed treatment, no statistics are available except in Jefferson County, where there was purchased 352 pounds of corrosive sublimate, and over 6 tons of sulfur for seed dusting. The acreage represented is about 1,150.

Seed certification was effected in the following counties in 1925:

Jefferson County .....	172 acres
Oldham County .....	34 acres
Fayette County .....	34 acres (new association)
	—
Total .....	240 acres

The associations produced a total of 20,600 bushels, almost 2,300 bushels of which are accounted for above. Two cars were sold in Texas and two in Tennessee; the remainder was used by the association growers themselves.

As to results of the use of better seed the State over, the following statistics gathered from the U. S. Census of 1920, and from the special census of 1924, may be pertinent:

	1919	1924	
Kentucky Acre-field White Potatoes....	62.7 bu.	99.5 bu.	Gain 59%
Kentucky Acre-field Sweet Potatoes ....	82.2 bu.	72.4 bu.	Loss 12%
Kentucky Acre-field Corn .....	22.1 bu.	22.9 bu.	Gain 3%
Kentucky Acre-field Tobacco .....	800 lbs.	804 lbs.	Gain ½%

The season in 1919 was, if different, a better one than in 1924.

In Jefferson County, the leading commercial potato county, the increase was only 28% over the 1920 yield. This is explained by the fact that the quality of seed in Jefferson County was already quite high. The smaller increase in Jefferson County also makes it appear that the increase in acre yield is not alto-



A flue-heated sweetpotato plant-bed. The "flues" are ditches covered with slabs from the sawmill. The "fire box" is made of old roofing. This bed succeeded admirably when the manure heated beds failed.

gether due to seasonal conditions, but that improved seed must have played a part.

### *Canning Tomatoes*

The growers of canning tomatoes do not always secure yields that are even moderately profitable; in a majority of cases, the tomatoes are produced at a loss. The reasons are:

1. Pool plants
2. Wrong fertilizers
3. Disease

Although this condition obtains in all the tomato counties, yet, since the best opportunity for efficient help to the growers lay with the managers of the canning companies in Ballard, Hickman, and Carlisle Counties, the main efforts were concentrated in these counties:

The procedure was:

1. To hold "tomato schools" at each station; invitations dictated by the field agent but sent by the companies.
2. To select at each station a group of ten growers, selected on their past performance as careful and progressive men, from data contained in the records of the companies. These groups were pledged to try to raise "300 bushels or more per acre, and they were called "300 Clubs." These men were assisted by the county agent and the field agent in selecting suitable land; selecting and building proper plant beds and setting plants properly. The fertilizers, in no case costing more than \$8.00 per acre, were advanced the growers by the company against the crop. As to results, eighteen of the thirty growers enrolled grew more than 300 bushels per acre; one grower attained 451 bushels. This latter was 120 times as much as that secured by the poorest grower in the county. The average yield for this district was 120 bushels per acre in 1925.

The companies sent our four seasonal letters written by the field agent, and the Cowles Company conducted  $2\frac{1}{4}$  acres of variety and fertilizer demonstrations planned by the field agent, and supervised with him by the county agent.

The results of the "300 Club" demonstrations, as well as of a similar test conducted at the Princeton sub-experiment station, indicate the following fertilizing treatments, given in the order of their performance:

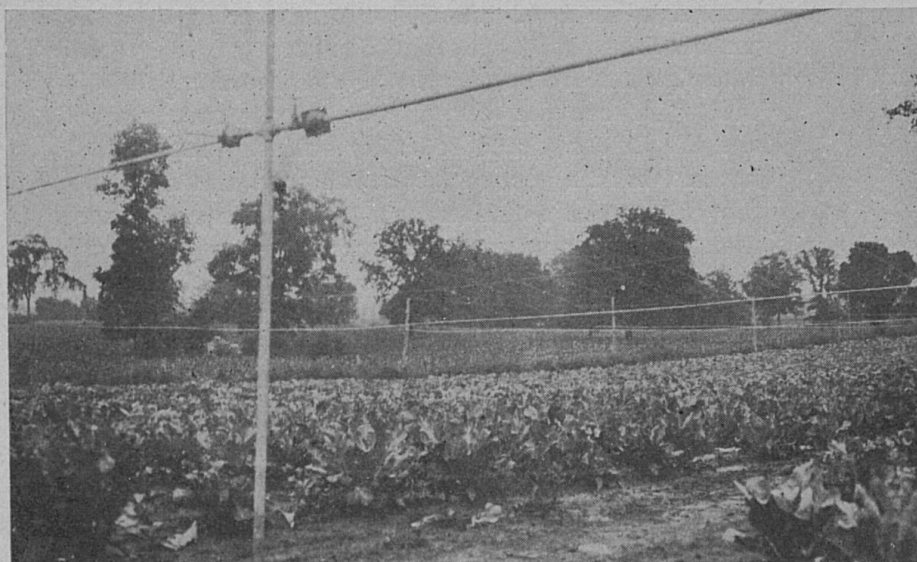
Manure (4 tons minimum), acid phosphate 500 pounds per acre.  
Clover sod or cow-pea stubble, acid phosphate 500 pounds per acre.  
Weed or thin sod, 4-16-4 fertilizer, 400 pounds per acre.  
Weed or thin sod, 4-10-0 fertilizer, 400 pounds per acre.  
On Silty "overflow bottoms," 3-6-10 fertilizer, 400 pounds per acre.

#### *Pickle Cucumbers*

Pickle cucumber yields are annually reduced by infestation of cucumber beetles, which damage the plantings directly by mutilation, and indirectly by introducing and spreading the wilt.

No goal can be set because seasonal conditions so much affect the crop, but the endeavor is to get all growers to use means for insect control, as follows:

1. Meetings at sign-up time at each salting station, the county agent discussing culture, and the field agent insect and disease control.



Making rain while the sun shines. Head lettuce in McCracken County. This made \$950 net per acre.



2. Arrangement made by the pickle companies with manufacturers, thru field agent, for securing insecticides at wholesale cost, the pickle companies loaning the materials against the crop.
3. The issuing of timely letters, dictated by the field agent, by the pickle companies.
4. Survey visits by the county agent and the field agent.

The results were not wholly satisfactory, but some correlation between insecticide applied and acre receipts, was noted as follows:

Harned .....	\$113.00 per acre; 52 lbs. of dust used.
Glen Dean .....	102.00 per acre; 54 lbs. of dust used.
Lodiburg .....	111.00 per acre; 49 lbs. of dust used.
Cloverport .....	78.00 per acre; 36 lbs. of dust used.
McQuady .....	62.00 per acre; None

The companies issued thruout the season, over 24 tons of hydrated lime, and a trifle over 1 ton of nicotine sulfate. Several growers supplemented the material issued by the companies by purchasing from local dealers.

#### *Home Gardens*

Home gardens the State over lack in quantity of vegetables raised, and in their variety. A project, in cooperation with the home demonstration agents, was conducted as follows:

During January, February and March, the field agent presented a budget-garden plan before 34 community meetings, two town meetings and before two county group-leaders' meetings. The plan was built up on a muslin sheet, laid off in rows, on which were attached, in their order of planting, cards bearing the name of the specific vegetable. A total audience of 1,012 persons were reached.

At the meetings, illustrative material, bearing on budget gardens, the plan, good varieties and insect control was passed out. The total issue of this material in this way, and thru the mails was 2,000.

After the meetings the home demonstration agent selected demonstrator gardeners who agreed to follow in the plan, and to

keep records. The field agent agreed to hold garden meetings in early June, and in mid-July, to take up immediate problems in the field, and to suggest plantings to follow the early crops, stressing the fall garden.



A "companion cropped" garden. Between rows of cabbages 36 inches apart are set rows of lettuce and between these spring onions and spinach. The order of removal is onions and spinach first, head lettuce next leaving the rows of cabbage wide enough to cultivate with horse power. This picture was taken in Harlan County in 1925 in a garden that produced at the rate of \$1,630.00 per acre net.

The counties were: Jefferson, Henderson, Daviess, Christian, Lee, Whitley, Garrard and Ballard. There were 22 demonstration gardens.

To supplement the individual work with the demonstrators and the home demonstration agents, the field agent prepared news articles, synchronized with current garden activities, weekly, beginning January 15, 1925, and continuing to December 1st. Sixteen daily and weekly papers published the articles

regularly under a special head, and 18 others at intervals. Other journals used these articles frequently.



A field of cannig beans in Carlisle County. In this field a demonstration showed that a clover sod alone produced  $1\frac{3}{4}$  tons per acre. Adding 500 lbs. of 16 per cent acid phosphate increased the yield to  $3\frac{3}{4}$  tons and inoculating the seed in addition, increased the yield to a little over 4 tons. Beans were bringing \$42.00 per ton. The phosphate application cost \$6.30 and inoculation 90c per acre.

The home garden project for 1926 is to be changed somewhat. As in 1925, a weekly garden news letter will be issued, beginning December 1st, 1925, and running full 12 months.

#### *Miscellaneous*

The sweetpotato industry received an impetus, due to the high prices in effect during the late spring of 1925. A series of demonstration meetings dealing with black rot control, was conducted in the following counties: McCracken, 2; Graves, 4; Ballard, 2; Henderson, 1. Probably 300 growers were reached, and about 1,500 known acres were set to slips grown from treated seed.

Plans of the standard curing house were sent to 11 individuals, five of whom built new houses outright, and three remodeled old buildings to serve. The total capacity of these structures is 7,500 bushels. Two commercial companies from Tennessee remodeled warehouses to store 15,000 bushels (Graves and Marshall Counties). The summer drought and the unseasonably wet and cold weather at digging so reduced the yield, and so affected the storing quality of the potatoes that were finally harvested, that one house stored none, and the other less than 25% of its capacity, but black rot was not the fault.

The Mexican Bean Beetle made further advances, covering the State except for the southwest corner, bounded on the east and north by a line passing thru Christian County and running northwest, thru Union County. Eighteen demonstrations of control were conducted in Jefferson, Oldham, Campbell, Boone, Union and Hopkins Counties. As a result, in Jefferson County, a power-sprayer spray ring of six men, who grow upwards of 150 acres of green beans in a season, has been operating.

FARM ECONOMICS

W. D. NICHOLLS, *Head of Department*

*Farm Accounting Contest*

This contest was inaugurated in January, 1925, as a feature of the farm accounts project. The purpose of the contest was to stimulate interest in the keeping of farm records. Cash prizes, ten in number, totaling \$350.00, were offered by the Farmers' Home Journal of Louisville, these to be awarded to county groups of farmers performing the best work in keeping farm accounts. The county agricultural agent is the local leader.

Only completed records are counted in the contest. A complete record consists of inventories made at the beginning and at the close of the farm year, but preference is given the accounts, which also include a full list of receipts and expenses and net earnings of the farm for the year. Accounts on the cost, income and profits of individual enterprises may also be included. The valuation given the accounts is adjusted to what they embrace, a full account being given greater value than one containing only the inventories or the inventories and financial records.

Upon completion all records are approved by the county agent or county leader as to accuracy and completeness and forwarded to the Department of Farm Economics at the College of Agriculture. The head of the Department of Farm Economics collaborates with a committee of two citizens designated by the director of extension in making the awards. For the current year Messrs. R. B. Porter, of Caneyville, and Albert McCown, of Richmond, constitute the committee.

Prizes do not pass wholly or in part into the possession of individuals, but are to be used for public libraries or for equipment or for some purpose benefiting a community, a group or a county. Before an entry is eligible to receive a prize the county agent or county leader is required to file a statement satisfactory to the committee on awards showing the proposed use to be made of any prize money that may be awarded to his county. The basis of awards is as follows:

Number of completed records .....	45
Completeness and accuracy of records.....	45
Neatness .....	10
	-----
Total .....	100

The records are kept in the Kentucky farm account book prepared by the Department of Farm Economics or in books approved by the Department. The prizes are as follows:

First prize .....	\$100.00
Second prize .....	75.00
Third prize .....	50.00
Fourth prize .....	40.00
Fifth prize .....	30.00
Sixth prize .....	20.00
Seventh prize .....	15.00
Eighth prize .....	10.00
Ninth prize .....	5.00
Tenth prize .....	5.00

Approximately 1,000 farm account books were distributed to farmers in 1925. Between 600 and 700 of these were placed in the hands of persons entering the accounting contest. As far as possible, particularly in the case of entrants in the contest, farmers were assisted by members of the department staff or county agricultural agents in taking inventories and were instructed in entering the receipts and expenses and summarizing the accounts. Follow-up work was done thru the year with the farm account cooperators.

These records will be completed between January 1 and April 1, 1926. At the close of the year's work, a one day farm business school will be held in each community where farm accounts have been kept. Each cooperator will be urged to attend this school and summarize and analyze his farm account book.

At present it is impossible to state the final attitude of the farmers toward the farm accounting contest. The majority of farmers are skeptical about surrendering their account books at the end of the year for inspection. The contest has been instru-

mental indirectly in developing an interest in farm accounts, and has paved the way for expansion during the following years. The result of the contest cannot be measured by the number of books started and completed this year. At all events the Farmers' Home Journal has done a substantial service to the State as it has helped to focus attention upon a matter that has been greatly neglected.

The Farm Accounting project will not be conducted in the same manner during the coming year. In each community a group of fifteen to twenty-five farmers will be organized into a club whose leader will be the local community banker. The purpose of this club will be to study agricultural conditions in the community in order to learn the adjustments necessary for reorganizing and adjusting farming practices in the community to present economic conditions and to the more profitable crop and live stock enterprises of the community. Each club member will summarize and analyze his farm business, using either records kept on his farm for 1925, or a special survey of his farm business. Each will keep account of his farm business for the next three years, summarizing and analyzing them at the end of each year's business under the supervision of the local banker and county agent, and the field agent in Farm Economics. The records of the four years will form the basis for reorganization and adjustments which will be recommended to the community.

This project will train the local banker as a leader of extension work. It will also train fifteen or twenty farmers as sub-leaders in the community, who will be thoroughly acquainted with the conditions of the community and the adjustments which should be made in the farming practices.

The following banks with the designated leaders have agreed to cooperate in this project:

Kenton County:

Bank of Independence, C. M. Northcott, Cashier.

Oldham County:

Peoples Bank, LaGrange, R. H. Snyder, Cashier.

Oldham Bank and Trust Company, P. S. Head, President.

**Trimble County:**

Peoples Bank, Bedford, W. B. Monroe, Cashier.  
Bedford Loan and Deposit Bank, D. L. Bell, Cashier.

**Larue County:**

Bank of New Haven, J. E. Rapier, Cashier.  
First National Bank, Buffalo, E. S. Ferrill, President.  
Davis Banking Company, Upton, H. Y. Davis, Cashier.

**Breckenridge County:**

Breckenridge Bank of Cloverport, Paul Lewis, Cashier.  
Farmers Bank and Trust Company, Hardinsburg, Z. C. Hendricks, Cashier.  
Hardinsburg Bank & Trust Company, Franklin Beard, President.  
First State Bank, Irvington, J. D. Lyddan, Cashier.  
E. H. Shelman & Company, Irvington, E. H. Shelman, President.

**McLean County:**

Bank of Calhoun, A. L. Moseley, V. President.  
Citizens Deposit Bank, Calhoun, Walter Scotte, Cashier.  
Sacramento Deposit Bank, A. M. Plain, Cashier.

**Calloway County:**

First National Bank, Murray, Tom Stokes, President.  
Bank of Murray, Ed. Tilbeck, Cashier.  
O. T. Hale & Son Department Store.

**Ballard County:**

Bank of La Center, T. C. Lovelace, Cashier.  
Bank of Lovelaceville, E. M. Wyman, Cashier.

**Henderson County:**

Henderson National Bank, C. A. Katterjohn, Cashier.  
Ohio Valley Banking and Trust Company, C. W. Geibel, Cashier.

**Hopkins County:**

Hopkins County Bank, Fay O. Townes, Agr. Agent.  
Farmers National Bank, O. A. Ashby, Asst. Cashier.  
First National Bank, Dawson, J. N. Smith, Cashier.  
Commercial Bank, Dawson, I. N. Day, President.

**Marshall County:**

Hardin Bank, D. H. Booker, Cashier.



*Work in Farm Business Analysis*

As a means of studying the economic aspect of farming, business analysis records were obtained by staff members on farms in various parts of Kentucky, nearly 300 farms being thus analyzed.

*Farm Organization Project*

During the year, 260 farm business records previously obtained in Union and Henderson Counties were summarized, and the various factors influencing farm profits were studied. The most important factors were shown to be as follows:

1. Efficient labor utilization as measured by total labor accomplished per man.
2. Control of expenses and low cost of production as measured by the ratio of expenses per \$100.00 receipts.
3. Volume of sales per 100 acres.
4. Good crop yields.
5. Good returns from live stock as measured by returns from live stock per \$100.00 worth of feed fed.

The following tabulation was prepared showing a comparison of the organization of the most successful 12 farms with the average of all farms. An individual sheet was filled out for each of the 270 farmers and showed how his farm compared in the various factors of efficiency with the factors on all the farms and on the most successful farms. These were returned to the farmer by the county agricultural agent and the farm management field agent.

The following business analysis form sheet was filled in and returned to each of the 270 farmers who furnished records:

Farm No. ....

FARM BUSINESS ANALYSIS, UNION COUNTY, KY.  
FARM YEAR ENDING JANUARY 1, 1924.\*

Name ..... P. O. ....

COMPARISON OF YOUR FARM WITH 270 FARMS AND THE BEST  
12 FARMS

	Your farm	Average of 270 farms	Average of best 12 farms
Net earnings for the year .....		465	3058
Total acres operated .....		201.9	328.8
Total capital (including dwelling)		17270	24629
Total capital (without dwelling) ..		15234	22954
Total farm receipts .....		2995	6665
Total farm expenses .....		1616	2230
Receipts per 100 acres operated....		1484	2027
Expenses per 100 acres operated....		800	678
Expenses per \$100 income .....		53.96	33.46
Crop index .....		100	107.7
Yield of corn per acre .....		33.87	37.28
Pield of tobacco per acre .....		924.96	1036
Yield of wheat per acre .....		13.69	15.78
Yield of hay per acre .....		1¼ Tons	1¼ Tons
Productive day's work per man ....		218.86	264.33
Productive day's work per horse..		53.61	87.81
Price per pound for tobacco .....		8.5c	10.27c
Value of things furnished by the farm to the family .....		299	331

\*The above comparison is taken from a survey on 270 farms mostly in Union County (a few in Henderson and Webster Counties), made by the Department of Farm Economics of the College of Agriculture in the summer of 1924. Your farm was included in the survey.

*Regional Demonstration of Improved Farm Organization in the Jackson Purchase Region*

The project was begun in 1924, and continued during 1925.

Nineteen cooperating farmers kept detailed records of the amounts of man labor, horse work and materials used in producing the various crops and classes of live stock found in the region. All summaries of these records have been made in a way that emphasizes variations in the efficiency with which the resources of the various farms have been utilized.

During the fall and early winter of 1925, especial attention has been given to the importance of economy in the production of live stock and live stock products. Each cooperating farmer has been furnished with a copy of a tabulated analysis of Poultry costs and returns on farms keeping chickens only, feed consumption and labor expenditure per cow and per cwt. butter fat on all farms, feed consumption and labor expenditure per cwt. gain on hogs and costs per head, work stock and per hour of farm work. With these data before them cooperators and non-cooperators alike have been led to consider the importance of live stock in the organization of farms in the Purchase Region and impressed with the necessity for efficient and economic production.

Seven farms in this region are now being used as special demonstration farms upon which the principles of farm reorganization and improved management developed by the cost work are being put into operation.

*Cost of Production Work in Central Kentucky*

Twenty farmers cooperated in Fayette, Bourbon, Woodford, Jessamine and Shelby Counties in cost of production demonstrations.

*Extension Work in Rural Community Organization*

Work was undertaken early in 1925, in one community in Fayette County to demonstrate the possibilities of the organization of rural community forces for improving civic, business,

home and agricultural conditions. An active community club was organized and thru the agency of this club a three-days' country life conference was held. This conference was largely attended and during its progress the community was scored on citizenship, community consciousness, schools, churches, homes, recreation, farm economics and agriculture. A total of 703 out of a possible 1,000 points was secured. By this scoring process the weak points of community life were brought out and plans made to correct these deficiencies. This community will be scored again in 1926. As an immediate result of the conference concrete improvement was made in home beautification, in specific agricultural projects and in the improvement of the local school. High school instruction which had previously been lacking was provided.

#### *Other Projects*

Other activities during the year consisted in assistance in farm layout and farm leases and information upon the following problems was given: farm insurance, farm capital and credit, taxation, costs and standards of living, land valuation and utilization and other problems of farm business.

## MARKETING

O. B. JESNESS, *Chief, Section of Markets*

The extension work in marketing during the year has given attention especially to the development of an educational program in marketing and tobacco problems. Considerable other work, however, has been given attention during the year.

Improvements in marketing and in the application of cooperative or other methods must be based on an understanding of what marketing is, the methods employed and the problems encountered. In a cooperative marketing enterprise an informed and intelligent membership is a requisite. For that reason, educational work in marketing has received the major attention among extension activities in marketing. The purpose has been to give farmers and others a better understanding of marketing, of prices and price influencing forces, of the possibilities and limitations of cooperative marketing and its essentials for success.

Kentucky is the home of two important tobacco associations which are among the largest cooperative marketing enterprises in the country. These associations are still somewhat in the experimental stage and among their problems the matter of membership relations is one of the most important, if not the most outstanding of all. It has been the purpose to develop extension activities which would be helpful in connection with the solution of these problems. Several meetings of association workers have been attended for the purpose of aiding in the development of constructive programs of work intended to make more general an understanding of cooperative marketing as well as to build up a closer contact between members and their marketing associations. Large scale, centralized organizations of the type of the tobacco associations are comparatively new and the problem of developing best methods of maintaining membership relations is still largely unsolved. Close cooperation has been maintained with the tobacco associations in this work. One of the meetings at which these and other questions were considered was attended by representatives from nearly all the tobacco marketing associations in the United States. A large number of meetings of farm-

ers have been attended and questions of marketing and organization have been discussed. Many of these have been meetings of community locals of the tobacco associations and of other farmer groups.

The work has been of a truly educational character. It is in no sense in the nature of propaganda or promotion. Facts are dealt in. The services involved in marketing have been outlined. The reasons for farmers organizing to perform some of the marketing services for themselves have been explained. The possibilities of cooperative marketing have been pointed out and the limitations have been discussed in order that farmers may know more nearly what can reasonably be expected from such developments. Because so many marketing problems hinge upon questions of price, price influencing factors and ability to control prices, these questions have received careful attention. In short, the aim has been to bring out clearly the fact that cooperative marketing is a form of business undertaking with business possibilities, limitations and requirements. Farmers' cooperative enterprises progress to the extent that they improve upon methods. They must render efficient and economical service. They have no power to fix arbitrary prices. In the long run, the prices they can obtain depend upon the amount produced and the outlets available. The purpose of cooperative marketing is to obtain the full market value; not to fix prices on some artificial basis. Only when such fundamentals are generally appreciated can the greatest results possible be obtained from cooperative marketing.

Assistance has been given to various localities in connection with the consideration of cooperative marketing or other marketing activities. Local conditions have been considered and plans have been outlined and information given with regard to them. Such assistance has included work with producers of livestock, wool, dairy products and fruits and vegetables.

The work relating to tobacco has been along the line of encouraging the adoption of better methods of handling, curing, preparation and grading tobacco. A large number of demonstrations to show the value of careful grading were arranged at re-

ceiving warehouses in different parts of the State. Exhibits consisting of hands of different grades of tobacco taken from the same basket, together with suitable posters calling attention to them, were arranged in conspicuous places in the warehouses. These exhibits had for their object focusing thought upon the importance of careful and uniform classing of tobacco and brought this to the attention of a large number of growers. The cooperative associations and operators of independent warehouses have given active cooperation in this work.

Considerable attention has been given to the arranging of firing demonstrations in Western Kentucky. These demonstrations were designed to assist growers in adopting better methods of firing. Some attention likewise has been given to the effect upon tobacco quality and grade, of insect damages and to demonstrations to show methods of reducing losses of this kind.

A mimeographed circular on the agricultural situation in Kentucky has been prepared and sent to the county agents about once a month. The purpose of this circular is to make available to the county agents, in condensed form, information regarding market conditions, price movements for different products, the future outlook and the like. A somewhat similar statement has been supplied the press thru the extension editor. This service is not an attempt to predict exact future prices, but to give information on tendencies and factors which influence market conditions. Special material on the outlook for agricultural products was prepared and distributed in the winter and early spring, supplementing the outlook reports of the Federal Department. Special attention has been paid to burley tobacco in this connection because of the need for a reduction in the acreage devoted to it.

The marketing exhibit at the State Fair was designed to illustrate by means of balloons and bricks the factors which aid in producing better prices and those which tend to lower prices.

A variety of other work has received attention during the year. Many requests from farmers for names of dealers in vari-

ous markets have been handled. Information has been given on marketing problems and methods by correspondence. Considerable news material on marketing has been supplied the Public Information Department for dissemination thru the press.

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PUBLICATIONS ISSUED DURING THE YEAR

- Circular 176 Spraying in Kentucky  
Circular 177 Suggestions for Local Leaders of Junior Agricultural Clubs  
Circular 178 Turkey Pointers  
Circular 179 Lespedeza in Kentucky  
Circular 180 Canning Fruit and Vegetables  
Circular 181 Outlines for Canning, Junior Agricultural Clubs  
Circular 182 Annual Report for the Year Ending December 31, 1924  
Circular 183 The County Agent in Action  
Circular 184 Color and Its Application to Dress  
Circular 185 Textile Fibers and Fabrics  
Circular 186 Feeding for Egg Production  
Circular 187 Bound Buttonholes and Pockets  
Circular 188 A System for Scoring Kentucky Rural Communities  
Circular 189 Junoir Food Project Programs—Junior Agricultural Clubs  
Has Your County an Agricultural Agent?  
Crop Cost Account Book?  
Circular 86 Tobacco Project, Junior Agricultural Clubs (Revised)  
Circular 88 Ewe and Lamb Project, Junior Agricultural Clubs (Revised)  
Circular 94 Soybean Project (Revised)

## LIST OF EXTENSION WORKERS

January 1—December 31, 1925.

## ADMINISTRATION

\*Thomas Cooper, Dean and Director  
 T. R. Bryant, Asst. Director  
 \*D. H. Peak, Business Agent  
 S. K. Slaughter, Secretary  
 C. A. Lewis, Editor  
 N. R. Elliott, Leader of Specialists

## AGRONOMY

\*George Roberts, Head of Department of Agronomy  
 Ralph Kenney, Field Agent, Crops  
 S. C. Jones, Field Agent, Soils

## AGRICULTURAL ENGINEERING

\*J. B. Kelley, Field Agent in Agricultural Engineering  
 Earl G. Welch, Field Agent in Agricultural Engineering

## ANIMAL HUSBANDRY

\*E. S. Good, Head of Department of Animal Husbandry  
 Wayland Rhoads, Field Agent in Animal Husbandry (Beef Cattle)  
 \*\*R. C. Miller, Field Agent in Animal Husbandry (Sheep)  
 Grady Sellards, Field Agent in Animal Husbandry (Swine)  
 \*L. J. Horlacher, Field Agent in Animal Husbandry (Sheep)

## HORTICULTURE

W. W. Magill, Field Agent in Horticulture (Orcharding)  
 John S. Gardner, Field Agent in Horticulture (Gardening)

## JUNIOR CLUBS

J. W. Whitehouse, State Leader, Junior Club Work  
 J. M. Feltner, Field Agent, Junior Club Work  
 M. S. Garside, Field Agent, Junior Club Work  
 Anita Burnam, Field Agent, Junior Club Work  
 Garnet McKenney, Field Agent, Junior Club Work  
 E. E. Fish, Field Agent, Junior Club Work

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\*Part-time employee.

\*\*On leave of absence.

DAIRY

\*J. O. Barkman, Field Agent, Dairying  
E. M. Prewitt, Field Agent, Dairying

MARKETS

\*J. W. Jones, Field Agent in Markets  
E. C. Vaughn, Field Agent in Markets

POULTRY

\*J. Holmes Martin, Field Agent in Poultry  
\*J. R. Smyth, Field Agent in Poultry  
James E. Humphrey, Field Agent in Poultry  
C. E. Harris, Field Agent in Poultry

VETERINARY SCIENCE

T. P. Polk, Field Agent in Veterinary Science

CLOTHING

Irene Piedalue, Field Agent in Clothing  
Isabelle Story, Field Agent in Clothing  
Edith Lacy, Field Agent in Home Economics

FOODS

Mary Mae Miller, Field Agent in Foods  
†Eleanor Enright, Field Agent in Foods  
‡Dixie Harris, Field Agent in Foods

FARM MANAGEMENT

\*\*W. D. Nicholls, Head of Department of Farm Management  
Harry A. Ward, Field Agent in Farm Management

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\*Part-time employee.

\*\*On leave of absence.

†Resigned during the year.

‡Appointed during the year.

## COUNTY AGENTS

C. A. Mahan, State Agent  
 ‡H. F. Link, Asst. State Agent  
 †I. C. Graddy, Asst. State Agent  
 E. J. Kilpatrick, Asst. State Agent  
 A. C. Burnette, Agent in Charge of Negro Work  
 ‡Willis Abner, Pike County  
 L. M. Amburgey, Boyd County  
 S. W. Anderson, Nicholas County  
 ‡V. C. Ashby, Hancock County  
 J. H. Atkerson, Green County  
 G. W. Bacot, Hickman County  
 †J. C. Beavers, Christian County  
 K. J. Bowles, Estill County  
 †Stuart Brabant, Mercer County  
 L. C. Brewer, Fayette County  
 T. L. Britton, Leslie County  
 John C. Brown, Owen County  
 C. V. Brown, Taylor County  
 †O. R. Carrithers, Harlan County  
 A. J. Chadwell, Pulaski County  
 J. V. Coleman, Larue County  
 C. O. Dickey, Webster County  
 Charles B. Elson, Lincoln County  
 †H. R. Forkner, Boone County  
 P. M. Frye, Owsley County  
 †C. E. Gabbard, Morgan County  
 †G. W. Gardner, Washington County  
 J. B. Gardner, Calloway County  
 †P. H. Gooding, Caldwell County  
 R. M. Greene, Mason County  
 D. S. Greene, Knott County  
 H. J. Hayes, Wayne County  
 R. M. Heath, Franklin County  
 †B. A. Hensley, Asst., Lee County  
 C. L. Hill, Nelson County  
 J. O. Horning, Barren County  
 C. E. Houk, Garrard County  
 †W. M. Howat, Spencer County  
 †W. B. Howell, Trimble County  
 H. R. Jackson, Shelby County  
 William C. Johnstone, McCracken County

†Resigned during the year.  
 ‡Appointed during the year.

T. H. Jones, Lee County  
R. H. King, Morgan County  
Homer J. Kline, Warren County  
J. E. Kuykendall, Warren County (Colored Agent)  
H. A. Laine, Madison County (Colored Agent)  
Harry B. Lane, (Asst. Todd County)  
‡R. H. Lickert, Oldham County  
J. E. McClure, Daviess County  
H. F. McKenney, Grant County  
C. C. Malone, Henry County  
Donald W. Martin, Henderson County  
Earl Mayhew, Knox County  
F. E. Merriman, Jefferson County  
Charles E. Miller, Boyle County  
J. L. Miller, McCracken County  
L. F. Morgan, Magoffin County  
‡R. J. Matson, Boone County  
J. C. Nageotte, Breckinridge County  
Gordon B. Nance, Campbell County  
M. P. Nichols, Ballard County  
L. C. Pace, Carlisle County  
H. S. Patterson, Grayson County  
W. R. Reynolds, Jackson County  
W. H. Rochester, Muhlenberg County  
G. C. Routt, Graves County  
M. H. Sasser, Russell County  
‡G. C. Shade, Jessamine County  
E. R. Sparks, Clay County  
Robert F. Spence, Madison County  
W. D. Sutton, Hopkins County  
‡E. P. Tichenor, McLean County  
R. V. Trospen, Breathitt County  
‡H. D. Triplett, Bourbon County  
F. C. Walker, Adair County  
Clyde Watts, Carroll County  
P. R. Watlington, Bourbon County  
J. A. Wesson, Meade County  
C. A. Wicklund, Kenton County  
W. C. Williams, Christian County (Colored Agent)  
F. B. Wilson, Laurel County  
R. O. Wilson, Union County  
L. H. Woodhouse, Asst., Jefferson County

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‡Resigned during the year.

‡Appointed during the year.

## HOME DEMONSTRATION

Myrtle Weldon, State Leader Home Demonstration Agents  
Lulie Logan, Asst. State Leader of Home Demonstration Agents  
Zelma Monroe, Asst. State Leader of Home Demonstration Agents  
Vashti Cave, Oldham County  
Rose B. Craft, Knott County  
†Mary L. Daugherty, McLean County  
‡Ruby Dalzell, Boyd County  
Zilpha Foster, McCracken County  
Jennie C. Grubbs, Boyle County  
Mattie Hodges, Christian County  
Lulu Holmes, Ballard County  
Ida Hagman, Graves County  
Catherine T. Johnson, Jefferson County  
‡Helen Kennedy, Mercer County  
‡Bruce Eloise Kirkman, Union County  
Ouida Midkiff, Pulaski County  
‡Beatrice Moller, Muhlenberg County  
†Martha Ida Moore, McCracken County  
Ethel Nice, Garrard County  
†Rheda W. Oury, Calloway County  
Roxie C. Perkins, Harlan County  
Mary Ella Rudy, Campbell County  
Ruth Reilly, Woodford County  
‡Ruth Robertson, Calloway County  
Laura Spence, Laurel County  
Sidney Standifer, McCreary County  
Anna Streed, Henderson County  
Gladys Waddell, Lee County  
Helen M. White, Daviess County  
‡Hazel Vincent, McLean County  
Jessie O. Yancey, Fayette County

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†Resigned during the year.

‡Appointed during the year.

RECEIPTS AND DISBURSEMENTS FOR FISCAL YEAR ENDING JUNE 30, 1925

RECEIPTS

Federal Smith-Lever .....	\$152,241.30
State Smith-Lever .....	142,241.30
Federal Supplementary .....	45,100.93
Total .....	\$339,583.53

DISBURSEMENTS

FUNDS	Adminis- tration	Publi- cations	County Agents	Home Demon- stration	Clothing	Foods	Movable Schools	Junior Clubs	Agron- omy	Dairy-
Fed. Smith-Lever	\$6,717.69	\$4,882.31	\$67,206.86	\$20,479.69	\$3,380.66	\$2,485.53	\$2,462.37	\$11,740.88	\$2,981.51	\$2,218.69
State Smith-Lever	11,862.39	742.50	8,239.14	41,954.69	6,017.47	4,583.34	4,510.00	16,936.65	6,783.33	3,600.00
Fed. Supplement'y			45,100.93							
Totals .....	\$18,580.68	\$5,624.81	\$120,546.93	\$62,434.38	\$9,398.13	\$7,068.87	\$6,972.07	\$28,677.53	\$9,764.84	\$5,818.69

FUNDS	Animal Hus- bandry	Markets	Farm Man- agement	Poultry	Horti- culture	Veteri- nary Science	Rural Engl- neering	Public Infor- mation	Farm & Home Week	Total
Fed. Smith-Lever	\$6,465.65	\$2,458.11	\$1,786.65	\$3,566.03	\$3,449.39	\$3,640.95	\$5,025.06	\$736.13	\$557.44	\$152,241.30
State Smith-Lever	10,715.67	6,251.68	4,002.22	7,379.98	5,991.66			3,069.98		142,241.30
Fed. Supplement'y										45,100.93
Totals .....	\$17,181.32	\$8,709.79	\$5,788.87	\$10,946.01	\$9,041.05	\$3,640.95	\$5,025.06	\$3,806.11	\$557.44	\$339,583.53

TABLE

Year	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890
Population											
Area											
Production											
Exports											
Imports											
Balance											
Government											
Private											
Total											

TABLE

1880

1881

1882

1883

1884

1885

1886

1887

1888

1889

1890