UNIVERSITY OF KENTUCKY

COLLEGE OF AGRICULTURE

Extension Division

THOMAS P. COOPER, Dean and Director

CIRCULAR NO. 273

ANNUAL REPORT

FOR THE

YEAR ENDED DECEMBER 31, 1933

The well-managed flock of sheep has returned a profit each year.

Lexington, Ky.

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 4, 1934.

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, 1933. 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 P. COOPER, *Dean and Director*

Lexington, Kentucky.
January 11, 1934.

HONORABLE RUBY LAFFOON,
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, 1933.

Respectfully,

FRANK L. MCVEY, *President*

CIRCULAR NO. 273

ANNUAL REPORT OF THE EXTENSION DIVISION FOR 1933

T. R. BRYANT, ASSISTANT DIRECTOR

Extension Service in Agriculture and Home Economics had unusual opportunity in 1933 to render aid. The purposes of Extension Work became better understood by people who had formerly been indifferent or actually opposed to such activities.

The live-at-home program, urged and given impetus by extension workers, was a means by which farm people saved themselves from the increase in cost of products which have been handled by processors and dealers and are brought back to the farm in manufactured form. This live-at-home program reduced the drain upon the slender cash resources of farm families and had a beneficial effect. It not only kept many persons solvent but prevented food scarcity and lessened the drain upon relief agencies. In addition to this new and definitely organized live-at-home project nearly all extension projects were so altered as to emphasize the need for farm families to subsist more largely upon home supplies. Important as were the projects in gardening and canning, which have to do primarily with home subsistence, no less important or interesting were the more remotely related projects. The Agricultural Engineering Department designed the "brick brooder" which could be built at home at little or no cash outlay, thereby accomplishing large savings and reducing production costs of poultry. The Horticulture Department cooperated with agricultural engineers in designing various kinds of storage devices from the simplest to more elaborate structures.

When economic conditions become normal it is likely that many practices learned under stress will continue to be used to produce home products equal to or superior in quality, to those commercially prepared. An illustration is found in home-

cured breakfast bacon which many farm people have learned to prepare with quality equal to the best the packers can produce.

Heavy inroads were made upon extension workers' time by emergency projects such as production loans and acreage adjustment. Despite these interruptions, a full program of 4-H Club and Utopia Club Work was maintained. There was an increase in enrollment of young people and the percentage of completed projects was just as high as formerly.

The homemakers associations were kept intact and, despite the effort in some counties to economize by eliminating the home demonstration agent, the people were able to procure continuation of financial support. In two or three counties where funds were actually withdrawn, the homemakers set heroically to work and raised the necessary local funds themselves. This indicates the esteem in which home demonstration work is held.

Pasture improvement work gained momentum during the year. The program was to till only the best acres, to devote the less fertile acres to pasture and to improve worn out pasture. For this purpose lespedeza has rapidly come into favor not only because of its improvement to pastures but because the sale of lespedeza seed had become a new source of cash income to the farmer.

Tobacco demonstrations became increasingly popular, especially those showing improved methods of curing. In time of surplus production of tobacco the best shows a relatively greater price advantage over the inferior grades, than is true at other times. This fact intensified the interest in better curing. The ventilating and atmosphere conditioning demonstrations were so helpful to growers that extension workers were unable to meet all demands for service.

Appropriations for Agriculture Extension Work were threatened in several counties and in some they were eliminated or drastically reduced. The protests of farm people prevented elimination of service in nearly all counties where such was proposed. Severe reduction of funds is unfortunate because, when normal economic conditions return and opportunities for other employment are obtainable, extension agents,

having been made to feel the insecurity of their positions, will seek such opportunities and the best agents will be the first to find other jobs. The extension service will thus lose some of its best workers.

COUNTY AGENT WORK

Because of the Agricultural Adjustment Administration program, and other emergency projects, county agent work was confronted in 1933 with many new problems, but because of previous organization and planning it was possible to accept the new assignments without entirely dropping many of the old established projects. In order to make more efficient use of the time of specialists a modified plan was put into operation in Eastern Kentucky. Agents in that section met early in the year, with certain of the specialists most frequently called upon in that area, to discuss their projects. Plans were perfected and dates were set for later visits, demonstrations and tours. In this way, the specialists were able to work in circuits and assist a large number of counties with a minimum expenditure of time and money. During the year there was a net loss of five counties, reducing the number of agents from 88 to 83, but a comparison of the tabulated results indicates practically no decrease in total results of the year's work.

Crop Production Loans. The crop loan for the third year continued to be a heavy burden to extension agents and was a type of service not directly related to the regular extension activities. To do this work without causing criticism required patience and tact. Kentucky agents succeeded for three years in this added duty as is indicated by the following figures: In 1931, 27,550 loans were granted to Kentucky applicants, amounting to $2,535,926.51. This total includes loans for seed, feed for work stock and other livestock, fertilizer fuel and oil for tractors, and for agricultural rehabilitation.

In 1932, 13,762 crop production loans were made in the State, amounting to $843,180.00.

In 1933, 13,541 crop production loans were made, amounting to $724,045.00. As was done for the two previous years, Mr. H. F. Link, Assistant State Agent, was assigned to the St.

Louis office for seven weeks to assist in checking requests for loans.

Wheat Reduction Campaign (A.A.A.) A new, very large project of work outside of regular extension activities was that of the Wheat Reduction Compaign, conducted during the fall of 1933, for the Agricultural Adjustment Administration, through the U. S. Department of Agriculture. This campaign set aside practically all other work for a period of eight weeks, and the usual fall meetings and demonstrations could not be conducted by the county agents. However, in many well-organized counties, the local leaders did the work satisfactorily for the county agent.

In conducting the Wheat Reduction Campaign, 10 special emergency agents were employed for two months each. The counties with regular county agents signed about 20 per cent more of the farmers and 20 per cent more of the wheat acreage in their counties than was done by the emergency agents working for a short period in counties without regular county agents. As an illustration of the effect of the situation the comparison of Mercer and Boyle Counties is taken. Had the per cent of farmers who signed in Mercer County with an emergency agent been as high as that in Boyle County with a regular agent, the payments to Mercer County farmers would have been $30,000.00 greater than they were.

The average for all wheat counties without agents indicates that each of such counties received $900 less than it would have received if it had employed a regular agent. Wheat is a minor crop in Kentucky and figures given in that connection will be greatly exceeded in the tobacco and corn-hog reduction campaigns. Following are the results from the Wheat Reduction Campaign in Kentucky:

Applications signed	4,056
Acres signed	143,491
Bushels signed	2,214,045
Counties conducting wheat campaign	84

"Live-at-Home" Program. The "Back to the Farm" movement mentioned in the annual report for last year continued and, as expected, placed additional duties upon county agents, relief associations and all public bodies looking after rural

welfare. The Live-at-Home program is quite applicable to many people who have lost their jobs in the cities and have returned to the land for subsistence. The Live-at-Home program and subsistence gardens were stressed this year. Much of this work was done in cooperation with the Kentucky Relief Commission which furnished paid leaders who used the instructions of the county agent. These leaders insisted that those receiving aid from the Kentucky Relief Commission should follow those instructions in the management of their gardens and other Live-at-Home projects.

The principle of improving pasture land and putting marginal land into pasture has been adopted in nearly every part of the State. Pastures are being greatly improved by seeding Korean Lespedeza with mixed grasses.

The following figures represent the accomplishments of 1933 as compared to 1932.

		1932	1933
Counties with agents		88	83
County extension organizations		71	73
Membership	Men	6,762	5,180
	Women	1,352	1,073
Communities that built extension programs		890	801
Community leaders in community-built programs		8,952	9.476
Leader training meetings		871	1,027
Attendance of local leaders		9,461	17,225
Meetings held by local leaders, not participated in by county agents		2,125	3,374
Attendance		41,993	82,453
Method and result demonstration meetings		3,398	2,691
Attendance		74,827	72,181
Other extension meetings		7,954	7,634
Attendance		406,453	395,084
Adult result demonstrations started or carried thru year		16,927	46,645
Farms visits made by county agents		63,909	56,687
Farms visited		26,493	26,189
Home visits made by county agents		3,095	3,692
Homes visited		1,653	1,888
Office calls relative to work	Visitors	109,652	127,463
	Phone	59,049	64,806
Individual letters written		65,145	65,424
Total all meetings held, including demonstrations, short courses, leader training meetings, etc.		14,348	14,862
Attendance		532,734	606,428
Animals in 4-H club work completed	Dairy	1,357	914
	Poultry	94,822	78,474
	Sheep	3,070	2,653
	Swine	2,941	2,813
	Beef cattle	875	593

HOME DEMONSTRATION WORK

An organized program in homemaking was followed, either all or part of the year, in 30 counties having home demonstration agents. In addition, special help was given to homemakers in 26 counties not having home demonstration agents. Junior homemaking projects were carried on in 61 counties. No complete record of the results of home demonstration work is available in counties not having home demonstration agents. In the 30 counties submitting reports, 40,037 people, in 464 communities, report that they received help. Of these, 3,298 served as local leaders in their respective communities and received special training.

Program of Work. The program in any county is made by the homemakers and is based on their needs and desires as determined by surveys, studies and discussion. The program consists of a county-wide major project concerned with some major homemaking activity, a county minor project and such special activities as fairs, exhibits, tours, camps, community recreation, charity and relief work and many activities of an educational and cultural nature.

Food and Nutrition. The food and nutrition project includes the production of food on the farm for home consumption and, in a few instances, for sale; preservation and storage of home-produced food; more intelligent and economical selection of food to be purchased; better preparation and more attractive serving of foods for both the health and enjoyment of the family, and problems of nutrition or keeping the family physically fit by providing an adequate diet.

During the past few years of economic stress, emphasis was placed on home production of the family food supply. One mountain homemaker reported that she had grown all the vegetables and fruits for her family and had canned and stored enough for the winter food supply. Her farm produced all the dairy products needed as well as eggs, in abundance during the entire year, sorghum molasses, and corn to be ground into meal. After the butchering she cured and canned the home meat supply which included pork, beef and poultry. The entire grocery bill for such staples as sugar, salt, coffee, soda

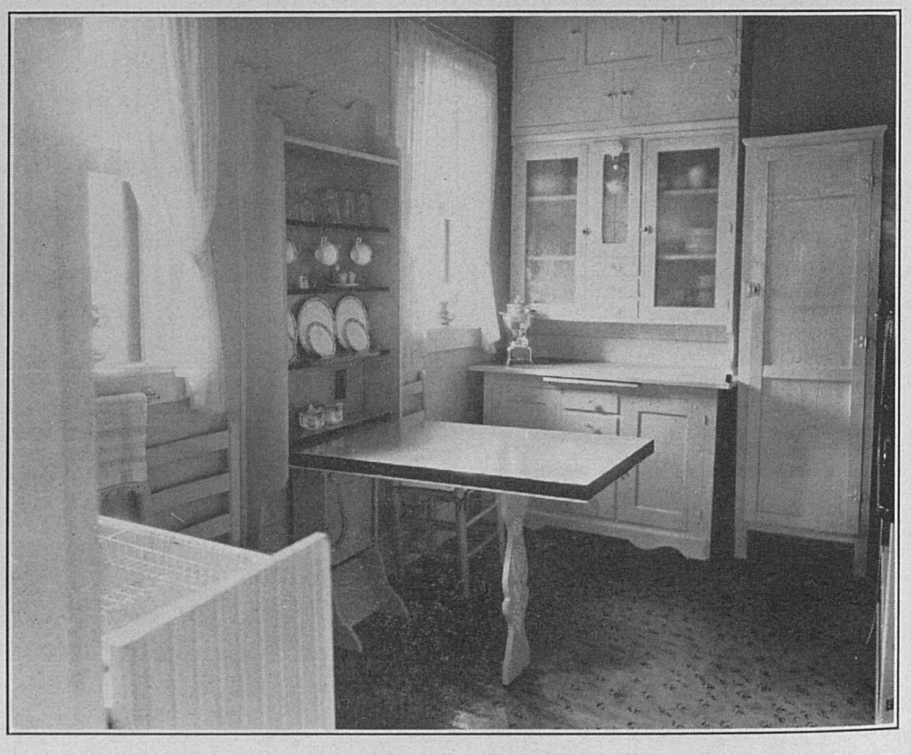
and a little white flour, was approximately $40 and was paid with money from the sale of surplus vegetables. Her record was duplicated by many other Kentucky homemakers enrolled in food and nutrition projects. Farm families have learned that they can live well with a very small expenditure of money if the resources of the farm are fully appreciated and taken advantage of.

Much ingenuity was employed in the utilization of every available space in this small kitchen. The combination cupboard and breakfast table was made from an old folding bed. A combination stool and magazine holder fits under the cupboard.

More canning was done than ever before. The canning and storage budget furnished by the home demonstration department was used by 1,878 families as a basis for their gardening, canning and storage programs. More than a million jars were canned by adult members of homemakers' clubs, while 3,126 families reported growing 12 or more varieties of vegetables for the first time. Twenty-six thousand and eighty-three families were reached in food and nutrition work.

Considerable relief work was done in homemakers' groups. Free lunches were served to school children. Food leaders helped needy families to preserve food from their gardens and advised them in the spending of small incomes to better advantage. Community canning centers were established and food was given and distributed by homemakers. Ten thousand, five hundred and eighty-three families were reached in relief work. Food work was carried on in 30 counties.

Home Improvement. The home improvement project includes both home furnishing and home management. During the past few years the work in this project was a demonstration of what could be done by substituting for money, information, initiative, ingenuity and wise use of time and labor. One or more of the following home improvement projects were carried on in 20 counties: wife-saving kitchens, time-savers in housekeeping, sanitation in the home, successful spending,



Another view of the kitchen illustrated on the preceding page, the cupboard open and the table in position for use. The utility cabinet was made from a radio shipping box.

home furnishing and making the most of old furniture. The following figures indicate definite lines of study and results obtained. Five thousand two hundred and twenty pieces of labor-saving equipment were made or purchased by 1,133 families; 791 kitchens were rearranged for convenience, 98 water systems and 311 sanitary outdoor toilets were constructed. Improved health practices such as screening, control of household insects, immunization against typhoid, diphtheria, etc., better posture and improved home nursing practices were reported by 4,798 homes.

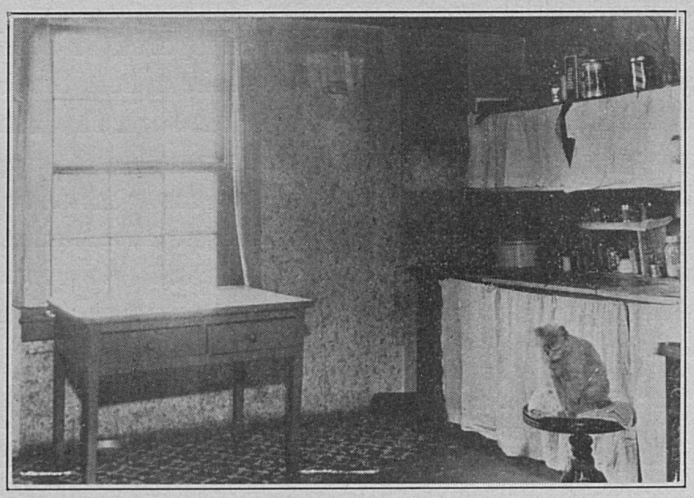
In the home furnishing work 4,874 pieces of furniture were reconditioned, 3,820 rooms were rearranged, 3,065 floors were refinished and 2,719 rooms were repapered or repainted. Many desired improvements will be made when the buying power of the farm family is restored. Through the home improvement project information was disseminated, appreciation quickened and desire awakened to create more comfortable, beautiful and satisfying surroundings. Homemakers are learning to value their time and energy and to realize the meaning and purposes of life beyond the immediate task of housekeeping.

Beautifying the Exterior of the Home. For the past three years the improvement of the exterior of the farm home was emphasized in the home demonstration program. A cooperative project between the horticultural and home demonstration departments was evolved. The first year's project gave consideration to the lawn with its walks, drives, fences and hedges and to the exterior of the house. The second year's project dealt with the trees, shrubs and vines used to embellish the home and the improvement and beautifying of the porch as an out-of-door living room for the family. During the past year the farm home flower garden, the beautifying of the house by the use of window boxes, awnings and the making of inexpensive out-of-door furniture for the summer out-of-door living room were studied. Farm people have had less money to enable them to go places, but they have had time to stay at home and to improve their houses. By the use of native shrubs and the exchange of seeds, cuttings and slips

among neighbors, improvement of the exterior of the home reached a new high level of results.

Summary of this project:

New lawns started	228
Old lawns improved	2,263
Premises cleaned up	3,905
Improved walks and drives	926
Home growing flowers according to instructions	7,575
Shrubs set	11,108
Native shrubs used	4,992
New shade trees set	5,515
Improved porch furnishings	1,662
Farm buildings painted or whitewashed	1,666
Individuals reported exterior improvement	11,034



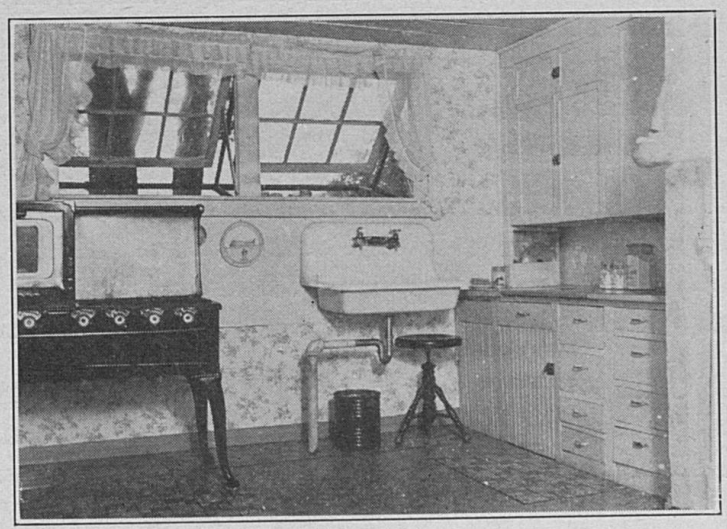
Needless drudgery can be avoided by rearranging the kitchen and providing simple labor-saving devices. The owner of this kitchen transformed it, as illustrated on the opposite page.

Clothing. There has been an increasing demand for clothing work during the past few years. Low buying power increased the need for strict economy in clothing. The housewife felt the need of help in spending her clothing dollar to the best advantage, in utilizing used clothing and, in many instances, in substituting home-made for purchased garments. Homemakers welcomed instruction in the renovation and remodeling of millinery and clothing. The same hats were brought to millinery meetings season after season and by processes of reblocking, cleaning, reshaping, dyeing and retrimming, they blossomed out as the season's newest creations.

Clothing was cleaned, dyed, pressed and combined with other material and reappeared as the season's latest. Homemakers were taught the use of inexpensive materials which give satisfaction and meet the needs, and which may be made smart by the wise selection of color and design, careful fitting, good workmanship and interesting touches. Some of the results are indicated by the following figures:

Sewing machines reconditioned	508
Garments constructed as part of the home demonstration program	56,670
Hats reconditioned	5,705
Silk and wool garments dry cleaned at home as result of instructions in home dry cleaning	6,779
Individuals reached in clothing project work	12,122

In addition to the educational clothing program, much relief work was done by homemakers' clubs. Clothing was collected, cleaned, repaired and distributed for relief and 17,521 garments were made for needy families.



Kitchen improved at very slight expense. The built-in cabinet was made from discarded materials.

Recreation. For the first time, a major project in recreation was offered. The better use of leisure time is receiving much public attention. With limitation of crops, shorter working hours, lack of money for commercial forms of entertainment, the home and community face the need of providing wholesome leisure-time activities. Each homemakers

club was given help in providing a short recreational program for club meetings and three or four recreational functions for the entire community. Community dramatics, music and choruses were encouraged. As a result, 845 social programs were held for entire communities, 2,301 short social programs at club meetings were conducted, seven choruses and four county dramatic clubs were developed and 950 homes reported improving home recreation by having family nights, providing new and better recreational material, teaching new games and entering more whole-heartedly into the play life of the family.

Homemakers' Camps. The homemakers' camp provides for the rural woman a short vacation at small expense. It gives her the opportunity to make new friends, to be inspired by new ideas, to relax from the strenuous duties of a farm homemaker and by a change of environment to increase her appreciation of her own home and family and, incidentally, theirs of her. Five camps were held this year, with an attendance of 332 regular campers and 319 part-time campers, from 22 counties.

Farm and Home Convention at the University. This was attended by over 600 homemakers. Most of these women were delegates sent by their clubs and came with a definite feeling of responsibility. They made good use of their notebooks and took many valuable suggestions back to their communities.

Federation of Homemakers. The Kentucky Federation of Homemakers is a federation of county homemakers' associations in all counties having home demonstration agents. The first district meetings were held in the spring of 1933, in the five districts, Mountain, Bluegrass, Central, Pennyroyal and Purchase, and were attended by 750 homemakers.

Junior Home Economics. Homemaking projects in foods, canning, clothing and room improvement for girls between the ages of 10 and 20 years, are part of the State 4-H club program. The past year's work was conducted in 30 counties with home demonstration agents and in 40 with county agricultural agents only.

Clothing. There were 7,648 enrolled in 4-H clothing projects, with 6,315 completing. The 13,949 garments made were valued at $11,773. These rural girls are learning thru this project to be more economically and appropriately dressed. Many girls who could not afford new materials bleached flour sacks or renovated old garments and made these into attractive and interesting costumes. In the 4-H clothing program the girl makes a costume for home, school, afternoon or party and for street or travel and learns to know the appropriate accessories for each costume. She learns about textiles, color and design, the care and repair of garments as well as the necessity of personal grooming.

Canning. Interest in canning has grown this year, probably because of the state-wide endeavor to produce and preserve the family food supply. There were 1,856 girls in 4-H canning projects and 1,526 completed their projects. They canned 52,989 jars valued at $6,991.80.

Foods. Work in foods was handicapped in the rural districts because of lack of places where the girls could carry on such work. A few schools have equipped kitchens and some of the better equipped ones in communities were available. As a result food work in those communities increased. The study of foods is based upon the three daily meals. The three units are Breakfast, Supper and Dinner. 4-H club girls who enrolled in food study projects learned not only better methods of food preparation but how to plan healthful meals and to serve them attractively. Of 1,592 girls enrolled in food projects, 1,369 completed their work.

Room Improvement. The work in room improvement is an individual or small group project for older girls. The project requires the expenditure of a small amount of money, hence enrollment for this particular project was small. One hundred and twenty-three girls started this year and 72 rooms were completed.

ECONOMIC VALUE OF HOME DEMONSTRATION WORK

A large part of the home demonstration program cannot be measured in dollars and cents. Greater happiness and

satisfaction of the homemaker, more beauty and comfort in home surroundings, higher standards of health, greater appreciation of life are intrinsic values that cannot be measured. The actual constructive and productive undertakings can be valued but reports are always inadequate. Using a minimum figure based on the minimum price in the community, the value of reported home demonstration practices is as follows:

Adult	
Home Management	$ 35,562.00
Home furnishings	87,855.00
Canning	319,569.67
Home sewing	44,634.74
Home millinery	5,687.50
Home dry cleaning	4,340.85
Home crafts	9,282.25
Junior	
Canning	6,991.80
Clothing	11,773.00
Total	$525,696.81

STATISTICAL SUMMARY

Communities in which home demonstration programs with women have been conducted	464
Enrollment in homemakers' clubs	6,242
Enrollment in junior homemaking groups	11,583
Total people reached in home demonstration program	40,037
Volunteer local leaders	3,298
Training meetings for local leaders	500
Attendance	7,260
Demonstration and judging teams trained	131
Farm and home visits made by home demonstration agents	7,136
Individual letters written	16,207
Different circular letters prepared	763
News stories published	2,353
Office and telephone calls	25,622
Meetings in relation to home demonstration work	10,657
Attendance	376,980
Families helped in relief work	10,583

4-H CLUB WORK

During all the years of the depression, 4-H Club Work in Kentucky has made growth and progress. In 1930, 20,460 boys and girls enrolled in 4-H Club Work and 15,211, or 74.3 percent, completed their work. In 1933, 24,720 enrolled and 20,246 or 81.9 percent, completed. The enlargement of the

4-H club program from year to year was made possible by more efficient local leadership and by a growing interest on the part of farm boys and girls and their parents, in the 4-H club program. The number of local leaders has increased 37 percent during the past four years. Two thousand nine hundred and ninety-eight volunteer local leaders helped to carry to fruition the 4-H club program this year.

Three district conferences for local leaders were held. These were at Lexington, Princeton and Quicksand and were attended by 245 leaders from 59 counties. Each conference had a two-day program.

Seventeen programs, pertaining to 4-H Club Work, were radiocast, including a skit by club members, and the State and National Achievement Radio program, The State Achievement Radio program, given the first Saturday in November, is growing more popular and useful each year.

County champion judges of canned foods, entered in the 4-H canning judging contest at Junior Week.

Junior Week. Junior Week was held again this year on the campus of the University of Kentucky in Lexington, June 5—9. Four hundred and sixty-six boys and girls, from 73 counties, attended despite the fact that the railroad companies

discontinued all prize trips to Junior Week this year. In 1932 one railroad gave 115 trips to Junior Week.

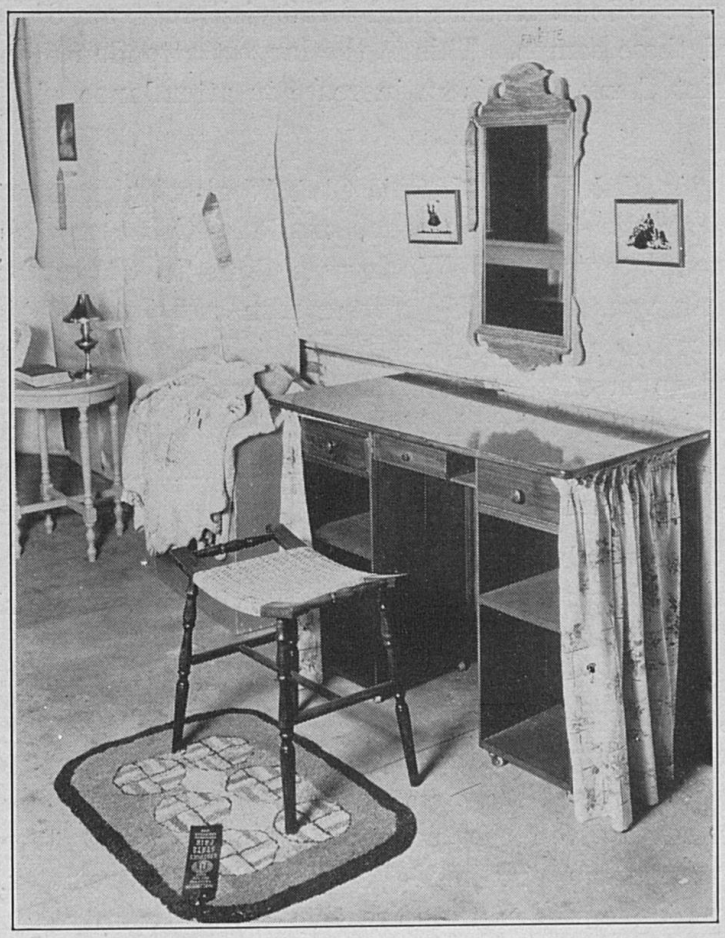
Lamb Show. Two lamb shows by 4-H club members were held this year, one at Lexington, May 23rd, at which 311 lambs were exhibited and sold, and a Tri-State Show in Cincinnati, in which 954 lambs were exhibited and sold. Twenty-one counties had exhibits of lambs in the Cincinnati Show.

Each of these girls made the costume she is wearing, as a part of her 4-H club clothing project.

Baby Beef Show. Four hundred and ninety-six baby beeves were exhibited in the Twelfth Annual Fat Cattle Show, held at the Bourbon Stock Yards in Louisville, November 8-10. These calves were fed by 265 club members. In competition with the best adult feeders in the State, the 4-H club boys carried off the honors in the carlot ring. Club members received $1,592 in this show, in premium money. The champion carlot sold for $7.10 per hundred. The champion individual

of the 4-H show and the reserve champion of the whole show sold for 22 cents per pound.

Tobacco Shows. Four district tobacco shows were planned. They were to be held at Lexington, Shelbyville, Carrollton and Covington. Because the warehousemen closed the market, only two of the shows were held. In the Lexington Tobacco Show, 202 club members, from 14 counties, exhibited and sold 140,000 pounds of tobacco. A total of $690 in premiums was awarded. The prize basket sold for 37 cents per pound and the general average selling price for all the tobacco in the show was $13.84 per hundred.



Champion Room-Improvement Unit exhibited at the State Fair by Birdie Johnson, Fayette County. The dressing table was made from orange crates, planed, stained and put on rollers. The whole is neat in appearance and very convenient. The rug in the foreground was hooked from wool rags. The design is original.

NATIONAL 4-H CLUB CONGRESS

Twenty-five club members attended the National 4-H Club Congress December 2-8. Kentucky had entries in the Style Dress Revue, the Canned Food Judging Contest and the Non-collegiate Livestock Judging Contest. Mamie Hart, Garrard County, made the highest score in judging canned foods; Mattie Sue Bettersworth, Warren County, won second place in the Style Dress Revue, and the Livestock Judging Team from Madison County won ninth place.

District 4-H Club Camps. Twelve District 4-H Club Camps were held. Two thousand one hundred and fifty-one club members, 278 local leaders and 8,750 visitors, from 81 counties, attended these camps. This is the largest attendance on record at District Camps and is an increase in attendance of 208, over 1932.

Utopia Club Work. Utopia Club Work with young men and women above 4-H club age, made satisfactory progress. Organized Utopia Club Work was done in 21 counties and 371 young women and 297 young men completed their work. Their work is planned similarly to 4-H Club projects but is enlarged to meet the needs of the members. In addition to their project work they hold a number of discussion meetings, taking up such matters as the Agricultural Adjustment Act, Cooperative Marketing, etc.

Utopia members exhibited lambs in the Lexington and Cincinnati shows and tobacco at Lexington. Special rings were provided for them. Some of the Utopia boys are attracting a great deal of attention to their work. Wallace Parker, of Hopkins County, took an old tobacco barn like the average found on the farms in Hopkins County and reworked it at practically no cash outlay to make it suitable for fire-curing tobacco properly. He provided lower and upper ventilators and made and used a hygrometer. This work was done under the direction of the county agent and the tobacco specialist.

In order to make farm life more satisfying to these young people, recreation and entertainment have a very definite

place in Utopia Club Work. Two camps were held this year, one in the western part of the state and one near Lexington. Tours, picnics and parties were enjoyed by many members of this organization.

Harrison County 4-H club team demonstrating the construction of the hygrometer, used as an aid in proper curing of tobacco.

RADIO, SHORT COURSES, EXHIBITS AND VISUAL EDUCATION

The College of Agriculture maintained its daily educational radio program, through the facilities of Station WHAS of Louisville. Three hundred and sixty-one talks, 49 periods of questions and answers, and 50 sets of quotations on Burley tobacco prices, were radiocast during the year.

An educational exhibit, prepared and displayed by the College of Agriculture, at the Kentucky State Fair in Louisville, was visited by 13,253 people. This exhibit comprised 12 booths, each illustrating a definite lesson in Agriculture or Home Economics.

The 1933 Farm and Home Convention held at the College of Agriculture, January 24-27, attracted a registered attendance of 1,114 people, from 73 counties. Problems of vital importance affecting the farm and home in Kentucky, were discussed at this meeting.

Visual educational material, including motion picture films and projectors, stereopticon slides and film strips, were loaned to 60 county and home demonstration agents, upon application. Extensive use is being made of this type of equipment at community meetings.

PUBLIC INFORMATION

Information concerning all activities of the Extension Service was given to 224 newspapers and, beginning in May, details of the purposes and operations of the Agricultural Adjustment Act were added to the service. The Press contained its generous cooperation with the Extension Service. Approximately 1,200 articles were sent to newspapers and press associations. These were distributed in the regular weekly syndicated service supplied all newspapers, and in special articles and news releases to daily newspapers and press associations.

In July, with the launching of the wheat adjustment campaign, articles were sent to all newspapers and press associations, explaining the plans for wheat adjustment and compensation to wheat farmers. Through these articles farmers were acquainted fully with the plans of the Government and were prepared to cooperate in the sign-up campaign. A series of preliminary articles was prepared specially for agents in charge of the wheat adjustment work. They were so prepared as to permit local adaptation in regard to time and place of meetings and statistics regarding production. They were used only to supplement the regular information service. Likewise, special effort was made to be of service in the government program to purchase pigs and sows, and in preparation for the corn-hog, tobacco, and other adjustment programs.

Fifteen sets of newspaper mats of illustrations were dis-

tributed to 125 newspapers in Kentucky and adjoining States and 32 series of special articles were sent out.

AGRONOMY

Soils. More than three-fourths of Kentucky's soils are naturally deficient in lime, but fortunately, Kentucky is blessed with an abundance of widely distributed lime materials, that are available in the forms of finely ground limestone, marl or burned lime. Over 7,000 farms, in 78 counties having county agents, made use of these lime materials during 1933. They used approximately 120,000 tons of ground limestone, 20,000 tons of marl and 4,000 tons of burned lime. These are about the same amounts as were used in practically the same counties during 1932.

Many farmers who have used marl during the last 10 years are very enthusiastic about it as a source of lime for their soils. However, many of their neighbors are not such firm believers in its efficiency and prefer ground limestone, especially since that has become very cheap in many communities, because of the accumulation of pulverized limestone produced in crushing stone for the county and State roads. An example is found in Barren County where the State quarry has about 30,000 tons of ground limestone on hand. This is sold at 25 cents per ton at the quarry. This has been a great help in getting farmers to lime their land. Sixty-three hundred tons went on the land this year. Several farmers bought from 100 to 300 tons each.

Many farmers who do not have marl on their farms and who lack money with which to buy ground limestone, but have both wood and limestone rock, are burning lime. Powell County, in Eastern Kentucky, is a good example.

Since limestone of a very high quality is well distributed over Powell County, and since almost every farmer in the county has an abundance of timber suitable for burning lime stacks, the county extension committee recommends that farmers burn their own lime, rather than purchase pulverized limestone In carrying out this recommendation, two farmers at Rosslyn, working together, burned two lime stacks, a total of 80 tons, with only 40 days' work for one man. Figur-

ing a farmer's wages at $1.00 per day, this high-grade lime costs only 50 cents per ton at the farm. One ton of quicklime is practically equal to two tons of ground limestone. In making this 80 tons of lime available for agricultural use, no cash has been paid out. These farmers are now building a third lime stack. It has been found that lime stacks, on the whole, are much more satisfactory than the old-fashioned lime kilns.

GROUND LIMESTONE USED—1925 TO 1933

Years	No. Men Using Ground Limestone	No. Tons Ground Limestone Used	No. Counties
1925	3,500	91,000	60
1926	4,615	102,000	61
1927	4,500	132,000	69
1928	6,892	198,629	86
1929	8,714	247,405	91
1930	10,036	225,192	88
1931	8,480	159,824	86
1932	7,113	119,642	81
1933	5,817	118,771	76
	59,667	1,394,463	

MARL USED—1925 TO 1933

Years	No. Men Using Marl	No. Tons Marl Used	No. Counties
1925	437	9,311	24
1926	317	9,317	26
1927	243	10,783	35
1928	293	17,220	38
1929	472	24,377	40
1930	390	26,280	37
1931	453	23,716	37
1932	535	22,204	35
1933	391	20,961	28
	3,531	164,169	

BURNED LIME USED—1925 TO 1933

Years	No. Men Using Burned Lime	No, Tons Used	No. Counties
1925	106	1,141	21
1926	1,077	3,677	16
1927	667	6,657	25
1928	456	6,906	22
1929	648	5,103	26
1930	853	3,300	29
1931	343	2,708	25
1932	694	4,352	26
1933	582	4,227	22
	5,426	38,071	

Even though fertilizers have been somewhat out of line in price, in comparison with the price of farm crops, many farmers continue to find them profitable. County agents report 1,339 complete fertilizer demonstrations, 962 lime and superphosphate demonstrations and 641 superphosphate demonstrations.

The proper use of lime, phosphate and legumes is just as essential in growing better pastures in Kentucky as it is in growing better crops. The pasture work has been given just as much emphasis, during 1933, as any other part of soils work, if not more. It has been a part of every agent's program, especially the promotion of sowing lespedeza on poor land. A number of agents have carried on demonstrations making use of lime materials, phosphates and other fertilizers, alone and in combination, on pastures. Many fields on which lime materials have been used, within the last 11 years, have been seeded to sweet clover, alfalfa, red and alsike clovers and lespedezas, or clovers and grasses mixed, for pasture. The influence of extension work has played an important part in this development. Five hundred and three pasture demonstrations were conducted with soil amendments of various kinds, in 38 counties. The results are very impressive.

Crops. More than 10 years ago the College of Agriculture

pointed out that on account of the unproductive pastures, lack of hay and low soil fertility in most of the State, the most good would result to most farmers from development of a larger acreage of legumes. Throughout this period nearly all efforts in crop production have been concerned with red clover, soybeans, alfalfa, sweet clover and lespedeza. The program has shifted as more was learned each year about the adaptability of these plants to the needs of different kinds of land and different operators. In 1933 the sowing of soybeans in 68 counties was 98,488 bushels, compared with 219,000 bushels in 1931. This decrease in acreage may be permanent, indicating that farmers have found a more desirable legume. The acreage of sweet clover also was reduced very greatly.

The summer sowing of alfalfa was well maintained, because of favorable conditions for preparing the land. Spring sowing was greatly reduced. The spring sowing in 57 counties amounted to 10,540 acres, compared with 40,281 acres in 1932. The fall sowing was 3,817 acres compared with 3,692 acres last year. Just what effect the Korean, Kobe and sericea lespedeza hay crops may have on the ultimate acreage of alfalfa is impossible now to determine. Increasing numbers of men state that from their experience they believe that lespedeza hay is as good as alfalfa hay. The lespedeza hay is more easily handled and there is greater probability of curing it without weather damage.

Pasture improvement by the use of legumes in mixtures and the more extensive sowing of grass seeds resulted, in most parts of the State, in there being more pasture than the stock could eat. Most of this increased grazing is due to the widespread sowing of Korean and Kobe lespedezas, as well as of common lespedeza. Of course, small localities remain where this practice is not yet followed and pastures are inadequate. The lespedezas are solving the legume, pasture and forage problems to a degree not dreamed of 10 years ago. The use of lespedezas under various conditions is gradually changing as farmers decide through experience which varieties best suit their individual needs.

Common lespedeza was sowed by 3,994 men, in 27 counties,

using 225,000 pounds of seed. Seed saved by 326 men, in 11 counties, amounted to 200,375 pounds. Japanese clover hay was harvested in 15 counties by 2,425 men. Kobe lespedeza was cut for hay by 1,004 men, in 18 counties. In 16 counties a total of 216,900 pounds of Kobe lespedeza seed was saved.

Work with Korean lespedeza was reported in all counties served by agents. There were 5,422 growers, in 58 counties, who saved 11,287,286 pounds of seed, and 12,171 growers, in 65 counties cut hay, while 29,587 growers in 72 counties used 3,685,800 pounds of seed.

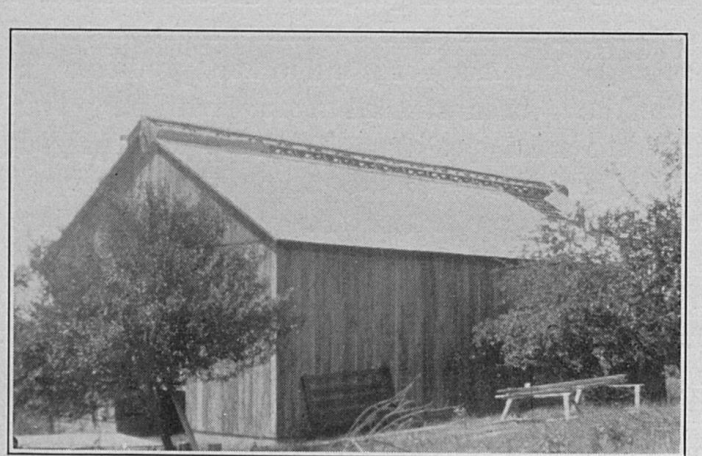
Sericea lespedeza is giving more promise as experience is had with the crop. Stands once established have demonstrated their ability to live through the worst competition of large weeds and crabgrass. Crops of 300 pounds of seed in the hull were threshed this fall from broadcast sowings last spring. Sericea lespedeza was sowed in rows by 1,270 men, in 68 counties. Of these growers, 591 harvested 143,063 pounds of seed in the hull. Much of the crop was lost because of high winds after a severe freeze, just previous to harvest. Small patches of sericea lespedeza were sown broadcast by 204 growers, in 48 counties.

Tobacco. The work in tobacco included fertilizer demonstrations, the production projects, disease control, introduction of resistant strains and demonstrations in curing, sorting and grading. Inasmuch as the other problems in tobacco production have been studied more thoroughly than curing, and since the final quality of the crop is largely dependent upon the curing process, the main effort during 1933 was directed toward the solution of the problems of curing. Results obtained during the past five years indicated that the important problem in curing was the maintenance of the proper relation between temperature and humidity. The work during 1933 was based on this premise.

The distribution of No. 5 root-rot resistant White Burley continued as an important part of extension work. In the winter of 1933, the College of Agriculture again distributed approximately 1,500 packets of seed to as many farmers, in 70 counties. From the reports of individual farmers concerning the 1932 crop, it is apparent that the acre value of this

strain of resistant tobacco is equal to, and in the majority of cases superior to that of the common varieties with which it was compared. County agents' reports on the 1933 crop indicate that this strain of tobacco is now widely distributed over the Burley belt, and in many counties constitutes as much as 50 per cent of the total crop grown. A report from Bourbon County says: "The Experiment Station No. 5 White Burley has proved to be one of the very best varieties of tobacco for Bourbon County conditions. It is the general opinion of our farmers that the No. 5 variety grows larger, is more thrifty and produces a finer quality of smoking tobacco when grown on medium or poor soil than do most of the common varieties. The No. 5 variety being root-rot resistant, produces stronger plants in the plant bed, and grows quicker when transplanted in the field."

Curing demonstrations were conducted with both air and fire-cured types of tobacco. In fire curing considerable progress was made in curing tobacco by the method known as the "soft cure." Under this method the tobacco is cured with relatively slow fires and with humidity in the barn high enough to keep the tobacco in case during practically the entire period of curing.



A Taylor County tobacco barn equipped with ridge ventilator.

The following report from Todd County is significant: "One of the curing demonstrators sold his four and one-half

acre crop, weighing 5,000 pounds, for $500. His leaf brought $16, $18 and $20 per cwt. Another sold his 12 acres of fired tobacco in the barn at $25 for the leaf. The 12 acres yielded 13,500 pounds and brought $2,022. He used a ventilated barn, followed recommended curing methods, and used a thermometer. All the fired crops used as demonstrations were better than those of a year ago. One man who sold for 3 cents last year, used recommended practices including the use of an hygrometer and slow fires, this year sold his top leaf for $14 per cwt.''

In air-curing, emphasis was placed on the use of heat, especially during unseasonable weather. As a result thousands of farmers used coke fires in air-curing crops this year. The county agent from Fayette County reports that this was the most valuable piece of work undertaken by the College of Agriculture in relation to tobacco. A special effort was made to improve tobacco barns both for fire curing and for air curing. This meant the remodeling of existing barns to give proper ventilation, and sometimes the construction of new, ventilated barns. The ridge ventilator was developed by the combined efforts of the agricultural engineering and agronomy staffs, and was further improved during the 1933 season. Reports show that over 400 new and old barns were equipped with ridge ventilators in 1933.

Demonstrations in fire curing dark tobacco were conducted in ten counties. In the air-cured tobacco areas, curing demonstrations were conducted in 11 counties. A report from Spencer County says: ''Three hundred Spencer County farmers fired tobacco with coke this curing season. These farmers were successful in controlling houseburn on the early tobacco and prevented greening of the late tobacco by keeping it warm during cool weather. Coke firing, properly used, cured the late-cut tobacco as well as the early tobacco. The growers who have watched the coke firing of Burley this year agree that to cure properly for cigarette use, Burley must be fired both early and late.''

To expedite the work in curing, it was found that some practical means must be devised to measure both temperature and humidity in the tobacco barn. The Curo-guide was devel-

oped for this work. Approximately 600 of these instruments were used in tobacco curing this year.

Grading demonstrations were held in nine counties. The demand for this work was heavy this year and would have required the entire time of three men during the months of November and December had all requests been filled.

AGRICULTURAL ENGINEERING

Drainage, soil erosion control, farm buildings. sanitation and 4-H Club work were carried on in addition to emergency work done to assist the CCC soil erosion camps in Kentucky.

Drainage. Kentucky has 912,000 acres of land needing drainage. During the year, 25 drainage demonstrations were established, in nine counties, to show the methods of doing the work and the benefits to be derived. Especial attention was given to drainage work in the mountain counties of Eastern Kentucky where the lack of tillable land is largely the cause of its people requiring help from relief agencies. Eighteen and one-half miles of creek channels were improved, in four counties. This improved the drainage conditions of 3,000 acres of land.

A survey of 36 farms in Knox County shows the average number of bushels of corn produced per day of man labor, on hill land, in Eastern Kentucky, to be 1.1, and on bottom land, 3.3 bushels. The average yield of the corn per acre on bottom land was 25 bushels and on hill land, 15. By draining the bottom land, an average yield of 40 bushels of corn per acre was obtained. The methods of drainage used required a minimum cash outlay, as hand labor was used in improving stream channels and lumber was used to construct box underdrains. The survey in Knox County shows that very few farmers having tillable bottom land needed relief assistance. Increased production in this section is a negligible factor to the nation as a whole, but means the difference between comfort and mere subsistence, to the people of Eastern Kentucky.

Erosion Control. Kentucky has about two and a half million acres of land seriously affected by erosion. Probably erosion is the greatest single cause of loss of fertility in Kentucky

soils. It may be stated conservatively that the loss to Kentucky farmers from erosion is greater than their land taxes. As a result of past extension work, 36 counties laid foundations for a program to control erosion by means of terraces. This year, soil erosion demonstrations were established in 30 counties, and over 220 farmers adopted preventive practices. The work was conducted through 4-H and Utopia clubs, through training leaders at demonstrations, and through cooperation with the soil erosion camps of the Citizen's Conservation Corps. In Rockcastle County, 62 farmers built stone dams and seeded grass in gullies, on 612 acres of land. The value of the work was estimated at $2,145 by the men who did it. In Fulton County, terracing is becoming more popular. All terraces constructed last year are holding well. Many farmers were afraid terraces would not hold in loose soils, but last year's demonstrations removed the doubt from their minds.

The brush dam is one of the most useful devices in checking soil erosion.

Hillside ditching to control erosion was a new project in some counties. Seventeen demonstrations were established during 1933, in Garrard County, on land having slopes up to 30 percent.

During the month of October an educational tour was conducted to each of the eight CCC soil erosion camps, for the purpose of acquainting farmers with types of dams being built and the methods of combining locust tree plantings, cover crops, grass mixtures, and dams to control gullying

and to decrease flood damage. Average attendance was 50 farmers on each tour.

Sanitation. Only one out of 50 farm homes in Kentucky is equipped with running water. Sanitation surveys conducted in 12 counties, during 1931 and 1932, indicate the great need for this kind of extension work. It shows that in 50 per cent of the homes water is still being drawn by hand, that water supplies are very poorly protected and that some homes are without any toilet facilities.

With the assistance of the home demonstration agents and homemakers' clubs, sanitation surveys were made in two more counties this year. Personal assistance was given to 25 farmers, in three counties, to establish demonstrations of water systems, sanitary outdoor toilets and septic tank disposal systems. Reports show that 467 farmers, in 21 counties, adopted improved sanitary practices this year.

Farm Buildings. Interest in better farm buildings continued during 1933 despite the low prices of farm products. During the year the Department sent out, upon request, 408 sets of blueprints, into 81 counties in Kentucky, and into 23 States and one foreign country. Four new plans were prepared and 11 exchange plans were added, making a total of 190 plans of all kinds of buildings and equipment now available for distribution. A total of 6,334 structures of all kinds were built this year from these plans.

Brick Brooders. Brick brooder stoves are a greater help to poultrymen than anything else that has been introduced in years. They are inexpensive, easy to build, and cheap to operate with either coal or wood. Before the brooding season started this year requests were received for approximately 6,000 copies of the circular on brick brooders. Fourteen meetings were held in 12 counties, to demonstrate the construction and operation of brick brooders. In Henry County 12 out of 15 farmers who attended a demonstration went home and built brick brooder stoves. Twenty-seven were built in the county, at a cost of $2.09 to $5.05. A total of 1,890 brick brooders were constructed in 52 counties this year. Each brooder represents a saving in cash outlay of $10 for fuel, which, for

the State, represents a total saving of $18,900. In addition each brooder stove constructed represents a saving of $8 cash outlay for brooding equipment, or a saving of $15,120 for the entire State.

Vegetable Storage. In connection with the live-at-home program and relief work, special emphasis was placed on home storage structures for fruit and vegetables. Twenty leaders' training meetings and 10 general meetings were held in 29 counties this year, with an average attendance of 25 at each meeting. A careful estimate indicates that the live-at-home garden work this year has increased the value of home-produced food products in Jackson County by more than $45,000. To provide building plans and specifications, a multigraphed circular was distributed. The demand was so great that new editions of the circular were required.

During the summer a series of meetings was held on farms to give instruction on tobacco curing methods and to demonstrate the construction of the ridge ventilator for tobacco barns. At each of these meetings a ridge ventilator was built upon a tobacco barn to serve as a demonstration in the community. A total of 400 tobacco barns were equipped during the year with ridge ventilators, at less than half the cost of commercial metal ventilators. The ridge ventilator provides about 10 times as much out-take opening as the metal ventilators.

No reports can be given on the results obtained by the farmers who adopted the recommendations this year, until after the tobacco is sold. The reports received last year from five counties in Kentucky show that the farmers who built the new ridge ventilator on their barns and followed the curing recommendations, produced a high quality of tobacco and received prices from $2.95 to $9.50 a hundred pounds higher than they received for tobacco cured in barns not equipped with the ventilator.

ANIMAL HUSBANDRY

Beef Cattle. Emphasis was placed upon the importance of feeding less grain to yearlings and two-year-old cattle until

there is an indication that prices for finished cattle would be high enough to justify the heavy feeding of grain. The outstanding fact brought out by demonstrations this year was the value of good pasture composed of both legumes and grasses, in growing and fattening cattle. One of the most profitable methods of handling cattle this year was to graze them through the summer on good pasture and then to feed grain for two or three months or more, in the late fall.

Under the cow-and-calf plan more men raised and fed more beef calves than formerly. This was the most profitable method of beef production in 1933. The cows were carried through the winter largely on roughage and the calves were fed grain while being nursed and after being weaned. By good management, the usual return per calf was $6.00 to $10.00 above cost of keeping cow and calf.

Increase of the number of cows for calf production was not advocated. More time and thought was given to culling and management of existing herds. The principles advocated in herd management are: (1) a healthy herd of good beef-type cows; (2) calves to come at one season of the year and all of them sired by a good beef-type, purebred bull; (3) liberal use of roughage and a limited amount of grain; (4) the weight of the calves to be 500 to 800 pounds before they are put on the market; (5) to market the winter and early spring calves before the first of the year. Calves dropped in summer and fall would be carried through the winter in such manner that they would gain about 200 pounds, they would be finished the following summer and fall with grain on pasture. The development and use of good pastures composed of legumes and grasses is an intergral part of the program.

One hundred and five beef-cattle feeding demonstrations were conducted. Fifty-three were with herds in which the cow-and-calf plan was followed, and 52 were in fattening older cattle. The demonstrators obtained full value of feed used and, in most cases, a margin of profit above that which they would have obtained had they sold their feed. This was in contrast with the losses to other farmers who fed their cattle to heavy weights, incurring a large feed bill. These demonstrations show that when the margin between the buying and

selling price of cattle is narrow, the feeder should use methods of beef production in keeping with the conditions by holding the cost of production down and still producing animals that meet the demands of the consumer.

Swine. In 45 counties, 1,387 families are now using the plan recommended by the College of Agriculture for preparing home pork. This does not take into account the large number of unreported farmers using the plan. County agents estimate a cash value of $24.84 per farm, in improvement in home pork.

In Union County, 13 complete cost records in the swine enterprise were obtained. From these, calculations were made as to the influence of management factors, such as sanitation, on production costs. Meetings were held on a number of farms to explain the results of this work. It was pointed out that sanitation, large litters and proper feeding are all important in increasing the profits from hog raising.

In 39 counties, 1,669 farmers adopted improved feeding methods. Twelve ton litters were produced. Because of the unfavorable corn-hog ratio, the number of ton litters was smaller than in any year since the work was begun.

Reports from 41 counties indicate that 2,104 hog raisers are practicing a small part of the sanitation plan in producing pigs: 1,477, about half of it, 664 nearly all the parts and 72 are using the plan in full. Involved in this improved practice were 11,792 brood sows and more than 141,000 pigs. The saving in corn was about 60,000 bushels.

A swine breeders' association was organized, one purpose of which is to further a new project in 1934 which undertakes the elimination of contagious abortion in breeding hogs and reduction in damage done by internal parasites and filth-borne diseases.

Plans were made to have at the State Fair a farmer-breeders' hog show in which hogs in average breeding condition may be entered. Injuring breeding animals by overfitting can be eliminated only in this way. Kentucky hog breeders may benefit by the premium money offered by their own fair. In 1933, few Kentuckians showed hogs at the State Fair.

Sheep. All extension sheep projects received attention dur-

ing 1933, with special emphasis on improvement of quality and economy of production. Much attention was given this year to follow-up work, particularly the check of results on markets where most Kentucky lambs are sold. These observations covered more than 100,000 lambs, on several Kentucky markets. The principal factors affecting quality and price on these markets, in order of importance, are: breeding, control of parasites, stomach worms in particular, and the castration of ram lambs.

The purebred ram project has been a definite feature of the extension program from the beginning and the work has progressed satisfactorily from year to year. The past year was no exception, despite the pessimistic outlook during the sale season. More than 600 rams of the breeds popular in Kentucky were placed, largely as a direct result of extension activities. Since 1920, more than 5,000 rams have been procured by Kentucky farmers, from other states, as a direct result of this program, and for every good purebred ram produced in the State in 1920, three were produced last year. Even with such progress, the work is far from complete, for more than half the commercial lamb producers of the State are still using inferior rams.

The extension service was instrumental in starting 26 new flocks of purebred sheep during the year and in helping to weed out, through culling demonstrations, inferior animals in more than 100 purebred flocks already established. Breeders were assisted in the selection of 62 stud rams to head flocks of purebreds.

Castration of ram lambs was strongly advocated during the late winter and spring, through news and magazine articles, radio talks, meetings and demonstrations. The markets began to penalize buck lambs early in the season this year and farmers who failed to castrate paid dearly for the neglect. This work has grown from a few thousand lambs castrated, at the beginning of the extension pragram, until now the majority of the ram lambs, and practically all those raised by the better breeders, go to market as wethers.

The control of internal parasites, stomach worms in particular, was given even more consideration this year than last.

Information obtained through the study of Kentucky markets this year was made available, in part through the press and radio, and will be invaluable in the future. Twenty-four parasite-control demonstrations were held by the field agent during the year and hundreds of others were held throughout the State by county agents. It is important that sheep raisers be kept informed on methods of parasite control. Twenty-two lamb carcass cutting demonstrations were given in 22 counties. In connection with these demonstrations a systematic campaign of public information was conducted.

DAIRYING

About one and three-quarter billion pounds of milk are produced annually in Kentucky by half a million dairy cows. Although half this milk is used on the farm or is made into butter for home consumption, dairy cows are an important source of cash income. The Extension Service has undertaken to provide up-to-date information regarding the most profitable methods of feeding and herd management, under existing economic conditions, and also to determine the proper place of the dairy enterprise on farms of various sizes, fertility and proximity to market. Farmers were reached through work with demonstration herds, dairy herd-improvement associations, dairy feeding schools, and 4-H club activities.

Dairy Demonstration Herds. Seventy-two demonstration herds were operating well in April, 1933. During the summer this project suffered because the time of the county agents and field agents in dairying was occupied with the wheat allotment sign-up. Forty-five demonstration herds completed their year's work and the records were used at meetings throughout the communities in which they existed. Twenty-six of these herds were in the mountain counties of Eastern Kentucky. The records obtained in that territory indicate that dairying, in most instances, should be carried on primarily for the sake of providing dairy products for home consumption, and that there is little profit in selling sour cream where feed is expensive to purchase and difficult to raise. In other sections the demonstration herds proved profitable when properly managed, despite the low prices paid for butterfat.

Dairy Herd-Improvement Associations. During the year, 2,820 cows were tested, in 110 herds. The average production in 62 of these herds was more than 300 pounds of butterfat per cow while, out of 253 herds tested during 1929-30, only 52 herds exceeded this figure. The following table shows the progress made by the herds in dairy herd-improvement associations.

	1932-33	1931-32	1930-31	1929-30	1928-29
Pounds of milk per cow	7,127	7,217	6,564	6,230	5,922
Pounds of butterfat per cow	310	310	288	270	256
Number of herds averaging 300 or more pounds of butterfat per cow	62	61	62	52	20
Percent herds using purebred sires	83½	88	93	82½	*
Percent herds fed silage	67	80½	72½	55½	*
Percent herds fed grain on pasture	87	93	78	71	*
Percent herds in which dry cows were fed grain	90	92	68	47	*
Percent herds receiving alfalfa hay	55	51	50	31	*
Percent herds receiving legume hay	94	95	82½	84½	*
Percent herds receiving non-legume hay	6	5	17½	15½	*
Percent cows sold for beef	11½	14	13	16	14½

*Facts not available.

Three more dairy sires were proved in members' herds during 1933. Altogether, 13 sires have been proved in dairy herd-improvement associations to date; 11 of the 13 have increased the production of their daughters over that of their dams. A real need for expanding the co-operative ownership of sires was noted during the year and a number of informal sire exchanges were arranged among members.

Feeding Schools. Twenty feeding schools were held, in 15 counties, with attendance of 369. The value of home-grown rations, good pastures and hay were particularly emphasized at these meetings.

4-H Dairy Calf Club. Eight hundred and fifteen dairy project members, owning 914 dairy animals, were enrolled

during 1933. Included in their programs for the year was the training of dairy judging teams and teams to demonstrate approved husbandry and home dairy practices.

Home Cheese-making. Four counties were selected in which to start home cheesemaking among food leaders. The demand for demonstrations was unexpectedly large and the work spread rapidly to ten counties. Six of these report that 202 farm families have made cheese for the first time, making about 3,000 pounds.

Improvement of Cream Quality. It is impossible to expect that all cream in Kentucky can be marketed twice a week. The four-day plan of buying cream at cream stations has been expanded to include truck routes. "Premium cream," which is that marketed by the producer within four days of his previous shipment or delivery, has enjoyed a higher price than "Regular Cream," which is that shipped or delivered at less frequent intervals. Farmer producers are taking advantage of the increased price based on quality. The following figures indicate the increasing percentage of premium cream marketed:

1929	46.9 percent
1930	51.0 percent
1931	57.5 percent
1932	70.6 percent
1933	75.6 percent

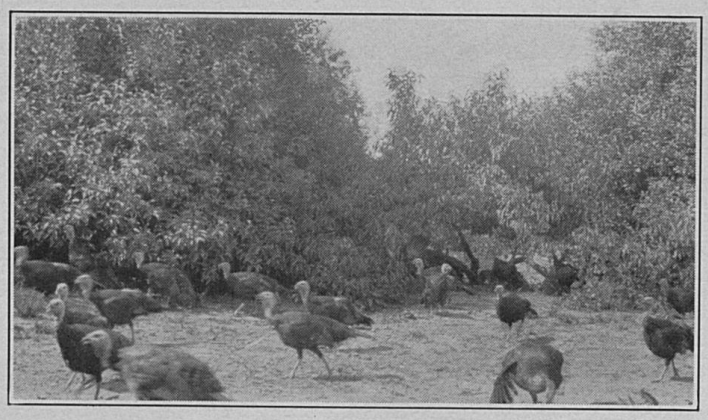
POULTRY

The development of poultry raising as an industry in a few very favorable sections, as well as the development of more efficient production by farm flocks, was encouraged and aided as in previous years. Quality in poultry and eggs was given much attention, the purpose being to develop a better marketing system for products of high quality.

The replacement problem continues to be one of the major considerations in profitable production, consequently, much emphasis was given to the "Clean Chick Program." It is the salvation of the flock owner who must replace a large portion of his flock with pullets each year. The five points of this program are (1) chicks from flocks, tested for bacillary white

diarrhea, (2) clean, waste-proof equipment, (3) clean range for the growing flock, (4) feeding balanced rations and (5) clean management practices.

The following results were obtained from brooding demonstrations:



Turkeys in an orchard on the farm of R. E. Nute, Jefferson County, help to control insects and add fertility to the soil.

No. flocks	Chicks started	Chicks raised	Percent raised
55	17,498	16,080	91.9

The average net cost of producing 714 pullets in Fleming county in 1933 was 8 cents.

The demonstration flocks showed a fair labor income despite the low selling price of poultry and eggs. The following is a summary of demonstration flocks for the past 13 years.

Year	No. Hens	No. Flocks	Eggs per Hen	Feed cost per Hen	Labor income per Hen
1920-1928	65,000	700	135	$3.45	$2.00
1928-1929	8,979	87	149	3.53	2.45
1929-1930	14,364	126	143	2.85	1.47
1930-1931	11,978	127	146	2.24	1.19
1931-1932	10,560	110	158	1.52	1.19
1932-1933	7,767	80	148	1.79	1.09

In 1933 there was considerable increase in feed cost over 1932. There was also an indication of a lack of care of the laying flock, as denoted by the ten-egg slump in production

per hen. The labor income of $1.09 per hen however, shows that poultry paid even in 1933.

Economical production was especially emphasized this year. The use of home-made appliances such as the brick brooder and double barrel brooder which burns green hardwood, and the home mixing of poultry feeds have resulted in a saving of thousands of dollars to Kentucky poultry raisers. The "Live-at-Home" program was kept before the people. Flock owners were encouraged to use and save for home use as much as they possibly could of poultry and eggs produced on the farm.

During the year, 253 meetings were held with a total attendance of 7,311 people, and 1,582 visits were made to demonstrations, hatchery cooperators and other agencies that had an influence on poultry raising. Ninety-three breeding pens were selected and 24 poultry shows were judged. The Annual Poultry Short Course was conducted again this year. Over 200 farmers attended the Poultry Field Day at the Experiment Station.

Summer range shelters for young poultry are coming into common use. They are inexpensive, afford ideal roosting quarters during the hot summer nights and give protection from weasels and foxes.

Poultry improvement work is carried on through the Kentucky Poultry Improvement Association. Membership in the association is divided as follows: 1,700 accredited flock owners, 16 accredited hatchery owners, 60 certified flock owners and two certified hatchery owners. Accreditation work is done by inspectors licensed by the Experiment Station. The

certification work is done by the field agent in poultry improvement who also supervises the hatcheries and licensed inspectors. Not less than 1,000 males from dams that had produced 200 or more eggs were used by association members during the 1933 hatching season. Two hatcheries used hatching eggs only from flocks where pedigreed males from dams that had produced 200 or more eggs were used by association members during the 1933 hatching season. Two hatcheries used hatching eggs only from flocks where pedigreed males were used and four others are planning to get on the same basis as quickly as possible. One flock is under Record of Performance supervision. The association and the extension poultrymen correlate their purposes and programs.

The $4,000 expended annually by the Association to further poultry improvement work in Kentucky is a testimony by the poultrymen of the State of their confidence and interest in the educational program of the Extension Service. This money is turned over to the College of Agriculture in quarterly payments and is administered in the same manner as other University funds. The field agent in poultry improvement employed under this plan is a regularly appointed member of the poultry staff.

VETERINARY SCIENCE

Assistance was given farmers to combat diseases of cattle, sheep, hogs, horses, mules and poultry. Among unusual diseases found were hookworm and rabies in cattle, both in Eastern Kentucky. Following the death of several cows in Knott County, the trouble was diagnosed as rabies, and instruction was given in preventive measures for both people and animals. Control measures were recommended, after hookworm had been discovered in a herd of 139 cattle. A total of 257 visits were made to farms to diagnose and determine the causes of diseases and to prescribe methods of control and prevention. Sixty-four post-mortem examinations were made.

Cooperation was given the State veterinarian, veterinary practitioners and livestock owners in developing a plan for the control of Bang abortion disease. Twenty-two herds were tested for abortion disease, visits were made to farms to study

herd conditions and owners were informed regarding this disease. In many instances it was necessary to collect material for laboratory analyses.

Work was continued in the campaign to control pullorum diseases in poultry. The prevalence of this disease has been reduced from 20 per cent in 1926 to five per cent in 1933. This was accomplished through testing fowls from which eggs were sent to hatcheries, the establishment of regional laboratories in which tests were made for the disease, visiting hatcheries and recommending measures for the control of disease.

Attention was given to parasites of livestock, especially of poultry. The rapid spread of tapeworms in poultry is due largely to unsanitary feeding conditions.

SUMMARY

Farm visits	257
Consultations with veterinarians and county agents	175
Counties visited on poultry diseases and parasite control	23
Laboratories testing for pullorum disease	8
Visits to laboratories testing for pullorum disease	13
Hatchery sanitation visits	30
Turkey disease and parasite control visits	8
Counties visited on diseases of cattle	35
Counties visited on coccidiosis	3
Cattle bled at demonstrations	212
Visits on sheep diseases	20
Visits on swine diseases	11
Counties visited on diseases of horses and mules	5
Counties visited on plant and mineral poison	3
Post-mortem demonstrations held to determine cause of death and give control measures	64
Other demonstrations held	53
Present at demonstrations	478
Meetings held	15
Present at meetings	779

HORTICULTURE

An extensive home garden project was started in 25 counties, early in the year. Later, when the State Garden Relief work was established, all home garden work was consolidated under a general plan. The subject matter was prepared by the University. Supervisors and leaders held 127 meetings, with 4,912 persons attending, and 13,200 instruction sheets were distributed. The value of the produce from the relief gardens is difficult to estimate accurately but it amounted to several million dollars.

Potato production was continued as a major project. Seed treatment for disease control was stressed. Eleven seed-treating demonstrations were held with men representing 4,000 acres. These demonstrations showed an increase in yield of 32 per cent due to seed treatment. Seed potatoes for relief of the destitute, amounting to 1,114 carloads, were treated by the same method.

Growing potatoes as a cash crop was emphasized in 11 counties, where 230,000 bushels of marketable potatoes were produced, which were sold for $271,800. In these counties and six others, where the use of certified seed was stressed, 455 demonstrators got an improvement in yield of 41 per cent, or 73,000 bushels.

Tests with the new "French" potato were continued with more than 900 farmers, in 17 counties. Inasmuch as they got returns of 20 to 39 bushels, per bushel of seed planted, it appears that the French potato is a dependable variety for the winter home supply. Thirty lots of this variety are being observed this winter relative to suitability for storage.

In Jefferson County, 12,210 bushels of certified seed potatoes of a cash value of $18,315, were produced under the supervision of the College of Agriculture.

Among the sweetpotato growers, nine demonstration meetings were held and nine fertilizer demonstrations were laid out. The increase from following recommended practices was 62 bushels per acre, of marketable sweetpotatoes, or 54 per cent.

Seventeen meetings were held with cannery-tomato growers and 17 acres of fertilizer demonstrations were put on. These gave an increased net return of from $15 to $21 per acre. Six spraying demonstrations among the same men showed a net return of $16.66 per acre.

The "Garden Serial" was continued. Thirty-eight weekly articles were released to the Kentucky Press, as well as to papers in surrounding States with circulation in Kentucky and which are served by the Associated Press.

A home small-fruit project was begun in the spring of 1933, with 171 demonstrators, in the mountain counties of eastern Kentucky. These plantings made good growth during the year.

Commercial Strawberry Project. This work was continued from the previous year and consisted of instruction in the most important requirements of strawberry production. County and community meetings were held throughout the commercial strawberry area during the winter and spring. This was followed in late summer by field inspection tours. From 50 to 200 growers attended each of these tours. Because of the break in the market and failure to harvest a part of the crop in 1933, there were no production records from demonstration plots.

Strawberry marketing in the Louisville area was not organized until the spring of 1933. Because of the market situation the 1933 crop appeared to be practically worthless. The College of Agriculture promoted a cooperative marketing association. The result was so satisfactory that the grape growers formed a similar association. The net profits to the growers in these two associations were approximately 30 per cent greater than to those who continued to market their products in the accustomed manner.

Raspberries. Spraying demonstrations were conducted with 37 growers. While the benefit from spraying cannot be determined until next season, the results were quite marked.

Dewberries. Because of low market prices for dewberries, a plan was devised for the establishment of a cooperative cannery. The successful operation of the cannery was made possible through the efforts of the College of Agriculture.

Orchard. This work was conducted through the county fruit-growers' societies in 17 counties. A systematic program consisting of field meetings and orchard tours was followed. The demonstrations consisted in the following: Pruning, spraying, soil management, and preparation for market. The spraying recommended cost about 30 per cent less than the practice commonly used and was more effective. In fact, the apple crop in the State was a failure except with the growers who followed the spraying practice recommended. Instructional material was furnished to all county agents and cooperators.

Landscape. The Live-at-Home program focused attention

upon home surroundings, and economic conditions further enhanced this interest. Rural people are not inclined to spend much time at home unless their homes are attractive. It has been impossible to meet completely the demand for service in helping to beautify country homes.

A shrub border, desirable, on most farms, to screen out unsightly buildings or views. It should consist of tall and medium shrubs and trees. Native material is preferable. Sometimes evergreens are best.

The work conducted through the county and home demonstration agents had as its goal one improved home for each community in counties adopting the project. One demonstration and a leaders' meeting was held in each county or group of counties cooperating. Community leaders were chosen chiefly from homemakers' clubs and parent-teachers' associations. The following is a summary of result demonstrations in 28 counties:

New lawns	213
Old lawns renovated	2,013
Sowed bluegrass seed on lawn in September	844
Cleaned premises and removed unsightly objects	3,499
Improved walks, drives and fences	841
Annual flower gardens (new)	3,756
Perennial flower gardens (new)	2,929
Rearranged flower gardens	1,178
Wild-flower gardens	615
Planted shade trees	4,990

Planted shrubs from nurseries	479
Planted native shrubs	1,072
Rearranged lawn plantings	4,627
Improved lawn practices	8,002
Improved entrance to farmstead	1,909

Timely instruction sheets were furnished to all project leaders and county agents.

In 13 counties, 107 Utopia Club members carried out result demonstrations in landscape improvement. In 15 counties, 32 consolidated schools were visited and plans were made for improvement of the school grounds. Such plans were made only where there was a reasonable assurance that the project would be completed.

FARM ECONOMICS

The primary effort of farm management extension work was to show how farmers could meet necessary expenses with their sales, at the 1933 price level. By carefully analyzing over 300 farm account books kept by farmers, and a similar number of cost-of-production records on single farm enterprises, valuable information was obtained on ways of organizing and operating farms for maximum profits.

The most valuable direct service has been to give individual farmers and groups of farmers pointers for improvements, based upon actual records of the most successful farms in a given locality. Some of the helpful suggestions that have led to profit are the culling of low-producing livestock, cultivating land needing the least amount of fertilizers and the production and use of cheaper feeds for balanced rations. Nearly every farmer who kept farm-management records and had them analyzed had an opportunity to compare his farm organization and efficiency with that of the most successful in the locality, of his type of farming, and to note the practices that led to greater efficiency. These comparisons induced thought and called forth questions which enabled the farm management specialist to help groups and individuals to adjust their business to changed conditions.

Farm Inventories. A statewide farm inventory campaign was sponsored the first week in January. Over 4,000 farm inventory and credit statement booklets were distributed.

Outlook. During the month of February assistance was given in the preparation of the State outlook report for agricultural products and with the outlook meetings throughout the State. Farm account and community farm business survey records were used in the discussion of the outlook.

Community Farm Business Surveys. Farm business survey records were obtained in 14 communities of six counties, from approximately 500 farmers. Summaries of factors affecting farmers' incomes in each of these communities are being made and will be returned to the various communities during the winter.

Surveys of Dark Fired Tobacco and Strawberry Enterprises. A survey of the factors that lead to more profitable returns from dark fire-cured tobacco, begun in 1932, was completed this year, and a report from the records obtained from cooperating farmers, was returned to them.

A survey of the profitableness of the various practices in strawberry production was continued this year. The effect of the different methods of cultivating the berries the second year will be analyzed during the winter.

Survey of the Sheep and Dairy Enterprises. More than one hundred sheep records are being analyzed to find the importance of the sheep enterprise on farms in various sections of the State and to point out the management practices that lead to more profitable returns. Cost of milk production records obtained last year from farmer cooperators in the Kentucky area that market milk in Cincinnati were brought up to date.

Rural Sociology. A problem which received major attention was the readjustment of people to land utilization made necessary by conditions connected with the economic depression. Many thousands of families are living on farms which are now submarginal and probably will continue to be so for an indefinite period. Many families which left the land, in the period of the industrial boom, are now stranded in population centers in this State. Many former bread winners of these families cannot now find employment in their present locations

and many probably will never be needed where they now are. A large proportion of the two classes of families above mentioned are now depending on public relief. The major effort has been to find means of rehabilitating such stranded families.

In connection with the problem of rural families living on submarginal land a survey was made of all land in two magisterial districts in Knox County, a total of 67,760 acres, and the land was classified according to its present use and its ability to provide sustenance for families. This area is typical of a large number of areas comprising much submarginal land. The survey also showed the total incomes and the sources of income of 176 families. Some of these families lived on submarginal land and others on land of better agricultural quality. In the same county a survey was made of approximately 18,000 acres of creek and river bottom farms to ascertain the opportunities offered on them to families now occupying submarginal farms.

Reconnaissance surveys were made in Barren, Hopkins, Allen, Todd, Christian, Laurel, Rockcastle and Taylor Counties for the purpose of ascertaining possibilities on the better lands in these counties for the rehabilitation of families stranded on submarginal farms and in industrial centers. A special survey was made in Jefferson County to discover the possibilities of rehabilitating unemployed persons formerly engaged in industrial occupations by placing them on small home plats near the edge of the city, under conditions which would afford them an opportunity to become self-sustaining. A memorandum setting forth detailed plans for rehabilitating such families, and also other memoranda, were presented to the Federal Division of Subsistence Homesteads and certain features of the plans have been embodied in the rehabilitation projects now being carried out by that division in various parts of the United States.

The cooperation of rural pastors and church leaders was asked in the program of agricultural adjustment among farmers, particularly in the program of the Federal Agricultural Adjustment Administration. A preliminary conference of rural pastors was called and the pastors participating requested the College of Agriculture to undertake to mobilize

the interest and the efforts of rural pastors and church leaders to improve the economic status of farming people in Kentucky. Plans were further perfected at a second conference, one development of which was to arrange for a rural pastor's day at the Farm and Home Convention at the College of Agriculture.

MARKETS AND RURAL FINANCE

The extension work of this Department was substantially modified to adapt it to the rapidly changing needs of agriculture. Confronted with an economic crisis at the beginning of the year, farmers were in great need of an analysis of the business and agricultural situation. With the passing of the crisis they were desirous of assistance to make adjustments in farming to meet the new market outlook and, particularly, to participate in the agricultural adjustment programs of the nation.

Agricultural Outlook. Changing prices and price relationships during recent years have altered the comparative market advantage of farm products and have necessitated adjustments in quantity as well as quality and type of products grown. Farmers have been quick to recognize this necessity and to appreciate the pertinence of economic information. The extension service has followed its customary policy of supplying the information needed to make such adjustments. An Annual Agricultural Outlook was prepared and distributed. In addition, separate reports dealing with the outlook for specific commodities were prepared and distributed for special groups of producers. Special reports for poultry, lambs, hogs and cattle were also prepared in mid-year as there was special need for current information to plan production for individual farm enterprises. These reports, although a new feature of the outlook service, were of so great value to farmers and had such a favorable reception that they will be continued as a permanent part of the informational program.

Marketing and Cooperation. There are about 350 cooperative associations in the State at the present time. Their influence is felt in every section. In the field of marketing they

play an important role in tobacco, livestock, dairy, grass seed, fruits and vegetables. Assistance was given in analyzing the business and helping to improve the practices of several cooperative associations. Special marketing problems were given consideration in some instances. Plans for organization and reorganization were suggested for others. In the last group are the dairymen of Lexington, Paducah, Middlesboro, Hopkinsville and Owensboro; the fruit and vegetable growers at Louisville, Bowling Green and Franklin; the poultrymen in Henry and neighboring counties; the producers of sorghum molasses in Eastern Kentucky, and the Associations marketing lespedeza seed.

A state-wide, two-day cooperative conference was held in October. This was the second annual conference sponsored by the College of Agriculture. One hundred farm leaders participated. Special consideration was given to the place of farmers' organizations in the new national agricultural policy, with the purpose of establishing a more permanent organization. Those present effected a temporary State council to perpetuate the annual conference and to direct statewide developments in agricultural cooperation.

Plans were developed for Knox County farmers to market an unexpected surplus of potatoes. Production exceeded customary local market requirements. Accordingly, arrangements were made for grading and shipping to outside markets. Not only was the local market protected but also growers realized a profitable price for their potatoes.

Producers of sorghum molasses, through the efforts of extension specialists, introduced branding and grading of their product on a large scale for the first time. The results were so satisfactory that these practices will likely be more generally observed by producers in the future, in their endeavor to develop a more satisfactory merchandizing policy for sorghum molasses.

Agricultural Adjustment. Concerted effort was made to meet the demands for information about national developments in agriculture and to help farmers to participate in the new federal programs that were being developed for agriculture. Many conferences were held with agricultural leaders,

particularly among tobacco growers and dairymen, to acquaint them with the agricultural adjustment programs and to assist them in developing suggestions that might make the adjustment programs better suited to their respective enterprises. Members of the staff also frequently advised with representatives of the Agricultural Adjustment Administration in developing production programs of the administration and better adapting such programs to farming in Kentucky.

A statewide organization was set up within the extension service to assist with crop and livestock adjustment programs. County agricultural agents and local agricultural leaders had a very important role in these plans and carried a major portion of the load of work involved. The team work of the various groups was commendable. The effectiveness of the organization is attested by the general response of farmers to the production programs offered. Commercial growers of wheat, the first commodity for which an adjustment plan was offered, generally subscribed to the wheat program of the Administration notwithstanding the fact that wheat is a minor source of cash income and is grown chiefly as a nurse crop for grasses and clovers, in this region. Likewise, a large per cent of cotton growers, also an unimportant source of income, entered into the cotton production adjustment program. Dairymen in the principal areas that produce milk generally participated in milk marketing agreements.

The cooperation of the tobacco growers was most excellent. The simplicity of the tobacco plan, a recognition among farmers of the extreme necessity for adjustment in production, the large importance of the crop, and the amount of adjustment payments offered were important factors contributing to the widespread interest of growers. As this report is being written it is too early to give the extent of participation of tobacco growers, although indications are that upwards of 95 per cent of burley tobacco will be under production adjustment contracts and also a very large per cent of the Dark-fired and Dark Air-cured types. Such widespread participation assures tobacco growers a larger income for the 1933 crop than they have realized in recent years and a purchasing power that com-

pares favorably with that of any tobacco crop during the base period of 1919 to 1928.

Widespread interest among farmers in the more recently offered corn-hog program is evident and many inquiries are received on prospective programs for strawberries, dairy and beef cattle. The extent and complexity of these adjustment programs point to the need of maintaining an aggressive organization for directing the administration of the various production plans and of developing an effective educational service to acquaint farmers with the significance and applicability of the adjustment programs.

PUBLICATIONS ISSUED DURING THE YEAR 1933

Circular No. 70, Revised, Alfalfa.
Circular No. 75, Revised, Suggestions for the Winter Feeding of Steers.
Circular No. 152, Revised, Stomach Worms in Sheep.
Circular No. 184, Revised, Color and Its Application to Dress.
Circular No. 185, Revised, Textile Fibers and Fabrics.
Circular No. 194, Revised, Clothing Manual, Junior 4-H Clubs.
Circular No. 209, Revised, Grapes for the Home.
Circular No. 228, Revised, Meal Planning I.
Circular No. 243, Revised, The Vegetable Garden.
Circular No. 261, Killing, Cutting and Curing Pork.
Circular No. 262, The Striped Cucumber Beetle.
Circular No. 263, Demonstrations in 4-H Club Work.
Circular No. 264, Annual Report of the Extension Division.
Circular No. 265, Poultry Parasites and Sanitation.
Circular No. 266, Home Storage Structures.
Circular No. 267, Cherries for Kentucky.
Circular No. 268, The 4-H Room Improvement Project I.
Circular No. 269, The 4-H Room Improvement Project II.
Circular No. 270, Room Improvement Manual for 4-H Clubs.
Canning Record Book.
Clothing Record Book for 4-H Clubs.

EXTENSION WORKERS

January 1st to December 31st, 1933

ADMINISTRATION

Thomas P. Cooper, Dean and Director
T. R. Bryant, Asst. Director
D. H. Peak, Business Agent
S. K. Slaughter, Secretary

AGRONOMY

George Roberts, Head of Department
Ralph Kenney, Field Agent in Crops
S. C. Jones, Field Agent in Soils
Russell Hunt, Field Agent in Tobacco

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
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)

CLOTHING

Edith Lacy, Field Agent in Home Economics

DAIRY

J. O. Barkman, Field Agent in Dairying
Ted S. Besh, Field Agent in Dairying
Jesse Collins, Field Agent in Dairying

FARM MANAGEMENT

R. E. Proctor, Field Agent in Farm Management
John H. Bondurant, Field Agent in Farm Management

FOODS

Florence Imlay, Field Agent in Foods

HOME MANAGEMENT

Ida Hagman, Field Agent in Home Economics

HORTICULTURE

W. W. Magill, Field Agent in Horticulture (Orcharding)
J. S. Gardner, Field Agent in Horticulture (Truck Crops)
N. R. Elliott, Field Agent in Horticulture (Landscape)

JUNIOR CLUBS

J. W. Whitehouse, State Leader of 4-H Club Work
J. M. Feltner, Field Agent in 4-H Club Work
M. S. Garside, Field Agent in 4-H Club Work
Anita Burnam, Field Agent in 4-H Club Work
G. J. McKenney, Field Agent in 4-H Club Work
E. E. Fish, Field Agent in 4-H Club Work
Carl W. Jones, Field Agent in 4-H Club Work

MARKETS

L. A. Vennes, Field Agent in Markets
E. A. Johnson, Field Agent in Markets

MOVABLE SCHOOLS

L. C. Brewer, Asst. in Short Courses and Exhibits

PUBLIC INFORMATION

C. A. Lewis, Editor

POULTRY

J. H. Martin, Field Agent in Poultry
J. E. Humphrey, Field Agent in Poultry
C. E. Harris, Field Agent in Poultry
Stanley Caton, Field Agent in Poultry

RURAL SOCIOLOGY

W. D. Nicholls, Head of Department

VETERINARY SCIENCE

T. P. Polk, Field Agent in Veterinary Science

COUNTY AGENT WORK

C. A. Mahan, State Agent
I. C. Graddy, Assistant State Agent
E. J. Kilpatrick, Assistant State Agent
H. F. Link, Assistant State Agent
W. C. Wilson, Assistant State Agent
A. C. Burnette, Agent in Charge of Negro Work
S. W. Anderson, County Agent, Jefferson County
J. H. Atkerson, County Agent, Allen County
John C. Bach, County Agent, Magoffin County
H. A. Berge, County Agent, Gallatin County
C. O. Bondurant, County Agent, Owen County
Stuart Brabant, County Agent, Todd County
W. L. Browning, County Agent, Powell County
H. C. Brown, County Agent, Fulton County
John C. Brown, County Agent, Warren County
C. V. Bryan, County Agent, Taylor County
H. B. Cravens, County Agent, Breathitt County
Carl B. Day, County Agent, Martin County
R. S. Dunn, County Agent, Spencer County
C. B. Elston, County Agent, Nelson County
F. C. Ewen, County Agent, Laurel County
Robt. T. Faulkner, County Agent, Johnson County
John H. Finch (Colored), County Agent, Warren County
B. W. Fortenbery, County Agent, Pike County
H. R. Forkner, County Agent, Boone County
C. E. Gabbard, County Agent, Morgan County
H. K. Gayle, County Agent, Union County
C. L. Goff, County Agent, Rowan County
M. F. Goff, County Agent, Pulaski County
J. F. Graham, County Agent, Caldwell County
D. S. Green, County Agent, Leslie County
Robert T. Harrison, County Agent, Harlan County
H. J. Hayes, County Agent, Wayne County
R. M. Heath, County Agent, Franklin County
C. L. Hill, County Agent, Logan County
J. W. Holland, County Agent, Shelby County
Ray C. Hopper, County Agent, Meade County
J. O. Horning, County Agent, Barren County
Wm. B. Howell, County Agent, Oldham County
Joe Hurt, County Agent, Boyd County
S. L. Isbell, County Agent, Floyd County
H. R. Jackson, County Agent, Crittenden County
Wm. C. Johnstone, County Agent, McCracken County
T. H. Jones, County Agent, Lee County
G. H. Karnes, County Agent, Monroe County
R. H. King, County Agent, Carter County

H. A. Laine (Colored), County Agent, Jessamine County
Orem LaMaster, County Agent, Trimble County
E. E. Lambert, County Agent, Menifee County
Harry B. Lane, Asst. County Agent, Jefferson County
R. H. Lickert, County Agent, Fleming County
H. S. Long, County Agent, Clark County
J. E. McClure, County Agent, Daviess County
R. B. McClure, County Agent, Garrard County
Floyd McDaniel, County Agent, Montgomery County
R. J. Matson, County Agent, Nicholas County
Earl Mayhew, County Agent, Knox County
J. W. Michael, County Agent, Knott County
C. E. Miller, County Agent, Boyle County
J. L. Miller, County Agent, Madison County
Thos. W. Morgan, County Agent, Trigg County
M. P. Nichols, County Agent, Ohio County
J. Ed. Parker, County Agent, Fayette County
John E. Parsons, County Agent, Lawrence County
H. S. Patterson, County Agent, Grayson County
S. A. Porter, County Agent, Campbell County
W. R. Reynolds, County Agent, Jackson County
Edgar Rice, County Agent, Elliott County
Harry D. Rice, County Agent, Henry County
G. C. Routt, County Agent, Graves County
M. H. Sasser, County Agent, Casey County
C. C. Shade, County Agent, Jessamine County
E. R. Sparks, County Agent, Clay County
Robt. F. Spence, County Agent, Madison County
Runyon Story (Colored), County Agent, Christian County
J. E. Summers, County Agent, Marion County
W. D. Sutton, County Agent, Hopkins County
Joe Thompson, County Agent, Bath County
H. H. Thompson, County Agent, Harrison County
E. P. Tichenor, County Agent, Marshall County
R. V. Trosper, County Agent, Bell County
C. M. Wade, County Agent, Scott County
P. R. Watlington, County Agent, Bourbon County
Clyde Watts, County Agent, Carroll County
O. R. Wheeler, County Agent, Whitley County
H. W. Whittenburg, County Agent, Simpson County
C. A. Wicklund, County Agent, Kenton County
W. E. Wiedeburg, County Agent, Christian County
G. H. Williams, County Agent, Letcher County
J. B. Williams, County Agent, Edmonson County
J. E. Wilson, County Agent, Grant County
Troll Young, County Agent, Washington County

HOME DEMONSTRATION WORK

Myrtle Weldon, State Leader Home Demonstration Agents
Lulie Logan, Asst. State Leader Home Demonstration Agents
Zelma Monroe, Asst. State Leader Home Demonstration Agents
Bernice Bonar Bottorff, Home Demonstration Agent, Oldham County
Zilpha F. Bruce, Home Demonstration Agent, Warren County
Florence Cobb Bennett, Home Demonstration Agent, Graves County
Zelma Byerly, Home Demonstration Agent, Kenton County
Mary Clopton, Home Demonstration Agent, Breathitt County
Sunshine Colley, Home Demonstration Agent, Bell County
Anna Culton, Asst. Home Demonstration Agent, McCracken County
Dora M. Duncan, Home Demonstration Agent, Hopkins County
Marie Elmore Fortenbery, Home Demonstration Agent, Pike County
Ruth Etheridge, Home Demonstration Agent, Bell County
Hazel Graves, Home Demonstration Agent, Madison County
Jennie C. Grubbs, Home Demonstration Agent, Boyle County
Pearl Haak, Home Demonstration Agent, Henderson County
Alda Henning, Home Demonstration Agent, Fulton County
May Hutchison, Home Demonstration Agent, Garrard County
Lois Husebo, Home Demonstration Agent, Boyd County
Miriam Jay Kelley, Home Demonstration Agent, Ohio County
Catherine T. Johnson, Home Demonstration Agent, Jefferson County
Dicksie Lee Lewis, Home Demonstration Agent, Union County
M. Alma Moore, Home Demonstration Agent, Muhlenberg County
Roxie C. Perkins, Home Demonstration Agent, Harlan County
Irene Piedalue, Home Demonstration Agent, Clark County
Elizabeth A. Porter, Home Demonstration Agent, Campbell County
Frances Stallard, Home Demonstration Agent, Madison County
Ritchie Stevenson, Home Demonstration Agent, Hardin County
Dorothy Threlkeld, Home Demonstration Agent, McLean County
Helen M. White, Home Demonstration Agent, Daviess County
Frances Wiese Fleming, Home Demonstration Agent, Christian County
Sadie Wilgus, Home Demonstration Agent, Calloway County

RECEIPTS AND DISBURSEMENTS
For the Fiscal Year Ended June 30, 1933

RECEIPTS

Federal Smith-Lever and Supplementary	$201,399.81
Federal Capper-Ketcham	36,800.97
Additional Cooperative	31,000.00
State Smith-Lever and State Capper-Ketcham	120,000.00
	$389,200.78

DISBURSEMENTS

PROJECTS	FEDERAL FUNDS			STATE FUNDS
	Smith-Lever Supplementary	Capper-Ketcham	Additional Cooperative	Smith-Lever Capper-Ketchum
Administration	$12,898.60	.....	.....	$9,418.00
Publications	4,765.79	.....	.....	610.00
County Agent Work	103,159.27	$18,237.65	$20,113.34	17,320.23
Home Demonstration Work	19,987.20	18,563.32	10,886.66	10,798.34
Clothing	2,722.24	.....	.....	3,975.00
Foods	1,732.93	.....	.....	2,148.53
Movable Schools	1,400.99	.....	.....	3,240.00
Junior Clubs	10,974.34	.....	.....	18,872.50
Agronomy	4,639.83	.....	.....	7,375.50
Dairying	4,111.10	.....	.....	3,855.57
Animal Husbandry	5,342.97	.....	.....	8,127.00
Markets	4,568.17	.....	.....	5,187.00
Farm Management	3,026.64	.....	.....	4,068.00
Poultry Extension	4,563.06	.....	.....	6,250.50
Horticulture	4,290.02	.....	.....	6,802.50
Veterinary Science	1,487.23	.....	.....	2,160.00
Rural Engineering	3,120.27	.....	.....	3,904.83
Publicity	999.10	.....	.....	3,210.00
Farm and Home Week	581.17	.....	.....	.....
Home Management	1,568.76	.....	.....	2,030.00
Rural Sociology	296.98	.....	.....	607.50
	$196,236.66	$36,800.97	$31,000.00	$119,961.00