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UNIVERSITY OF KENTUCKY

COLLEGE OF AGRICULTURE

Extension Division

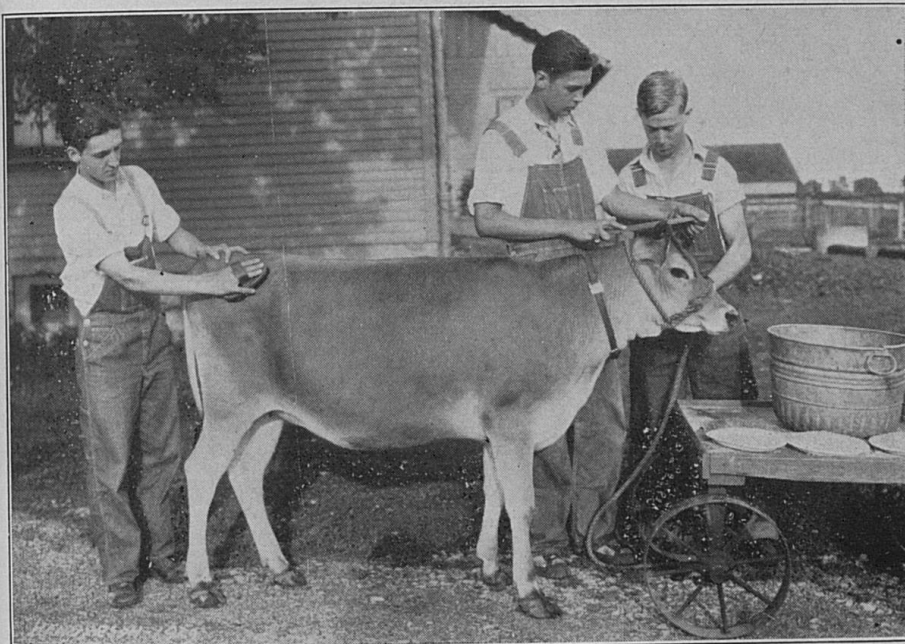
THOMAS P. COOPER, Dean and Director

CIRCULAR NO. 236

ANNUAL REPORT

FOR THE

YEAR ENDED DECEMBER 31, 1929



4-H Club boys fitting a dairy heifer for show.

Lexington, Ky.

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

Letters of Transmittal

Lexington, Kentucky.
January 3, 1930.

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, 1929. In this report will be found a statement of the various activities of the past year, a list of publications, and a financial statement of receipts and expenditures.

Respectfully,

THOMAS COOPER, *Dean and Director.*

Lexington, Kentucky.
January 10, 1930.

Honorable Flem D. Sampson,
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, 1929.

Respectfully,

FRANK L. McVEY, *President.*

CIRCULAR NO. 236

Annual Report of The Extension Division for 1929.

T. R. BRYANT, Assistant Director

The program of the Extension Service for improving the economic status of farmers includes such items as quality production, efficient grading and marketing, keeping farm accounts, better coordination of the various parts of the farming business and greater economy of production. The program features the use of improved varieties of plants, better fertilization and culture, higher-producing cows and poultry, better bred animals fed on balanced rations, and improvement of soils, that acre yields may be larger. The Extension Service has seldom advised increased total production of any product, but has steadfastly pointed to the economy to be had by milking one cow from which the profit is as great as that from two poor cows or tilling a few improved acres that produce as much as many poor acres, all such things effecting economy of labor and other production costs. Much land is now cultivated where the low yields can scarcely pay the cost of operation. Such land should be in permanent pasture or even in forest and the better acres should be improved to yield the accustomed total amount of crops on a smaller area, at a saving of labor and expense. If such a program is accompanied by careful sorting and grading, if the crops are fed to animals of higher quality and if the best marketing arrangement is adopted the earnings of the farming enterprise will be increased correspondingly.

The Extension Service also undertakes to assist rural people to improve living conditions in the country, using such resources as are available. All the way from the "wife-saving kitchen" to matters of community improvement and better facilities for recreation, the Extension Service renders aid. Rural

sections cannot and should not retain all their boys and girls as they grow up but country life should be made so attractive as to keep a proper share of the brightest young people. Such boys and girls do not like to remain in an uninteresting community. They will not stay in it if they feel that they are capable of earning their way in cities where things happen and where homes are more comfortable and convenient. Junior 4-H Club work goes far toward meeting the situation by providing useful and interesting work and fostering wholesome recreation. The work in Home Economics brings conveniences and more wholesome living conditions in the homes. These two branches reach out to improve community conditions.

The Extension Service is thus assisting people to make better use of the resources already at hand and to increase earnings from the farming business that more of the desires of country people may be gratified.

COUNTY AGENT WORK

The community program of work promoted largely by the efforts of volunteer project leaders has continued to increase and to demonstrate its soundness as a working plan. Volunteer leaders are not paid money, their interest is altruistic. They feel that they get more service for their communities by their cooperation with the county agent and the organized community programs and they value the development of leadership ability and community respect. Their principal reward is found in the satisfaction of knowing that their efforts have been instrumental in making the community a better place in which to live.

By working thru community-built programs each county agent becomes a moving spirit in developing latent rural talent and forming organizations with active local leaders who are better able than any one else to solve the problems of their respective communities. Thru the community self-help plan 6,972 local leaders, in 1929, assisted in getting others in their 841 communities to adopt improved practices as recommended by the county agents and extension field agents. The county agents

held 630 leaders' meetings for the purpose of training these leaders.

Five of the counties that had been carried over from the previous year on extra Government funds, set aside for the benefit of counties that had suffered most from the flood, made appropriations of their own in order to continue county agents without interruption.

An encouraging feature of the situation with county agents is the reduced number of changes in personnel. Frequent change in personnel is a demoralizing influence on any organization. It is gratifying to report a reduction in number of changes in this organization despite the constant temptation of higher salaries elsewhere.

An analysis of the records shows that altho county agent work as a profession, is comparatively new and many counties have started it only in the last three years, the average period of service for a county agent is 4.94 years, and the agents average 3.78 years' service in their present counties.

The principal statistics of the work of county agents for 1929 are as follows:

| | |
|---|-------------------|
| No. counties with agents | 98 |
| No. communities building extension programs | 841 |
| No. community leaders in community-built programs..... | 6,972 |
| No. demonstrations by county agents and community leaders.. | 20,615 |
| No. result demonstrations carried thru year | 13,221 |
| No. farm visits made by gents | 57,453 |
| No. farms visited | 24,463 |
| No. home visits made by agents | 2,805 |
| No. homes visited | 1,607 |
| No. office calls relative to work | { office |
| | { telephone |
| No. individual letters written | 64,536 |

Meetings Held

| | |
|---|--------|
| No. training meetings for local leaders | 630 |
| Attendance of local leaders | 5,272 |
| No. demonstration meetings held | 4,099 |
| Attendance | 81,168 |

| | |
|---|---------|
| No. farmers' institutes and short courses | 121 |
| Attendance | 8,128 |
| Junior club camps assisted | 12 |
| Total attendance (including adults) | 13,688 |
| Other meetings | 6,705 |
| Attendance | 466,005 |

Miscellaneous

| | |
|--|-------|
| No. breed associations organized, dairy cattle | 3 |
| No. breed associations organized, other stock..... | 15 |
| No. cow testing associations organized | 12 |
| No. cows in such associations | 281 |
| No. farms terracing | 145 |
| Acres terraced | 2,110 |
| No. farms installing drainage systems | 332 |
| Acres drained | 2,814 |
| No. water systems insalled | 37 |
| No. lighting system installed | 17 |
| No. farms clearing land | 330 |
| Acres of land cleared | 1,670 |

HOME DEMONSTRATION

At present, 26 counties employ home demonstration agents. The work in each county is carried on under the leadership of the home demonstration agent, thru an organization known as the "County Homemakers' Association," which had made possible the development of rural women by offering opportunity for their participation in many activities outside of the routine of houskeeping. The home demonstration agent is given help in organization, methods and subject matter by supervisors and specialists from the College of Agriculture.

PROGRAM OF WORK

Program undertaken in any county is based upon the particular needs and interests of the homemakers in that county as determined by community surveys, discussions, questionnaires, etc. After the necessary information has been obtained, the leaders representing the various communities within the county,

121
128
12
388
705
005
build the annual county program of work. In addition to this program each community homemakers' club selects a number of other activities such as community improvement, recreation, exhibits, fairs, tours, picnics, etc., as part of its local program. These extra activities have done much to widen the vision of the homemaker, to develop her latent talents and to foster a spirit of service.

HOME IMPROVEMENT

3
15
12
281
145
110
332
314
37
17
330
670
As a result of the home improvement work 422 women now have attractive, convenient, and well ordered kitchens. These



Note the convenient arrangement of this remodeled kitchen, also the oil stove and kitchen sink.

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improved kitchens have saved steps, backs and dispositions. Most of the improvements were made with a very small expenditure of money. One woman made 78 improvements for less than \$5.00. Many homemakers have learned to manage more efficiently and are saving much time and energy in doing such

routine tasks as dishwashing, bed making, laundering and house cleaning. Two thousand and ninety-one rooms were made more livable by suitable wall and floor coverings and by attractive, well-made curtains and the application of paint. One thousand, six hundred and ninety-eight women restored old furniture to usefulness and beauty by repairing, remodeling, refinishing, reseating and upholstering. Attractive additions such as home-made rugs, pictures and carefully selected and constructed accessories have helped to transform hundreds of rural homes into more interesting places in which to live. Two thousand and sixty-five homes have been made more restful and beautiful by these improvements. One thousand, three hundred and sixty two different women made 3,879 improvements in home management which included purchasing labor-saving equipment, improved methods of work and rearrangement of equipment. This has liberated time for creating a more pleasant home atmosphere and developing homemaking activities.

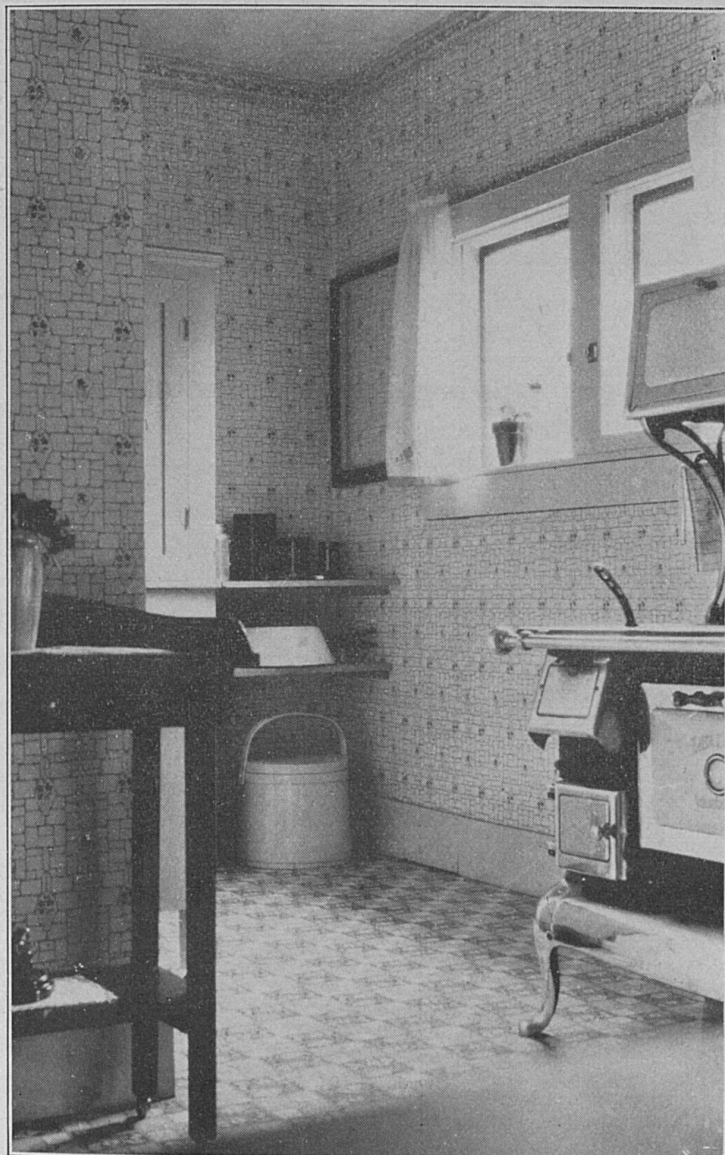
FOOD AND NUTRITION

The efficient mother is not satisfied by merely giving her family enough to eat. She sees that the children have the essential foods for the growth of firm muscles, hard bones, pure blood and steady nerves and that the diet of all the members of the family contains those things necessary for good digestion, proper elimination, resistance to infection and a general condition of good health. It is with these points in mind that the food and nutrition work was planned. During the past year 3,113 homemakers from 169 communities reported 10,064 improved practices in methods of food preparation.

A cooperative project with the Horticultural Department teaches the homemakers the right varieties of seeds and small fruits to plant and care for in the garden in order to get the best results, and how to plan canning and storage budgets so as to be assured that their families will be well fed during the winter.

The most popular work has been that relating to the nutrition of the family. The women have asked for studies of such

subjects as feeding the young child and adolescent child, vitamins, essential minerals for growth and health, calories, acid forming foods, digestion, reducing and gaining diets. They have learned to plan meals systematically and scientifically. Special emphasis has been placed on methods of teaching children to eat new foods.



A "wife saving kitchen."

CLOTHING

Work in clothing during 1929 included, (1) Dressmaking made easy, (2) The costume complete, (3) Renovation and remodeling, (4) Dress decoration, (5) Millinery, (6) Children's clothing and (7) Tailoring.

DRESSMAKING MADE EASY

Dressmaking has always been a popular subject with the groups carrying the work. To be right, a dress must fit correctly, appear well-tailored and be comfortable, serviceable and becoming. Women are taught how to use patterns and to cut and make dresses so as to avoid mistakes and unnecessary work and at the same time achieve desired results.

THE COSTUME COMPLETE

This program is planned for the purpose of demonstrating the value of thinking of clothes in terms of complete units, and so, discourage haphazard buying. Each woman taking part assembles an outfit suitable for spring or summer wear. The dress, which is the essential item, generally is made as a part of the class project, tho this is not required. The amount to spend, clothes on hand that may be used, the purpose of the outfit, and various phases of suitability are taken into consideration both in planning and buying. The need and value of this work is shown by the enthusiasm of those taking part. One thousand, two hundred and twelve women reported improved practices in wardrobe planning as a result of this work.

RENOVATION AND REMODELING

In every county in which this program has been conducted, large numbers of discarded outer garments in good condition have been brought to class for discussion and suggestions for making over. Most of these have been cleaned, dyed, and repaired according to the need, and made into useful and attractive garments, thereby affecting valuable savings. One

thousand, one hundred and seventy-nine women reported having adopted improved practices in renovation and remodeling.

CHILDREN'S CLOTHING

This has included the layette, clothes for the little girl and the little boy, and decoration of children's clothing. Hygiene, comfort, attractiveness and suitability have been emphasized.

MILLINERY

Because hats no longer have stiff foundations to give them shape but must be molded to fit the head, the use of a hat block is essential to the simplest sort of millinery work. To meet this need, women have been taught to make inexpensive hat blocks that are in every way satisfactory. One hundred seventy-five of these were made in the State during the year. By their use women have been enabled to clean, dye, stiffen and reshape felt and straw hats satisfactorily at home, as well as to make attractive fabric hats. A number of women have made their pin money by renovating hats for their neighbors. One woman in Madison County reports 39 hats made, using her block, within a period of ten months. Nine of these were dyed and 12 washed.

LANDSCAPE GARDENING

Thru the cooperation of specialists in horticulture, the interest in beautification of the farm home grounds has become widespread. Twelve hundred women were enrolled in this project. As a result, 205 homes were repainted and 915 home grounds were improved by additional plantings of shrubs, trees and flowers.

COMMUNITY ACTIVITIES

The activities outside of the regular program of homemakers' clubs have been many. The goal of the home demonstration service is to have each home demonstration club sponsor some undertaking for the benefit of the entire community. A large percent of the clubs have reached this goal. Many of these

community undertakings have been carried on in cooperation with such other agencies as luncheon clubs parent-teacher associations, women's clubs, merchants, civic organizations, chambers of commerce and others. The women have improved school grounds and buildings, purchased school equipment, improved cemeteries, conducted clean-up campaigns and helped in making provision for better school lunches.



The main object of home improvement inspection tours is to disseminate valuable information but there are other pleasant features.

RECREATION

Those who play together can work together to much better advantage. It is a well-known fact that rural communities lack facilities and leadership for recreational activities. The resulting situation is a dull, monotonous, rural community while the city movie theaters, dance halls and pool rooms furnish the recreation for rural boys and girls. To meet this need an effort has been made to foster and encourage play in rural communi-

ties. Part of the program of every homemakers' club meeting is devoted to recreation in the form of music, games, stunts, dramatics, etc. In addition to this the clubs are given assistance in carrying on recreational activities for the entire community. One county carried on a county play contest. One county reported 17 clubs having parties for the community. Jefferson County has taken the lead in recreation. Every club has given at least two recreational programs. These took the form of plays, lawn parties, white elephant sales, fish fries, minstrels, picnics. In Jefferson County alone, 4,890 persons attended these programs.

The appreciation of better music has been encouraged among the club members for several years. As a result music has become a definite part of the club program. Homemakers enjoy and intelligently appreciate better music, singing, more and better songs, and they sing together very well. Three thousand, one hundred and twenty homes reported improved practices in recreation this year.

HOMEMAKERS' VACATION CAMPS

Homemakers' vacation camps have been carried on in Kentucky for 6 years. In 1929 the camps were held by districts, where women from several counties came together for a week's program of recreation, rest, craftsmanship and inspiration. The camp is sponsored by the Homemakers' Association. No children are allowed and visitors only on guest day. The enrollment fee of about \$2.50 pays for cooks, trucks, supplies and equipment. Each woman brings a basket of food supplies. The only household duties on camp are making up the cots and each one washing her own dishes.

A large part of the program is recreational. This year a recreational specialist was provided who conducted a training school in recreation, led the music and trained the women in a pageant which was presented the last day of camp. Mealtime is always fun time. The social life and opportunity to get acquainted with women from other counties is much enjoyed. This

year 5 camps were held, with 19 counties participating. The regular attendance of campers was 292, with about 500 visiting camps on visitors' day and for the evening recreational meetings.

FARM AND HOME CONVENTION

The homemakers' section of the Farm and Home Convention has become an effective means of establishing a bond of friendship and helpful understanding between the University of Kentucky and the homemakers of the State. This year 377 delegates from 35 counties attended the homemakers' section.

MASTER FARM HOMEMAKERS

Thru cooperation of the Home Demonstration Department and the Farmer's Wife Magazine 5 women who have been judged to be masters in the fine art of homemaking are given recognition each year in the form of a gold pin and the title "Master Farm Homemaker." Women feel that at last achievement in homemaking is recognized and they feel a new professional pride in their job. This movement has been carried on for 3 years in Kentucky and there are now 15 Master Farm Homemakers in the Kentucky Master Farm Homemakers' Guild.

JUNIOR HOME ECONOMICS

The girls in Kentucky are learning to make the best better thru the home economics projects in clothing, foods, canning and room improvement. These home economics projects for 4-H club girls are planned with the idea of teaching all departments of homemaking in such a way as to appeal to girls between the ages of 10 and 18 years.

Clothing work has made the largest appeal to the girls, for what girl is not interested in being becomingly and appropriately dressed. In this project the girls learn how to select materials that are economical and appropriate for the garments to be made; how to choose the right designs for the material and for the wearer; how to make pleasing color combinations; how

to construct garments properly; how to dress for different occasions; and how to plan their wardrobes. Four units of work are offered in clothing. Each unit requires a complete costume to be selected and constructed. The costumes are for home, school, afternoon and street. Much enthusiasm has been stimulated by exhibits at county and State fairs and style shows. Last year at Junior Week 22 counties had competitors in the Style Show. Mae Elizabeth Botts of Bath County was the winner in this contest. She wore her costume also at the International 4-H Style Show in Chicago in December.

The number of foods project members is increasing each year. This project includes the 3 units of work, breakfasts, suppers and lunches, and dinners. Both preparation and meal planning are stressed. Table service and etiquette also are attractive subjects. Many girls enter the contests in this project such as bread judging, fair exhibits, and demonstrations. Two girls from Boyle County last Junior Week gave a remarkable demonstration on "Biscuits and Their Variations" showing the excellence of their training and practice along this line.

Food preservation is divided into 3 canning projects; canning fruits and vegetables; making jellies, jam, marmalade and fruit juice; and canning for the family needs. Boyle County reports 2,000 cans of tomatoes and soup mixtures canned for market, most of which has been sold.

The room improvement project is planned for the older club girls, who have done at least two units of clothing. A member of this project is required to make at least 4 changes in her room and she may do as much more as she likes. This is one of the most interesting lines of work for the girls, as it permits initiative and individuality to have full sway. The girls enjoy planning their color schemes, making dressing tables and curtains, framing pictures and doing many other interesting things. They keep records of expenditures and make booklets showing changes and improvements made. The booklets often show marvelous improvements at very little expense.

This year Kentucky had 78 counties reporting 4-H club girls carrying on home economics projects. In these counties 10,096 girls were enrolled in 4-H clubs. Of these girls, 6,721 completed the projects started. It is impossible to estimate how far-reaching this work is, and the good that has resulted, but it is certain that it has done much for the individual club member, the community and the State.

STATISTICAL SUMMARY

| | |
|---|---------|
| No. junior project groups in counties having home demonstration agents | 500 |
| No. junior project leaders in counties having home demonstration agents | 649 |
| Enrollment in junior groups in active counties—girls | 5,460 |
| Completions in junior groups in active counties—girls | 3,385 |
| Training meetings for junior leaders | 101 |
| Attendance at these meetings | 757 |
| No. judging teams trained | 13 |
| No. demonstration teams trained | 89 |
| No. entering college who have been club members | 89 |
| No. homemakers' clubs in counties having home demonstration agents | 302 |
| No. leaders | 2,293 |
| Enrollment in clubs | 5,460 |
| Completions | 3,847 |
| Farm and home visits made by home demonstration agents.... | 4,984 |
| Office and phone calls relating to work | 15,418 |
| News articles prepared | 2,445 |
| Individual letters written | 12,517 |
| Bulletins distributed | 23,116 |
| Training meetings for local leaders of homemakers' clubs..... | 310 |
| Attendance at these meetings | 4,352 |
| Method and result demonstration meetings | 8,751 |
| Attendance at these meetings | 114,079 |
| Other extension meetings | 831 |
| Attendance | 143,046 |

JUNIOR 4-H CLUB WORK

The enrollment in Junior Clubs for 1929 was 21,592, which was 5,020 greater than that of 1928. The interest continues to grow.

LEADERSHIP

The increase in enrollment and in the quality of work done is due largely to the excellent service of the local volunteer leaders who have given so generously of their time and labor. Some have assumed almost the entire responsibility for their clubs, securing enrollment, distributing the literature, planning the programs, checking up results and reporting them to the county and home demonstration agents. Those who have worked most effectively have frequent contacts with the extension agents and with each other. Their effectiveness increases with the period of service. The University has adopted a plan of giving to those faithful workers who have served three years or longer, Certificates of Service as tokens of appreciation and to encourage them to continue in their helpful service to the boys and girls under their guidance.

DISTRICT, STATE AND NATIONAL EVENTS

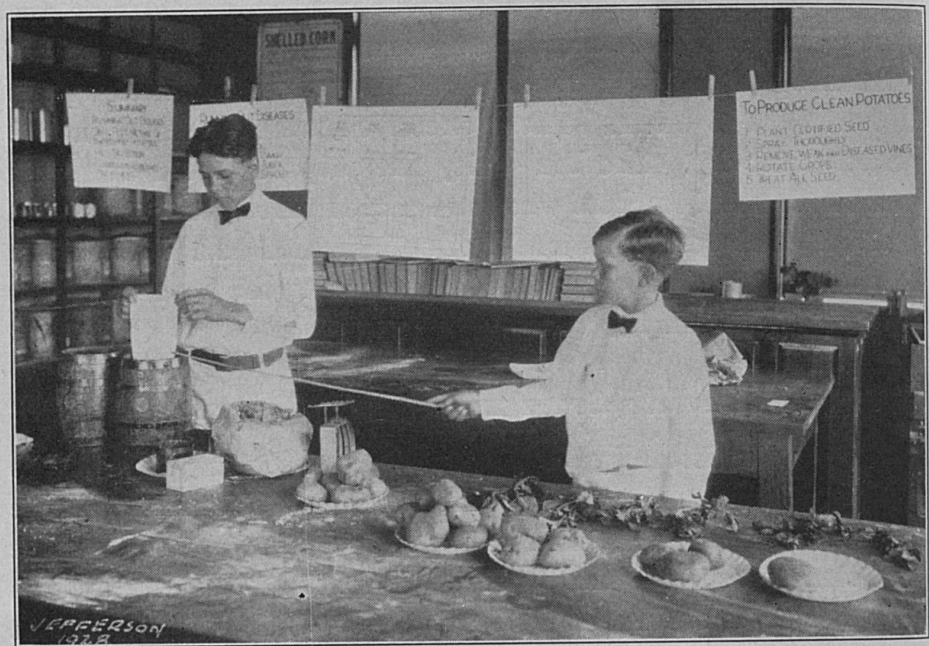
Four district dairy shows were held this year just prior to the State Fair. Thirty-two counties entered 390 animals. These shows stimulated interest in dairying and plans are being made for similar shows next year. Twenty-six county shows were held. The American Jersey Cattle Club paid \$1,098 in premiums to club members who exhibited their animals in county shows. County and district shows made it possible for a larger number of people to attend who could not conveniently go to the state show at Louisville.

BUTTER-FAT PRODUCTION CONTEST

In order to encourage club members to continue their dairy projects and keep records of the production of their cows, the creameries of Louisville and Cincinnati gave seven trips to the National Dairy Show. The State was divided into seven districts and the club member in each district whose cow made the largest production of butter-fat in a period of six months was given the trip. The average production of butter-fat of the cows owned by the winners of the trips was about 300 pounds each.

DISTRICT 4-H CLUB CAMPS

Some radical changes in the camp programs were made this year. The number of camps was reduced from the usual 24 to 12. The camps were so located that they were accessible to all club members who desired to attend. It was necessary in



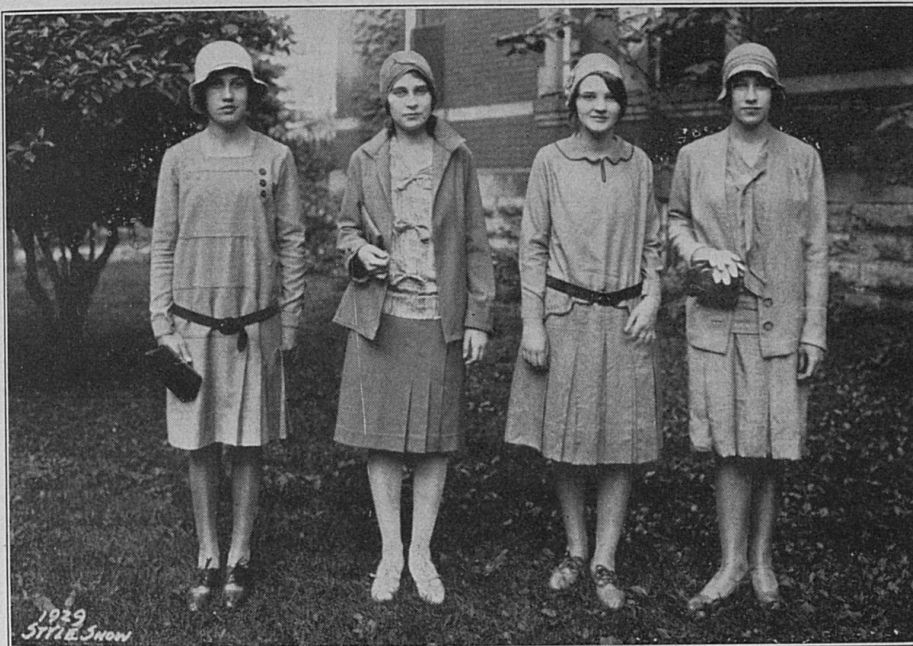
4-H Club members demonstrating the treatment of seed potatoes to prevent disease.

some instances to limit the attendance from counties as the equipment would not comfortably accommodate more than 175 club members and leaders. Special programs were planned for older boys and girls with special emphasis on leadership. The adult leaders held one or more conferences each day with specialists who could help with their club problems. The State club leaders from Tennessee, Indiana and Ohio attended one camp each and held daily conferences with the adult leaders. Miss Warren and Mr. Turner of the U. S. Department of Agriculture each attended a camp. The camps started July 29th and closed August 16th, four camps being held simultaneously, each in a different quarter of the State. One thousand six hundred and sixty-five

club members attended the camps, or an average of 139 club members per camp. The district camp plan worked well and the same plan will be used next year.

JUNIOR WEEK

Five hundred and eighty-one club members and 69 local volunteer leaders from 90 counties attended Junior Week this year. Sixty-six county agents and 22 home agents were in attendance. One hundred and sixty club members received prize trips from transportation companies and others interested in club work.



Entrants in the 4-H Club girls' style show, Junior Week, 1929.

Twenty-eight farm and 22 home practice demonstration teams entered the contests. The agents and leaders are getting a better idea of the purpose of a demonstration, as was shown by the excellent type of demonstration this year. The team that scored highest in a dairy demonstration represented the State in the contest at the National Dairy Show. The team that scored highest in textiles took part in the National Contest held in

Chicago. The baking and canning judging contests and style show were a part of the program this year. The recreational program was further improved and more time allotted to it. This year the whole Junior Week delegation visited the State Capitol on the invitation of the Governor. A special train was chartered for this trip.

STATE FAIR

The growing desire among club members to take prize-winning exhibits to the State Fair is helping to increase the number and improve the quality of exhibits. There were 417 entries of clothing made by club girls from 35 counties this year. Club girls also made 142 entries of canning, 49 entries of food and 47 entries of room improvement work.

Club members exhibited 98 registered dairy cows and heifers. A larger number of dairy animals would have been shown if the district 4-H club dairy shows had not been held. One of the reasons given by the American Jersey Cattle Club for holding a regional jersey show in Kentucky this year was the quantity and quality of dairy work done by Kentucky 4-H club members.

Fat stock, dairy cattle and poultry judging contests for 4-H club members were held at the State Fair. Sixty-eight teams participated. The team that scored highest in fat stock judging represented the State in the non-collegiate Fat Stock Judging Contest at the International Livestock Exposition. The team that won in dairy cattle judging was entered in the national contest at the National Dairy Show in St. Louis. It is much easier to handle the three contests than one with a large number of teams.

BABY BEEF SHOW

In 26 counties 4-H club members fed 625 baby beeves this year. Four hundred and ninety-three of these calves were exhibited at the State Fat Stock Show. There are separate rings for adults and club members, but they show against each other for the grand championship, individual and carload. In each

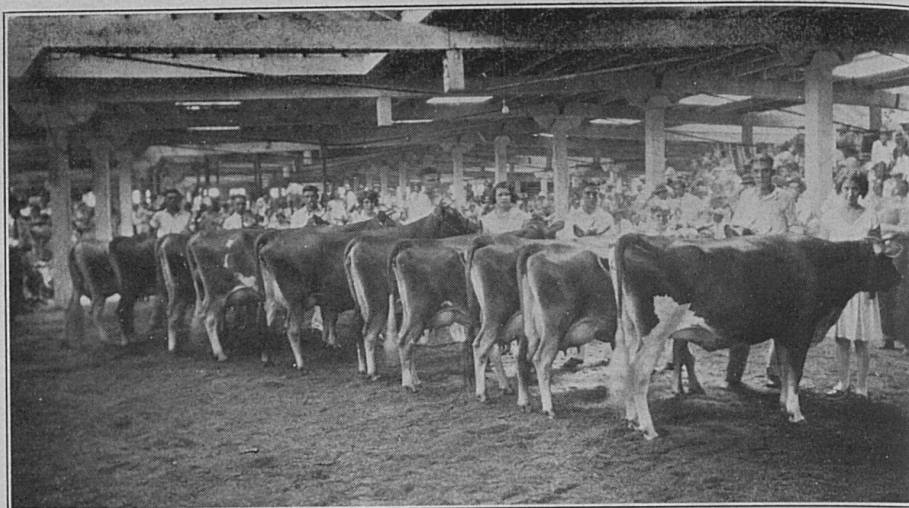
of the eight years that the show has been held, the grand champion steer of the entire show was fed by a club member, and the grand champion carload award has gone to club members every year but one. The club members in this project are learning economic beef production as well as showmanship. All those in the project as a group have made money each year, in addition to the premiums won. Calves are being bought now for the show next year.



A 4-H Club boy and his champion sheep, State Fair, 1929.

STATE SPRING LAMB SHOW

Seven hundred and fifty-four lambs from 13 counties were exhibited at the sixth Annual Spring Lamb Show last June. The quality of the lambs was very good and the selling price satisfactory. This project always has been a financial success. There are 726 club members in the sheep and lamb project. They own 3,479 sheep.



Two-year-old Jersey 4-H Club class at the District Dairy Calf Club Show at Mayfield, September, 1929. Here is a lesson in better dairying and good sportsmanship for young and old, as well as a new use for tobacco warehouses.

SCHOLARSHIPS

There are 19 students in the College of Agriculture, University of Kentucky, who have received scholarships for outstanding work done as 4-H club members. These scholarships were given by persons who have an unselfish desire to help deserving boys and girls. These boys and girls have formed a club named "The University Scholarship Club." One of the projects adopted by the club is for each member to contribute \$5.00 to a fund to be used next September to give a hundred dollar scholarship to some club member who wants to enter the University. All these boys and girls are working their way thru the University.

There are 265 club members in the University. Thirty-seven percent of all the students in the College of Agriculture are or have been 4-H club members.

NATIONAL 4-H CLUB CAMPS

Kentucky was represented at the National 4-H Club Camp this year by Roy Lee Roman, Jefferson County, Lucile Wade, Henderson County, Charles Mathis, Fayette County, and Lenora

Vaughan, Boyd County. The National Club Camp is becoming quite an event in the State program and there is keen competition among the members for the honor of representing the State at the Camp.

NATIONAL 4-H CLUB CONGRESS

Twenty-eight 4-H club members from Kentucky attended the National Club Congress in Chicago. Kentucky had entries in the livestock judging contest and the style dress review, baking and canning judging. There were also entries in canned fruits, vegetables, meats and in clothing, room improvement and window treatment.

NATIONAL 4-H CLUB LEADERS' CONFERENCE

Kentucky was invited again this year to send two delegates to the 4-H Club Leaders' Training School at Springfield, Massachusetts. The representatives this year were Robert Y. Cravens, a former club member, a graduate of the College of Agriculture and now an active club leader, and Frances Herndon, an outstanding club leader. These leaders came back with larger visions of club work and renewed enthusiasm.

NATIONAL DAIRY SHOW

Kentucky had 19 club members in attendance at the National Dairy Show. Seven won trips in a butter-fat production contest and the others went as exhibitors and as members of judging and demonstration teams. Kentucky had entries in the dairy cattle judging contest and in the dairy and poultry demonstration contests.

PUBLIC INFORMATION

The Department of Public Information employed the following methods in 1929:

1. Mailed each week to all newspapers in Kentucky and in cities and towns in territory adjoining the State, as well as to farm journals and other publications, a service containing 10

to 25 articles, prepared in newspaper style, containing information and news of interest and value to farm men and women.

2. Furnished local daily newspapers and press associations with items of spot news, including announcements and reports of meetings and other events of importance, reports of demonstrations and numerous other types of news articles.

3. Furnished newspapers with special material, consisting of feature articles, and news of value to particular sections.

4. Furnished newspaper cuts and mats, featuring extraordinary events.

5. Assisted county agents and other extension workers, when possible, in methods of gathering and writing material acceptable to newspaper editors.

The weekly news service in 1929 contained approximately 1,500 articles covering many phases of farming and homemaking. No regular clipping service was maintained for the entire State, but a check made thru a commercial clipping bureau, showed 840 articles printed in approximately three weeks in March. Numerous local articles were written of which it was impossible to make a check. Special articles and feature material also were not counted.

MOVABLE SCHOOLS

In the past year, 102 Movable Schools were held, in 72 counties. These schools were of one and two days' duration, usually having one subject, but in some, two. Experience teaches that this type of school is the most effective. An effort was made to have these schools in counties other than those having them the previous year.

Seven Farm Management schools were held, in six counties. These were one-day schools, where farm accounting was the subject discussed. Attendance varied from 9 to 27. This was a picked group who had already indicated their interest and willingness to keep some system of farm accounts. At these schools, the field agent used the farm account book, prepared by the College of Agriculture, and taught the farmers how to open a system of accounts, using data they had furnished from their own farms.

Forty-three Poultry schools were held.

The Marketing Department held fifty-two special outlook meetings in 35 counties, attended by 1,539 people. At each of these meetings, charts prepared by the Extension Division, were used to illustrate the subjects. After these meetings these charts were left with the county agents, who held additional meetings in other sections of their counties. Thirty-two of these meetings were held by the county agent, using the material as charted.

An educational exhibit was prepared and exhibited at the State Fair. Fourteen departments had exhibits showing work being carried on by Extension workers. Some of these, as in Junior Clubs, had competitive exhibits where prizes were offered by the State Fair Board. Extension circulars were placed on display and 1,138 names and addresses were left by people, requesting that bulletins be sent to them. These were from 63 different counties in Kentucky.

The seventeenth annual Farm and Home Convention was held January 29 to February 1, 1929. Fifty-four counties were represented, with an average daily attendance of 523. The general plan of the program was to present the latest and best information on various farm and home topics. General programs dealing with livestock, soils, and economic problems, were presented each day for the men. Special programs were provided for farm women, with a two-day session for poultrymen.

MOTION PICTURES

Five new motion pictures were bought from the United States Department of Agriculture. This brings the total to 75 films owned by the Extension Division. They deal with agriculture, home economics, travelogues and comedy. More than 25 county agents have motion picture machines and many others have access to them. They make constant use of the films furnished by the College. Portable machines are furnished by the College to agents who cannot get local equipment. The use of stereopticon slides is decreasing.

RADIO

One of the newest services of the Extension Division is that given over the radio. This was started April 1, 1929. The programs are broadcast by a remote control station, over WHAS on Monday, Wednesday and Friday. Persons desiring copies of these talks can get them by writing to the Extension Division of the College of Agriculture at Lexington, Kentucky. This service is appreciated as is shown by the increasing number of letters received from farm men and women not only in the State of Kentucky but also from elsewhere.

AGRONOMY

The amount of limestone and marl used on Kentucky farms continues to increase each year. In 1924 approximately 75,000 tons of lime materials were used, whereas during 1929, five years later, more than 300,000 tons of limestone, marl and burned lime were used. In other words, there has been during this short period a 300 percent increase in the amount of lime used. In the 91 counties having county agents, 247,405 tons of ground limestone and 24,577 tons of marl were used. This is an increase of 56,270 tons over the amount used in 1928, or more than 26 percent.

The amount of lime materials used in those counties having agents during the past six years totals more than one million tons. Lime materials are now used in every part of the State. Five years ago very little lime was used in either the mountains or in the Bluegrass Region. Now both of these areas are using large quantities. The Bluegrass Region is taking the lead. Bourbon County is considered one of the best agricultural counties in Kentucky, yet Bourbon County takes first place of all of the counties in the State in the amount of lime used. Her farmers have used more than 60,000 tons of ground limestone during the past three years. Fayette County ranks second with more than 36,000 tons used during this period. Ground limestone was used by 8,714 farmers in 91 counties in 1929 as compared to 6,822 farmers in 86 counties in 1928. Farmers using

lime materials for the first time numbered 3,712 and the total amount used by them amounted to 120,590 tons.

One hundred and ninety-six portable crushers were in use in 58 counties during 1929 and 30 limestone sheds were in use in 18 counties. There were 96 retail dealers in 44 counties. One thousand five hundred and five lime demonstrations were carried on in 78 counties and 865 limestone and superphosphate demonstrations were conducted in 61 counties. Ground limestone and burned lime were purchased from approximately 50 stationary commercial crushers operated in various parts of Kentucky and neighboring States.



Sweet clover; marl on left, no marl on right.

HOW MARL IS BEING USED

Since the University began demonstrations with marl six years ago, 5,000 samples of marl have been analyzed by the Experiment Station. These samples were collected from 70 counties by members of the Agronomy Department, county agents and farmers. The first year, 1924, 138 men in 16 counties used 4,624 tons of marl, but during 1929, 472 men in 40 counties used

24,377 tons. During the six years, more than 75,000 tons have been used in counties having county agents. Marion County ranked first in its use in 1929. The amount used was 3,000 tons. Nelson County ranked second, using 2,750 tons and Union County third, using 2,572 tons. The leading ten counties used approximately 17,000 tons in 1929. Marl loading and spreading demonstrations were held on 26 farms during 1929.

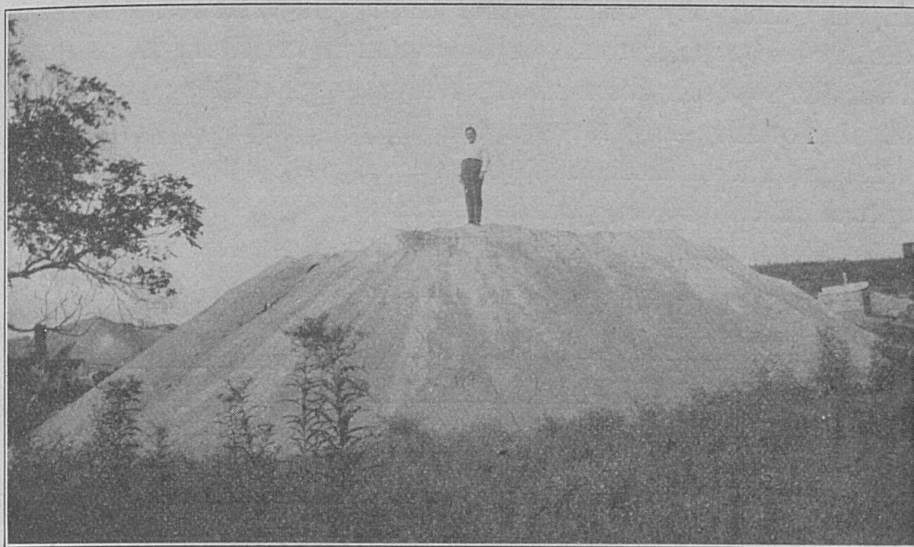
FERTILIZERS

A summary of county agents' reports shows that the percentage of farmers using superphosphate varies from 3 percent in some counties to 95 percent in others. These reports show that 1,931 farmers in 37 counties used basic slag in 1929 as compared with 1,749 in 24 counties in 1928. Union County ranked first, with 500 farmers, and Taylor County second, with 250 farmers using basic slag. Light applications of limestone and superphosphate mixed were used by 563 farmers in 37 counties and 319 demonstrations with the mixtures were conducted in 36 counties during 1929.

Complete fertilizers are now being used in practically all counties. Approximately 40,000 farmers in the 91 counties having agents are now using complete fertilizers. Demonstrations with complete fertilizers were conducted by 555 men in 58 counties, and 11,179 men used nitrate of soda on tobacco beds.

FARM CROPS

The work in Farm Crops for some years past has been concentrated on increased legume production. The four most valuable legumes in Kentucky are: lespedeza, soybeans, sweet clover and alfalfa. Great increases in acreage have taken place in each. This has resulted in much more hay of the highest quality for livestock feeding, in greatly improved pastures and in increased yields of cultivated crops following the legumes.



The first "Mountain of Lime" on the Walliston Farms, Paris, Bourbon County, Ky.

LESPEDAZA

In the past three years, lespedeza has become the most extensively used forage crop in Kentucky. It is estimated that not less than 200,000 acres were sown each year, and most of that is still standing. It is sown almost entirely in mixtures with clovers and with grasses for pasture. During 1929, most old growers of lespedeza extended their acreages, unless it was already in every field available on their farms, and more new growers than ever before in one year sowed seed.

The year was favorable for the growth of lespedeza in western and southern Kentucky, with the result that 5,500 men cut hay from common lespedeza fields, and numerous good crops of Korean lespedeza were harvested. The same territory harvested a seed crop estimated at more than 36,000 bushels of common lespedeza and 18,000 bushels of Korean. Several hundred bushels of common lespedeza seed were harvested in Shelby County, the most northern point at which it has ever been harvested in such quantity in the United States.

Korean lespedeza has become popular in Kentucky more

rapidly than any of the other improved varieties. It seems destined to replace much of the common lespedeza in pastures. In it the soybean has a strong competitor for cheap production of high-quality hay thruout the entire State. Approximately 6,000 pounds of Korean lespedeza seed were sown in 1928, and approximately 60,000 pounds in 1929.

In counties served by county agents, the following estimated reports are given for lespedeza work in 1929 :

| | |
|--|--------|
| Number of farmers sowing lespedeza first time..... | 5,000 |
| Bushels of seed sown | 35,757 |
| Number farmers sowing Korean first time | 1,100 |
| Total number farmers cutting lespedeza hay | 5,552 |
| Total bushels lespedeza seed saved | 36,503 |
| Number sowing lespedeza in bluegrass | 2,013 |
| Acres sown in bluegrass | 24,928 |
| Bushels of Korean saved | 17,909 |

SOYBEANS

The soybean continues to be the principal annual legume forage in the State. The seed used is reported at 190,940 bushels, an increase of 33,443 bushels, or 21 percent over 1928. This increase had been largely in the form of heavier rates of seeding. Growers have learned from demonstrations and experience that sowing two or three bushels per acre of Mammoth Yellow gives better hay because it is cleaner and finer stemmed, and produces more hay per acre than any lighter rate. The smaller-seeded varieties also are being sown heavier. The Mammoth Yellow continues to lead in popularity, with Virginia a close second and Laredo performing well in certain counties where it is better known. Various medium early varieties were sown extensively because the seed was cheap.

The outstanding development of soybeans this year has been in the mountain counties. Boyd, Carter, Estill, Floyd, Lawrence and Morgan counties sowed 2,000 bushels or more each. Knox County for the past three years has used from 4,000 to 6,000 bushels annually.

Soy beans for seed production have not increased in acreage to any notable extent in the past five years. Each year from 3,000 to 5,000 acres are harvested for seed. It is estimated that 28,000 acres were sown in the row with corn in 1929.

SWEET CLOVER

Sweet clover for pasture, and bigger corn crops following the pasture, is a result of the limestone and marl applications. Almost invariably the first time sweet clover is sown on a field the resulting stand is irregular and thin by the time it has passed thru the winter. Farmers have observed this in all parts of Kentucky and are overcoming the thin stands by using mixtures of seeds. Of the 63,827 acres reported sown in the State in 1929, 44,534 acres were in mixtures most of which contained lespedeza as of next importance to sweet clover. A few growers, perhaps not more than 20, harvested sweet clover seed. The low cost of growing seed in the northwestern States and Canada makes the seed crop in Kentucky far less profitable than to use the crop for pasture.

ALFALFA

The alfalfa acreage continues to increase in all parts of the State where limestone and marl are being spread. Leading counties in alfalfa sowing were: Simpson, 3,000 acres; Nelson, 2,550 acres; Christian, 2,250 acres; Owen, 2,000 acres; Pendleton 2,000 acres; Franklin, 1,400 acres and Warren, 1,200 acres. The total acreage sown in 1929 is estimated at 38,806. Approximately 79 percent of this was sown in the spring. Increasing numbers of farmers are sowing alfalfa mixed with red and alsike clover. Leading counties in this work are: Mason, 2,100 acres; Rockcastle, 1,466 acres; Taylor, 1,375 acres; Harrison, 1,260 acres and Graves, 1,125 acres.

PASTURE PRODUCTION

Pasture improvement in Kentucky is being brought about mainly by the use of mixtures of seed. About 10 percent of new seedings are being treated with limestone or fertilizers or both.

The principal variety being added is lespedeza. In perhaps 95 percent of the demonstrations the mixtures contained lespedeza. Orchard grass is being added by those who sow a complete mixture for long-time grazing. This grass is used in about 10 percent of the improved mixtures. In many counties 50 percent of the efforts to improve pastures consists in sowing lespedeza on old fields of redtop timothy, orchard grass or Kentucky bluegrass. Lespedeza has markedly increased the carrying capacity and quality of practically all the pastures on which it has been sown, both by its own growth and in larger grass growth. Many instances of greater grass growth are noted, especially on old timothy and redtop fields where lespedeza was sown on only part of the field. The most extensive attempt at pasture improvement in the Bluegrass counties has been the sowing of lespedeza by 2,013 farmers, on 24,928 acres of bluegrass sod.

The recently established milk condensaries are creating more interest in better pastures.

TOBACCO

Tobacco is one of the most important cash crops in Kentucky, and brings a gross income of about 75 million dollars a year. This income can be increased by such farm practices as will result in the production of more uniform crops of better quality, the reduction of tobacco plant diseases, more scientific curing and more careful classing and grading. The following demonstrations and talks were given to emphasize approved farm practices: (1) Fertilizer Demonstrations, (2) Control of Black Fire and Mosaic, (3) Classing and Grading Demonstrations, (4) Curing Demonstrations, and (5) Use of Improved Strains of Seed.

FERTILIZER DEMONSTRATIONS ON TOBACCO

The total number of demonstrations with complete fertilizers was 555, and with nitrogen only, 364. Number of meetings for the purpose of discussing the use of fertilizers, 22; total attendance, 1,474. At these meetings the value of fertilizer on tobacco was discussed, also the amount and methods of applica-

tion, kinds of fertilizer, the necessity of checks in tests and demonstrations, and the necessity of completing such work by getting actual weights on treated and untreated land. In addition to this, 83 fields were visited and 200 farmers were helped with advice as to the use of fertilizers. Preliminary notes were made on 59 fertilizer demonstrations. The final results and statistics of fertilizer demonstrations cannot be secured until tobacco is stripped, classed and sold. This information will be included in the report for next year.

CONTROL OF TOBACCO DISEASES

Black fire and mosaic cause great reduction in the quality of tobacco. It has been very difficult to introduce work on the control of these diseases because the average farmer is quite skeptical. More preliminary educational work is needed before effective demonstrations can be given. The groundwork has been completed for several demonstrations in mosaic control next year. Twenty-six demonstrations will probably be arranged in Calloway, Graves, Hancock, Marshall and Fayette counties.

CLASSING AND GRADING DEMONSTRATIONS

Fifty-three classing demonstrations were given in 15 counties. The total attendance was 1,260. During these demonstrations many questions were asked about practically all phases of tobacco production, so that much information concerning the culture, curing and classing of tobacco was given. As an indication of probable results from these demonstrations, one county agent reports that of 130 farmers attending the 4 meetings held in his county, 56, or about 43 percent, adopted the practice suggested. The demand for this work was greater than could be supplied and numerous requests had to be denied.

TOBACCO CURING DEMONSTRATIONS

Demonstrations in curing dark fired tobacco have been conducted in Calloway County during two seasons. Each year demonstrators participated in a tobacco show at Murray. No

prizes were given. Cooperators brought samples which were classified by the Tobacco Board of Trade of Murray. In 1928 there were 14 demonstrations and 22 entries at the show. In 1929 there were 30 demonstrations and 37 entries.

The following illustration shows the way in which this work spreads. One rainy afternoon a field agent from the College of Agriculture entered a barn and found tobacco beginning to houseburn. Not being able to find the owner he started fires, stayed until the owner came and told him how these fires should be continued. Two days later the owner called and asked the agent to go to the barn of a friend and show him how to start fires. As a result of this another farmer asked for advice and the next day, still another took the agent several miles to look at his tobacco and advise about curing.

THE USE OF IMPROVED STRAINS OF TOBACCO SEED

One plant disease that is reducing the value of tobacco crops is root rot. This reduces both yield and quality, directly by dwarfing a large percentage of plants in fields infected, and indirectly by causing irregularity in size and quality of plants. The Experiment Station has developed root rot resistant strains of different types of tobacco and demonstrations are being conducted to show the value of such seed. Fourteen such demonstrations were conducted in Daviess County.

AGRICULTURAL ENGINEERING

The work in Agricultural Engineering included drainage, terracing, farm buildings, farm sanitation, farm machinery, and land clearing. The work accomplished under these headings was as follows:

| | | Work Accom- plished |
|---|----------------------|---------------------------|
| Drainage: | | |
| No. farms establishing drainage systems | { Open ditches.. | 117 |
| | { Underdrains .. | 215 |
| Acres drained by | { Open ditches | 1,556 |
| | { Underdrains | 1,258 |

| | Work Accom- plished |
|--|---------------------------|
| Terracing: | |
| Counties doing terracing work | 36 |
| Counties in terracing contest | 10 |
| County Agent terracing schools | 5 |
| Number farms controlling erosion by | |
| { Terraces | 145 |
| { Soil dams | 148 |
| Acres on which erosion was controlled by | |
| { Terraces | 2,110 |
| { Soil dams | 920 |
| Farm Buldings: | |
| Number of blueprint plans distributed | 668 |
| Number farm buildings constructed, other than dwellings... | 1,565 |
| Kinds of buildings constructed | |
| { Barns | 236 |
| { Hog houses | 174 |
| { Poultry houses | 1,000 |
| { Silos | 47 |
| { Others | 108 |
| Sanitation: | |
| Number sewage disposal systems installed | 39 |
| Number water supply systems installed | 37 |
| Number lighting systems installed | 17 |
| Machinery: | |
| Number farms using better | |
| machinery..... | |
| { Cultivators | 190 |
| { Plows | 193 |
| { Tractors & gas engines .. | 56 |
| { Sprayers | 151 |
| { Harvesters | 37 |
| { Other machines | 234 |
| Land Clearing: | |
| Number farms clearing land of stumps and stones | 330 |
| Number acres cleared of stumps and stones | 1,670 |

Some specific results of work accomplished in these departments of agricultural engineering work are as follows:

DRAINAGE

As a result of one tile drainage demonstration in the Frederickstown Community in Washington County in 1927, one company this year laid 13 carloads of tile for 15 farmers. The

tile was laid according to the best engineering practices. Engineering service was provided by the company selling the tile. Another company has more than doubled its output of agricultural drain tile as a result of Extension Work in eastern Ken-



Above wet land, treated with limestone and phosphate. Yield of corn 5 bushels per acre. Below land adjacent to that shown in upper picture. Limestone and phosphate were applied after proper tile drainage. Yield of corn 54 bushels per acre.

tucky and the company's own efforts in selling drain tile. The field agent in agricultural engineering has given the salesman considerable personal instruction in engineering as it pertains to tile drainage. This company is now rendering engineering services for laying the tile they sell. The question is often raised in Kentucky as to whether it is better to buy more land or to reclaim wet land already owned. The experience of Mrs. Grace Damron, of Boyd County, in the eastern Kentucky mountains, will be of value in helping her neighbors to solve this problem. Mrs. Damron needed more land on which to grow feed. She planned to buy well-drained bottom land near her farm, but was advised by her county agent to tile drain a wet field that had been used as a pasture for several years. The drainage work cost her \$42.00 per acre. This year she grew 15 tons of soybean hay on the 5-acre field. The sale value of her crop was \$90.00 greater than the cost of her drainage work. Dry bottom land would have cost her \$200 per acre.

TERRACING

Ten counties were entered in the 1929 terracing contest for Junior Club boys held at Lexington during Junior Week. The teams entered in the contest were from Grayson, Marshall, Nelson, Fulton, Graves, Ohio, Christian, Green, Caldwell and Adair counties. Grayson, Marshall and Nelson counties won first, second and third places, in the order named. W. K. Prewitt, a large land owner and leader for terracing work in Montgomery County, has terraced practically all his land that was subject to erosion. He has been one of the most active volunteer leaders in the State. As a result of Extension activities, 300 farmers in Kentucky established demonstrations of methods of controlling soil erosion by means of terraces and soil dams. The average area in these demonstrations was 10 acres.

FARM BUILDINGS

County Agent H. S. Patterson assisted G. M. Haycraft, of Grayson County, in rebuilding his dairy barn. Homemade

swinging wooden stanchions, concrete floors, and mangers were constructed at a cost of \$600. As a result of the improved sanitary conditions, Mr. Haycraft raised the grade of his milk from "market" to "Grade B" and receives three cents more per gallon for his product.

This Department cooperated with the Junior Club Department in teaching handiwork at club camps in the summer of 1929. The specialist in Agricultural Engineering trained the men who acted as instructors at the camps and furnished blueprints, bills of materials and cost estimates of the various exercises. Twelve hundred articles, including mail boxes, hog hurdles, poultry self feeders, marl loading chutes, bird boxes and rope halters were completed and placed on exhibition. This work is promoted for the purpose of acquainting boys with the practice of building from working drawings or blueprints so that they will be better prepared to handle their farm building problems.

During the year requests were received for 668 sets of building and equipment plans. Of the plans sent out, 493 sets were distributed in 90 different counties in Kentucky, and 175 sets in 35 other states. At present, tracings are available for furnishing blueprints in 128 different building and equipment plans.

The county agents' reports for 1929 show a total of 1171 farms on which buildings were constructed or remodeled according to plans furnished. A total of 1565 buildings were reported as follows: 236 barns, 174 hog houses, 1000 poultry houses, 47 silos, and 108 other buildings not classified.

FARM MACHINERY

In 1928, the field agents in soils and agricultural engineering conducted demonstrations in loading and spreading marl and limestone in 21 counties. This year county agents of 31 counties conducted 39 demonstrations of a similar nature, with the cooperation of commercial concerns selling limestone and marl spreading equipment. At least 955 manure spreaders were

sold for spreading marl and limestone and 995 limestone spreader attachments for manure spreaders were sold for the same purpose.

ANIMAL INDUSTRY

BEEF CATTLE

The principal extension work in beef cattle production was as follows:

1. Inducing the feeders to use balanced rations and to adopt such systems of management as to make beef cattle feeding more profitable.
2. Inducing producers to fatten their cattle either as calves or as yearlings.
3. Fattening young cattle on grass by feeding grain.
4. Establishing beef breeding herds.
5. Improving housing conditions and arrangements for feeding and watering.
6. The use of more silos when needed.

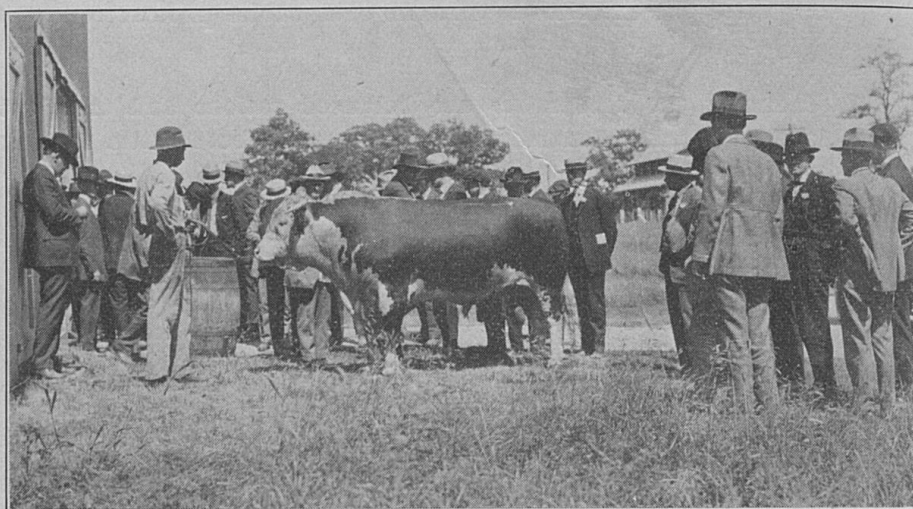
One hundred and two feeding demonstrations were carried on in eighteen counties. These dealt with winter feeding and finishing steers on grass. Beef cattle field meetings were held in nine counties to inspect and study results of demonstrations in feeding beef cattle. Beef cattle feeders from ten other counties attended some of these field meetings.

Cattle producers were induced to feed their calves so that a much larger percentage of them could be marketed as baby beeves. The calves were not allowed to shrink at any time from birth to marketing. The Louisville Fat Stock Show has aided in promoting the production of baby beeves. Demonstrations were conducted showing the value of feeding grain to calves and yearlings being grown and fattened on pasture. The best profits were obtained by those who finished young cattle on grass where grain was fed in addition to the pasture.

Raising beef cattle by establishing purebred or grade herds, using purebred sires, was encouraged. Several new purebred herds were established and several herds with high-grade female

heifers were headed by purebred bulls. The demand for both purebred bulls and females was much better than last year.

Beef cattle feeding barns have been remodeled on a number of farms, providing more light and air. New water supplies were established in some barns. The building of silos and the value of silage in feeding beef cattle was discussed.



Beef cattle field day in Christian County on farm of Pyle Brothers. The group is made up of beef-cattle feeders, breeders and other business men.

BETTER SIRES WORK

Continued progress was made in better sires work in Kentucky in 1929. In all, 1,061 pure bred bulls, 270 boars and 920 rams were placed on farm thru extension agencies. Livestock improvement work was carried on in practically every county in the State. Special campaigns were held in Grant, Graves, Calloway and Taylor Counties. Taylor County succeeded during the year in eliminating all scrub and grade bulls and substituting purebred bulls. This was the second county in Kentucky and the fourth in the United States to attain this goal. Bronze tablets given by the Louisville Board of Trade commemorating the elimination of all grade and scrub bulls were presented and placed upon granite pedestals in Union and Taylor Counties.

SWINE

Extension work in swine husbandry was continued chiefly along the same lines as last year, namely, sanitation, a ton litter contest, better feeding methods, assisting in distribution of purebred hogs and improvement of home pork supplies.

Sanitation

While more men participated than last year, the work was fully carried out by a smaller number. The results showed that if any of the steps of the plan are put into effect, the danger from round worms will be decreased. Four tours were conducted, with good attendance.

A striking contrast was provided on a farm in Daviess County between pigs raised the "sanitation" way and those raised the "wormy" way. The sanitation pigs were estimated to weigh 80 pounds while those of the same age raised without regard to sanitation, were estimated to weigh 45 pounds. This experience is typical of what may be expected generally when sanitation is practiced.

Dr. Nighbert of the Bureau of Animal Industry spent a week assisting the field agent in carrying on this work. It was pointed out at the meetings that commercial remedies were of little value in controlling parasites in hogs, and that such remedies will not protect the pig early in life, when most of the damage by parasites is done. Only in sanitation are prevention and protection to be found.

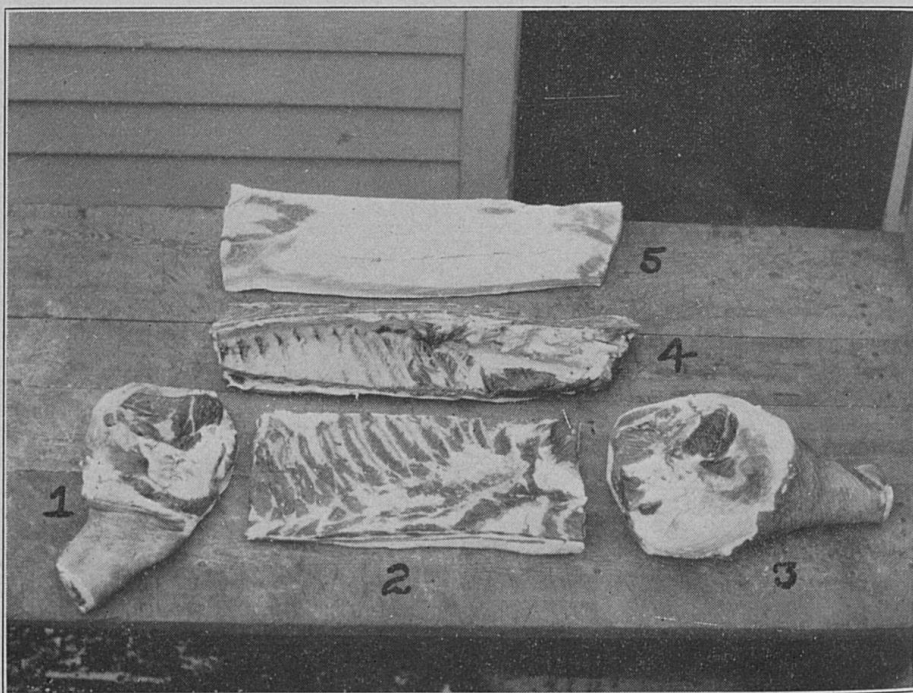
Ton Litter Contest

Seventy-five ton litters were entered 63 of which reached a ton in weight at 180 days of age. The average weight of the 75 litters was a little more than 2,000 pounds, some litters weighing more than a ton. The number of pigs raised averaged 10 to the litter. The average profit per litter was \$55.48. The influence of this contest has been marked in causing the adoption of better practices in hog raising. In one county where the work has been carried on for the past 4 years, the majority of the

farmers have improved their systems of hog raising. The adoption of ton litters has greatly increased the profits from hog raising. On many farms all the hogs have been raised similarly to the ton litters.

Better Feeding Methods

Eleven hog-feeding demonstrations were carried on to show the value of balanced rations for feeder pigs. The results of a demonstration in Wayne County are typical. Altho the price of corn in this demonstration was \$1.25 a bushel, this farmer was able to sell the corn thru hogs at \$1.65 a bushel. His hogs sold for \$10.41 a hundred. As a result of these demonstrations many feeders have adopted the principles illustrated.



(1) Shoulder properly trimmed for "picnic ham." (2) Sides trimmed and ready to be cured as choice breakfast bacon. This quality product cannot be obtained from hogs weighing over 225 pounds. (3) On a properly trimmed ham no long point is left on the upper end. (4) The loin ready to be converted into chops and roasts. (5) Fat back. This makes good lard if rendered while fresh, but a poor cured product.

Home Pork Supply

Pork cutting demonstrations have been continued with marked success. Not only has the improved method of trimming and curing the meat appealed to Kentucky farmers but suggestions on making and keeping pork sausage have aroused great interest. The majority of the farmers are interested also in improving the quality of the bacon. Fifteen demonstrations were given, with an attendance of 488 farmers. At each demonstration one man in the community was trained in the recommended method of trimming the meat. In this way the practice of cutting and curing home pork properly spreads more rapidly. Several county agents in Northern Kentucky have given demonstrations in their respective counties.

Assistance was given in the location and distribution of 434 purebred hogs. Many of these were taken to sections in which the hogs were of poor breeding. In such sections the improvement is very noticeable. It is significant that 151 of this number distributed were boars. Boars accomplish a wider improvement than sows, because of their influence on a larger number of litters.

SHEEP

Lamb standardization was started in the summer of 1920 and is now prosecuted under the following main heads:

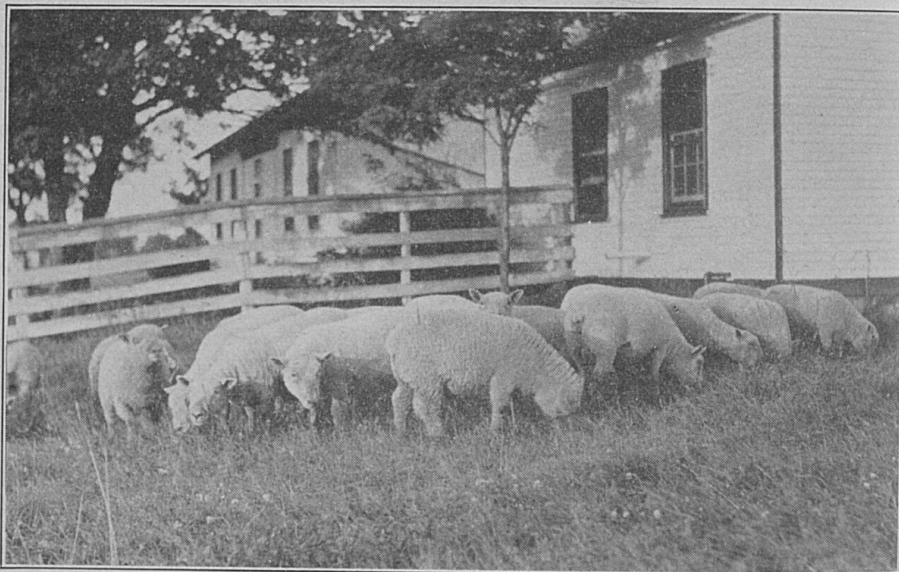
1. The use of purebred rams as flock head.
2. Trimming lambs so they may be marketed in car lots as ewes and wethers.
3. Control of stomach worms thru periodical drenching and rotation of pastures.
4. Better feeding and management.
5. Accredited flocks.
6. Golden Hoof Clubs.

The Use of Purebred Rams as Flock Heads

While much work has been done in eliminating grade and inferior purebred rams, much remains to be done. It can be conservatively stated that the number of purebred rams in use

in the State has trebled since the beginning of the Standardization Campaign.

The demand for purebred rams as flock heads has grown rapidly. Two hundred and seventy-five head were imported during the year. These importations consisted of 170 head from England, 85 head from Canada and 40 head from other States. In addition to these, 80 head of Southdowns and Hampshires were selected by the field agent of the College in England in October of this year. The English selections comprise the very best individuals from leading flocks and will improve the quality of the purebred sheep in Kentucky and, incidentally, the quality of the market lambs. Kentucky is the leading Southdown state in America and has developed a very important export trade.



A group of Southdowns imported for the purpose of further improving Kentucky Southdowns.

Docking and Castrating

Docking and castrating of lambs which were not widely practiced in Kentucky prior to 1920 are now followed by the majority of lamb producers thruout the State. Certainly more than half of them both dock and castrate and about half of the others castrate but do not dock. Thousands of farmers thruout

the State have been taught to do the work themselves thru demonstrations, so that the methods are now well known.

Many producers recognize the value of castrating late lambs but some question the advisability of castrating the earlier lambs because packers pay little, if any, premium on the early wether lambs. Data on nearly half a million lambs show conclusively that in the long run the castrated lambs average close to \$1.00 a hundred pounds more than the untrimmed lambs.

Stomach Worm Control

It has been stated that stomach worm infestation is the limiting factor to sheep production in Kentucky as well as in adjoining States. With the Kentucky system of handling sheep largely on permanent pastures, it is necessary in order to keep them in a healthy condition to provide a frequent change of pasture and to drench the flock regularly thruout the summer. Thirty-eight drenching demonstrations were conducted by the field agent of the College and many times this number were given by county agents. The importance of beginning the treatment early and repeating it at frequent intervals thruout the summer was emphasized. Control measures are fairly well understood and drenching has become a general practice with the majority of the best sheep breeders.

Accredited Flocks

The Kentucky Accredited Purebred Sheep Breeders Association, which is an outgrowth of extension activities, continues to be an important factor in stimulating interest and improving the quality of the purebred flock. Seven sales were conducted by the association during the year, in which approximately a thousand purebred sheep were sold to farmers. The association is unique among American sheep organizations and, as the name implies, is strictly an accredited organization of purebred sheep raisers. All flocks are inspected annually. Beginning with the 1930 inspection, both rams and ewes in accredited flocks will be tattooed with official trade sign. This

trade sign will be widely advertised and sheep raisers will be taught to look for it when purchasing sheep from accredited flocks.

The Association, in connection with the Extension Division of the College of Agriculture, conducted a series of sectional and State Schools for purebred breeders at convenient centers in the State. The total attendance was 742. Five States were represented. At these schools general breeding and improvement problems were considered and particular attention was paid to selecting, judging and mating purebred sheep.



One of the sheep-judging schools.

Golden Hoof Clubs

The success of the Accredited Association plan for purebred breeders led to a State organization of lamb and wool growers known as the Kentucky Sheep and Wool Growers Association. This State organization is a federation of county associations known as Golden Hoof Clubs. To date about half of the important sheep counties have been organized. These organizations foster an educational and protective program.

The Golden Hoof clubs have already exerted a wonderful

influence in enforcing the dog law, eliminating scrub rams and promoting the whole educational program. These clubs also cooperate with the College of Agriculture in conducting the Kentucky Shepherd Contest. The State Association and the Kentucky Accredited Purebred Sheep Breeders Association publish their own magazine.

Eleven radio talks of practical and timely importance were delivered during the year.

DAIRYING

The program of dairy extension during 1929 had for its object to increase profits by rigid culling, proper feeding and improved breeding and to improve the quality of Kentucky's dairy products thru an improved system of marketing cream: The work has been conducted under the following heads:

1. Dairy Demonstration Herds.
2. Dairy Herd Improvement Associations.
3. Dairying Feeding Schools.
4. Junior Dairy Calf Clubs.
5. Cream Improvement.

DAIRY DEMONSTRATION HERDS

The purpose of this project is to demonstrate the results of adopting approved practices. It also arouses an interest in keeping individual cow and herd records. The practice the herd owner receives in keeping these records is very valuable. Forty-one herds are now keeping such records and a number of the demonstrators promptly joined dairy herd improvement associations when they became impressed with the value of such records.

DAIRY HERD IMPROVEMENT ASSOCIATIONS

The dairy herd improvement association is not a contest between herds to determine which can produce the most milk or butterfat. It is a simple cooperative organization which employs

a trained tester to help the owner study the productive efficiency of each cow. On the basis of the records obtained the unprofitable cows are eliminated, the good cows are properly fed, according to production, and the transmitting ability of the sire is measured by comparing the records of his daughters with the records of their dams. Each association had a definitely outlined program of activities which includes (1) a dairy feeding and management school, (2) a summer tour and picnic, (3) an exhibit at the local fair, and (4) a reorganization meeting. One county agent who has developed an outstanding educational dairy program in his county stated in his annual report: "The dairy herd improvement association not only offers service in securing production records and is a guide to better feeding and breeding, but serves as a nucleus around which other dairy projects may be built. The association is doing more to develop a profitable dairy industry in the county than all other agencies combined."

TABULATED SUMMARY

| | 1928 | 1929 |
|---|--------------|--------------|
| No. associations successfully completing association year | 2 | 7 |
| No. of unprofitable cows sold for beef | 157 | 676 |
| No. dairy cows purchased | 80 | 507 |
| Members feeding grain on pasture (August) | 48% | 80% |
| Members feeding silage | 45% | 62% |
| No. of sires partially proved | — | 33 |
| No. of sires proved | — | 1 |
| | Dec. 1, 1928 | Dec. 1, 1929 |
| No. of active associations | 8 | 11 |
| No. of herds on test | 193 | 255 |
| Total cows on test | 3,506 | 4,450 |

During 1929, 1942 cows were on test in Kentucky dairy herd improvement associations for 12 months.

GOOD DAIRY COWS ARE PROFITABLE

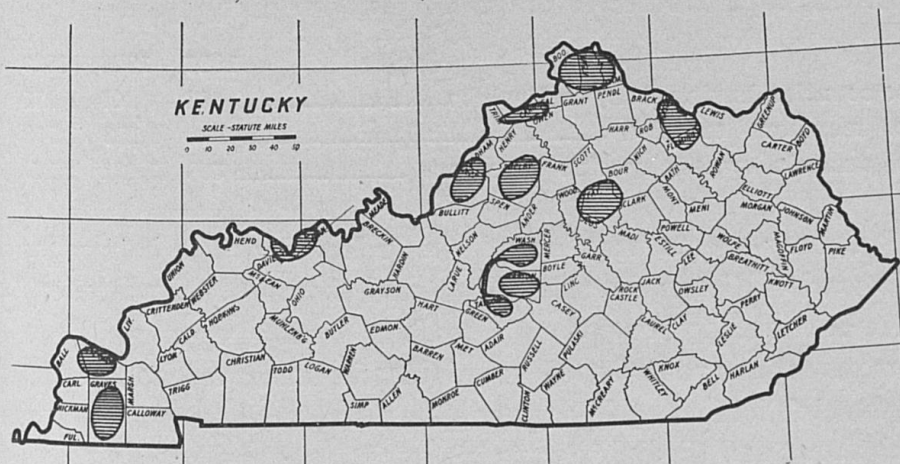
A Summary of the records of 1915 cows in Kentucky D. H. I. A.—1929

| No. of Cows | Avg. Butterfat, Lbs. | Avg. Milk, Lbs. | Avg. Value of Product | Avg. Cost of Roughage | Avg. Cost of Grain | Avg. Value of Product Above Cost of Feed* | Feed Cost Per Lb. Butterfat |
|-------------|----------------------|-----------------|-----------------------|-----------------------|--------------------|---|-----------------------------|
| 59 | 105 | 2,393 | \$74 | \$36 | \$19 | \$19 | \$.52 |
| 179 | 155 | 3,585 | 104 | 38 | 24 | 42 | .40 |
| 410 | 201 | 4,733 | 135 | 39 | 31 | 65 | .35 |
| 536 | 249 | 5,735 | 164 | 39 | 36 | 89 | .31 |
| 418 | 297 | 6,879 | 202 | 41 | 42 | 119 | .28 |
| 207 | 348 | 8,056 | 238 | 43 | 50 | 145 | .27 |
| 80 | 397 | 8,990 | 276 | 43 | 54 | 179 | .24 |
| 26 | 439 | 9,530 | 301 | 46 | 60 | 195 | .24 |

*Not to be confused with profit.

Because many of these dairymen sold milk both wholesale and retail, the average value of a pound of butterfat was between 67 and 68 cents. The average cow in a Kentucky Dairy Herd Improvement Association during 1929 produced 256 pounds of butterfat, in 5,922 pounds of milk. Her product sold for \$173 and it cost \$78 for feed leaving \$95 income above cost of feed. The feed cost of producing a pound of butterfat was 30 cents.

The map shows the locations of active dairy herd improvement associations, December 1, 1929.



The shading shows the location of Dairy Herd Improvement Association.

A news letter summarizing the work of the associations is prepared each month by the Dairy Department and is sent to each member and to others interested.

DAIRY FEEDING SCHOOLS

During December, 1928, and January and February, 1929, 67 dairy feeding schools were held in 48 counties. In spite of bad weather and roads, an average of 28 dairymen attended these all-day meetings where the fundamental principles of feeding were discussed in a practical way. County agents report that a majority of those who attended improved their feeding methods. There is an urgent need for more of these schools

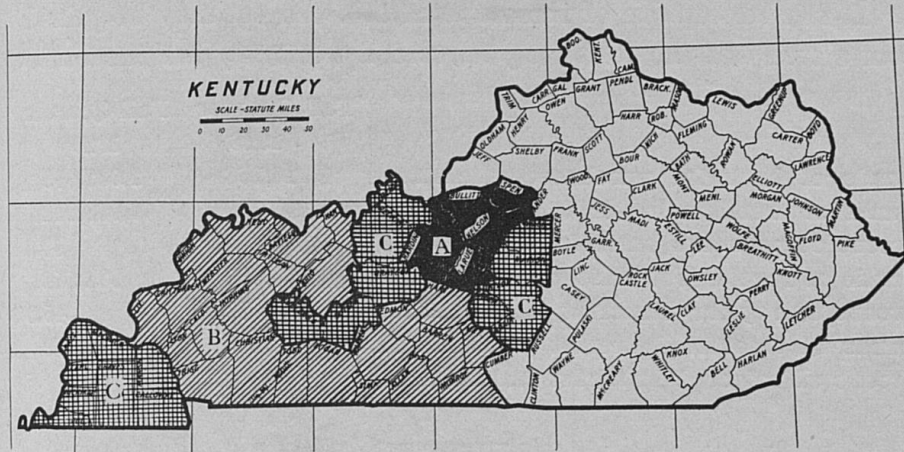
At these meetings every effort was made to explain the practical significance to the feeder of the Kentucky Feeding Stuffs Law. During 1929, 20,200 tons, or 85 percent, of the 16½ percent special-purpose dairy feeds purchased by Kentucky dairymen were such as contain materials of little or no feeding value, in spite of the warning yellow tag which indicates inferior quality.

BOYS' AND GIRLS' DAIRY CALF CLUBS

The Dairy Department cooperated with the Club Department in the conduct of the junior dairy calf club work. The following figures refer to the enrollment in this project.

| | 1927 | 1928 | 1929 |
|--|------|-------|-------|
| No. counties having dairy calf clubs | 36 | 47 | 75 |
| No. members enrolled | 721 | 1,183 | 1,968 |
| No. animals owned by club members | 778 | 1,421 | 2,149 |

County agents were assisted in finding desirable heifers for this work. Eleven district fitting and showing demonstrations were held which attracted club members from 66 counties. These demonstrations contributed greatly to the improved appearance of the club heifers at 26 county club shows, 4 district dairy calf club shows and the dairy calf club exhibit at the State Fair.



Four-day cream grading territory. A. Original, March, 1928. B. Territory added in 1928. C. Territory added in 1929.

CREAM IMPROVEMENT

The element of time is one of the most important factors in marketing quality cream. Various methods have been tried to teach dairymen to care properly for and market high-quality cream, but none has been so successful in improving the quality of Kentucky's butter output as the four-day delivery plan. This plan provides a price differential in favor of cream which is delivered at buying stations at intervals of four days or less (premium cream) and discriminates against cream delivered at less frequent intervals (regular cream).

EXPANSION OF TERRITORY

The map indicates (A) the original four-day grading territory when started March 1, 1928, (B) the counties added to the territory up to December 1, 1928, (C) the counties added between December 1, 1928, and December 1, 1929.

| | Dec. 1, 1928 | Dec. 1, 1929 |
|----------------------------------|--------------|--------------|
| No. counties | 29 | 48 |
| No. cream buying stations | 391 | 630 |
| No. creameries cooperating | 8 | 10 |

A fair conception of the scope of this project may be gained from a study of the following tabulated summary for the State.

| | Fall Quarter 1928 | Fall Quarter 1929 |
|---|----------------------|----------------------|
| Pounds of butterfat purchased | 1,126,158 | 2,032,053 |
| Pounds of premium butterfat purchased | 550,749 | 1,088,832 |
| Percent of premium butterfat | 48.9 | 53.6 |
| Pounds of regular butterfat purchased | 573,306 | 932,552 |
| Percent of regular butterfat | 50.9 | 45.9 |
| Pounds of rejected butterfat | 2,103 | 10,669 |
| Percent of rejected butterfat | .2 | .5 |

POULTRY

The problem confronting most poultry producers in the State is that of increasing the average egg production per hen and decreasing the cost of producing eggs and raising the young stock to laying age. The work for 1929 was divided as follows: (1) Culling and Selection; (2) County Poultry Organizations; (3) Farm Flock Calendar Project; (4) Demonstration Farm Flocks; (5) Brooding Demonstrations; (6) Certification of Poultry Flocks; (7) Caponizing; and (8) Record of Performance.

CULLING AND SELECTION

Culling demonstrations for egg production were given in practically every county in the State. Such meetings afford excellent opportunities for presenting helpful suggestions on feeding, housing, breeding, disease control, sanitation and other poultry improvement work. Thirty-three culling demonstrations were given in 18 counties, with a total attendance of 723. Thirteen demonstrations in selecting pullets for egg production by head points were given to 335 people. Assistance was given 5 breeders in selecting pullets for national egg-laying contests. Over 60,000 birds were accredited during 1929. Accreditation work, which is official culling, is carried on by the Kentucky Poultry Improvement Association. Sixty breeding pens were selected for farmers, in 20 counties. There were 167 people in attendance at these meetings.

COUNTY POULTRY ORGANIZATIONS

In most counties with county agents, poultry associations assist in carrying out the various educational projects. Meetings were held with 24 of these organizations, there being a total attendance of 1319. Fifty-one poultry schools were conducted in 35 counties, with an attendance of 2843.

FARM FLOCK CALENDAR PROJECT

This project is a prerequisite to the farm flock demonstration. It has been very popular. County agents collect these reports and use them locally.

DEMONSTRATION FARM FLOCKS

These flocks serve as demonstrations of improved poultry practices in their respective communities. Complete records are kept by these flock owners. There were 352 cooperators in this project distributed thru 76 counties. Of this number 264 finished the year's record. Field meetings and tours were held on these farms. In addition to the work of county agents, the field agents held 17 field meetings, with 1,211 in attendance, and 9 poultry tours, with 252 people participating. Four hundred visits were made to these demonstration farms and 282 visits to other farms, in the interest of poultry.

BROODING DEMONSTRATIONS

Many demonstration farm flock owners also carry on brooding demonstrations. The object is to lessen the losses in raising baby chicks. These demonstrators agree to follow a regular brooding program which includes: (1) disease-free chicks; (2) proper equipment; (3) clean ground; (4) sanitation; and (5) a well-balanced ration. Reports from 60 demonstrators this year show that raising 95 percent of the chicks hatched is not uncommon, whereas, by their old methods the raising of less than 70 percent was the common practice.

CERTIFICATION OF FARM FLOCKS

Each year more breeding stock from birds of known laying ability is made available by cooperators. During the year, 110 flocks were certified. Certification work has been carried on in this State since 1921, during which time thousands of certified cockerels, hatching eggs and other breeding stock have been distributed thruout the State and the South.

CAPONIZING

Caponizing is not a major project, but work is done where requests are made for demonstrations. During the year, 7 demonstrations were given in 6 counties, with an attendance of 90 interested persons.

RECORD OF PERFORMANCE

This plan is to the poultry industry what Registry of Merit is to the dairy industry. It consists of officially supervised trap-nesting. A number of good records were made this year, among them being a Rhode Island Red hen laying 302 eggs. Three other hens in the same flock laid 298, 294 and 293 eggs, respectively.

MISCELLANEOUS AND EMERGENCY WORK

During the year, 13 radio talks were given by the poultry specialists. Twenty-one poultry shows were judged. Poultry instruction was given at 6 movable schools, with an attendance of 225, and at 36 general meetings, with a total attendance of 1539. Fifty-three bleeding demonstrations were given for bacillary white diarrhea testing, with 165 persons in attendance. Result demonstrations were held on 20 cooperators' farms, with an attendance of 462. Three leaders' conferences were conducted at which 45 persons were present. Programs of work were planned with 20 county agents. Assistance was given 11 demonstrators in figuring their financial summaries in the farm flock demonstration project. Forty post-mortem examinations were held, which, in most cases, revealed intestinal parasites. An all-

day turkey field meeting was held at Lexington on the Experiment Station Farm, attended by more than 300 persons. Six talks on poultry were given at the Farm and Home Convention. Instruction on poultry was given to boys and girls attending Junior Week. The egg production judging contest for Junior Club members at the Kentucky State Fair was conducted. Poultry instruction was given to Smith-Hughes teachers at the Experiment Station Farm during August.

VETERINARY

Contagious abortion in cattle, bacillary white diarrhea and parasites of poultry have been given more attention than any other animal ailments, during the past year or more. The economic loss from these maladies has become so great that they force themselves into the reckoning of farmers, veterinarians and county agents.

There are now six laboratories in Kentucky equipped for and performing the tube agglutination test for B W D in poultry. These are located at Bardstown, Elkton, Mayfield, Maysville and two at Lexington. Another will begin operations at Louisville in the near future. In 1929, 40,307 fowls were tested. The interesting point is that in flocks tested for the first time the infection averaged 20 percent, but the second year's test showed that the infection had been reduced to 12 percent.

There are 62 hatcheries in the State sending out baby chicks. Efforts are made to assist these hatcheries to secure as many of their hatching eggs as possible from tested flocks. In 13 of these hatcheries, no eggs except those from tested flocks are accepted. This is made possible by the progress of testing in their territory. Such hatcheries naturally enjoy a demand for chicks, greater than they can supply.

Contagious abortion in cattle has produced such great losses in the last few years that extension agents have been compelled to give it very serious attention. With the aid of a specialist from the College, demonstrations of the proper method of drawing blood samples have been given for the benefit of veterinarians

and stockmen in 24 counties. At the 35 demonstrations held during the year, 895 cattle were bled.

Contagious abortion among swine threatens to become serious and 92 head have been bled at demonstrations which were given largely for the purpose of acquainting local veterinarians with proper methods. While hog cholera and proper methods of prevention are much better understood than they were a few years ago, the disease still demands in certain sections that considerable educational work be done. Practically the same can be said in regard to tuberculosis in cattle. The cumulative effect of years of educational work regarding this disease is becoming apparent and with the effective "area plan" very gratifying results toward control of this disease are being obtained. Various sheep diseases such as foot rot, scab and other ailments have demanded their share of attention as have other miscellaneous troubles with these and other classes of livestock.

In all its dealings with animal diseases the work of the College must be confined to educational activities, as contrasted with routine veterinary practice and regulatory work. The College resorts to lectures with the aid of specimens, illustrations, etc., and to post-mortem examinations to show the nature of diseases, demonstrations of methods of taking samples, etc., and to prescribing proper methods of sanitation, treatment and disease prevention.

Following is a summary of the activities of the field agent for the year:

| | |
|---|-----|
| Consultations with stockmen | 562 |
| Farm visits | 219 |
| Consultations with veterinarians | 74 |
| Consultations with county agents | 120 |
| Demonstrations in taking blood for abortion tests | 35 |
| Number cattle bled | 895 |
| Educational meeting held | 52 |

HORTICULTURE

POTATOES

The object of this work is to make Kentucky's potato crop adequate to its home market by stressing the use of the best seed stocks obtainable, as, for example, certified seed, and the practice of proper culture thruout. The major portion of the seed necessarily comes from the States which specialize in seed potato growing, but this is supplemented by locally grown seed produced under standard certification regulations. In localities where the volume of production warrants it, complete certification, including affixing tags, is done; in others the stocks of approved growers are merely "recommended" for local use. In 1929, 36 cars of northern-grown certified seed came into Kentucky, and $2\frac{3}{4}$ cars of homegrown certified seed were used. The certified seed growers produced 21,117 bushels of potatoes; the "recommended" growers, 408 bushels of Snowflake and 185 bushels of Early Harvest. In order to stimulate the use of better cultural methods, 41 men were enlisted in unofficial 300-bushel clubs. Thirteen power dusters, making a total of 17, and 3 power sprayers, making a total of 9, were bought in 1929. Thirty-two men of the 41 reached or exceeded 300 bushels, the best yield recorded being 504 bushels.

CANNING CROPS

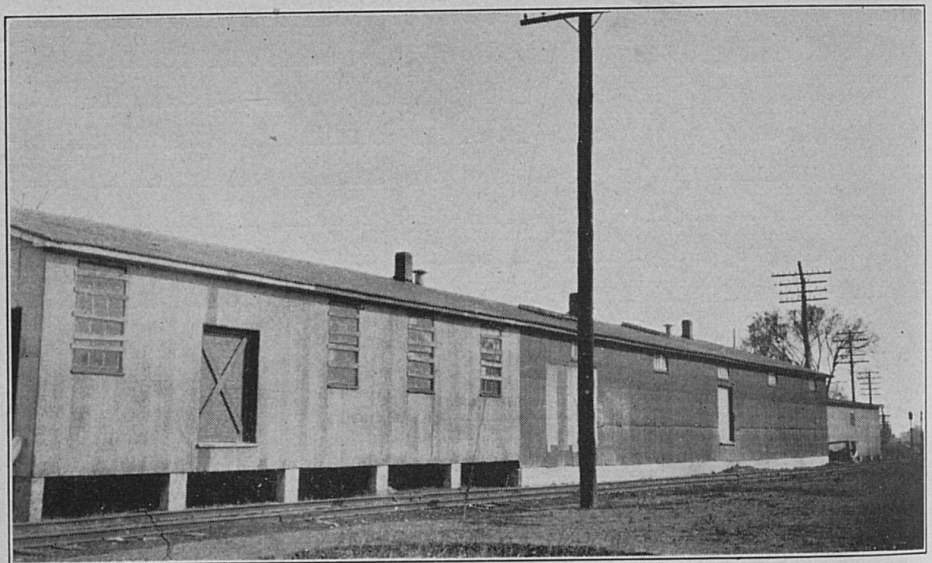
The object here is to increase the acre yields of tomatoes and beans, mainly thru fertilizing. In 16 counties, 60 cooperators were chosen to conduct quarter-acre strip demonstrations. Ten companies and 20 canneries were among the cooperators. Because of an extremely unfavorable season in the north, the east and the central portions of the State, the yield fell considerably below the goals of 300 bushels, but the demonstration plots gave over double the average yield of the territory. Fourteen of the 30 entrants completed. In the Purchase Section, the average yield of the 30 demonstrators was 294 bushels, and that of the territory, 131.

The demonstrations showed that manure and superphos-

phate is the most efficient fertilizing means. Allowing \$2.00 per ton for manure, a dollar spent in superphosphate returned \$8.66; a dollar spent for complete fertilizer, 500 pound application, \$5.78 and for the 1000-pound application, \$2.91.

Anthraco-nose, pod spot, was so generally prevalent with beans that no significant data were secured, except that sufficient disease control data were gathered to indicate that it can be controlled.

An estimate and factory layout for a modern canning plant were made for Central State Hospital at Lakeland. The plant was built and 13,000 gallons of miscellaneous vegetables were put up. Less than 2 percent of spoilage occurred.



A 20,000-bushel sweetpotato storage house at Arlington (a tobacco warehouse, remodeled). Specifications furnished by the College of Agriculture, University of Kentucky.

SWEETPOTATOES

In 1929, as in 1928, all sweetpotato acreages grown on contract or for storage in commercial houses, were set to slips from seed that had been treated for Black Rot. Suggestions for remodeling a tobacco warehouse at Arlington were given a local grower who stored 20,000 bushels of sweetpotatoes. At this

house the growers were paid 10 cents less per bushel than at Barlow because of the difference in occurrence of soil stain. The Barlow growers are required to use none but treated seed, whereas there was no means, in 1929, for making that requirement of the growers who later stored their potatoes in Arlington.

COMMERCIAL GARDENS

There are 6 gardener groups, organized about the Cincinnati, Louisville and Paducah markets, and these are assembled by groups 4 times a year, and timely topics, the latest findings of experiment stations, and kindred matters are discussed. The total attendance for the year was 617.

HOME GARDENS

A joint home garden-home economics project was conducted in 5 counties. Fifteen leader-training meetings were held. The demonstrators pronounced the work very helpful. The leaders' instructions and monthly "What to do in the Garden," which went to every homemaker, were supplemented by a 45-article series released to the press.

A mechano-electrical exhibit contrasting proper and improper cultural practice as related to potato production was shown at the State Fair.

FRUIT CROPS

Efforts in fruit and small-fruit crops have been directed mainly along three lines, orchard management, berry production and Junior Club Work.

The apple crop was generally light thruout the State, especially in the farm and small commercial orchards, because of very unfavorable weather at blossom season, together with a severe attack of apple scab.

The use of fall application of nitrate, in so far as it would

affect the set of fruit the following year, was discussed quite generally in October of 1928. Two demonstration plots of 12 trees each were started on a block of mature Winesaps on the W. A. Sandefur farm near Robards, Kentucky, and similarly on the Richard Stites farm near Henderson, Kentucky. Both these orchards showed a rather striking contrast thruout the season in favor of the fall nitrate, but at harvest time less contrast was noticeable. The Sandefur orchard harvesting results showed three bushels per tree gain for the fall nitrating, while the Stites orchard with a less accurate picking record showed less than two bushels per tree gain in favor of the nitrate treatment.

The growers of the district were invited to see these two blocks during the season. Evidently the results were obvious, for practically every grower of the county gave a fall treatment to a commercial block of trees on his own place, despite the fact that a special effort was made not to urge the fall application of nitrate until it had been demonstrated more completely, and over a period of a few years.

ROAD-SIDE MARKETING

The road-side or farm marketing of peaches to which the Extension Service has been calling attention for the past few years proved its real value in 1929. On many fruit farms it made the difference between a financial success and a heavy loss. Jefferson county produced the largest commercial crop of peaches in the last 20 years. At least 40,000 bushels of peaches were ready for the market in a three-week period. The peaches from Georgia and Tennessee just ahead of home-grown fruit had been of inferior grade. The marketing committee of the Jefferson County Fruit Growers' Association, working with the Extension Service, outlined a plan, spent a few hundred dollars in local newspapers to advertise tree-ripened, home-grown peaches, gave a list of the fruit growers of the county who had fruit for sale and when it would be ripe. Individual growers also carried local advertising. Displays of peaches were made in the show windows of banks and other business places in Louisville and

Jefferson County, and hundreds of road signs were placed along the leading highways. By such advertising a demand was created sufficient to move the entire crop at satisfactory prices. Joe Bray, a master farmer of Trimble County, moved a 7,000 bushel crop of peaches at his road-side market, at very satisfactory prices. His daily sales varied from 150 to 700 bushels. These peaches were sold to families in more than 12 Kentucky counties.

BERRY PRODUCTION

Strawberries. The McCracken County Strawberry Association continues to be one of the outstanding organizations of its kind in the country measured by years of service, number of members, volume of business conducted and loyalty among its membership. In 1929, this organization of 1,600 members harvested 3100 acres, shipping 373 carloads, or an average of 54 crates per acre. The grower received \$2.87 per crate as compared with \$2.40 in 1928, in which year 2200 members sold the berries from 4,200 acres.

The Extension Service is promoting a "200-crate per acre" Strawberry Club. The prize money is provided by a bank and Paducah newspaper.

Dewberries. The commercial dewberry acreage is slowly increasing. The second year for this crop, 1929, fifteen carloads were shipped and returned very satisfactory prices. A gradual increase in dewberries is expected during the next few years. Demonstrations in culture, staking and tying up and harvesting are conducted with amateur growers.

Raspberries. Twenty-seven Junior Club members in McCracken County are carrying a project in Latham red raspberry production. This is a new crop for Kentucky, but offers great possibilities where marketing facilities are available. Each club member planted 1000 plants, or about one half acre. About 60 acres were planted in the county by farmers. The financial success of the Latham raspberry in southern Illinois has been responsible for its commercial development in western

Kentucky. Present indications are that the Purchase Section will be shipping carloads of raspberries in a few years.

LANDSCAPE GARDENING

Definite landscape gardening work was done in seven counties. For the most part, this consisted in giving instructions in cooperation with the home demonstration agent to leaders who were selected by the local homemakers' club. This work was carried on in cooperation with the home demonstration agent, the county agent and the county superintendent of schools. Definite planting plans were furnished for seventeen schools and fourteen of these schools made the planting as recommended. In some cases, the plantings were native trees and shrubs which the patrons of the schools brought from the woods and which cost nothing. In other cases all the materials had to be bought. In nearly every instance, the driveway and walks had to be changed.

FARM ECONOMICS

Special emphasis was placed on the reorganization of farms for greater profit and on outlining systems and programs of



Western Kentucky farmers who formed an organized farm accounting group, in attendance at a farm inventory school.

farming in regions in which sufficient farm economic research data had been accumulated to make such extension work effective.

FARM ACCOUNTING

Work with groups of farmers in record keeping was continued during the year in Boyle, Montgomery, Fayette, Taylor, Green, Adair, Kenton, Campbell, Boone, Jefferson, Oldham, Graves, McCracken, Ballard and Marshall Counties. New projects were started in Owen and Grant Counties.

After the accounts were closed at the end of the year they were summarized and analyzed and in each case taken back to the farmer who kept the account. A conference was held with the farmer and the accounts interpreted. The figures showed the points in which the farm is strong or weak, and revealed the places in the business which needed to be improved and usually showed the things needed to bring about improvement. Where a group of record keepers was large enough, a factor sheet was made showing a comparison of the receipts, expenses, profits and other factors of each individual farm with those of the average, with the most profitable and with the least profitable farms. A new account book was prepared during the year. The method of classification used in this book is especially adapted to an effective analysis and interpretation of the accounts so as to throw light on strong and weak points in the farm business. A new and valuable feature is the visible marginal index by which classified entries can be easily and quickly located. A total of 620 farmers were furnished farm account books and instructed in keeping accounts, by county agents and extension field agents.

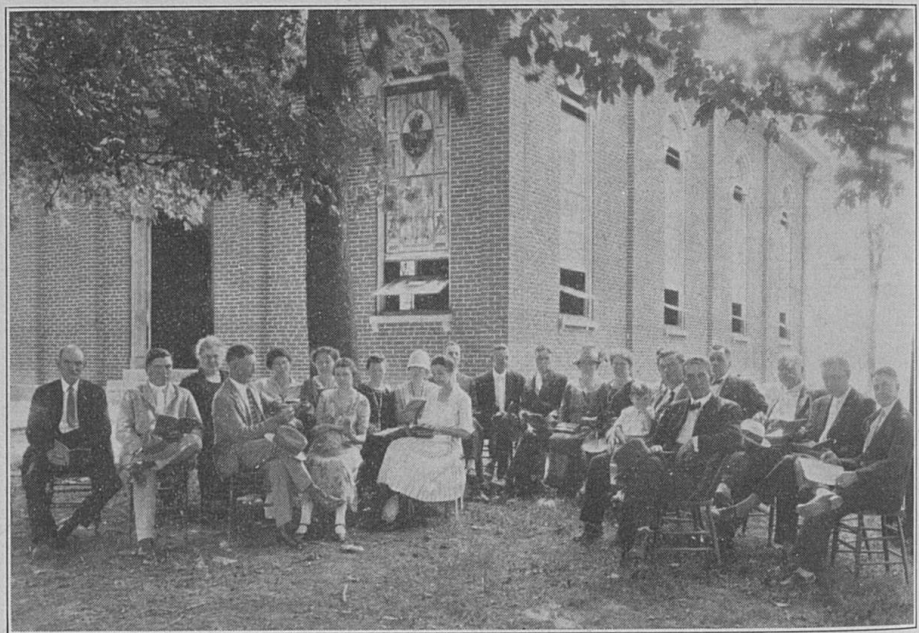
FARM BUDGETING AND REORGANIZATION

The ultimate purpose of farm accounts is to furnish the basis at the beginning of the year for formulating a budget or a cropping and livestock program which will make the most profitable use of available resources. Accounts are then kept to check on the budget and show to what extent and in what points the actual accomplishment during the year exceeded or

fell short of the expected accomplishment. Increased stress was placed by extension workers on this use of farm accounts. Definite long-time reorganization projects were carried on in Taylor, Boyle, Kenton, Oldham, Graves, Ballard, McCracken, Marshall and Grayson Counties, involving a total of 64 farms.

FARMING SYSTEMS AND PROGRAMS OF AGRICULTURAL PRODUCTION

Field agents of the College did special work in promoting improved systems of farming in three areas of the State: The Purchase Region, the Mountain Region of Eastern Kentucky and the South Central Region, including Grayson, Taylor, Green and Adair Counties and contiguous territory. This work was based on the studies of the College in incomes, cost of production, land utilization and other economic factors of farming.



A local committee working out a long-time plan for community improvement in a central Kentucky County, using the community scoring system devised by the University of Kentucky.

FARM LIFE CONFERENCES

Three farm life conferences were held in Grant County, each conference consisting of six sessions held during a period of

three days. Representatives of business, schools, churches, health, citizenship, community spirit and recreation participated. Upon the completion of the scoring a final session was held at which deficiencies revealed by the scoring were considered, measures for correcting them discussed and committees appointed for the formulation of a long-time community improvement program. The scoring in one of these communities a year ago brought out the fact that the school and community had no suitable building for holding meetings for dramatics, indoor athletics and similar events. A representative of the College told how citizens of a Fayette County community had overcome a similar handicap by organizing a building corporation which constructed a building and made it available to the county school board on a plan of financing by rental and amortization. Citizens of this Grant County Community, acting on the suggestion, formed a similar organization and constructed a splendid auditorium—gymnasium on the school grounds, and the farm life conference this year was held in the new building. Numerous other evidences were seen of improvement in various branches of community life as a result of the conferences and scoring.

MARKETS AND RURAL FINANCE

Extension work in this department emphasizes the following lines of activity:

1. Agricultural Outlook.
2. Cooperative Organization.
3. Tobacco Sorting.
4. Current Market Information.

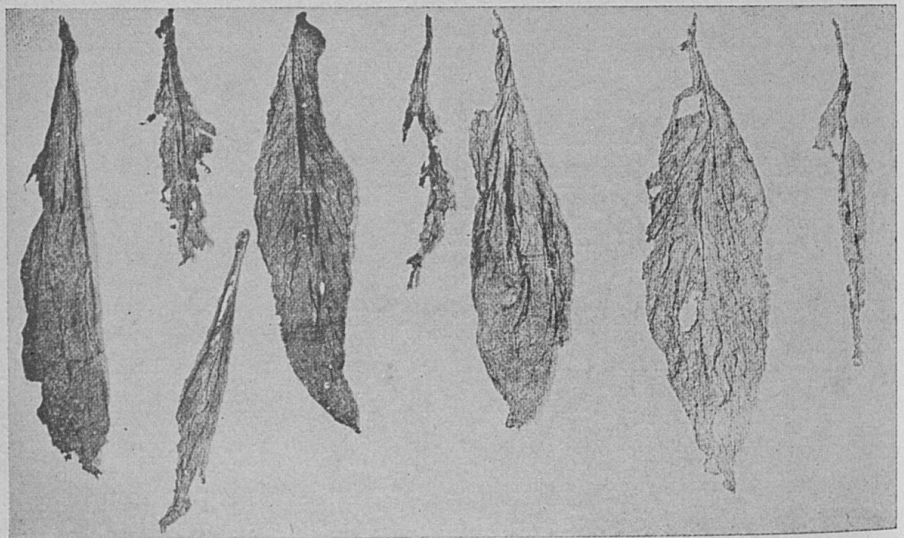
AGRICULTURAL OUTLOOK

This work is designed to supply farmers with the best available current information relating to prospective market conditions for Kentucky's chief farm products. The 1929 Outlook prepared early in the year was largely an adaptation of the Federal Outlook on agricultural conditions in Kentucky. It was prepared in the form of a lecture, accompanied by illustra-

tive material that could be used by county agricultural agents, high school agricultural teachers and other extension workers as a part of their educational program. Twenty-seven county agents who reported on this aspect of their work held 74 meetings at which the agricultural outlook was the chief subject for consideration and which were attended by 2,290 people. A summary of the outlook was published in 111 newspapers. Below is one of the nine charts used in the outlook material:

COOPERATIVE ORGANIZATION

There is a growing interest among farmers in cooperative organization and the number of requests for advice on organization problems was larger than in other recent years. Much of the field agent's time spent on this project was devoted to assisting the milk producers in the Louisville market milk area with organization plans, membership campaigns and other educational work connected with the early stages of a milk producers' association in that market. At the end of the year, milk producers representing 75 percent of the milk produced in one of the principal dairy counties had signed membership contracts

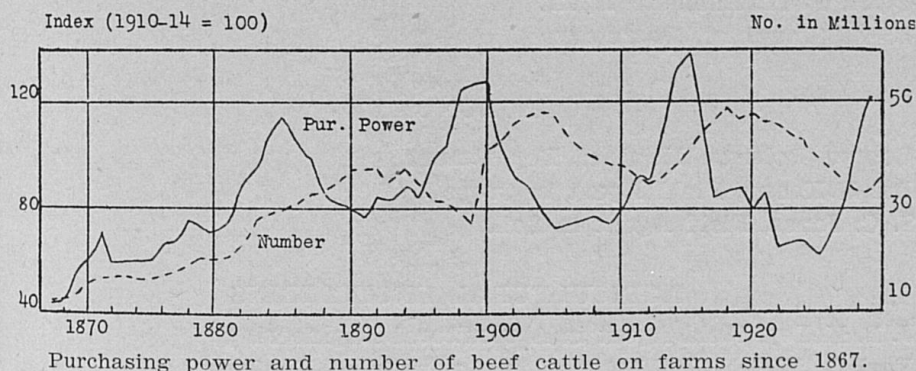


Poorly sorted tobacco. These leaves were taken from a single hand.

and membership campaigns were well under way in six other counties tributary to Louisville.

TOBACCO SORTING

Tobacco is the principal cash crop in Kentucky. Proceeds from the sale of tobacco can be made larger as has been repeatedly demonstrated by better sorting and classing in preparation of the leaf for market. Fifty-three meetings in connection with this project were held during the year. Types and qualities of tobacco, together with an explanation of the various uses of tobacco were discussed with tobacco growers at these meetings and demonstrations were made of methods of stripping tobacco and sorting leaves into hands of uniform quality. Where time permitted as many individual farmers as possible were called upon to strip representative stalks of tobacco that had been selected for this purpose and to sort the leaves in preparation for market. The total attendance at these meetings was 1260. Many of these farmers are known to have adopted the methods suggested. One county agent, for example, reports that of the 130 farmers attending the four meetings held in that county, 43 percent are undertaking to follow the practices of stripping and sorting outlined at the demonstrations.



CURRENT MARKET INFORMATION

Farmers and agricultural leaders have been advised of current developments in marketing and business conditions relating to agriculture thru the "Kentucky Agricultural Situation," a

monthly release of the Department of Markets. The radio and press have also been used to disseminate current economic information of an important nature. In this manner farmers have been supplied with information that would help them better to adjust their business to changing economic conditions.

PUBLICATIONS ISSUED DURING THE YEAR 1929

Circular No. 67, Revised, The Home Vegetable Garden.
Circular No. 185, Revised, Textile Fibers and Fabrics.
Circular No. 189, Revised, 4-H Club Food Project Program.
Circular No. 195, Revised, Junior Home Projects in Clothing.
Circular No. 209, Revised, Grapes for the Home.
Circular No. 222, Garden Project.
Circular No. 223, Loading and Spreading Marl.
Circular No. 224, Annual Report for Year 1928.
Circular No. 225, Food for the Preschool Child.
Circular No. 226, Food for the School Child.

LIST OF EXTENSION WORKERS

January 1st to December 31st, 1929

ADMINISTRATION

Thomas 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 Kenny, Field Agent in Crops
S. C. Jones, Field Agent in Soils

AGRICULTURAL ENGINEERING

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

ANIMAL HUSBANDRY

E. S. Good, Head of Department
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

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

DAIRY

J. O. Barkman, Field Agent in Dairying
†Joe Nageotte, Field Agent in Dairying
*Ted S. Besh, Field Agent in Dairying

FARM MANAGEMENT

W. D. Nicholls, Head of Department
†Harry Ward, Field Agent in Farm Management
*R. E. Proctor, Field Agent in Farm Management

FOODS

†Dixie Harris, Field Agent, Foods
Ida Hagman, Field Agent, Foods.
Florence Imlay, Field Agent in Foods.

HORTICULTURE

W. W. Magill, Field Agent in Horticulture (Orcharding)
J. S. Gardner, Field Agent in Horticulture (Truck Crop)

JUNIOR CLUBS

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

MARKETS

Gordon Nance, Field Agent in Markets
Erle C. Vaughn, Field Agent in Markets

MOVABLE SCHOOLS

N. R. Elliott, Leader of Specialists

PUBLIC INFORMATION

C. A. Lewis, Editor

POULTRY

J. H. Martin, Field Agent in Poultry
 †J. R. Smyth, Field Agent in Poultry
 J. E. Humphrey, Field Agent in Poultry
 C. E. Harris, Field Agent in Poultry
 *Stanley Caton, Field Agent in Poultry

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
 †Willis Abner, County Agent, Pike County
 S. W. Anderson, County Agent, Jefferson County
 W. J. Ashbrook, County Agent, Green County
 J. H. Atkerson, County Agent, Allen County
 John C. Bach, County Agent, Magoffin County
 J. C. Beavers, County Agent, Christian County
 D. S. Bishopp, County Agent, Adair County
 C. O. Bondurant, County Agent, Owen County
 K. J. Bowles, County Agent, Morgan County
 †Stuart Brabant, County Agent, Logan County
 L. C. Brewer, County Agent, Fayette County
 H. C. Brown, Asst. County Agent, Scott County
 John C. Brown, County Agent, Warren County
 C. V. Bryan, County Agent, Taylor County
 H. M. Christian, County Agent, Nelson County
 Carl B. Day, County Agent, Casey County
 C. O. Dickey, County Agent, Webster County
 R. S. Dunn, County Agent, Spencer County
 J. M. Dyer, County Agent, Henderson County
 H. A. Edge, County Agent, Hickman & Carlisle Counties
 C. B. Elston, County Agent, Nicholas County
 *F. C. Ewen, County Agent, Laurel County
 Robt. T. Faulkner, County Agent, Johnson County
 *B. W. Fortenbery, County Agent, Pike County

†Resigned during the year.

*Appointed during the year.

C. E. Gabbard, County Agent, Estill County
G. W. Gardner, County Agent, Washington County
T. E. Ford, County Agent, Hardin County
H. R. Forkner, County Agent, Boone County
J. B. Gardner, County Agent, Muhlenberg 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
R. M. Greene, County Agent, Mason County
Robt. T. Harrison, County Agent, Harlan County
H. J. Hayes, County Agent, Wayne County
R. M. Heath, County Agent, Franklin County
H. E. Hendricks, County Agent, Marshall County
C. L. Hill, County Agent, Pendleton 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, Assistant County Agent, Fayette County
H. R. Jackson, County Agent, Shelby County
Wm. C. Johnston, County Agent, McCracken County
Carl W. Jones, County Agent, Todd County
S. J. Jones, County Agent, Larue County
T. H. Jones, County Agent, Lee County
G. H. Karnes, County Agent, Monroe County
J. R. Killinger, County Agent, Bracken County
R. H. King, County Agent, Carter County
J. E. Kuykendall (Colored), County Agent, Warren County
H. A. Laine (Colored), County Agent, Madison County
Orem LaMaster, County Agent, Trimble County
Harry B. Lane, County Agent, Anderson County
Fred Lawson, County Agent, Floyd County
R. H. Lickert, County Agent, Fleming County
H. S. Long, Asst. County Agent, Jefferson County
*J. S. Loyd, County Agent, Muhlenberg County
J. E. McClure, County Agent, Daviess County
R. B. McClure, County Agent, Garrard County
*Floyd McDaniel, County Agent, Montgomery County
H. A. McPherson, County Agent, Fulton County
R. J. Matson, County Agent, Gallatin County
Earl Mayhew, County Agent, Knox County

*Appointed during the year.

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
 L. C. Pace, County Agent, Ballard County
 J. Ed. Parker, County Agent, Bath County
 John E. Parsons, County Agent, Lawrence County
 H. S. Patterson, County Agent, Grayson County
 S. A. Porter, County Agent, Campbell County
 D. B. Redman, County Agent, Greenup County
 W. R. Reynolds, County Agent, Jackson County
 Edgar Rice, County Agent, Elliott County
 Harry D. Rice, County Agent, Henry County
 R. R. Robbins, County Agent, Perry County
 G. C. Routt, County Agent, Graves County
 M. H. Sasser, County Agent, Russell County
 C. C. Shade, County Agent, Jessamine County
 E. R. Sparks, County Agent, Clay County
 Robt. F. Spence, County Agent, Madison County
 J. E. Summers, County Agent, Marion County
 W. D. Sutton, County Agent, Hopkins County
 E. P. Tichenor, County Agent, McLean County
 †O. B. Travis, County Agent, Breckinridge 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, Hancock County
 H. W. Whittenburg, County Agent, Simpson County
 C. A. Wicklund, County Agent, Kenton County
 *W. E. Wiedeberg, County Agent, Christian County
 W. C. Williams (Colored), County Agent, Christian County
 *G. H. Williams, County Agent, Letcher County
 J. E. Wilson, County Agent, Grant County
 P. H. Wilson, County Agent, Calloway County
 R. O. Wilson, County Agent, Harrison County
 Ralph W. Woodfin, County Agent, Wolfe County
 Troll Young, County Agent, Washington County.

†Resigned during the year.

*Appointed during the year.

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
Elizabeth Aaron, Home Demonstration Agent, Campbell County
Bernice Bonar, Home Demonstration Agent, Oldham County
†Leslie Callaway, Home Demonstration Agent, Magoffin County
Mary C. Clopton, Home Demonstration Agent, Leslie County
Florence Cobb, Home Demonstration Agent, Graves County
Dora M. Duncan, Home Demonstration Agent, Hopkins County
Marie Elmore, Home Demonstration Agent, Pike County
Callie Everhart, Home Demonstration Agent, Magoffin County
Zilpha Foster, Home Demonstration Agent, McCracken County
Jennie C. Grubbs, Home Demonstration Agent, Boyle County
Virginia Howard, Home Demonstration Agent, Garrard County
Lois Husebo, Home Demonstration Agent, Boyle County
Myrtle Jackson Davis, Home Demonstration Agent, Fulton County
Catherine T. Johnson, Home Demonstration Agent, Jefferson County
Mary Kate Ledbetter, Home Demonstration Agent, Madison & Rock-
castle Counties
Louise McGill, Home Demonstration Agent, Hickman & Carlisle
Counties
Mabel McKinsey, Home Demonstration Agent, Ballard County
Florence McKnight, Home Demonstration Agent, Lee County
M. Alma Moore, Home Demonstration Agent, Muhlenberg County
Mildred Ohaver, Home Demonstration Agent, Fayette County
Roxie C. Perkins, Home Demonstration Agent, Harlan County
Irene Piedalue, Home Demonstration Agent, Clark County
Mary Fuller Skidmore, Home Demonstration Agent, Mercer County
Frances Stallard, Home Demonstration Agent, Madison County
Hazel Vincent, Home Demonstration Agent, McLean County
Kate B. Walker, Home Demonstration Agent, Perry County
Helen M. White, Home Demonstration Agent, Daviess County
Frances Wiese, Home Demonstration Agent, Christian County
Sadie Wilgus, Home Demonstration Agent, Calloway County
Isadora Williams, Home Demonstration Agent, Henderson County

†Resigned during the year.

RECEIPTS AND DISBURSEMENTS

For Fiscal Year Ended June 30, 1929

RECEIPTS

| | |
|-----------------------------|---------------------|
| Federal Smith-Lever | \$152,241.30 |
| State Smith-Lever | 142,241.30 |
| Federal Supplementary | 54,642.56 |
| Capper-Ketcham | 20,000.00 |
| Total | <u>\$369,125.16</u> |

DISBURSEMENTS

| PROJECTS | Total | Federal Smith- Lever | State Smith- Lever | Federal Supple- mentary | Capper- Ketcham |
|--------------------------|-------------------|----------------------------|--------------------------|-------------------------------|--------------------|
| Administration | 19,548.24 | 6,481.57 | 13,066.67 | | |
| Publications | 7,652.94 | 6,842.94 | 810.00 | | |
| County Agent | 153,630.99 | 62,593.63 | 21,853.10 | 54,642.56 | 14,541.70 |
| Home Demonstration | 45,683.92 | 18,000.57 | 22,225.05 | | 5,458.30 |
| Clothing | 7,146.88 | 1,746.88 | 5,400.00 | | |
| Foods | 7,084.08 | 2,065.74 | 5,018.34 | | |
| Movable Schools | 6,752.06 | 1,975.89 | 4,776.17 | | |
| Junior Clubs | 32,021.25 | 11,001.25 | 21,020.00 | | |
| Agronomy | 10,697.28 | 2,437.28 | 8,260.00 | | |
| Dairying | 7,133.57 | 2,708.57 | 4,425.00 | | |
| Animal Husbandry | 14,772.48 | 3,512.47 | 11,260.01 | | |
| Markets | 8,074.60 | 8,074.60 | | | |
| Farm Management | 5,760.00 | 1,136.67 | 4,623.33 | | |
| Poultry | 12,304.70 | 2,784.69 | 9,520.01 | | |
| Horticulture | 9,427.22 | 2,527.23 | 6,899.99 | | |
| Veterinary Science | 4,137.29 | 4,137.29 | | | |
| Rural Engineering | 5,510.91 | 5,510.91 | | | |
| Public Information | 4,888.90 | 4,888.90 | | | |
| Farm and Home | 730.59 | 730.59 | | | |
| Balance | 6,167.26 | 3,083.63 | 3,083.63 | | |
| | <u>369,125.16</u> | <u>152,241.30</u> | <u>142,241.30</u> | <u>54,642.56</u> | <u>20,000.00</u> |