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THE UNIVERSITY OF NEBRASKA
AGRICULTURAL COLLEGE EXTENSION SERVICE

August, 1924

Extension Circular 620

BOARD AND ROOM



UNITED STATES
DEPARTMENT OF AGRICULTURE
COOPERATING

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BOARD AND ROOM

by ELTON LUX

Several cows of Thayer county, Nebraska have already come face to face with a sign like the one on the cover. And, being of the slow pay, no profit type of farm boarders, they have found the old barn doors shut in their faces. If others of them do not think more seriously of how much milk and butterfat they are returning to their owners for the board and room furnished them, they may find the old signs on their doors figuratively repainted for their special benefit. If they are astonished by this treatment, they will be no more surprised than the farmers who are finding that some of their supposedly good cows are really the poor pay of the herd.

The incentive for a change in the management of their dairy herds has come to these farmers because of a simple cow testing project encouraged in 1923 and again this year by the County Farm Bureau. Thru this project the farmers have been able to "get the goods" on the boarders. They have already adopted the practices of the proverbial boarding house lady and kicked out those who do not pay cash returns at the end of the month.

HOW IT STARTED

The inspiration to start such a project came to County Extension Agent L. C. Christie following his success in encouraging better poultry practices thru the Accredited Farm Flock project of the Agricultural Extension Service. The cow population of Thayer county was too small to support an official cow testing association. Some suggestions were obtained from Illinois and from Washington where somewhat similar situations had been met by modified organizations. Most of the details of the project as it is being used in Thayer county, however, were worked out by Mr. Christie himself.

The project began in March of 1923 with 63 cows enrolled. This number grew month by month during the summer. Thirty-six of the first entries finished the project at the end of the first 12 months. This was 57% of those starting which is not a disappointing finish-up considering that a number of cows were weeded out and sold during the year, that a few cows died, and that one or two farmers sold out and moved away.

SUMMARY SHOWED STRIKING CONTRASTS

At the end of the first year's work, the reports that had been made from month to month were condensed into an annual summary which showed that the man who milked the best cow of the project had made money ten times as fast as the man who stripped the poorest one of the bunch. This best cow paid her owner at the rate of \$1.00 per hour for his labor while the star boarder returned less than a dime.

Fifty percent of the cows in the project produced less than 200 pounds of butterfat during the year. These cows were really better than the average, even at that figure, but using them as a basis, Thayer county farmers would have been richer by \$353,000 from 1923 cream checks alone, if their 7,000 cows had all been as good as the 10 best ones in the project. This would have been about \$200 per farmer. These 10 cows were no better than the average Nebraska farm could support, for their average production was but 6,796 pounds of milk testing 4.2% which made 268.4 pounds of butterfat worth \$134.79. Deducting the feed bill, the average profit per cow of these 10 was \$82.33.

RECORDS SHOWED TRUE VALUE OF COWS

That the farmers were really surprised by what the records on their cows showed them was proven by the com-

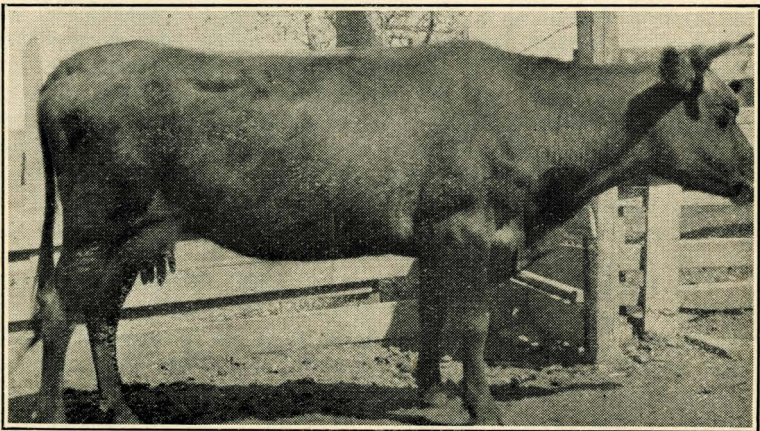


Fig. 1. Her owner thought she was worth \$60. She topped the project with a net profit of \$100.96.

parisons of their net returns and the values which they placed on their cows at the start of the project. The man who owned the best cow of the project considered her worth only \$60 on March 1, 1923. She returned him a profit of \$100.96 above the cost of her feed. Another man had an old grade Shorthorn cow that he was about to sell in the spring of 1923. She beat all of his other cows and stood third in the entire project in net returns.

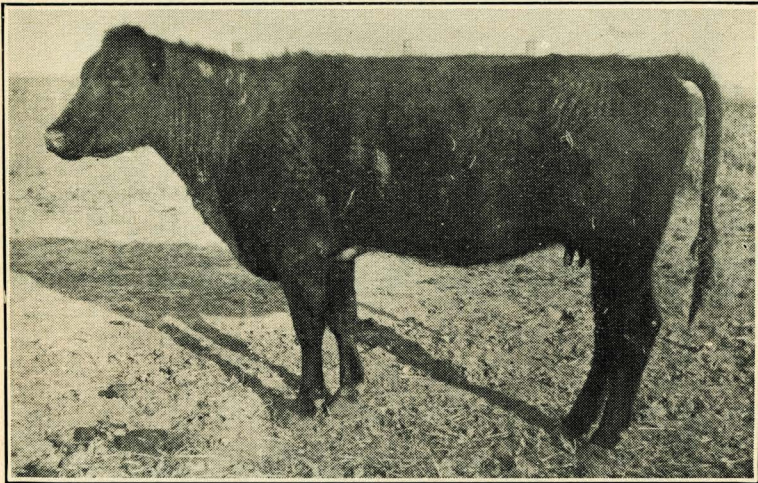


Fig. 2. This \$150 cow returned a net profit of \$8 26.

One of the outstanding examples of this phase of the project was found in one herd in which the owner valued one cow at \$150 and two others at \$75 each. The \$150 cow made him only \$8.26 in clear profit while the other two cows returned him \$153.25 above the cost of their feed. He is not milking the \$150 cow this year.

One of the men, who had several of the high producing cows, figures now that they are worth as much to him as their market value plus the net return that they gave him last year. Thus, if a 1,000 pound cow was worth 4c a pound on the market and her butterfat and skimmilk was worth \$80 in 1923, she is worth \$120 to him now. He could sell her for more than that because he could furnish a record of her production, he says.

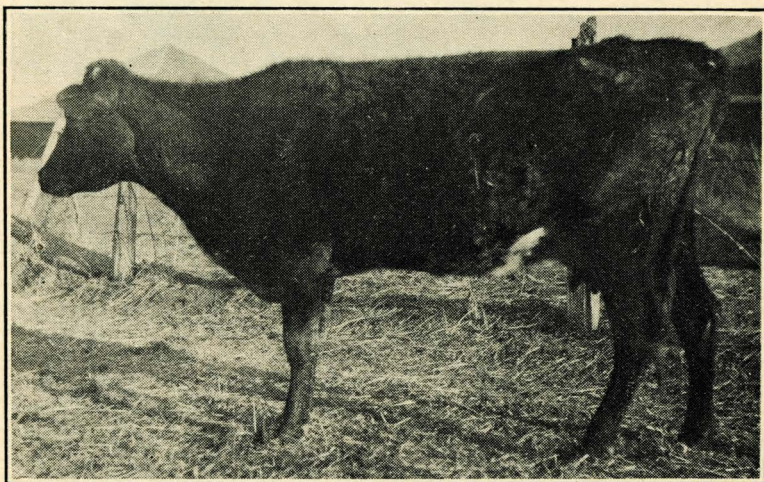
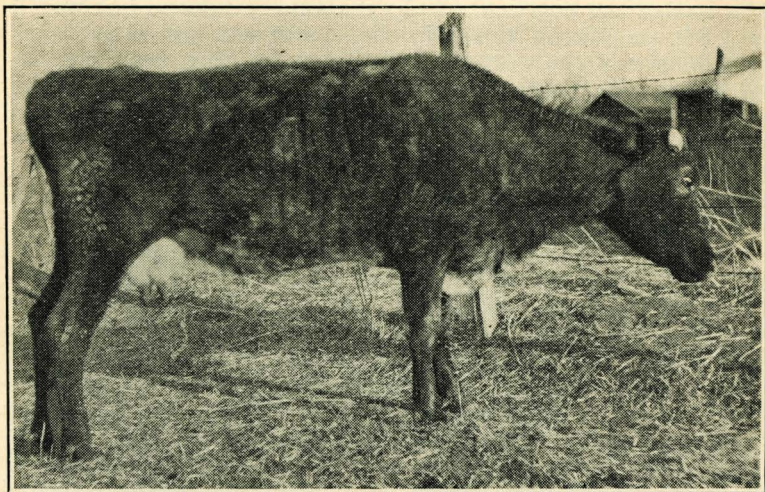


Fig. 3. These two cows produced the profit of \$153.25 that the story tells about.

FOUND REAL SOLUTION OF GRAIN MARKETING PROBLEM

The farmers who followed the feeding instructions furnished in connection with the project found a real solution of their grain marketing problems. They found it right out in their own cow barns by giving the most grain to the old bossies that used it in filling the pails. If the star boarder had any advance warning that she had best pay her bills, it was at feeding time when she had to go hungry while the good cows were finishing their full meals.

BOARDERS WERE REPLACED BY BETTER COWS

After being sired by a scrub and dammed by a boarder, it might not have been the poor cow's fault that she couldn't change good grain and hay into milk and butterfat, the farmers figured, so they sold some of the poor cows and bought four carloads of good dairy cows during the spring of 1924. These cattle were shipped in by the farmers themselves acting thru their County Farm Bureau organization. Not all of them, by any means, replaced the cows that were sold by the farmers in the project, but they were well scattered over the county, most farmers taking from 2 to 4 of them. The first two carloads were purchased on paid orders of the farmers but the second two loads were financed by a revolving fund which 13 of the banks and 3 other business organizations of the county advanced as a checking account for the buyer.

Practically all of these cows that are now in milk are in the project and many of them are among the high 25 cows of the list each month.

1923 COOPERATORS REPEATING IN 1924

In spite of the fact that a busy farmer might reasonably think that one year's record on a cow would be a good indicator of what she is worth, many of the farmers who were in the 1923 project are back in the 1924 project with the same cows, testing them again to make sure that their 1923 behavior continues thru 1924. They may have a new cow or two to test, also, or they may be keeping the production pedigree of their cows up to date as a possible sales advantage.

SUMMARY OF IMPROVEMENTS MADE IN ONE YEAR

Thus, improvements are being made thru the choice of cows in the home herds, by the addition of other dairy stock, and by better feeding and management methods.

The first block of the proposed Thayer county bull ring has been formed by one group of farmers and several other individuals have purchased registered bulls with good production records behind them. More of the cooperators will be encouraged to buy a bull themselves or to form other blocks of the bull ring. In this way, the grade herds of the county will be built up toward higher production records.

ORGANIZATION OF THE PROJECT

After the details of the project had been tentatively worked out, Mr. Christie interested the farmers by personal visits. He proposed to them that if they would provide themselves with a milk scale and keep the daily milk and feed records, the County Farm Bureau would furnish all the other necessary equipment, tabulate and summarize the monthly reports, and make news reports to the cooperators and the people of the county and the state.

DETAILS OF THE PROCEDURE

During the first year, the farmer weighed the milk at each milking and recorded the figure on a daily record blank which he hung in the cow barn in a special holder. Once each month, he took a composite sample of a day's milk of each cow to his local cream buyer for a butterfat test. This test was recorded on the daily milk record before it was sent in to the County Farm Bureau office at the end of the month.

Feed costs were closely estimated. Grain was figured at sale prices and by weight. Suggestions were given that grain should be fed at the rate of one pound to three pounds of milk produced. Roughage was estimated at the rate of 2 pounds of hay for each 100 pounds of cow per day. Pasture was figured at the uniform price of \$2.00 per month per cow. The feed record for each individual cow was mailed in with the milk and butterfat records. Outlined feeding rations of grain and roughage were furnished by

Bill Jones July 1924

Date	Milk	Fat	Feed
1	10.0	2.5	1.0
2	11.0	2.8	1.2
3	12.0	3.0	1.5
4	13.0	3.2	1.8
5	14.0	3.5	2.0
6	15.0	3.8	2.2
7	16.0	4.0	2.5
8	17.0	4.2	2.8
9	18.0	4.5	3.0
10	19.0	4.8	3.2
11	20.0	5.0	3.5
12	21.0	5.2	3.8
13	22.0	5.5	4.0
14	23.0	5.8	4.2
15	24.0	6.0	4.5
16	25.0	6.2	4.8
17	26.0	6.5	5.0
18	27.0	6.8	5.2
19	28.0	7.0	5.5
20	29.0	7.2	5.8
21	30.0	7.5	6.0
22	31.0	7.8	6.2
23	32.0	8.0	6.5
24	33.0	8.2	6.8
25	34.0	8.5	7.0
26	35.0	8.8	7.2
27	36.0	9.0	7.5
28	37.0	9.2	7.8
29	38.0	9.5	8.0
30	39.0	9.8	8.2
31	40.0	10.0	8.5

SUMMARY OF RECORD

Date	Milk	Fat	Feed
1	10.0	2.5	1.0
2	11.0	2.8	1.2
3	12.0	3.0	1.5
4	13.0	3.2	1.8
5	14.0	3.5	2.0
6	15.0	3.8	2.2
7	16.0	4.0	2.5
8	17.0	4.2	2.8
9	18.0	4.5	3.0
10	19.0	4.8	3.2
11	20.0	5.0	3.5
12	21.0	5.2	3.8
13	22.0	5.5	4.0
14	23.0	5.8	4.2
15	24.0	6.0	4.5
16	25.0	6.2	4.8
17	26.0	6.5	5.0
18	27.0	6.8	5.2
19	28.0	7.0	5.5
20	29.0	7.2	5.8
21	30.0	7.5	6.0
22	31.0	7.8	6.2
23	32.0	8.0	6.5
24	33.0	8.2	6.8
25	34.0	8.5	7.0
26	35.0	8.8	7.2
27	36.0	9.0	7.5
28	37.0	9.2	7.8
29	38.0	9.5	8.0
30	39.0	9.8	8.2
31	40.0	10.0	8.5

INSTRUCTIONS

1. Fill in the name of the cow and the date of the record.
2. Fill in the amount of milk, fat, and feed.
3. Fill in the price of milk, fat, and feed.
4. Fill in the total value of the milk, fat, and feed.
5. Fill in the average price of the milk, fat, and feed.
6. Fill in the total value of the milk, fat, and feed.
7. Fill in the average price of the milk, fat, and feed.
8. Fill in the total value of the milk, fat, and feed.
9. Fill in the average price of the milk, fat, and feed.
10. Fill in the total value of the milk, fat, and feed.

Fig. 4. The handy record holder hung right in the cow barns by the scales.

the Farm Bureau. They were printed on a heavy paper and tacked up on the lower half of the daily milk record blank holder.

DAILY RECORDS SUMMARIZED IN COUNTY FARM BUREAU OFFICE

When the daily milk and feed records were received at the County Farm Bureau office at the end of each month, each cow's production was totaled and transferred to an assembling sheet. The fat test was recorded and the amount of butterfat produced was computed. The farmers had marked down the average price obtained for butterfat during the month, so an average of these prices was used in figuring the value of the butterfat for each cow.

The value of the skim milk was figured at thirty-three and one-third cents per hundred weight and found by

dividing the total weight of milk by 3, subtracting the weight of the butterfat, pointing off 2 places and calling the answer the value of the skimmilk in dollars and cents.

For example, if a cow gave 1,200 pounds of milk which tested 4 percent making 48 pounds of butterfat, the result could be obtained as follows: $1,200 \div 3 = 400$. $400 - 48 = 352$. Pointing off 2 places and calling this dollars and cents, the value of the skimmilk is \$3.52. This is correct if it is considered that the cream which is hauled to town tests $33 \frac{1}{3}$ per cent butterfat.

Labor records were kept by some of the farmers and from them it was figured that the average farmer spends 100 hours per year in milking and caring for each cow.

Additional data was reported once a year which gave the information needed regarding the age, weight, breed, estimated value, date fresh, and date dry of each cow. This information was used in more accurately interpreting the summaries and in giving some constructive assistance in the management of the herds.

SUMMARY TABULATED AND CONCLUSIONS DRAWN

From the completed assembly sheet, the record of each cow was transferred each month to a monthly herd sheet which was sent to the cooperator. Comparisons were made between the average of the 10 high cows and the average of the herd recorded on each sheet so the cooperator could see how his cows compared with the best ones in the project.

Month by month, each cow's record was transferred to her own individual record blank which was completed at the end of 12 months and then sent to the cooperator as a production pedigree of that particular cow. The rank of the cow in the project and her comparison with the average of the project in milk and butterfat production, gross and net returns, etc., was recorded at the bottom of the blank in red ink.

As a final summary of the entire project, a 12 months herd summary was made out and furnished to the cooperator. It was a condensed report of the success or failure of the man's dairy business during the year and also a comparison with the average of all the herds of the project.

SYSTEM OF PRESERVING RECORDS

All of these forms were of a standard size. Covers of heavy paper were furnished to each cooperator so that he had his monthly herd record in one loose leaf book, his individual yearly cow record in another, and his yearly herd summary in another. A duplicate of these books was kept in the County Farm Bureau office and also books of the monthly assembly sheets, the dairy milk records, and the monthly feed records.

NEWS SUMMARY MADE FOR COOPERATORS AND NEWS-PAPERS

From the assembly sheet a monthly news summary was published in mimeographed form. It contained the outstanding records of the month followed by a comparison of these high ten cows with the others of the project. The cows of the project were divided into three groups and contrasted as to butterfat production, net returns, etc. The groups were those that gave over 30 pounds, those giving between 20 and 30 pounds and those giving under 20 pounds of butterfat during the month. Comparison were quite often made between the net incomes of the dairy herd and the poultry flocks and the two summaries of the cow testing and the accredited farm flock projects were then sent out together.

Each monthly report carried suggestions for better feeding and management, educational material obtained from breed associations and other sources, and any other information that was of interest to dairy readers.

A study was made of the time of year that the cows were freshening and the farmers were encouraged to change the freshening dates of most of their cows to the fall months.

Considerable material was included regarding the marketing of dairy products and to the importation of dairy cows.

Two farm paper articles were published during the year. The first of them was rerun by the publisher at the expense of the County Farm Bureau and distributed to all of the farmers of the county.

New notes were written from week to week for the local papers of the county.

CHANGES MADE AT THE BEGINNING OF THE 1924 PROJECT

After a year's experience in the project, two important changes were made in the project, one in the organization and the other in the news report. Getting the butterfat test had not been entirely satisfactory and it was seen that some changes would have to be made if the project were to grow to include several hundred cows. The 1924 co-operators were asked to pay \$1.25 per cow per year for the services of the test, this being paid in cash, check, or post dated check, and used to pay expenses of having the milk tested at one central point and for the extra office help necessary in compiling the reports. The Farm Bureau office secured a supply of sample bottles and of cartons in which they could be mailed. A few drops of formaldehyde is placed in each of these bottles and as many of them are mailed to each cooperator as he has cows in the test. This mailing is done during the first few days of each month so the farmers can return the samples of milk either thru the mail or when they come to town any time during the month. Arrangements were made with a cream buyer in Hebron to test all of the samples at 5c per test. He keeps the record and furnishes it to the Farm Bureau office at the end of each month. With a large number of cows, it might be possible for the Farm Bureau to buy their own testing equipment and employ an office assistant to do the testing and compile the results, but with the number that are enrolled in the 1924 project, the Thayer County Farm Bureau is hiring the testing done and then employing such additional office help as they need to make out the reports.

This method of getting the butterfat test is working satisfactorily. Only one change is contemplated. Square box cartons have been used in 3, 6, 9, and 12 bottle sizes. It is probable that mailing tubes with metal bottoms and metal screw-top lids will be secured especially for the mailing of 1, 2, 3, and 4 bottles to cooperators. It is thought that the tubes will be more durable and also more easily packed and mailed.

The other change is in the manner of putting out the records of the individual cows. In the 1924 project, only the individual records of the 25 highest producing cows is given and the comparisons are made between them and the other cows of the project. These records are given to keep up the competitive interest among the cooperators

and also as a basis for encouragement to those men who have poorer cows.

OBTAINING EQUIPMENT

The supply of milk scales was obtained by the County Farm Bureau from a dairy supply house and furnished to the cooperators at cost. The record sheet holders were made by a hardware merchant in Hebron, paid for by the County Farm Bureau and loaned to the farmers so they could have a handy place to keep the dairy record right in the cow barn. The daily record blanks were obtained from the Agricultural College at Lincoln. All of the other forms for record keeping were worked out and mimeographed at the Thayer County Farm Bureau office. The office was equipped with a mimeograph and an addressograph, and an adding machine was borrowed. The sample bottles were obtained from a dairy supply house and the cartons from a paper supply house.

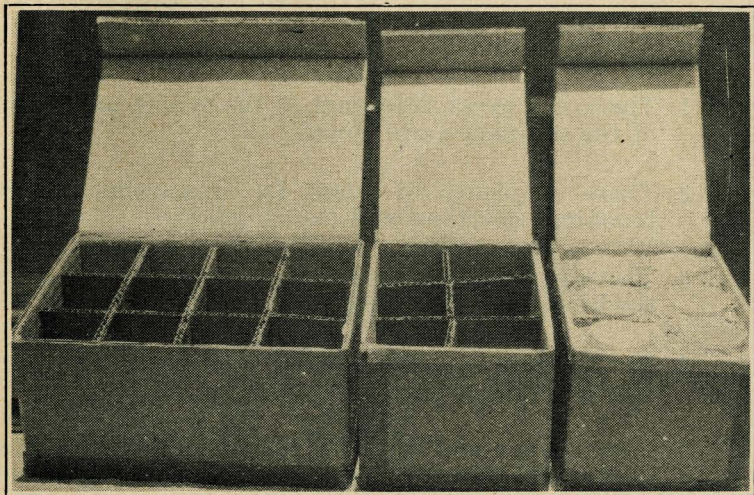


Fig. 5. Square cartons have been used in mailing out the jars for the milk samples.

THINKING IT OVER

This project, which was developed in a county with a comparatively sparse cow population, has its possibilities in other counties of the state.

The project illustrates the profitable use by the farmers of their County Farm Bureau organization.

As it has been conducted, the project is a business-like method of studying a business proposition.

This system of keeping records is not a substitute for a regularly organized Cow Testing Association in a county where such an organization is warranted by the existence of a number of large herds.

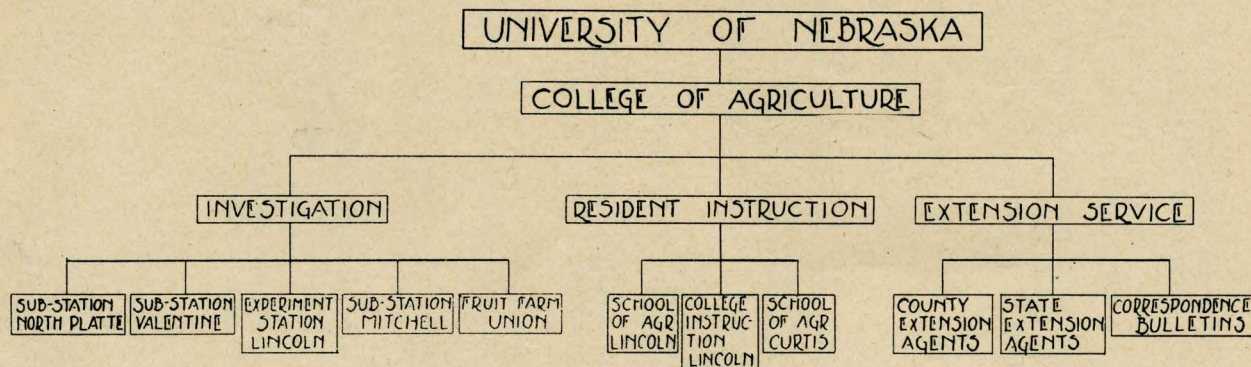
Farmers of other counties where Testing Associations cannot be economically operated can afford to enter such a project under the direction of their County Extension Agent.

The records which have been kept are the basis for many news stories which reflect credit to the county. They also furnish the foundation for accurate deductions and conclusions which are useful in promoting better dairying.

The records show that:

1. There is a great difference in the yearly production of the ordinary farm cows.
2. There is plenty of room for improvement thru breeding, selection, and management.
3. There is a reasonably satisfactory profit in keeping the best of the Nebraska farm cows.
4. The farmers had little idea of what their cows were worth before the project started.
5. Farmers can and will keep records of their business if given the proper assistance and encouragement.

THE COLLEGE OF AGRICULTURE AND ITS ACTIVITIES



This chart shows in graphic form the organization of the College of Agriculture. The College of Agriculture is one of ten colleges in the University of Nebraska, but has its own campus and buildings at Lincoln, besides experimental substations in various parts of the State. In addition to the customary instructional work of a college, it is responsible for experimental investigation and agricultural extension work. The instructional work includes instruction of college grade at Lincoln, instruction of high school grade thru the School of Agriculture at Lincoln, and instruction of high school grade thru the Nebraska School of Agriculture at Curtis. Experimental work and farming investigations are carried on at the main farms at Lincoln, and substations at North Platte, Valentine, and Mitchell, and at the fruit farm at Union. The Agricultural Extension Service represents the intimate contact between the college and the farmers of the State. This includes demonstrations by county and state extension agents, the distribution of bulletins, and practical service to the farmer, such as the answering of inquiries by mail.