11

NORTH CAROLINA

AGRICULTURAL EXTENSION SERVICE

ANNUAL REPORT

FOR

1952

Period covered December 1, 1951 to November 30 1952

Name of Project Dairy Extension

Covering work done by J. A. Arey — Marvin E. Senger.
T. C. Blalock
F. R. Farnham — William Roberts*
J. D. George — R. B. Redfern
~~A. C. Kimrey~~ — R. R. Rich
George Hyatt, Jr. — R. L. Wynn (Negro) **

- Part Time

**Report Under Separate Cover

Percentage of time devoted to project

Date Submitted: February 28, 1953. Signed:
Project Leader

Date Approved: , 195_. Signed:
Asst. State Director of Extension Work

Date Approved: , 195_. Signed:
Director of Extension Work, U. S. Department of Agriculture

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PERSONNEL OF DAIRY EXTENSION SECTION

Name of Worker	Nature of Work	Territory
Arey, J. A.	In Charge of Dairy Extension	Entire State
Blalock, T. C.	Artificial Breeding	Entire State
Farnham, F. R.	Production	Western Sect.
George, J. D.	4-H Clubs	Entire State
Hyatt, Jr., George	Production (Began Aug. 1, 1952)	Entire State
Kimrey, A. C.	Production (Resigned Dec. 31, 1952)	Eastern Sect.
Roberts, William	Dairy Manufacturing (Part Time)	Entire State
Redfern, R. B.	Dairy Manufacturing	Entire State
Rich, R. R.	Production	S'eastern Sect.
Senger, Marvin E.	DHIA & Official Testing	Entire State
Wynn, R. L. (Negro)	Production (With Negroes)	Entire State
Pirnat, Miriam T.	Secretary	Office
Vogedes, Ernestine J.	Secretary (Resigned June 30, 1952)	
Pickard, Frances	Secretary (Began June 3, 1952	Office
Henry, Mable K.	Secretary (Began June 13, 1952)	Office

INTRODUCTION

The following annual report is a narrative and statistical account of the methods used in Dairy Extension teaching and the results obtained for the year December 1, 1951 to November 30, 1952.

The Dairy Extension Plan of Work for 1952 included eight major problems which were as follows:

I. Low average milk production of 4500 lbs.

II. A lack of both quality and quantity of roughage

III. Use of low grade bulls

IV. An acute shortage of experienced dairy labor

V. Small farms inadequately mechanized

VI. Shortage of experienced plant personnel

VII. Shortage of family cows in eastern part of state

VIII. Maintenance of herd health and sanitation

The major portion of the time of the Dairy Extension Specialist during 1952 was devoted to the following seven projects:

I. Dairy Cattle Breeding

II. Production Testing

III. Junior Dairy Calf Club Work

IV. Roughage Production

V. Dairy Farm Management

VI. Cooperation with breed associations and other organizations

VII. Dairy Manufacturing

The eight major dairy problems mentioned above are all covered in these seven projects.

PROJECT I - DAIRY CATTLE BREEDING

Low milk production is one of the main causes of unprofitable dairying. One of the main factors which has been responsible for low milk production in this state is the use of dairy bulls which did not have the inherent ability to transmit high production to their daughters. The production ability of many bulls are now being determined through D.H.I.A. and official records processed by the Bureau of Dairying at Washington. Many of these bulls are secured by artificial breeding associations in which their service can be spread more widely than if used in natural service. Through artificial breeding the farmers in 81 counties of this state now have available the services of bulls that have proven their ability to transmit production.

Realizing the importance of this project, the Dairy Extension Office devoted considerable time and effort to this program during 1952. T. C. Blalock, leader of this project, devoted approximately 80 per cent of his time to the program.

Details of Operation

Of the sixty-five active associations in North Carolina, sixty-four continue to receive daily shipments of semen from the Asheville unit of American Breeders Service. As in the past,half of the semen actually comes from the Asheville stud and the remainder from the Carmel, Indiana unit of American Breeders Service.

Forsyth County continues to operate its own stud composed of four Guernsey and five Holstein bulls and breeds only in this one county.

During the last of 1951 and the first four months of 1952 Ayrshire semen was made available to certain counties. This was accomplished through cooperation with the N. C. Ayrshire Breeders Association, who agreed to underwrite part of the expense involved. Semen was flown by commercial air from the Massachusetts Selective Breeding Association at Shrewsbury, Massachusetts to the Asheville stud, where it was repackaged and placed in the individual county packages being shipped from the Asheville stud. Due to poor air service between these two points, this arrangement was not satisfactory. However, 258 cows were bred.

In an effort to improve this service during the 1952-53 breeding season arrangements were made whereby the semen would be flown to Raleigh instead of Asheville since air service at the Raleigh Airport was much better. It would then be repackaged and shipped to the local association. This should provide better service and it is hoped many cows will be bred.

The training of inseminators for all associations is under the direction of the N. C. State College Dairy Department with assistance from this office. During 1952, two short courses were held, one in March and one in October, with a total enrollment of forty-four. This brings the total number of men that have been trained since the first school was held in the fall of 1947 to well over 300.

A member of the Dairy Extension staff served on the bull selection committee of the N. C. Institutional Breeding Program. This stud, located at the college dairy farm, now consists of thirteen bulls and semen is shipped four times each week to twelve state institutions.

Educational Methods

Each of the sixty-five local associations was assisted in some way by the Dairy Extension Office during 1952. One of the main problems requiring considerable time is the close supervision of the technicians of these associations. With a rather high turnover in technicians, especially in the weaker associations, it is necessary to spend a lot of time in following up these new men. During the past year every new man was visited very soon after he began working. By doing this, many costly errors can be avoided. Even the experienced technicians require supervision since they have a tendency to take short cuts and become careless. Everything must be done in order to keep conception rates high since this can easily be the limiting factor in the growth of the program.

Educational meetings were held in a number of counties with the main emphasis being placed on the farmers' part in obtaining a good conception rate. Colored slides illustrating such things as the importance of time of breeding, detection of heat and the reason why breeding following calving

should be delayed at least sixty days have been used and proved very effective.

A set of ten charts and slides were prepared illustrating the importance and value of using proved bulls. These were used in a number of county and district meetings. Loan sets were made available to the county agents. Twenty-five counties have purchased complete sets.

To assist the local association with their advertising program, a boxholder was prepared by this office. It was printed by the college print shop and paid for by the local associations. Approximately 25,000 of these have been distributed. The boxholder contained pictures and proofs of bulls of each of the breeds available, as well as some of the advantages of artificial breeding. The name of the local association, the technician, his telephone number and service charge were also included.

Circular letters were prepared and sent to the county agents and technicians from time to time. These were designed to keep these men up to date on new developments and point out ways in which the program could be improved.

In an effort to stimulate more interest among the inseminators, a technicians' contest has been developed. The items to be considered in determining the winners were: (1) percentage of increase in number of first services, (2) conception rate, (3) efficient use of semen, (4) percentage of total cows in area bred artificially during 1952, and (5) managerial ability of the technician. To finance this contest, the stud contributed $150.00 and each local association contributed $3.00, making a combined total of over $300.00 available for prizes. At least ten awards will be made with first prize being $100.00 for an all expense paid trip for the winning

technician and his wife to the National Association of Artificial Breeders meeting in 1953. A second prize of $50.00 will be given and eight other prizes ranging down to $10.00 will also be awarded.

During the past year, nine district technician conferences were held with approximately seventy-five percent of the technicians in attendance. At these meetings salesmanship and promotion ideas were discussed as well as new techniques in the field of artificial breeding. Time was allowed for a discussion and a question period following the meeting. The meetings were dinner meetings with both the technicians and their wives in attendance. These meals were paid for by the American Breeders Service.

Excess waste of semen has become a serious problem for the artificial breeding bull studs. Many technicians are requesting more semen than they actually need. To attempt to correct this problem and ward off the time when more bulls, and consequently bulls of lower quality, will have to be purchased and an intensive program has been launched to impress upon the technicians and agents the seriousness of this problem. Letters have been sent out and the problem has been discussed in meetings and privately with those concerned. To further encourage efficient use of semen this item has been given an important place in the technicians' contest.

Articles for release to the press and radio have been sent out periodically. These have emphasized the advantages of artificial breeding, management practices for farmers to improve conception rates, and the results being obtained through artificial breeding. Approximately 3000 copies of the North Carolina Artificial Breeding News were mailed out during 1952 to county agents and other agricultural leaders.

Progress and Results

The following table illustrates the tremendous growth of the artificial breeding program in North Carolina since 1948.

Year	No. of Assns.	No. of Counties Served	No. of Cows Bred	60-90 Day Non Return	% of Total Cow Population Bred Artificially
1948	34	39	16,073	56.5	5.0
1949	50	55	27,531	59.0	6.6
1950	56	63	34,424	65.0	9.6
1951	63	75	42,421	66.0	12.7
1952	65	81	43,843	61.7	13.1

During the past year, with assistance from this office, the following new associations were formed:

Name of Association	Date Organized
Cabarrus Breeders Cooperative, Inc.	April 1, 1952
Columbus-Bladen Breeders Cooperative, Inc.	July 1, 1952
Harnett Breeding Cooperative, Inc.	April 1, 1952
Lincoln Breeders Cooperative, Inc.	October 1, 1952
Stanly Breeding Cooperative, Inc.	April 1, 1952

These five new associations bring the total number of organizations operating in North Carolina to sixty-five and extends the service to eighty-one of the state's one hundred counties.

From the above chart it will be seen that 43,843 cows were bred during 1952 and on the basis of 60-90 day non-return rate 2685 or 61.7 percent settled of the first service.

Following is a monthly summary of the number of cows bred and the conception rates between September 1, 1951 and August 31, 1952:

Month	No. of Cows Bred	60-90 Day Non-Return Rate
September 1951	2,754	66
October	3,673	69
November	4,549	63
December	4,408	60
January 1952	4,387	59
February	3,458	57
March	3,063	59
April	3,041	62
May	3,182	65
June	2,790	63
July	2,973	62
August	2,881	65

From the above list it can be seen that the average conception rate took a sharp drop during the months of December, January, February and March. This was due to several factors and it is felt that this is largely responsible for smaller increase in number of first services this year as compared to years before.

The percentage of total cows bred increased from 12.7 percent in 1951 to 13.1 in 1952. If, however, we include only those counties in which the service is available, the percentage for 1952 would be 14.4.

During the year the following associations were forced to discontinue operations:

Name of Association	Date Discontinued
Granville Cooperative Breeding Association, Inc.	April 1, 1952
Johnston Livestock Mutual, Inc.	February 1, 1952
Swain County Cooperative Breeding Association, Inc.	March 1, 1952

In two of these counties the cow population is not large enough to adequately support an organization. The other county has sufficient cow numbers but simply was not breeding enough cows. The inseminator became careless and disinterested, which resulted in a very low conception rate. This, plus the fact that the county agent failed to push the program, resulted in its failure. These farmers are now obtaining service from other counties and it is hoped that this organization can be reactivated with the next year.

Excellent progress has been made towards getting more and more of our dairymen on a fall freshening program. It will be seen from the above chart that our heaviest breeding months were November, December, and January.

During 1952 the N. C. Institutional Artificial Breeding Stud bred 665 cows. This represents a decrease of 16 cows when compared with the same period in 1951.

During 1952 seventeen county associations bred over 1,000 cows each. While this does not represent an increase over 1951, the remainder of our associations averaged somewhat higher and are on a much sounder basis financially. This has been done in some cases by increasing the service fee and in other by increasing the volume. In three instances financial assistance has been given the association by the county commissioners to enable them to employ the right kind of man who could eventually build it up to a self-

supporting basis.

In Macon County a program was worked out whereby the programs of artificial breeding and D. H. I. A. testing were combined under one man. This permitted the association to employ a full-time man who could devote a part of his time to building up the volume. This combination has worked exceedingly well for both programs, and it is felt that this same plan can be put into effect in several other counties.

At the 1952 District Junior Dairy Cattle Shows 345 or 40 per cent of all the animals shown were a result of artificial breeding. While no figures are available for previous years, this represents a substantial increase. At these shows special ribbons, furnished by American Breeders Service, were awarded these animals resulting from artificial breeding. Of the 345 shown, 85 per cent were considered good enough to be placed in either the blue or red group. The actual breakdown was as follows: 109 or 32 per cent were given blues; 184 or 53 per cent were placed in the red ribbon group and only 52 or 15 per cent were awarded white ribbons.

A few production records on these animals resulting from artificial breeding are now available. Unfortunately, the numbers are small and an even smaller number of dam-daughter comparisons are available. The averages by breeds are as follows:

Guernseys

	Lbs. Milk	%	Lbs. Fat
11 daughters, 12 recs. ave.	8,415	5.06	426

Jerseys

	Lbs. Milk	%	Lbs. Fat
9 daughters, 10 recs. average	6,411	5.18	332
4 daughters, 4 recs. average	6,648	5.40	359
4 dams, 8 recs. average	6,216	5.39	335
Difference	+ 432	+.01	+24

Holsteins

25 daughters, 28 recs. average	11,676	3.49	408
10 daughters, 12 recs. average	10,814	3.50	379
10 dams, 14 recs. average	11,743	3.44	404
Difference	-929	+ .06	- 24

While these records are not as high as we would like to see them, it is felt that as more records come in the picture will change. To further substantiate this, if we were to remove the record of one of the Holstein animals that apparently had an abnormal record, the average would show an increase instead of a decrease.

Following is a list of all associations that operated between November 1, 1951 and October 31, 1952, the number of cows bred, and the percentage of total cows bred artificially during this period:

Association	No. of Cows Bred	% of Cows in Area Bred
Alamance	1879	32
Albemarle	228	8
Alexander	765	24
Alleghany	597	24
Anson	319	11

Association	No. of Cows Bred	% of Cows In Area Bred
Ashe	636	5
Avery-Carter	171	6
Buncombe	2184	22
Burke	214	8
Cabarrus	223	5
Caldwell	642	20
Caswell	373	10
Catawba	1406	22
Chatham	619	10
Cleveland	869	12
Coastal	754	17
Cumberland	408	17
Davidson	727	12
Davie	1264	28
Eastern	436	16
Gaston	1053	22
Granville	55	1
Forsyth	1864	38
Guilford	1566	20
Harnett	51	2
Haywood	1168	16
Henderson	1345	29
Iredell	1523	15
Jackson	209	6
Johnston	30	1
Lee	41	3

Association	No. of Cows Bred	% of Cows In Area Bred
Lenoir	237	12
Macon	717	20
Madison	197	3
Mecklenburg	1187	16
Mitchell	195	6
Montgomery	268	21
Moore	415	18
Murphy	549	10
McDowell	244	15
Northampton	126	8
Orange	1204	27
Person	208	6
Pitt	382	21
Polk	444	30
Randolph	1309	19
Richmond	220	16
Robeson	670	18
Rockingham	963	20
Rowan	1098	15
Rutherford	632	14
Sampson	192	6
Stanly	342	9
Stokes	299	7
Surry	444	8
Swain	12	1
Transylvania	297	19
Twin	390	9

Association	No. of Cows Bred	% of Cows In Area Bred
Union	1530	19
V-W	1029	16
Wake	1134	17
Watauga	258	4
Wayne	719	24
Wilkes	394	6
Yadkin	958	19
Yancey	472	11
Columbus-Bladen	137	3

PROJECT II - PRODUCTION TESTING

This project has for many years been one of the main projects of the Dairy Extension workers. Through production testing information is secured which is essential in the proper management of a herd. Since October, 1951 Marvin E. Senger, leader of this project, has devoted his full time to it.

The information obtained through testing records is also basic in a good dairy extension program.

Production testing is definitely a long time project and must be continued year after year if it is to provide the maximum benefits to dairymen for more efficient operation. Continuous production testing of all cows is the best guide any dairyman can have to increase and maintain the production level of his herd. This, in turn, will increase his income and afford him and his family a better living. Table I is a summary of cows at different production levels in N. C. Dairy Herd Improvement Association in 1950 * and will illustrate that high producing cows give higher returns.

Table I - Returns at Different Production Levels

North Carolina DHIA - 1950

Production Level	Value of Product	Cost of Roughage	Cost of Grain	Total Feed Cost	Over Feed Cost	Overall * Costs
150	$196	$68	$54	$122	$74	$-48
200	283	30	67	147	136	-11
250	351	82	70	152	199	47
300	435	86	75	161	274	113
350	505	90	82	172	333	161
400	579	99	89	188	391	203
450	660	106	99	205	455	250
500	728	107	116	223	505	282

* Assuming feed cost is one-half the cost of producing milk

A similar study of 1951 DHIA data was not prepared but would be expected to be very similar to 1950 data.

The following chart is one method of presenting the data in Table I to emphasize the advantage of high producing cows and to encourage the use of production records for higher returns. This chart was presented at numerous dairy meetings as well as being included in a state-wide exhibit on production testing. It clearly illustrates the basic reasons for production testing.

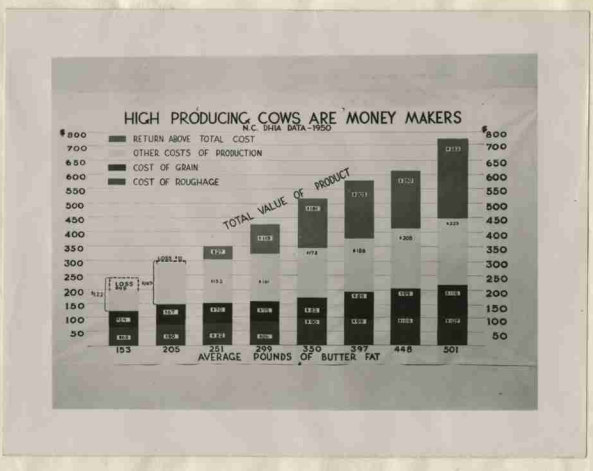


Figure I

These reasons will remain the same year after year. Production records are the basis for intelligent culling of low-producing and unprofitable cows, improvement of feeding and management practices and selecting replacements from high-producing cows in planning a sound breeding program. In addition, production records stimulate interest and a desire for better dairying. Table II and Table III will show that these factors have been effective in increasing production and returns for DHIA members.

Table II

A Summary of Average Production, Feed Cost, Value of Product and Returns Over Feed Cost For All Cows in DHIA by Years

Year	Average Milk Production	Average B'fat Production	Value of Product	Feed Cost	Value of Product Over Feed Cost	Return Over All Costs *
1941	7188	317	$264	$87	$177	$90
1942	7019	313	271	97	174	77
1943	6676	301	279	113	166	53
1944	7215	316	324	145	179	34
1945	7545	337	364	161	203	44
1946	7798	334	393	173	220	47
1947	7291	321	423	188	235	47
1948	8048	339	487	215	272	57
1949	7799	340	495	203	292	89
1950	8076	341	485	186	299	113
1951	8158	351	500	194	306	112

* Assuming feed cost is one-half the cost of producing milk

When the average DHIA cow is compared to the average production of all North Carolina dairy cows the value of production testing becomes a sizeable figure and greatly exceeds its cost to the dairymen. The average production of all N. C. dairy cows in 1951 is 4450 pounds of milk and 198 pounds of butterfat. The average production for DHIA cows of the same year was 8159 pounds of milk and 351 pounds of butterfat. This is a difference of 3709 pounds of milk and 153 pounds of butterfat per cow in favor of DHIA cows. By fitting these production averages into Table I, the value of production testing to N. C. dairymen can be easily recognized. Table III will show a comparison of average production of all N. C. dairy cows with that of cows

tested in North Carolina Dairy Herd Improvement Associations over the years. It should be noted that the rate of increase in production per cow has been much greater for cows in Dairy Herd Improvement Associations.

Table III
Average Production of All Milk Cows and DHIA Cows
In North Carolina

	All Cows		DHIA Cows	
Year	Milk	B'fat	Milk	B'fat
1930	3770	162	6298	267
1935	3450	148	6359	278
1940	3930	173	7188	317
1945	4030	181	7545	337
1950	4460	198	8076	341
1951	4450	198	8159	351

It is impossible to determine the total influence of production testing on dairy farming in North Carolina but it should be recognized that herds with production records are demonstrating better dairy practices and providing herd sires and foundation females for other dairymen throughout the state. Outstanding bulls used for artificial breeding are selected from herds on test on the basis of production of their daughters and other animals in the pedigree. Production records are serving as a basis for the selection of 4-H calves.

A large number of dairy cows must be continuously tested if dairymen the state over are going to be able to breed and raise high-producing herds that are profitable to them.

Dairy Herd Improvement Associations

The U. S. Department of Agriculture and the N. C. Agricultural Extension Service cooperate in carrying out this project with the dairymen in the state. County agents take an active part in organizing and guiding the local Dairy Herd Improvement Association in their respective counties. Extension dairymen train the testers and supervise their work in the field. The county agents and Extension dairymen work closely together with all problems confronting the testers and the dairymen. This should be the basic type of production testing for North Carolina dairymen.

During 1952 six new DHIA's were started, making a total of thirty associations testing 418 herds and 13,954 cows on November 30, 1952. This is the largest number of herds and cows to be enrolled in DHIA in North Carolina. Table IV will show the number of active associations in North Carolina on November 30, 1952 and the associations organized during the year.

Table IV
Active DHIA's in North Carolina
November 30, 1952

Association	County	Tester	No. Herds	No. Cows	Organized
Alamance	Alamance	Ervin Love	11	392	
Burke-Caldwell	B.-Caldwell	Charles Sisk	15	402	April, 1952
Capitol #1	Durham, Granville, Person	G. E. Hager	11	511	
Capitol #2	Wake	C. Rambeau	10	429	August, 1952
Davidson	Davidson	E. Yarbrough	13	344	
Davie	Davie	W. Morris	8	192	
East Central	Wayne, Lenoir, Onslow, Carteret, Craven, Wilson	H. B. Wilkie	20	771	May, 1952
Forsyth	Forsyth	Ed. Greble	18	395	

Table IV Continued

Association	County	Tester	No. Herds	No. Cows	Organized
Golden Belt	Vance-Warren	E. B. Wilkinson	7	142	April, 1952
Iredell	Iredell	T. C. Henderson	15	426	
Macon	Macon	W. Higdon	7	155	May, 1952
N'eastern	Pitt, Nash, Halifax, Edgecombe, Beaufort	D. Haddock	16	588	
N'western	Watauga, Ashe, Avery	Earl Moretz	14	311	
Pied. I-A	Guilford	R. McKoin	20	700	
Pied. I-B	Guilford-Rockingham	E. Harrison	22	690	
Pied. #2	Cabarrus-Mecklenburg Gaston	R. Hogue	14	435	
Pied. #3	Catawba, Lincoln	Kenneth Powell	9	270	
Pied. #4	Catawba	H. Mauser	12	492	
Pied. #6	Union, Anson	R. Killough	14	399	
Pied. #9	Rowan	T. S. Sloan	8	230	
Pied. #12	Orange, Chatham	W. M. G. Walker	12	496	
Randolph Co.	Randolph	Robert Atwater	16	600	
Southeastern	Cumberland, Sampson, Scotland, Robeson, Bladen, Columbus, New Hanover, Pender, Duplin	R. Lineberger	21	698	
S'western - 1	Henderson, Buncombe	H. K. Lutz	20	690	
S'western - 2	Haywood	Wm. Osborne	11	408	
S'western - 3	Cherokee, Clay	W. P. Walker	10	196	
S'western - 4	Polk, Rutherford, Cleveland, Gaston	C. R. Nichols	14	687	

Table IV Continued

Association	County	Tester	No. Herds	No. Cows	Organized
S'western - 5	Cleveland, Henderson, Transylvania	John Hunt	14	413	
State Insts.	Wake, Burke, Durham, Wayne, Watauga, Lenoir	W. Martin	9	740	
Tri-County	Lee, Moore, Hoke, Montgomery, Richmond	Boyd Marsh	14	392	May, 1952
Miscellaneous Herds *	Caswell, Yadkin, Wilkes, Alexander	Eugene McCall Calvin Stephens	13	360	
Total 30 Associations			418	13954	

* Not considered as an association. Consist of scattered herds that are not in the area of any of the associations listed.

Table V will show the growth of DHIA testing since 1925.

Table V

Dairy Herd Improvement Associations

In North Carolina by Years

Year	Ass'ns. Active	Herds on Test		Cows on Test		Average Per Association	
		No.	% *	No.	%	Herds	Cows
1925	2			648			
1926	5	88	8.0	2722	.9	17.6	544
1927	5	75	6.8	2484	.8	15.0	497
1928	5	77	7.0	2786	.9	15.4	557
1929	8	128	11.6	4235	1.5	16.0	529
1930	7	116	10.5	3719	1.3	16.5	531

Table V Continued

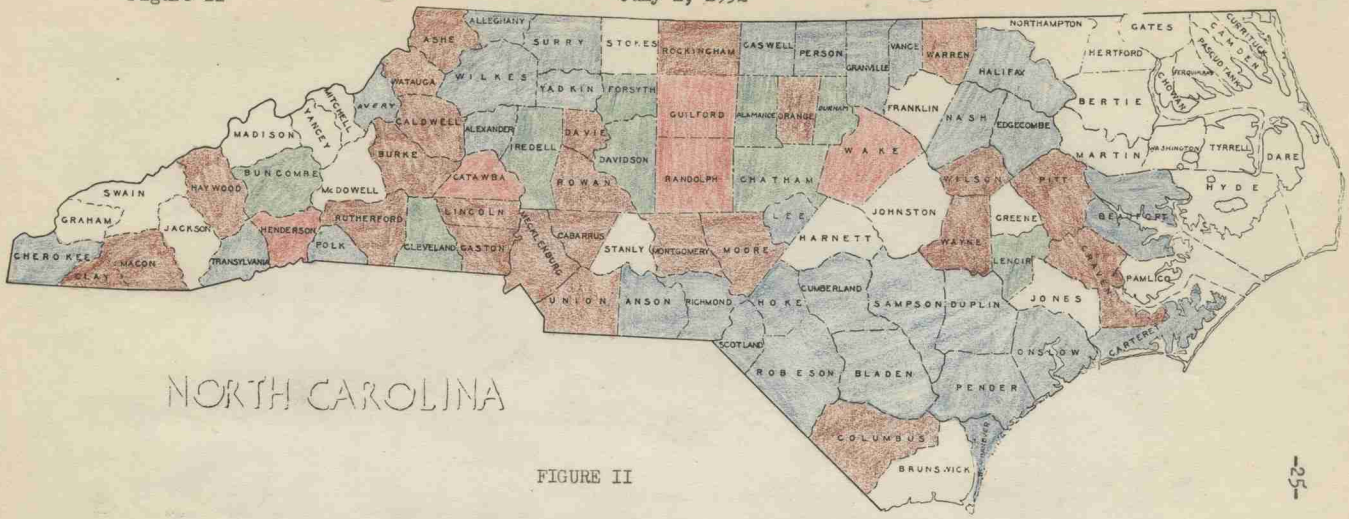
Year	Ass'ns Active	Herds on Test		Cows on Test		Average Per Association	
		No.	% *	No.	%	Herds	Cows
1931	7	88	8.0	3154	1.0	13.0	451
1932	8	90	8.1	3089	.9	11.2	386
1933	9	89	3.1	3020	.8	10.0	336
1934	7	82	7.4	2697	.7	11.7	385
1935	6	81	7.3	2936	.8	13.5	489
1936	6	88	8.0	3713	1.0	14.7	619
1937	8	100	9.0	4389	1.2	12.5	549
1938	8	109	9.9	4800	1.4	13.6	600
1939	10	128	11.6	5475	1.6	12.8	548
1940	11	158	14.3	6471	1.9	14.4	588
1941	11	160	14.5	6913	2.0	14.5	628
1942	12	187	16.9	7986	2.2	15.6	666
1943	9	135	12.2	5566	1.5	15.0	618
1944	8	132	11.9	5512	1.4	16.5	689
1945	7	104	9.4	4132	1.0	14.9	590
1946	6	79	7.1	3100	.8	13.2	517
1947	15	141	12.8	4676	1.2	-	-
1948	23	-	16.4	5751	1.5	-	-
1949	22	201	18.2	6226	1.7	-	-
1950	19	283	25.6	8403	-	-	-
1951	21	265	24.0	9075	2.3	12.6	432
1952	24	298	27.0	10092	2.7	11.9	404

* Based on 1940 census report of herds of 15 cows or more kept on farms for milk.

Figure II will show the distribution of DHIA testing throughout the state.

Figure II

NUMBER OF COWS ON DHIA TEST BY COUNTIES
July 1, 1952



NORTH CAROLINA

FIGURE II

500 Cows or More on DHIA Test

300 to 499 Cows on DHIA Test

100 to 299 Cows on DHIA Test

1 to 99 Cows on DHIA Test

Number of Cows on DHIA Test By Counties

July 1, 1952

During the war years, which resulted in an accute shortage of supervisors, the organized operation of many of the associations was disrupted. The scattered location of dairy herds throughout North Carolina also made it difficult to get dairymen together in a properly organized group. However, with the increasing number of grade A dairy herds, there has been a corresponding increase in the number of dairymen interested in production testing. By adding a few more supervisors to the work this past year and with an increase in the number of herds on DHIA test, seven groups have been organized into associations. Most of these have been within one county; one has been two counties cooperating, another three counties working together, and another where five counties are cooperating to form an association. This places more of the responsibility of the operation of a testing association with the dairymen themselves and it is anticipated that more of the groups will become properly organized within the next year or two.

One of the main problems in DHIA testing is securing sufficient trained personnel to meet the need for replacements in existing associations and to start new associations. To provide properly trained personnel for testing jobs, three two-week training courses were conducted during the year. Qualifications to attend the training course to become eligible to apply for a testing position consisted of farm experience, a high school education or equivalent, ability to handle simple arithmetic, and a liking for record keeping and interest in Dairy Husbandry. Only persons completing the training course satisfactorily are recommended for testing positions. In the three training courses twenty-nine men enrolled; twenty men completed the training course satisfactorily and fifteen were placed in North Carolina associations. (An outline of a typical training course will be found with the exhibits following the production testing section.)

One two-day DHIA Supervisor's Conference was held in August 1952. This conference was for the purpose of bringing the supervisors up to date on DHIA procedure as well as other new material relating to dairy production. Several changes were reviewed in the DHIA procedure. Such discussions aid in standardizing the work throughout the state. All but four testers attended the conference. To make it more convenient for them, two conferences were held, one in the western part of the state and one in the eastern part of the state with the same program given at each place. In addition to the testers conference, numerous field visits were made with testers on the job to review their record keeping and testing work. Considerable assistance was given in this way to many of their individual problems.

To further encourage production testing, to summarize production records, and to bring timely material on various phases of dairying to DHIA members, the "Dairy Extension News" is published monthly. This publication is sent to each dairyman doing any type of production testing, as well as to county agricultural agents, DHIA testers, and others who have indicated their interest in dairying. An average of approximately 800 copies was mailed each month in 1952. (Representative copies are exhibited following the production testing summary.)

To keep DHIA testers, county agents and dairymen informed of various activities in the production testing program throughout the year, twenty-four form letters were prepared and a total of 2300 of these letters were mailed to testers, county agents and breeders. To further aid with the efficiency in supervising the production testing work, twenty-five mimeographed forms and leaflets and two printed forms were prepared. This material was prepared for use by the supervisors in aiding them with the testing work or as informational material for testers, county agents and breeders.

A very important phase of DHIA testing is the tremendous information it provides for the improvement of our dairy herds through breeding. Special effort has been made to encourage DHIA supervisors to report all 305 day lactation records for use in proving sires. Sires known to transmit high production to their offspring are invaluable in dairy herd improvement and it is especially important that a high percentage of sires used in dairy herd improvement associations be proved. This is the main source of information for locating and selecting superior sires for artificial breeding. Bull selection committees are making tremendous use of the DHIA-proved sire service as a basis for intelligent selection of bulls to be used. It is also essential that all 305 day lactation records be reported on as many daughters as possible of bulls used in artificial breeding so as to give added information on these bulls. During the first nine months of 1952 3,703 305-day lactation records were reported by DHIA supervisors. This is 36.7% of all cows enrolled in DHIA test as of January 1, 1952. During the same period and as a result of reporting 305-day lactation records previously twenty-two proved sire records and ninety daughter averages were received from the Bureau of Dairy Industry by the Dairy Extension Office. As this information was received through the Dairy Extension Office, it was forwarded to the owners of the bulls concerned, the dairy tester and the county agent. (Table VI shows the progress that has been made in reporting lactation records and the amount of information that has been made available in the form of proved sire reports and daughter averages.)

Table VI

Number of 305-Day Lactation Records Reported and Sire Data Received by Years

Year	305-Day Records		Sire Data	
	Number	Per Cent *	Proved Sire Records	Daughter Averages
1938	194	4.0	4	
1939	562	10.3	8	
1940	988	15.0	21	
1941	868	13.0	13	
1942	475	6.0	13	
1943	330	6.0	22	
1944	308	6.0	15	
1945	192	5.0	7	
1946			3	
1947	380	8.1	10	
1948	707	12.3	14	
1949	1462	23.5	40	
1950	2807	33.4	29	
1951	2507	27.6	18	89
1952 **	3703	36.7	22	90

* Per cent of 305-Day Lactation Records reported of all cows on DHIA test as of January 1, of that year.

** First nine months

I wish to recognize the splendid cooperation given us by Dr. J. F. Kendrick, Head Dairy Herd Improvement Investigations Division, Bureau of Dairy Industry, USDA, and his staff. They have been extremely helpful in supplying proved sire information and daughter averages to be used in the selection of superior sires for artificial breeding, as well as for individual herds.

Herd Improvement Registry

For many years the agricultural colleges in all states has served as a disinterested party between the breeders and the breed association in supervising official testing. Each of the five breed associations have extensive official testing departments and are interested in providing their breeders

with a system of records adapted to their needs. These records must be carefully supervised and are of two types, Herd Improvement Registry and Advanced Registry.

The Herd Test, as sponsored by the breed associations, is not unlike Dairy Herd Improvement Association testing because it too emphasizes continuous testing of all animals in the herd over a period of years. Its popularity is very definitely on the increase and more and more of the pure-bred breeders are relying on this type of test to develop a herd, build a breeding program and likewise furnish official records which are beneficial in helping him dispose of surplus breeding stock and in making up pedigrees. In most instances in North Carolina the Herd Test is run in conjunction with the regular monthly Dairy Herd Improvement Association test. In this way the same tester does all the work in one visit at a considerable saving in cost to the breeder.

Like the Dairy Herd Improvement Association testing, there has been an increase in the number of cows and herds entered in Herd Improvement Registry Division until now and more herds and cows are entered in this division than ever before. On November 30, 1952, 107 herds and 3,279 cows were enrolled in Herd Improvement Registry Testing. The breakdown by breeds is shown in Table VII.

Table VII
Herds and Cows on Herd Improvement Registry Testing
November 30, 1952

Breed	No. Herds	No. Cows
Ayrshire	15	530
Guernsey	18	466
Holstein	39	1047
Jersey	35	1236
Total	107	3279

As can be expected, this type of testing has helped to bring about an increase in production through the years. Because Herd Improvement Registry testing is a continuous test on all cows, it is a very helpful tool in culling dairy herds and establishing a sound breeding program for breeders.

Advanced Registry

The number of cows on Advance Registry test in North Carolina has not changed to any great extent the past few years. However, the past year has shown some decrease in the number of herds but an increase in the number of cows on test in this division. This type of selective testing is expensive and does not lend itself to wide spread use in practical dairy herds where the production of the entire herd is the chief concern rather than a few selected animals. This type of testing is used primarily by the larger dairy cattle breeders. Table VIII below will show the number of herds and cows on test in this division by breeds.

Table VIII

Herds and Cows on Advanced Registry Testing
November, 1952

Breed	No. Herds	No. Cows
Ayrshire	0	0
Guernsey	35	784
Holstein	0	0
Jersey	3	118
Goats	2	16
Totals	40	918

Although the amount of Advanced Registry testing has been and will be quite limited, many benefits have been derived from this type of testing by North Carolina dairymen. These officially tested herds have been and are sources of highly bred seed stock for newly developing herds and proving established herds in many sections of the state.

Though the bulk of the Advanced Registry testing is done by DHIA supervisors, one full-time tester is employed to work largely with Advanced Registry herds, checking Herd Improvement Registry herds, and assisting with Dairy Herd Improvement work where needed to keep the records continuous.

DHIA TESTERS TRAINING COURSE

July 14 to 26, 1952

Monday, July 14

9:30 A. M. Welcome to State College Campus: Dr. D. W. Colvard, Head, Animal Industry Dept.

10:00 A. M. Introduction, Brief History, Organization and Scope of DHIA program.

1:15 P. M. The Value of Production Testing

2:00 P. M. Film, "John Martin and Son"

2:30 P. M. The Supervisor's Job

Tuesday, July 15

8:30 A. M. Explanation of Barn Book

1:00 P. M. Monthly Testing Period - The Centering System

2:00 P. M. Uniform Testing Rules for Standard DHIA

Wednesday, July 16

8:30 A. M. Checking Barn Book and Testing Period Problems

9:30 A. M. Explanation of the Monthly Association Report and Testers Computer

1:00 P. M. Getting Information from the Dairyman and Miscellaneous Rules and regulations

2:00 P. M. Explanation of DHIA Herd Book

Thursday, July 17

8:30 A. M. Feeding the Dairy Herd - J. A. Arey, In Charge, Dairy Extension

9:30 A. M. Checking Barn Book and Herd Book

1:00 P. M. Explanation and Demonstration of the Babcock Test - Dr. Robert B. Redfern, Dairy Manufacturing Specialist

Friday, July 18

8:30 A. M. Checking Barn Book and Herd Book

9:30 A. M. Identification and Tagging Program. Entries on "Register of Animals in Herd", Page BDI-DHIA-16

1:00 P. M. Why Milk Tests Vary - Dr. Robert B. Redfern

2:00 P. M. Babcock Testing Practice - Dr. Robert B. Redfern

Saturday, July 19

8:00 A. M. How to Average Records and Calculate Records for Nurse Cows

9:00 A. M. 305 - Day Lactation Records and Proved Sire Program

Monday, July 21

8:30 A. M. Checking Barn Book and Herd Book

9:30 A. M. 305 day Lactation Records and Proved Sire Program

1:00 P. M.

2:00 P. M. Babcock Testing Practice

Tuesday, July 22

8:30 A. M. 305 Day Lactation Records and Proved Sire Program

9:30 A. M. Yearly Individual Cow Report BDI-DHIA-46

1:30 P. M. Checking Yearly Individual Cow Report and Filling Out BDI-DHIA-780

3:00 P. M. To Dairy Barn to Test College Herd

Wednesday, July 23

5:00 A. M. To Dairy Barn to Test College Herd and Calculate Barn Book

1:15 P. M. Herd Improvement Registry Testing Rules and Regulations

2:30 P. M. Herd Improvement Registry Testing Filling Out Forms

Thursday, July 24

8:30 A. M. Checking HIR Testing Problem

9:30 A. M. Advanced Registry Testing (Rules and Regulations)

1:00 P. M. Advanced Registry Testing (Filling Out Forms)

2:00 P. M. Artificial Breeding in North Carolina, T. C. Blalock, Extension Dairy Specialist

3:00 P. M. To Dairy Farm to Identify Cows and Review AR Testing

Friday, July 25

8:30 A. M. Checking HIR and AR Problems

9:30 A. M. How to Figure Charges for DHIA, HIR, and AR Testing

10:30 A. M. Review Over All Phases of Testing Work

1:30 P. M. Examination Over Dairy Records

Saturday, July 26

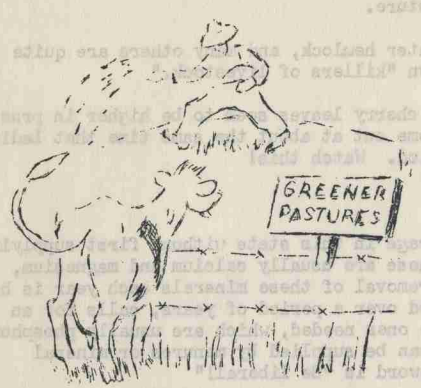
8:30 A. M. Review Herd Books and Examination Papers

9:30 A. M. How to Get Started and Make Good on the Job

DAIRY EXTENSION NEWS March, 1952

PASTURE MANAGEMENT

BY S. M. Dobson
Extension Pasture Specialist



BETTER GRASSLANDS PAY

This is a broad subject and one which needs more and more emphasis. Thank goodness we now have some pastures that are worthy of good management. North Carolina is about half way toward the 2,000,000 acre goal of improved permanent pastures. Of these, over 700,000 are Ladino clover-grass pastures. The only way we can reach our goal is to manage and maintain the ones we have while at the same time establishing others.

I. One of the first steps in good pasture management is proper establishment.

A. Select the soil carefully. Seed Ladino clover pastures on moist soils or soils that will hold moisture.

B. Lime and phosphate deficiencies must be corrected prior to seeding.

C. Lime and phosphate should be worked into the top 4 or 5 inches of soil before seeding.

D. A good seedbed must be prepared. Proper varieties of weed-free seed must be used.

II. Seed enough pastures for the animals on the farm.

A. It is almost impossible to manage pastures properly when there is not enough grazing to go around.

B. Seed at the rate of 1½ to 2 acres for each 1000 lb. animal.

C. Provide supplementary grazing for both summer and winter.

III. Grazing Management

A. Allow the sod to become established before grazing begins - 6 to 8 inches of growth is a good rule to follow.

B. Divide pastures for rotational grazing.

C. Harvest surplus pastures for hay or silage.

D. By all means avoid close grazing for any length of time. Close grazing in the early spring allows weeds to come in and will cut the yield of good grazing for the entire year.

E. Use the mowing machine to clip irregular growth when cows are moved from one pasture to another.

IV. Remove poisonous plants from the pasture.

A. Such plants as wild cherries, water hemlock, and many others are quite common in the state and are known "killers of livestock."

B. It so happens that young tender cherry leaves seem to be higher in prussic acid, and these tender leaves come out at about the same time that Ladino clover is reaching its lush period. Watch this!

V. Maintain the fertility level

A. We cannot produce nutritious forage in this state without first supplying plant nutrients to the soil. These are usually calcium and magnesium, phosphorus and potassium. The removal of these minerals each year is heavy. In order to keep a productive sod over a period of years, calls for an annual maintenance ration of the ones needed, which are usually phosphorus and potassium. These minerals can be supplied by manures or mineral fertilizers or both. Here, the word is "Be liberal!"

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MORE SILOS NEEDED

The present shortage of hay and grazing due to the drought last summer and the low temperature this winter has pointed to the need for more silos and silage. Many farmers have fed all their hay, and in most sections pastures have made very little growth. These dairymen face a rather gloomy period from now to such a time as pasture will be available. On the other hand a dairyman who has sufficient silage to feed his herd till grass is about 4 inches high and ready for grazing is very fortunate.

Throughout the dairy world it is common knowledge that good pasture is the best and cheapest source of nutrients for the production of milk. Experienced dairymen are almost unanimous in their belief that good silage is the nearest practical substitute for good pasture. An acre of corn, that will yield from 40 to 50 bushels of dry corn will make around 10 tons of silage; this in turn allowing for waste, will feed 4 cows 30 pounds per day for 5 months. The aim of dairymen is to produce, insofar as possible, sufficient feed to properly feed the herd, naturally they desire to grow those crops that will produce the most milk per acre involved. With the exception of feeding the green corn direct from the field, which of course is not practical, the corn made into silage will produce more milk per acre than any other way it can be fed. If the corn is put into the silo at the proper stage of maturity, well cut and packed, practically all the feeding value will be preserved.

The corn varieties being generally used for silage over the state are U.S. 282; N.C. 27; and Dixie 18. The dairyman should contact his county agent as to which variety is most desirable for his county. When deciding which one of the corns to plant, proper thought should be given to the variety that will sufficiently mature for silage before frost. Corn for silage should be matured to the extent that many of the ears are showing brown shuck on the top side. If corn is put into the silo too green, it will result in a silage that is too acid and will not be relished by the cows; on the other hand if it is too mature, it will not pack well and may result in moldy pockets.

The better the corn is the better silage it will make. It should be planted on good land and be well fertilized.

CATTLE LICE

From now until late spring is the time when cattle lice are most prevalent and do the most damage. If, in spite of good feed, your cattle, especially young ones, are losing weight and showing a rough dull coat, often with hair coming off in patches, they most likely have lice on them.

Lice are usually numerous around the nose, eyes, brisket, tail head, and underside of the animal. It is common practice to look for lice on the back of the animal, but this is not the most likely place to find them.

If lice are present, the following treatment is recommended:

Dust the animals with Rotenone-Sulphur Dust (containing 3/4 of one per cent Rotenone). Repeat treatment in two to three weeks. This powder may be applied with a shaker can or dust gun. Rub the powder well into the hair and give as complete coverage as possible. Clipping infested parts before applying the powder will make it easier to work the powder into the hair and skin.

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THE WILD ONION MENACE

The wild onion season is here again, and with bells on. The presence of onion flavor in milk during the spring months results in a large loss to the dairymen of the state. If care is exercised this loss can be greatly reduced. Keeping the cows off of the onions is of course the best way to overcome this trouble, but it is not always possible. It is good practice to graze the onions off with dry cows and young cattle. In case it is necessary to graze onion infested pasture with milking cows, they should be taken off the pasture at least six hours before milking. This enables the cow to breathe off the onion flavor. During the time they are off the onions, they should be given access to hay and water. Most dairymen, especially those in the Piedmont and eastern counties will be forced to graze pastures infested with onions. The only practical remedy is to take the cows off and give them time to breathe off the onion flavor. Perhaps this will be somewhat of an inconvenience but it will pay better than having off-flavored milk refused at the dairy.

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DHIA TESTERS TRAINING COURSE WELL ATTENDED

Eighteen persons enrolled in the DHIA Testers Training Short Course on March 10 and fourteen of them completed the course. From this group, all existing vacancies will be filled and several new associations are in the process of being formed. The county agents in these areas are to be commended for their interest and efforts in helping make arrangements to provide production records for their dairymen. As a result of their fine work, all those completing the March Short Course that desire testing work will be given jobs, with perhaps a need for one or two more men.

New testers need the cooperation of DHIA members as they get started with their testing work. The work is new to them and they may not do everything in the same routine as the previous tester. However, with a little experience, a new tester may become as efficient or more so than the previous tester. They will appreciate your cooperation.

HIR and AR RECORDS

Summary of Official Testing
February 1952

	Advanced Registry		Herd Improvement Registry	
	No. Herds	No. Cows	No. Herds	No. Cows
Ayrshire	0	0	15	483
Guernsey	42	895	16	417
Holstein	0	0	40	952
Jersey	4	134	34	1156
Goats	2	8	0	0
Total	48	1037	105	3008

Cows completing AR and HIR Records with 400 lbs. of fat or more on 2x milking or 500 lbs. of fat or more on 3x milking.

Owner

Cow's Name

GUERNSEY	Age	Times Milked	No. Days	Lbs. Milk	Lbs. Fat
Andrew, R. V., Greensboro					
Noble Rosalyn of Beaver Creek	Jr4	3x	365	12381	614*
Blackwelder, P. B., Mocksville					
Twin Brook Maxim Grace	Sr4	2x	365	8857	411
Brown, A. L., Concord					
Inverness Hildred	Sr4	3x	365	11698	672*
Clear Springs' Royal Beda	Jr2	3x	365	10461	561*
Carlson, C. I., Guilford College					
Skuggek Lady Verity	Jr4	3x	365	11984	709*
Skuggek Comet's Maiden	Sr3	3x	365	12917	671*
Carr, H. C., University					
Nancy's Lady Dairymaid	7	3x	365	16431	799*
Lassie's Choice of Chilbrook	9	3x	365	15574	780*
Guernsdel's Dolly Rosebud	5	3x	365	10934	541*
Chatham, Thurmond, Elkin					
Klondike Raider's Maiden	Jr4	3x	365	14197	720*
Coble, George S., Lexington					
Marshallane's C. Laurel	Jr4	3x	365	13184	750*
Grassy Grove Maxim's Posey	8	3x	365	13749	724*
Maegeo Queen Charm	Jr3	3x	365	12717	688*
Curtiss Candy Levity Barbara	6	3x	365	15282	648*
Maegeo D Valerie	Jr2	3x	365	11146	620*
Langvalley Belinda	7	3x	365	14616	607*
Hazelwood's Kite	8	3x	305	12711	605*
Gylden Weatherman's Sleepy	5	3x	305	12426	593*
Channel Point Cameo	5	3x	365	11555	590*
Brooke's Cross Carlotta	7	3x	305	11367	564*
Maegeo Valor's Cherry	Jr2	3x	365	11598	546*
Ideal's Champ's Fanny	Jr4	3x	305	10810	536*
Spruce Run Cherub's Charity	5	3x	365	9694	518*

Coble, George S., Cont'd.					
Manor Glen Mabel	Jr4	3x	305	11412	512*
Kembrooke Bernice	Sr4	3x	305	11107	505*
Felts, Barbara Anna, Candler					
Valkyrie Southern Asia	Jr4	3x	365	11898	617*
Fowler, O. T., Pfafftown					
Clear Springs' Majesty's Delora	Jr2	3x	365	10151	525*
Knightdale NoMax's Magie	Jr2	3x	365	10396	511*
Fox, Frances Hill, Durham					
Croasdaile's Princess Gale	7	3x	305	10220	553*
Croasdaile's Princess Sophie	8	3x	305	9453	519*
Frisbie, Eddie, Horse Shoe					
Notla Belle's Bula	7	2x	305	9010	465*
Hill, George Watts, Rougemont					
Quail Roost Golden Marie	7	3x	365	16032	824*
Hamhurst Danny Boy's Artis	5	3x	305	11429	634*
Quail Roost Gloria	Jr2	3x	365	13701	614*
Quail Roost NoMax Luster	5	3x	305	13537	603*
Huffman, R. O. Morganton					
Walnut Valley Belle Beauty	Jr4	3x	365	14146	605*
Hunt, Robert L, Jr., Lattimore					
Royal Gay Julia	5	2x	239	8270	420*
Mims, A. C., Rocky Mount					
Churn Creek's Honor's Cecile	5	2x	365	10063	547*
Marvel's Irene of Avalon	9	2x	365	11130	544*
Langhurst Valor's Sonsie	Jr4	2x	365	10864	509*
Norburn, C. S., Arden					
Flossy's Yellow's Girl	6	3x	305	11733	574*
Pine State Creamery, Cary					
Kildaire's Belle	5	2x	365	9651	497
Kildaire's Charlotte	Sr4	2x	365	8260	430
Playford, H. R., Hendersonville					
Sky Brook Medford's Barbara	Jr2	3x	365	12740	630*
Northern Assault's Nadine	Sr2	3x	305	12840	610*
Sky Brook Medford's Hope	Jr2	3x	305	10025	522*
Alice of Connemara Farms	10	3x	305	11036	520*
Randle, J. C., Kings Mountain					
Karat's Diane	6	2x	305	10968	498*
HOLSTEIN					
English, W. D., High Point					
Floradale Jewel Lyons Isabel	5-1	2x	305	12771	465.2
Brownstead Sir Champion Annie	7-2	2x	305	12075	433.1
	" "	2x	340	12485	448.7
Truhart Maggie Lucy	5-9	2x	332	11756	411.3
Finch, Doak, Trinity					
Magie Dixie Dell 2d	8-4	2x	305	13544	475.4
	" "	2x	321	13915	487.7
Launfal Maude	4-3	2x	305	11984	452.2
	" "	2x	365	13364	502.9
Reich, Dr. E. H., Lexington					
Carolina Prilly Pontiac Colantha	7-7	2x	305	13797	472.8
	" "	2x	365	14894	510.6
Lyons Korndyke Pietje Segis	4-6	2x	305	11581	434.4
	" "	2x	365	12309	461.8
JERSEY					
Biltmore Farms, Biltmore					
Biltmore Royal Pauline	5-5	2x	365	13959	717*

Biltmore Farm, Biltmore, Cont'd.					
Biltmore Ivy Sir Connie	4-7	2x	305	10017	614*
Biltmore Dandy Alma	2-5	2x	365	9462	606*
Biltmore Basileus Bride	7-1	2x	305	9894	581*
Biltmore Dotstand Jean	4-4	2x	305	11033	536*
Biltmore Roystand Poetess	6-6	2x	305	11043	526*
Biltmore Souvenir Rosebud	5-6	2x	305	9131	510*
Biltmore Ivy Sir Sultana	4-3	2x	305	9001	467*
Biltmore Stanfauvic Tuckee	4-1	2x	305	7593	449*
Biltmore La S. Royal Patricia	4-2	2x	305	7759	478*
Biltmore Fillpail Pet	2-2	2x	305	8084	412*
Biltmore Fillpail Poll	3-1	2x	305	7587	401*
Cowles, Reuben R., Statesville					
Louisoxford Sally	4-5	2x	305	9095	426
Dan Valley Farm, Blanch					
Royal Louisoxford Shirley	3-0	2x	305	8779	430
Granada Farm, Granite Falls					
Fern Clara Mabel	11-4	2x	305	8467	408
Volunteer You'll Do Louise	9-2	2x	305	10539	570
Fern Volunteer Clara	6-6	2x	305	9655	530
Volunteer Kit Azalea Sue	9-0	2x	305	9470	511
Coronation Dream Oxford	5-3	2x	305	8299	487
Robin Victor Louise	3-7	2x	305	7893	465
Robin Topsy Dora	3-2	2x	305	9259	429
Robin Molly Marina	3-0	2x	305	8565	428
Mason Jersey Farm, Statesville					
Deems Donna You'll Do	7-2	2x	276	8031	407
Observer Lilac of H T	6-3	2x	292	7026	407
Moose, E. L., Conover					
Dreaming Double Betty	8-3	2x	305	10975	580
Standard Sarah Christine	6-6	2x	305	10544	496
Mountain Experiment Station, Waynesville					
Mountain Standard Hazel	4-11	2x	305	8481	448
Mountain Sanitarium, Fletcher					
Standard Paulina	3-6	2x	305	9998	515
Arrowood Sovereign Nancy	11-0	2x	305	10156	482
Myatt, K. R., Raleigh					
Jester Fillpail Ruthie	2-0	2x	305	9978	483
Rolling Acres, Richfield					
Noble Ixia May	4-1	2x	305	7842	452
Sipe Farms, Conover					
Crystal Golden Duchess	7-5	2x	305	10797	541
Forward Blonde Sue	13-4	2x	305	9465	506
Design Daisy Little Maid	6-2	2x	305	11032	503
Queen Sally Design	9-8	2x	305	8412	459
Catawba Design Dreamer	5-2	2x	304	7866	439
Catawba Noble Pansy B	1-8	2x	305	7164	426
Icarda Daisy Delight	8-1	2x	288	6977	408
Sunbeam Farms, Cherryville					
Blonde Beau Sybil Darling	4-0	2x	305	10023	447
Sunbeam Standard Lilac	2-4	2x	305	7824	401
Taylor, J. W., Richlands					
Taylor's Hedy Starlight	4-10	2x	305	10761	546*
Taylor Tiny Peggy	4-4	2x	305	10280	507*
Taylor's Standard Poppy	3-2	2x	305	8232	438*
Taylor's Standard Jane	3-1	2x	305	8224	409*

*Herds on Advanced Registry.

D. H. I. A. RECORDS

Taken From the DHIA Supervisors' Monthly Reports

ASSOCIATION SUMMARIES FOR FEBRUARY, 1952

Association	Tester	No. Herds	Total Cows	Dry Cows	Av. Milk	Av. Fat	Av. Cost 100 Lbs. Milk	No. 305 Day Cards Reported
Capital #1	G. Hager	15	735	118	651	30.1	3.06	4
Northeastern #1	D. Haddock	15	572	115	633	24.6	2.88	0
Northwestern #1	E. Moretz	10	214	45	459	18.7	5.02	12
Northwestern #2	B. Smith	3	39	4	552	26.0	3.63	0
Southeastern #1	R. Lineberger	21	774	128	665	28.1	2.48	5
Southwestern #1	H. Lutz	22	791	159	564	25.8	4.16	6
Southwestern #2	W. Osborne	12	396	64	548	25.1	3.37	0
Southwestern #3	W. Walker	11	191	30	472	21.0	3.56	21
Southwestern #4	C. R. Nichols	15	651	97	688	28.8	2.96	0
Southwestern #5	J. B. Hunt	15	394	74	523	23.2	3.54	0
State Insts.	W. Martin	9	735	126	741	26.6	2.29	16
Piedmont #1A	R. McKoin	19	680	89	759	31.3	3.86	39
Piedmont #1B	E. Harrison	17	534	52	692	27.3	3.29	0
Piedmont #2	R. Sharar	13	412	61	586	25.2	2.58	8
Piedmont #3	K. Powell	18	487	65	665	26.5	2.89	7
Piedmont #4	H. Mauser	9	273	51	453	20.8	2.55	0
Piedmont #5	Ed. Greble	11	284	43	754	28.6	3.34	6
Piedmont #6	R. Killough	13	353	81	436	18.7	3.55	0
Piedmont #7	C. Anderson	6	138	17	591	25.6	2.65	0
Piedmont #9	T. S. Sloan	8	240	27	703	30.3	2.73	10
Piedmont #10	C. Glass	11	561	87	759	27.1	2.79	2
Piedmont #11	D. Stebelton	10	388	53	535	26.3	3.76	0
Piedmont #12	E. Yarbrough & C. Stephens	21	607	107	576	24.0	2.82	13
	SUMMARY	304	10449	1693	613	26.3	3.21	149

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TWELVE HIGH HERDS IN BUTTERFAT PRODUCTION IN DHIA, FEBRUARY, 1952

Association	Owner	Breed	Total Cows	Cows Dry	Av. Milk	Av. Butterfat
Piedmont #7	Fred F. Bahnson, Jr.	GH	20	0	1351	47.2
Piedmont #9	R. G. Neel	G	15	0	842	47.1
S.Eastern #1	N. C. Sanatorium	RA	78	8	848	45.4
Piedmont #5	H. G. Thacker, Jr.	RH	17	3	1143	44.6
Piedmont #11	Russell Oxford	J	15	2	818	44.3
S.Eastern #1	Tate C. Soles	H	11	0	1235	42.6
Piedmont #9	M. R. Kanpp & Son	H	28	1	1130	41.9
S. Western #5	G. A. Adams	M	26	0	982	41.2
S.Eastern #1	R. M. Lefler	H	23	0	1235	40.4
Piedmont #3	Louis G. Bowles	H	23	0	1294	40.3
S.Western #5	Robert L. Hunt, Jr.	G	25	1	746	40.0
S.Eastern #1	Blake Bros.	M	16	2	1075	39.2

DHIA LACTATION RECORDS

305-Day Lactation Records Taken From DHIA Supervisors' February Reports For Cows Producing 400 Pounds or More Butterfat

ASSOCIATION	OWNER & ADDRESS	COW IDENTIFICATION	BREED	AGE	LBS. MILK	LBS. FAT
Capital #1						
	R. D. Bumpass, Roxboro	951553	G	4-10	11723	560*
	" "	879230	G	8-3	10018	514*
	" "	867244	G	6-5	9850	508*
	" "	827828	G	6-9	9643	492*
Piedmont #1A						
	Dr. C. I. Carlson, Greensboro	920104	RG	5-4	11170	631*
	" "	1085481	RG	3-7	10250	620*
	" "	826073	RG	7-2	11820	565*
	" "	991627	RG	4-9	9640	455*
	L. B. Callimore, Greensboro	1055212	RG	3-5	9750	544*
	" "	1054818	RG	3-5	8100	442*
	Dr. T. E. Sikes, Greensboro	895608	RG	5-9	10930	619
	" "	909892	RG	5-7	9720	553
	" "	1012383	RG	3-10	9100	531
	" "	1024745	RG	3-6	10990	505
	" "	1218195	RG	2-8	9410	498
	" "	1119624	RG	2-5	7900	447
	" "	1117541	RG	2-5	7840	427
Piedmont #2						
	Brawley Bros., R.8, Charlotte	2810606	H	3-9	13930	445
	" "	2902121	H	3-4	11360	412
	" "	2810607	H	3-8	11940	409
Piedmont #3						
	J. O. Lutz, R. 2, Newton	1637926	RJ	7-3	10043	597
	" "	1690706	RJ	7-5	7440	434
Piedmont #5						
	J. K. Glenn, Winston-Salem	2556091	RH	6-0	19640	625
	" "	2448063	RH	8-1	16760	562
	" "	2842261	RH	4-5	14600	430
	H. G. Thacker, Jr. "	3018306	RH	2-4	14750	501
	" "	2871259	RH	3-6	15240	494
Piedmont #9						
	R. S. Edmiston&Sons, Mt. Ulla	361857	A	3-4	9030	400
	C. E. Graham, Linwood	2435094	H	7-5	15530	574
	" "	3075713	H	5-2	15350	531
	" "	2940427	H	3-4	13990	506
	" "	2784706	H	4-3	11942	410
	R. G. Neel, Mooresville	1116832	G	4-1	11000	547
Piedmont10	Wheatmore Dairy, Thomasville	2356469	H	8-5	12860	451.5
	" "	2388965	H	8-4	13578	423.2
Piedmont #12						
	L. R. Cheek, R.1, Chapel Hill	308356	RA	5-10	10644	414
	" "	259829	RA	8-5	9760	400
	Frank F. Lindley, Snow Camp	295853	RA	6-5	12692	477
	" "	285371	RA	7-4	9966	417
	Teer Bros., Chapel Hill	2720533	RH	4-9	14002	459

* 3x milking part or all of lactation.

ASSOCIATION	OWNER & ADDRESS	COW IDENTIFICATION	BREED	AGE	MILK	B. FAT
Southeastern #1						
	J. W. Taylor, Richlands	1568854	RJ	4-4	7900	464
	" "	1604190	RJ	3-6	8010	455
	" "	1545959	RJ	4-9	8240	444
	" "	1512967	RJ	5-8	8170	411
Southwestern #1						
	E. D. Mitchell, Hendersonville	2525824	RH	6-5	13259	461
Southwestern #3						
	Randolph Shields, Culberson	865731	RG	6-6	10720	529
State Institutions						
	Appalachian State Teachers College, Boone	2430949	RH	7-8	16210	570
	" "	2670612	RH	5-2	13350	496
	" "	2610360	RH	6-1	12350	446
	" "	3010276	RH	3-3	11840	438
	" "	2795687	RH	4-4	12310	417
	" "	2670613	RH	5-2	10670	407
	N. C. School for Blind, Raleigh	2704346	RH	7-6	15640	576
	N. C. State College, Raleigh	1196678	RG	4-3	10020	469
	" "	2647866	RH	5-8	12990	458
	" "	923469	RG	5-9	9560	431
	" "	854759	RG	6-10	9400	422
	" "	902527	RG	5-11	8330	416
	" "	2647871	RH	5-5	11240	401
	State Hospital, Raleigh	55-6514	GH	9-3	18857	599*
	" "	55-6524	GH	8-1	15280	553*
	" "	3123127	RH	5-7	13650	499*
	" "	55-6509	GH	6-8	15070	470*
	" "	55-6452	GH	4-8	12260	470*
	" "	55-6446	GH	4-8	12220	415*

* 3 x milking part or all of lactation.

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THE COW

(Taken from Columbus County February Dairy Notes)

THE COW is a female quadruped with an alto voice and a countenance in which there is no guile. She collaborates with the pump in the production of a liquid called milk, provides the filler for hash, and at last is skinned by those she has benefitied, as mortals commonly are.

The young cow is called a calf and is used in the manufacture of chicken salad.

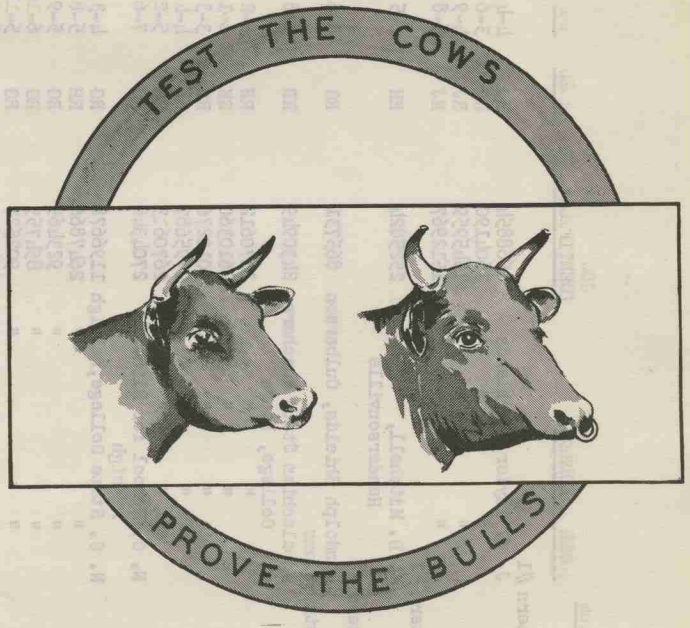
The cow's tail is mounted aft and has a universal joint. It is used to disturb marauding flies, and the tassel on the end has a unique educational value. Persons who milk cows and come often in contact with the tassel have vocabularies of peculiar and impressive force.

The cow has two stomachs. The one on the gound floor is used as a warehouse and has no other function. When this one is filled, the cow retires to a quiet place where her ill manners will occasion no comment and devotes herself to belching. The raw material thus conveyed for the second time to the interior of her face is pulverized and delivered to the auxiliary stomach. There it is converted into cow. The cow has no upper plate. All of her teeth are parked in the lower part of her face. This arrangement was perfected by an efficiency expert to keep her from gumming things up. As a result, she bites up and gums down.

The male cow is called bull and is lassoed in Texas, fought in Mexico and shot in Washington. A slice of cow is worth 8 cents in the cow, 14 cents in the hands of the packers and $2.40 at the nearest restaurant.

NORTH CAROLINA

EXTENSION DAIRY NEWS



Compiled from supervisors reports by
J.A.Arey and M.E.Senger, Extension Dairymen,
N.C.State College, Raleigh, N. C.

DAIRY EXTENSION NEWS July 1952

GIVE YOUR COWS A REST

TWO MONTHS' VACATION

By
Marvin E. Senger
Dairy Extension Specialist

Every cow needs a rest between each lactation if she is going to do her best. She needs six to eight weeks between each lactation to restore the minera content of her body, to lay some fat on he back, and allow time for the repair and rest of the milk-making tissue. This is necessary for high production following freshening. Without the benefit of this dry period, milk production can be expected to drop from 15% to 25% in the following lactation. Cows that are thin and heifers going to calve for the second time should be given at least eight weeks dry period. It is only during the last weeks of lactation and in the dry period that cows are able to replenish the calcium and phosphorus in their bodies to meet the demands of these minerals during heavy milk production.

DON'T NEGLECT THE DRY COWS

Too often, especially during the hot summer months when the dairyman wants to keep his work to a minimum, the dry cow is turned out to pasture and forgotten about until she freshens. Often times the pasture is not too good since the best pastures are usually kept for the milking herd. Dry cows cannot build up their body reserves if they are not given sufficient nutrients. As soon as the cow is safely dry, no time should be lost in getting her back on feed. High quality hay and silage and / or good pasture should be the basis of the dry cow ration. This should be supplemented with grain according to the condition of the cow. Normally, the grain feeding need not be heavy and the protein content need not be high. Each cow is an individual problem and should be fed according to her condition. Cows in good condition will need only 3 or 4 pounds of fitting ration per day while a thin cow may need as high as 10 pounds a day.

A fitting ration of 12% to 14% protein is very satisfactory. There are many good commercial fitting rations on the market but a good, economical mixture can be prepared of home grown feeds and a protein supplement. Dicalcium phosphate or steamed bone meal and salt should be added to a mixture of home grown grains to provide the necessary calcium and phosphorus. Each of these can be added at the rate of 1% of the mixture. Proper feeding during the dry period will not only get the cow in good condition for heavy production, but it will also help to prevent trouble at calving time.

If you want those fall freshening cows to do their best, now is the time to turn them dry and get them in condition.

Eight Suggestions for Dairy Herd Management Under Drought Conditions

Previous to 1950 we had several years of almost ideal pasture weather. During this period many dairymen, especially those who came into the dairy business during, or since, the last war, made up their minds that year-round grazing could be had and that the quantity of silage and hay could be considerably reduced. This, of course, was erroneous thinking. On the average, we have a rather damaging dry period about one year in three. These dry years do not often come consecutively, as they have this year and last, thus making our present feed situation precarious. The following suggestions, if followed, will help in overcoming the effects of the present drought. The only permanent solution is increased pasture acres, and additional hay and silage that can be used during dry periods.

1. Do not turn cows on pasture that, due to drought, is already beyond that stage of furnishing enough grass to compensate for the energy expended by the cows in grazing it. It would be best to put the cows in a comparatively small lot until the pasture has a chance to come back.

2. Increase grain feed to compensate for nutrients not available either in grass or home-grown roughage.

3. In order that the cows may make the best possible use of the feed they consume, they should have free access, to an abundance of good water without having to walk any great distance to secure it. Plenty of good shade is also desirable.

4. Some roughage must be fed, even if hay has to be purchased. In this case, buy the best grade of hay available. This might in some cases cause the owner to lose some profit for a month or so before home-grown feed is again available; however, if the cows are allowed to drop in milk production, it will be almost impossible to get them back to normal production during their present lactation. Keep up production, even if it means buying feed and losing money temporarily. This loss will not likely be as great as that from over grazing dry pastures.

5. Nearly all dairy herds contain a few cows that have been marked for eventual culling. Many of these cows are unprofitable and should be culled out at once. These cows will consume feed that should be fed to the better cows.

6. Soiling crops, such as sudan grass, millet, and turnips, should be made use of in all cases where possible.

7. Citrus pulp, or beet pulp, may be used as a source of roughage where liberal grain feeding is being practiced as a result of drought conditions and where hay is scarce.

8. It is presumed that where there is a carry over of silage it will be fed during the drought. This drought experience should teach all of our milk producers the necessity for making silage enough to have some carry over to meet just such an emergency as we now find facing us.

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A high producing dairy cow works hard. She will produce her best if she is comfortable. See to it that your cows have plenty of shade during the hot weather. If natural shade is not available provide artificial shade for them.

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Randolph County Organizes a DHIA

Dairymen in Randolph County have been doing DHIA testing for sometime. Most of it however, has been by testers from adjoining counties with no definite county organization. With the expansion of the testing through several of the Peidmont Counties more testers have been put on the job with most of the DHIA herds in Randolph County being tested by one man. With the assistance of Mr. E. S. Millsaps, County Agent, the dairymen on DHIA test and others interested in production testing held a meeting to discuss DHIA testing , the purchase of some new equipment, and elect a board of directors to assist with the county testing program. Mr. Robert Atwater of Chapel Hill is doing testing in this county.

There seems to be considerable interest in production testing in this county and this newly formed organization has a real opportunity to assist with the improvement of its dairy production. They should be looking forward to having two testers operating within the County.

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Let Your Cows Drink Often

Dairy cows producing up to 35 to 40 pounds of milk requires approximately 15 to 18 gallons of water per day and probably more during the hot weather. Water is cheap feed. Keep an adequate supply at a convenient place before your cows at all time. Experiments show that milk production can be increased 3.5% to 4% when cows can drink when ever they wish,over watering twice daily.

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Calendar of Dairy Events

Aug. 18 to 21 Farm and Home week, N. C. State College, Raleigh
Sept. 1, State Jersey Sale, Statesville
Sept. 5, State Guernsey Sale, Winston Salem Fair Grounds
Sept. 9, District Junior Dairy Show, Murphy
Sept. 12, " " " " , Statesville
Sept. 17, " " " " , Greensboro
Sept. 18,State Holstein Fall Sale, Greensboro
Sept. 19, Western Guernsey Field Day, Eskdale Farm, Tryon
Sept. 23, District Junior Dairy Show, Asheville
Sept. 30, " " " " , Fuquay -Varina
Oct. 2, " " " " , New Bern
Oct. 3, " " " " , Wilmington

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ATTENTION AYRSHIRE BREEDERS

The Ayrshire Breeders Field Day scheduled at N. C. Sanatorium, McCain on August 22 has been cancelled, according to State President, Mr. John Flannery.

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This is the way one DHIA member used his DHIA records:

"Sold the worst
Kept the rest
Fed the best"

Are you using your records to improve your production? With the dry weather causing a pasture and feed shortage in some areas this may be a good time to follow this DHIA member's advice and do a little culling.

HIR AND AR RECORDS

Summary of Official Testing
June 1952

	Advanced Registry		Herd Improvement Registry	
	No. Herds	No. Cows	No. Herds	No. Cows
Ayrshire	0	0	15	470
Guernsey	40	838	18	446
Holstein	0	0	39	944
Jersey	5	145	36	1166
Goats	2	32	0	0
Totals	47	1015	108	3026

Cows completing AR and HIR records with 400 lbs. of fat or more on 2x milking or 500 lbs. of fat or more on 3x milking.

Owner Cow's Name	Age	Times Milked	No. Days	Lbs. Milk	Lbs. Fat
AYRSHIRE					
Cheek, L. R., Chapel Hill					
L. Clippers Gloria	4-5	2x	305	9789	436
North Carolina Sanatorium, McCain					
Dynamo M. Maid of S	8-7	2x	305	10092	440
GUERNSEY					
Blackwelder, P. B., Mocksville					
Royal Count's Daisey Lou	Sr4	2x	302	8800	421
Twin Brook Maxim Polly	6	2x	348	8402	409
Brown, A. L., Concord					
Clear Springs' Bunnie's Anne	Sr3	3x	365	12308	700*
Fairlawn Maxim's Hortense	7	3x	365	13713	678*
Riegeldale Emory's Shamrock	Sr4	3x	365	13886	654*
Clear Springs' Majesty's Alma	Sr2	3x	365	15016	634*
Quail Roost Rose Empress	Sr2	3x	365	10474	599*
Clear Springs' Queen Paulette	Sr2	3x	365	10610	594*
Clear Springs' Majesty's May	Jr2	3x	365	10179	572*
Bumpass, R. D., Roxboro					
Maxim's Roxanna	10	3x	365	11939	621
Carlson, C. I., Guilford College					
Skuggek Comet's Amaryllis	Sr3	3x	365	10966	677*
Comet's Beatrice of Skuggek	7	3x	365	12376	587*
Skuggek Lady Shamrock	5	3x	305	9522	543*
Carr, H. C., University					
Guernsdel Major's Pat	Sr4	3x	365	11215	600*
Chatham, Thurmond, Elkin					
Klondike Lavinia	Jr4	3x	365	10862	508*
Coble, George S., Lexington					
Langmore A. Lucy	5	3x	365	15728	871*

* Herds on Advanced Registry

Biltmore Farms, Biltmore					
Biltmore Standard Giantess	6-5	2x	365	12716	690*
Biltmore Signal Susan	5-6	2x	305	10019	571*
Fillpail Sleeper Roberta	7-6	2x	305	9806	531*
Biltmore Fillpail June	3-0	2x	305	9113	453*
Biltmore Observer Foxette	8-3	2x	305	8832	434*
Biltmore Standtip Tulip	3-3	2x	305	7843	411*
Coble, Mrs. W. G., Asheboro					
Oxford Dreaming Nettie	2-7	2x	305	8099	449
Cowles, Reuben R., Statesville					
Beautiful Lucky Design	7-5	2x	304	8616	439
Fleming, Henry D., Boonville					
Lad Fancy Lady Queen	8-7	2x	305	9725	463
Granada Farm, Granite Falls					
Coronation Robin Jean	5-1	2x	305	7941	428
Hobson Brothers, Boonville					
Royal Beatrice Beauty	6-6	2x	301	9275	404
Hoover, Geo. R., Charlotte					
Gold Boy's Forward Rose	5-1	2x	305	8295	504
Kellogg, L. B., Pittsboro					
Landrum Creek Leta Miss	5-11	2x	304	8883	459*
Imperial Louis Oxford May	3-2	2x	305	9152	435*
Lutz, J. O., Newton	7-3	2x	305	10065	595
Draconis Violet Star	7-3	2x	305	10065	595
Phillips, W. R., Raleigh					
Edenwood Design Brownie	2	2x	305	5797	401
Sunbeam Farms, Cherryville					
Beneventum Bittersweet	7-6	2x	305	14927	633
Dreaming Robin Golden	7-5	2x	281	11994	548
Standard Dotty	6-5	2x	305	12339	469
Observer X Vol Sparkle	7-8	2x	305	7284	421

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Correction from June Report

Gardner, O. Max, Jr., Shelby					
Maxim's Nancy of Grassy Grove	9	2x	365	11207	504

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Maegeo Farms Cows Makes over 1000 Pounds Butterfat

The Guernsey cow, Zimalcrest King's Dana 922313 owned by George S. Coble, Lexington has set a new state record for mature cows in the 365 day, 3-time milking class. This is the sixth new state champion to date this year and Zimalcrest Kings's Dana tops the list with 18905 pounds of milk and 1028 pounds of butterfat. This makes the second new state champion at Maegeo Farms this year.

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DHIA Training Course Complete

Only four men completed the Testers Training Course that ended on July 26. We will be able to fill our present vacanies with this group and perhaps start another new association. However, more men will be needed to keep the testing program moving forward. If you know of any well qualified men that may be interested in this type of work have them contact the Dairy Extension Office at State College. Another Training Course will be held sometime this fall.

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D. H. I. A. RECORDS

Taken From the DHIA Supervisor's Monthly Reports

ASSOCIATION SUMMARIES FOR JUNE, 1952

ASSOCIATION	TESTER	NO. HERDS	TOTAL COWS	DRY COWS	AV. MILK	AV. FAT	AV. COST 100 LBS. MILK	NO. 305 DAY CARDS REPT'D
Alamance	E. Love	10	359	54	584	23.1	1.70	7
Burke-Caldwell	C. Sisk	15	313	51	525	23.0	2.42	0
Capital # 1	G. Hager	13	676	122	627	27.3	2.19	55
Davie County	C. Anderson			NO	REPORT			
East Central	H. Wilkie	17	627	119	608	22.9	2.50	50
Golden Belt	E.B. Wilkinson	8	164	15	596	23.2	2.31	0
Iredell	S. Morgan	5	102	15	584	22.1	2.31	0
Macon	W. Higdon	7	141	26	651	27.4	1.74	0
N. Eastern	D. Haddock	15	457	86	617	24.4	2.21	1
N. Western # 1	E. Moretz	13	301	58	491	20.8	2.32	0
N. Western # 2	B. Smith			NO	REPORT			
Piedmont I-A	R. McKoin	23	764	121	658	27.2	3.31	50
Piedmont I-B	E. Harrison	15	399	61	669	25.0	2.17	10
Piedmont # 2	R. Hogue	12	393	70	571	25.3	1.71	1
Piedmont # 3	K. Powell	10	72	37	208	87.2	2.37	15
Piedmont # 4	H. Mauser	9	262	45	459	20.4	2.15	0
Piedmont # 5	E. Greble	15	331	50	686	25.6	2.59	11
Piedmont # 6	R. Killough	12	350	65	512	21.4	2.00	0
Piedmont # 9	T.S. Sloan	8	238	46	621	26.0	2.73	21
Piedmont # 10	E. Yarbrough	12	352	32	777	27.7	1.76	69
Piedmont # 11	D. Stebelton	12	433	57	517	26.3	2.15	215
Piedmont # 12	W.G. Walker	11	407	78	635	25.4	1.77	5
Randolph County	R. Atwater	13	437	79	554	21.7	2.29	0
S. Eastern # 1	R. Lineberger	22	689	128	604	23.2	1.86	13
S. Western # 1	H.K. Lutz	21	742	109	664	26.6	2.49	28
S. Western # 2	W. Osborne	12	375	43	621	25.5	1.64	0
S. Western # 3	W.P. Walker	10	182	30	496	21.3	2.45	13
S. Western # 4	C.R. Nichols	12	584	104	654	26.7	2.38	0
S. Western # 5	J. Hunt	14	365	69	535	22.0	3.43	0
State Insts.	W. Martin	9	704	146	765	27.0	2.05	46
Tri-County	B. Marsh	14	358	73	55	23.5	2.41	3
Miscellaneous	E. McCall & C. Stephens	12	347	57	628	28.8	2.20	6
SUMMARY		381	11924	2046	624	25.3	2.28	569

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TWELVE HIGH HERDS IN BUTTERFAT PRODUCTION IN DHIA, JUNE, 1952

ASSOCIATION	OWNER	BREED	TOTAL COWS	COWS DRY	AV. MILK	AV. BUTTERFAT
Southeastern	Green Acres Dairy	M	30	1	1288	44.6
Southwestern #1	A. W. Nesbitt	H	19	0	1367	43.6
Piedmont #11	Russell Oxford	J	17	2	771	42.6
Piedmont #9	R. G. Neel	G	15	1	751	40.4
N. Eastern	Ray Mayne	J	56	4	836	39.3
Golden Belt	Fred Newton	GH	12	0	903	38.8
S. Western #1	Mountain Sanitorium	J	32	2	753	38.1
Miscellaneous	Robert L. Hunt, Jr.	G	22	2	654	37.8
Burke-Caldwell	T. R. Walker	GG	13	1	811	37.7
S. Western #4	Shoals Falls Farm, Inc.	G	40	8	708	37.4
Miscellaneous	Harrell Barker	RJ	29	6	761	37.3
Capitol #1	R.D. Bumpass	G	25	3	792	37.1

DHIA LACTATION RECORDS

305-Day Lactation Records Taken From DHIA Supervisors' June Reports For Cows Producing 400 Pounds or More Butterfat

ASSOCIATION OWNER & ADDRESS	COW IDENTIFICATION	BREED	AGE	LBS. MILK	LBS. FAT
Alamance					
Frank Lindley, Snow Camp	389317	RA	2-0	9283	387
Thomas R. McPherson, Mebane	1054647	RG	4-5	8930	462
Capital # 1					
Dr. H. C. Carr, University	858684	RG	7-1	9480	500*
" "	770186	RG	9-10	9770	480*
" "	100072	RG	7-2	8230	476*
" "	851691	RG	7-6	10020	436*
Frances Hill Fox, Durham	695288	RG	9-10	8060	433*
" "	880290	RG	6-9	8790	443*
George Watts Hill, Rougemont	816832	RG	7-7	11790	593*
" "	1155780	RG	2-3	10216	532*
" "	907094	RG	6-6	8529	511
" "	1220889	RG	3-0	9310	481*
" "	1313555	RG	3-3	9233	479*
" "	1313556	RG	3-2	8330	479*
" "	1155776	RG	2-4	8785	470*
" "	1081896	RG	3-7	8313	470*
" "	1175429	RG	4-3	7960	470*
" "	830027	RG	7-6	7970	466*
" "	1194690	RG	2-6	10392	465*
" "	911651	RG	7-6	8517	455
" "	1175442	RG	2-3	8290	450*
" "	1159628	RG	2-3	8060	445*
" "	1159625	RG	2-6	8853	429*
" "	1076319	RG	3-7	9119	418*
" "	1175449	RG	2-2	7660	413*
John Sprunt Hill, Durham	1155243	RG	2-5	9450	513*
" "	926855	RG	5-5	7660	491*
" "	1015636	RG	4-5	8870	471*
" "	1155245	RG	2-5	8980	455*
" "	891880	RG	6-1	6600	408*
Pine State Creamery, Cary	1001027	RG	4-7	10520	523
Piedmont I-A					
Roy L. Bowman, Julian	2005797	RH	12-9	11840	459
William D. Coble, Guilford College	3075871	RH	2-9	12240	400
David C. Cummings, Guilford College	2786672	RH	4-6	13350	530
J.W. Cummings & Sons, " "	2800385	RH	4-7	13490	531
William E. Cummings, Summerfield	2859707	RH	7-2	14460	460
" "	2562126	RH	6-6	13620	419
" "	2981830	RH	3-4	11460	401
L.B. Gallimore, Guilford College	1022680	RG	4-6	9820	559*
" "	1120117	RG	3-4	11290	547*
" "	995791	RG	5-7	10900	510*
" "	1013165	RG	4-7	11890	506*
" "	960824	RG	5-4	10040	502*
" "	1213152	RG	2-8	8400	484*
O'Bryant Brothers, Reidsville	55-5507	J&H	4-5	9530	439
" "	55-5507	J&H	5-6	9700	420

ASSOCIATION OWNER & ADDRESS	COW IDENTIFICATION	BREED	AGE	LBS. MILK	LBS. FAT
Piedmont # 2					
Brawley Brothers, Charlotte	328607	RH	3-3	13970	510
Piedmont # 3					
J. O. Lutz, Newton	1784707	RJ	2-8	9010	430
" "	1328351	RJ	9-11	7386	416
" "	1635238	RJ	3-11	6420	407
Adrian Shuford, Jr., Newton	3080873	RH	2-4	10788	439
Piedmont # 5					
C. L. Petree, Winston-Salem	3393544	RH	7-8	12650	422
Dr. E. H. Reich, Winston-Salem	2379366	RH	7-7	13960	480
H. G. Thacker, Jr., Winston-Salem	2622210	RH	6-0	15170	561
" "	2871256	RH	4-2	12350	412
Piedmont # 9					
R. G. Neel, Mooresville	113180	G	4-0	11360	589
" "	1078439	G	5-1	10890	561
W. C. London "	451122	A	2-4	9590	403
Piedmont # 10					
Baptist Orphanage, Thomasville	2521049	RH	6-8	17496	566
" "	2681972	RH	5-6	16607	546
" "	2838712	RH	4-3	13737	476
" "	2432569	RH	7-2	13206	456
" "	3037508	RH	2-4	11963	437
" "	2681981	RH	5-0	11761	421
J. Walter Lambeth, Thomasville	2444766	RH	6-11	12760	516
" "	2608610	RH	7-10	15070	516
" "	2608611	RH	7-9	14850	512
" "	2630594	RH	5-8	14130	508
" "			6-7	14060	445
" "	2608608	RH	7-9	14120	508
" "	2359285	RH	7-5	14140	502
" "	2177473	RH	11-10	14130	487
" "	2630590	RH	7-0	14020	467
" "	2708562	RH	5-0	12343	459
" "	2708563	RH	7-2	13500	442
" "	2732564	RH	4-11	11690	443
" "	2404462	RH	7-4	13190	431
" "	2895205	RH	3-1	10834	429
" "	2630589	RH	7-6	13795	428
" "	2732565	RH	5-0	10700	427
" "	2918278	RH	3-3	11580	417
" "	2842917	RH	3-8	13005	416
" "	2727577	RH	4-4	11470	403
Mills Home, Thomasville	2698368	RH	5-1	15500	513
Piedmont # 11					
C. C. Alexander, Roaring River	1449649	RJ	7-5	9302	480
" "			6-5	8922	419.9
" "	1482454	RJ	5-0	8482	440.7
" "			6-0	7044	428.6
" "	1323364	RJ	9-6	8535	430.5
" "	1488670	RJ	7-1	8416	414.5
" "	1513934	RJ	5-5	8239	408.7
W. L. Bowman & Sons, Granite Falls	1443145	RJ	7-9	10610	609.1
Ruben R. Cowles, Statesville	1499038	RJ	5-11	9865	486.8
" "	1430606	RJ	8-6	9565	464.3

ASSOCIATION OWNER & ADDRESS	COW IDENTIFICATION	BREED	AGE	LBS. MILK	LBS. FAT
Piedmont # 11					
Ruben R. Cowles, Statesville	1425900	RJ	7-5	8616	439.8
" "	1472196	RJ	5-11	8636	436.3
" "			6-0	8228	401.7
" "	1613299	RJ	3-1	8853	433.8
" "	1579109	RJ	4-0	9940	431.6
" "	1513386	RJ	5-1	7012	431.3
" "	1673677	RJ	4-5	8682	423.3
" "	1386159	RJ	8-0	9171	405.9
Henry D. Fleming, Boonville	1567739	RJ	5-2	8008	488.5
" "	1391958	RJ	8-7	9725	462.9
" "			7-6	8985	427.1
" "	1587413	RJ	3-5	7632	436.3
" "	1420001	RJ	9-10	7512	436.1
" "	1614765	RJ	3-8	7654	431.5
Granada Farm, Granite Falls	1552921	J	4-11	9950	607.3
" "			3-10	8218	503.8
" "	1541066	J	4-7	9000	527.1
" "	1328359	J	9-0	9470	512.7
" "			8-1	8371	467.2
" "	1381847	J	8-4	9631	475.0
" "	1552916	RJ	3-11	7845	438.2
" "			5-1	7956	429.7
" "	1628642	RJ	3-10	8616	437.1
" "	1541078	RJ	4-8	7706	429.1
" "	1749926	RJ	2-2	8331	424.0
" "	1552912	RJ	4-2	7201	409.0
" "			5-1	8151	401.7
" "	1328357	RJ	7-10	8355	405.3
" "	1686042	RJ	3-0	5471	403.8
Hobson Brothers, Boonville	1-314420	RJ	8-7	9260	456.1
" "	1432313	RJ	7-3	8078	450.2
" "			6-3	8279	432.8
" "	1610981	RJ	4-3	9448	433.2
" "	1473879	RJ	5-6	8946	429.6
" "			6-6	9288	404.9
" "	1542383	J	6-5	9409	411.1
" "	1445267	RJ	6-10	10534	612.3
" "	1522739	RJ	5-9	10709	547.7
" "	1314420	RJ	9-10	10024	477.9
" "	1432314	RJ	7-1	10087	475.6
" "	1610891	RJ	3-1	9417	471.2
" "	1393599	RJ	8-3	8453	468.6
" "	1673178	RJ	2-9	8541	464.3
Russell Oxford, Taylorsville	1564109	RJ	4-3	11342	676.8
" "	1565107	RJ	4-6	9056	541.0
" "	1667037	RJ	3-0	6857	437.0
M.F. Shore & Son, Hamptonville	1081120	RG	2-9	9342	525.0
" "	914290	RG	6-5	8354	465.5
" "	891275	RG	5-6	9754	458.1
" "	1081119	RG	2-2	7777	429.3
" "	1039932	RG	3-7	7826	426.3
" "	1132744	RG	2-3	7274	415.7
" "	1103409	RG	2-5	7682	414.7

ASSOCIATION OWNER & ADDRESS	COW IDENTIFICATION	BREED	AGE	LBS. MILK	LBS. FAT
Piedmont # 11					
V. O. Sipe, Conover	1521288	RJ	7-6	9180	480
" "	1530248	RJ	5-9	8217	441
" "	1530243	RJ	8-1	6990	410
" "	1577073	RJ	5-0	6089	400
Piedmont # 12					
L. B. Kellogg, Pittsboro	1568857	RJ	5-1	7120	400
Ward Snarr, Siler City	1100844	RG	5-10	7846	411
Southeastern					
E. W. Miller, Chadbourn	2645182	RH	5-7	16700	590
" "	OW18478	GH	3-10	14060	499
" "	PR899309	GH	5-0	13540	463
Southwestern # 1					
Mrs. H. Jackson, Fletcher	1259218	RJ	8-7	13081	693
" "	1481054	RJ	5-4	12188	620
" "			3-3	11051	554
" "			6-6	8594	417
" "	1398665	RJ	5-9	9438	532
" "	1259218	RJ	10-9	9812	502
" "	1299677	RJ	9-3	9793	492
" "			12-0	8107	456
" "			10-5	9825	490
" "	1398666	RJ	6-1	9432	474
" "			4-2	7929	409
" "	1398665	RJ	6-10	9007	465
" "			3-11	7817	418
" "	1398660	RJ	8-0	9908	453
" "			7-0	9910	439
" "			6-11	9032	435
John R. Kimberly, Tryon	855103	RG	5-6	13203	604
" "			8-1	8615	446
" "	822082	RG	4-6	13250	564
" "			5-11	9527	413
" "	897718	RG	3-3	10306	514
" "			4-9	9519	453
" "			6-10	8999	438
" "			5-11	8388	406
Southwestern # 3					
Willie Russell, Andrews	55-5249	GJ	5-7	9040	475
State Institutions					
Caswell Training School, Kinston	55-6154	GH	3-11	13140	447
" "	3355915	RH	4-1	10920	440
" "	55-6173	GH	4-1	10940	439
" "	55-6172	GH	3-7	11790	427
" "	3201945	RH	4-0	10310	414
" "	55-6160	GH	4-8	11620	407
" "	55-6140	GH	7-8	14050	588
" "	55-6205	GH	6-6	13630	526
" "	55-6175	GH	6-10	13920	506
N.C. School for Deaf, Morganton	2783763	RH	5-1	14440	436
" "	2896591	RH	3-4	11620	412
N.C. State College, Raleigh	2647864	RH	6-1	11780	436
" "	1244356	RG	3-4	8740	411
" "	1096700	RG	4-10	9450	403

ASSOCIATION OWNER & ADDRESS	COW'S IDENTIFICATION	BREED	AGE	LBS. MILK	LBS. FAT
State Hospital, Goldsboro	2410813	RH	7-9	15450	541
" "	2453954	RH	7-8	15010	508
" "	2453955	RH	7-9	14370	507
" "	2402250	RH	8-6	15620	485
" "	2684643	RH	6-0	15530	483
" "	2702890	RH	5-0	15460	472
" "	2702888	RH	4-10	12340	454
" "	2453957	RH	7-10	12390	447
" "	55-6764	GH	7-7	12320	421
" "	2826623	RH	7-4	14310	433
" "	55-6731	GH	4-6	12730	431
" "	55-6742	GH	7-1	13880	428
" "	2999010	RH	2-6	11740	415
" "	2835491	RH	4-5	11260	408
" "	2999013	RH	2-5	11780	405
State Hospital, Morganton	2900457	RH	7-1	13640	522
" "	2898164	RH	6-0	15850	502
State Hospital, Raleigh	55-6502	GH	5-6	14910	565
" "	55-6519	GH	7-0	15260	558
" "	55-6448	GH	6-10	16000	553
" "	55-6508	GH	9-4	14660	546
" "	55-6444	GH	5-1	14260	508
" "	55-6523	GH	5-0	12790	468
" "	55-6129	GH	6-9	11430	468
" "	55-6463	GH	1-2	12580	460
" "	2933494	RH	3-11	13050	445
" "	55-6480	GH	4-10	12560	445
" "	55-6431	GH	6-5	12630	440
" "	55-6459	GH	6-3	10770	435
" "	55-6503	GH	5-6	10750	426
" "	55-6513	GH	4-3	12710	409
" "	2933489	RH	3-10	11230	402

*Six milking part or all of lactation.

* * * * * *

SUMMARY OF DHIA TESTING BY MONTHS, 1952

Date	No. Assoc.	No. Herds	No. Cows	No. Dry Cows	Av. Milk	Av. Bf't	Feed Cost Per 100 lbs.	No. 305-Day Cards
Jan. 1952	24	318	10707	1911	663	27.7	3.15	251
Feb. 1952	24	304	10449	1693	613	26.3	3.21	149
Mar. 1952	24	314	10393	1461	697	28.9	3.99	435
Apr. 1952	23	349	11610	1570	719	29.2	2.34	242
May 1952	310	333	12212	1739	713	27.3	2.08	209
June 1952*	30	331	11924	2046	624	25.3	2.28	569

* No report from two associations

COMPILED FROM SUPERVISORS REPORTS BY
J. A. AREY AND M. E. SENGER, EXTENSION DAIRYMEN,
N. C. STATE COLLEGE, RALEIGH, N. C.

PLEDGED TO THE DEVELOPEMENT OF:
ECONOMICAL FEEDING
HIGH PRODUCING COWS
EVALUATING SIRES
EFFICIENT HERD MANAGEMENT

North Carolina
DAIRY EXTENSION News

N. C. STATE COLLEGE OF AGRICULTURE AND ENGINEERING
AGRICULTURAL EXTENSION SERVICE
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DE 30

GRAIN FEEDING CHART

Feed your cows according to production for maximum returns.

1. See tables on opposite side to determine amount to feed.

2. List pounds of grain to be fed at each feeding opposite the cows name in the column for the proper month..

Cow's Name or Number	Pounds of Grain per Feed					
	Month of	Month of	Month of	Month of	Month of	Month of

GRAIN FEEDING TABLE FOR COWS NOT ON PASTURE *

The amount of grain mixture that it is necessary to feed daily to any particular cow will depend not only on the amount of milk she gives and on its richness in fat but also on the amount and quality of the roughage she consumes. Also, it will depend to some extent on her live weight.

Hay Equivalent Consumed Per 100 Pounds of Live Weight Daily **			Percentage of Fat in Milk						
2½ pounds Very liberal feeding of good roughage	2 pounds Usual rate of feeding good hay or good hay and silage	1½ pounds Feeding scanty amount of good roughage or feeding poor roughage	3.0	3.5	4.0	4.5	5.0	5.5	6.0
Milk produced daily, pounds			Total pounds of grain or concentrates to feed						
Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
17	10	---	------	------	------	1.9	2.2	3.1	3.5
19	12	---	------	------	1.6	2.8	3.2	4.2	4.6
21	14	---	1.5	2.0	2.4	3.8	4.2	5.3	5.7
23	16	9	2.3	2.9	3.3	4.7	5.2	6.3	6.8
25	18	11	3.0	3.6	4.2	5.6	6.2	7.4	8.0
27	20	13	3.7	4.4	5.0	6.5	7.2	8.4	9.1
29	22	15	4.5	5.2	5.9	7.5	8.2	9.5	10.2
31	24	17	5.2	6.0	6.8	8.4	9.2	10.5	11.3
33	26	19	6.0	6.8	7.6	9.3	10.2	11.6	12.5
35	28	21	6.7	7.6	8.5	10.3	11.2	12.7	13.6
37	30	23	7.4	8.4	9.3	11.2	12.2	13.7	14.7
39	32	25	8.2	9.2	10.2	12.1	13.2	14.8	15.8
41	34	27	8.9	10.0	11.1	13.1	14.2	15.8	17.0
43	36	29	9.6	10.8	11.9	14.0	15.1	16.9	18.1
45	38	31	10.4	11.6	12.8	14.9	16.1	18.0	19.2
47	40	33	11.1	12.4	13.7	15.9	17.1	19.0	20.3
49	42	35	11.8	13.2	14.5	16.8	18.1	20.1	21.5
51	44	37	12.6	14.0	15.4	17.7	19.1	21.1	22.6
53	46	39	13.3	14.8	16.3	18.7	20.1	22.2	23.7
55	48	41	14.1	15.6	17.1	19.6	21.1	23.3	
57	50	43	14.8	16.4	18.0	20.5	22.1		
59	52	45	15.5	17.2	18.9	21.4	23.1		
61	54	47	16.3	18.0	19.7	22.4			
63	56	49	17.0	18.8	20.6	23.3			
65	58	51	17.7	19.6	21.4	24.2			
67	60	53	18.5	20.4	22.3				
69	62	55	19.2	21.2	23.2				
71	64	57	19.9	22.0	24.0				
73	66	59	20.7	22.8	24.9				
75	68	61	21.4	23.6	25.8				

Regardless of the amount of grain theoretically required by a cow, she should not be fed more than she can safely handle.

*The above table and the discussion of its use have been taken with the permission of the Morrison Publishing Company, Ithaca, N. Y., from Feed and Feeding, twentieth edition, by F. B. Morrison.

**3 pounds of silage is equivalent to 1 pound of hay.

PROJECT III - JUNIOR DAIRY CALF CLUB WORK

N. C. Agriculture in the past has consisted largely of the production of crops with little emphasis on livestock; therefore, we in Dairy Extension feel very strongly that the growth and development of dairying in the future in this state depends to a large extent on the interest that can be created among the boys and girls of today. For this reason, we have continued to devote as much time as possible to work with juniors. Mr. J. D. George is leader of this project.

There were 4949 4-H Club members enrolled in the dairy calf project in 1952, of which 3703 were reported as having completed their projects. There were dairy calf projects in 95 counties in this state.

Preparation of Teaching Material

The preparation of teaching material for county agents to use in 4-H Club meetings has been one of the mediums through which we have attempted to create interest in dairy projects. We have either prepared or have secured from commercial sources Visual Aids material, mostly in the form of slides, on the following subjects:

1. The 4-H Dairy Project
2. Quality Milk Production
3. Dehorning Dairy Calves
4. Raising Dairy Calves
5. Fitting and Showing Dairy Cattle
6. Judging Dairy Cattle

The 4-H Dairy Manual was also revised and brought up to date. A leaflet on Fitting and Showing Dairy Cattle was prepared for distribution to boys and

girls interested in showing their animals. More than 1500 of these leaflets were distributed.

Junior Dairy Shows

In order for a project to appeal to a boy or girl, it must have a certain amount of glamour. The show furnishes the glamour in the dairy project. In addition to this feature, the dairy show provides an excellent means of teaching correct type, not only to those participating, but also to the spectators attending. The close association with the animals during the fitting and showing period develops a love and appreciation for the dairy animal, which usually remains with the individual throughout life. Thus, a great deal of emphasis has been given the Junior Dairy Shows throughout the state.

District Junior Dairy Shows

As in past years, a series of District Junior Dairy Shows were held. The Dairy Extension Department has cooperated with the local county agent in staging these shows.

Seven District Junior Dairy Shows were held in 1952 for white boys and girls. These were located at Murphy, Statesville, Greensboro, Asheville, Fuquay-Varina, New Bern, and Wilmington. A summary of these shows is shown in the table below. The map on page 36 of this report shows the participation by counties.

Table I

Summary of 1952 District Junior Dairy Cattle Shows

Location	No. Animals			Total	No. Counties	Approx. Money Spent
	Blue	Red	White			
Statesville	94	160	44	298	12	$3000
Greensboro	43	63	19	125	6	1200
Asheville	35	69	14	118	11	1500
Fuquay-Varina	46	59	13	118	7	2350
New Bern	21	23	-	44	7	854
Wilmington	40	65	7	112	14	2125
Murphy	17	20	19	56	4	411
Totals	296	459	116	871	61	$11440
% of Totals	34	53	13			

Table II

1952 District Junior Dairy Shows by Breeds

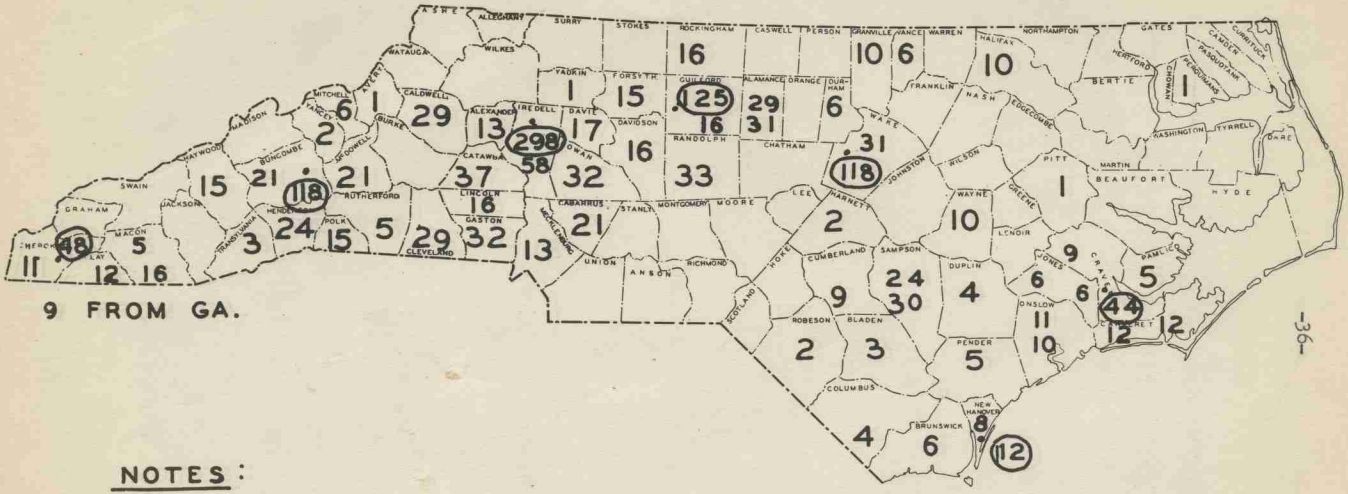
Breed	Blue	Red	White	Total
Jerseys	128	165	27	320
Guernseys	75	173	57	305
Holsteins	49	67	5	121
Ayrshires	13	17	1	31
Grades	28	33	25	86
Murphys *	3	4	1	8
Totals	296	459	116	871
% of Totals	34	53	13	

* Information as to breed not available

Premiums and other expenses connected with these shows were all provided by business and civic groups within the state. Major sponsors were Belk Stores (Statesville and Fuquay-Varina), Greensboro Chamber of Commerce (Greensboro, Asheville Agricultural Development Council (Asheville), New Bern Chamber of Commerce (New Bern), Wilmington Chamber of Commerce (Wilmington), and Murphy Fair Association (Murphy).

PARTICIPATION IN DISTRICT JUNIOR DAIRY SHOWS

BY COUNTIES - 1952



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NOTES:

CIRCLED NUMBERS INDICATE TOTAL NUMBER OF ANIMALS SHOWN IN DISTRICT SHOW.
WHEN TWO NUMBERS APPEAR, THE COUNTY HAD ANIMALS IN TWO DISTRICT SHOWS.

In addition to the premiums awarded on the placings of the animals, fitting and showmanship prizes were given at these shows. Each of the four Purebred Dairy Cattle Associations (Jersey, Guernsey, Holstein and Ayrshire) provided these awards for exhibitors of their respective breeds at five of the District Shows. A total of $50 was offered in each breed at each of these five shows (Asheville, Statesville, Greensboro, Fuquay-Varina and Wilmington) making a total of $250 offered by each breed association.

County Junior Dairy Shows

The County Junior Dairy Show perhaps offers more opportunity to create interest in dairying than does the District Show. These local shows provide an opportunity for many local people to attend who cannot, due to distance, attend the District Shows. Information concerning the County Shows is summarized in the table below.

Location	No. Animals Shown	Location	No. Animals Shown
Alamance Co.	45	Iredell Co.	59
Anson "	17	Lee "	7
Burke "	8	McDowell "	34
Cabarrus "	21	Mitchell "	68
Cherokee "	8	Polk "	32
Cleveland "	175	Randolph "	63
Davidson "	21	Rockingham	110
Davie "	19	Rowan "	36
Forsyth "	20	Rutherford	20
Gaston "	60	Stanly "	39
Halifax "	17	Surry "	17
Haywood "	17	Transylvania	3

Location	No. Animals Shown	Location	No Animals Shown
Vance County	8	Caldwell County	66
Warren "	17	Catawba "	43
Wilkes "	10	Dunn *	27
Madison "	10	Wendell	12
Henderson "	38	Wake County	32
Jackson "	12	Cumberland "	19
Macon "	12	Spruce Pine *	18
Sampson "	26	Total	1306 (40 shows)
Alexander "	40	* Tri-County Shows	

Approximately $10,000 was awarded in premiums at these 40 local shows. This money, with few exceptions, was all provided by civic and business groups.

Junior Shows for Negroes

The District Shows for Negroes were conducted in the same manner as the shows for whites. R. L. Wynn, Negro Extension Dairyman, worked with the local county agents in staging these shows. A summary of the Negro Junior Shows is shown in the table below.

Place of Show	Date	No. Animals	Ribbons			Total Value
			Blue	Red	White	
Kinston	8-27	50	12	20	18	$481.55
Rocky Mount	9-4	41	11	22	8	501.75
Elizabeth City	8-28	24	4	16	4	206.00
Statesville	9-4	56	20	21	15	609.42
Lumberton	9-5	28	15	12	1	280.00
Fayetteville	9-11 & 12	101	31	38	32	990.00
Greensboro	9-12	46	24	18	4	381.00
Washington	9-16	64	13	31	20	594.23
Rich Square	9-17	39	21	16	2	950.00
Oxford	9-18	53	16	22	15	693.11
Rockingham	9-19	44	17	18	9	520.00
Durham	9-26	40	9	26	5	652.14
Reidsville	10-2	31	13	11	7	285.00
Shelby	10-2	76	32	27	17	415.00
Totals		693	238	298	157	$7559.20

Junior Show at State Fair

Again this year the Dairy Extension Staff supervised the Junior Show at the State Fair. Seventy-six animals were shown by boys and girls.

Summary of All Junior Shows

	No. Shows	No. Animals
District Shows (White)	7	871
District Shows (Negro)	14	693
County Junior Shows	40	1306
Junior Show State Fair	1	76
Totals	61	2946

Approximate amount spent (in cash and merchandise) for premiums and other expenses at shows - $30,108

Fitting and Showing Demonstrations

In an effort to teach boys and girls to properly fit and show their animals, a series of ten fitting and showing demonstrations were held in as many counties in the state. W. R. Murley, of the Teaching and Research Staff, and J. D. George, of this office, put on these demonstrations. Attendance at these meetings was good, as is shown in the table below.

Location of Demonstration	Number Attending	Counties Represented
Caldwell County (Granada Farms)	52	Caldwell, McDowell, Alexander & Burke
Cleveland County (Archdale Farm)	47	Rutherford, Cleveland & Lincoln
Mecklenburg (Morrocroft Farm)	45	Mecklenburg, Cabarrus, Union & Gaston
Iredell County (R. F. Mason Farm)	31	Iredell
Davidson County (Charlie Graham Farm)	70	Rowan, Stanly & Davidson
Guilford County (J. W. Cummings Farm)	53	Rockingham, Guilford & Randolph

Location of Demonstration	Number Attending	Counties Represented
Alamance County (Ben Martin Farm)	32	Alamance & Caswell
Wake County (State College Dairy)	52	Wake, Durham, Franklin, Johnston & Halifax
Craven County (W. C. Parker Farm)	50	Craven, Carteret, Jones, Onslow and Pamlico
New Hanover (Echo Farm)	46	New Hanover, Brunswick, Pender & Columbus
Totals	478	34 Counties

It is felt that these demonstrations were effective as evidenced by better fitted and shown animals at the Junior Shows this fall.

State and National 4-H Dairy Judging Contests

A state-wide 4-H Dairy Judging Contest was held in which twenty county teams participated. Eight classes were judged with reasons given or written on four classes. The contest was held at the North Carolina State College Judging Pavillion on July 8, 1952. Top-ranking county team was Gaston, followed in order by Mecklenburg, Iredell and Davidson Counties.

The four highest scoring individuals in the state contest were selected as the team to represent North Carolina at the National Contest. This team was composed of Brown Whitley, Mecklenburg; Roy Roberts, Rowan; Dale Medford, Haywood; and Mary Helen Davis, Davidson County. J. C. Barber, Jr., coach of the Gaston County team, and J. D. George, Extension Dairy Specialist, served as coaches of the state team.

After several practice sessions at various points in the state and a week of intensified training at State College, the team and coaches left for Waterloo, Iowa, on September 24 to compete in the National Contest. Stops

for practice judging were made at several large dairy farms, including Curtiss Candy Company Farms.

The National Contest was held on September 29 at the National Dairy Cattle Congress. North Carolina placed tenth among thirty teams which participated. Michigan won first in the contest.

The team returned to North Carolina on October 3.

Dairy Calf Chains and Foundations

The basic problem in 4-H dairy work is that of getting calves into the hands of boys and girls. One very effective method has been the chains and foundations which have been established by business and civic groups. On January 1, 1952, there were forty-five chains operating in thirty-seven counties. Since their inception 684 calves had been placed.

The following table contains information relative to the foundations in this state:

Dairy Calf Chains and Foundations - Jan. 1, 1952

County	No. Animals Placed to Date	County	No. Animals Placed to Date
Alamance*	3	Cherokee*	3
Alexander	15	Cleveland	31
Bertie	5	Davie	4
Buncombe	20	Duplin	8
Burke	24	Forsyth	1
Cabarrus	30	Franklin	7
Caldwell	61	Halifax*	22
Carteret	8	Henderson	35
Caswell	1	Iredell	5

County	No. Animals Placed to Date	County	No. Animals Placed to Date
Jones	3	Polk	52
Lee	25	Rockingham **	28
Lenoir	11	Rowan	11
Lincoln	14	Sampson	34
Martin	2	Wake	51
McDowell	42	Wayne *	9
Mecklenburg	6	Wilkes	33
Mitchell	5	Wilson	12
Moore **	12	Rutherford	45
Pender	7	Total	684

* Two Foundations in county

** Three Foundations in county

During the year an outline was prepared which set forth how these foundations operate. This information was supplied to approximately ten county agents in counties where Foundations are being planned.

4-H Dairy Production Project

The 4-H Dairy Production Project was revised during 1952 and a concentrated effort was made to interest county Extension agents in getting 4-H members to start the project on September 1, the beginning of the project year. Sixteen counties have ordered records for this project. This phase of 4-H dairy work will receive emphasis next year. It is believed that no other phase of the 4-H dairy project offers more opportunity to train boys and girls in sound dairy principles, proper feeding and culling practices based on production records.

Dairy Program at 4-H Club Week

A special program in dairying was put on during 4-H Club Week for those choosing dairying as the subject they would like to hear discussed. This program consisted of an illustrated talk by J. D. George on quality milk production and a movie which traced the handling of milk from the cow to the consumer. About forty-five 4-H Club members attended this meeting.

Breed Associations Work With Juniors

Guernsey Breeders Association: This association held one 4-H Calf Placement Sale. A special certificate of merit was presented to the outstanding 4-H Guernsey member in each county, as designated by the county agent. This member and his county agent were invited to be the guests of the state association at its annual meeting. The association also awarded fitting and showmanship prizes at the District Junior Dairy Shows.

Jersey Breeders Association: This association invited one 4-H Jersey member and the county agent to the annual meeting as guests of the association. The association sponsored a State Junior Jersey Herd at the Regional Junior Show at Richmond. Fitting and showmanship awards were given at the District Junior Dairy Shows.

Holstein Breeders Association: This group awarded a certificate of merit to each 4-H member exhibiting a blue-ribbon Holstein at the District Junior Dairy Shows. These members, along with their county agents, were invited to attend the state meeting as guests of the association. This group also provided fitting and showmanship awards at the District Junior Dairy Shows.

Ayrshire Breeders Association: This association provided fitting and showmanship awards at the District Junior Dairy Shows.

N. C. Purebred Dairy Cattle Association: This organization paid the expenses of the State 4-H Dairy Judging Team and coach to the National 4-H Dairy Judging Contest.

PROJECT IV - ROUGHAGE PRODUCTION

We consider each of the present 418 farms on which DHIA testing is being conducted a demonstration in roughage production. Since a shortage of good roughage including pasture, silage and hay is probably the greatest handicap to profitable dairying in this state we endeavor to get each farmer doing testing to develop a good roughage program. Adequate roughage production is constantly kept before these farmers through visits of the County Agent, Dairy Extension Specialist, DHIA Supervisors and the Agronomy Specialist. Information on this subject is often carried through the Extension Dairy News Letter, which every farmer doing production testing receives monthly. This is a cooperative project between the Agronomy and Dairy Extension Sections.

One of the principal topics discussed in the dairy schools was "Adequate Roughage Production". Twenty-one of these schools were held, one to the county. They began at 10:00 a.m. and closed at 4:00 p.m.

Date	Location	Attendance
January 12	Siler City	47
January 14	Shaw Town High School (N)	120
January 14	Fayetteville (N)	18
February 8	Greensboro - A & T College	25
February 13	Fayetteville	31
February 14	Whiteville	29
February 14	Supply	35
February 15	Burgaw	40
February 15	Wayne	31
February 15	Elizabethtown	40
February 25	Greenville	30
February 25	Kinston	35
February 26	New Bern	18
February 26	Richlands	15
February 27	Rocky Mount	30
February 27	Wilson	17
February 28	Carthage	30
March 7	Lincolnton	90
March 14	Jefferson	28
March 14	Upper Mtn. Exp. Station	20
March 20	Hayesville	75
Total		804

The programs of these schools were varied to meet the needs of each county in which they were held.

The following is a sample program used in several of the schools:

Dairy School Program

10:00 a.m. - "Mastitis Control"
Dr. C. D. Grinnells, Prof. of Veterinary Science

10:30 a.m. - "A Successful Calf-Raising Program"
Dr. Ray Murley, N. C. State College

11-11:30 a.m.- "Why Keep Herd Records?"
M. E. Senger, Extension Dairyman

11:30-12:00 - "Breeding Cattle Artificially"
Carlton Blalock, Extension Dairyman

Afternoon

1:30 P.m. - "Green Pastures for North Carolina"
S. H. Dobson, Extension Agronomist

2:30-3:00 - "Increase Herd Income Through Good Management"
J. A. Arey, In Charge of Dairy Extension

Slides, motion pictures, lectures and panel discussions were used in conducting these schools.

N. C. Dairymen's Conference

For the first time, a two-day Dairymen's Conference was held here at the college this year. It replaced the Creamery Fieldmen's Conference which has been held annually for the past several years. The program was divided into four sections, namely; Herd Management, Feeding, Breeding and Herd Health. The attendance of around 350 was larger than expected. This conference was a joint project of the College Dairy Department and the Agricultural Extension Service.

PROJECT V - DAIRY FARM MANAGEMENT

This subject has been discussed through dairy schools and other dairy meetings. Data for these discussions has been secured from Agricultural Experiment Stations and analyses of DHIA records. The basis for many good herd management practices is found through DHIA records, such as culling, sire selection, economical feeding, etc.

Efficient dairy farm management requires that the farms be properly equipped with labor-saving buildings and machinery. The Dairy Specialists cooperating with the Agricultural Engineering Specialists of State College have developed a number of plans for milking, lounging and calf and bull barns, also for silos. During the past year 2,217 of these plans were mailed out on request to farmers and to county agents. Among these plans were 320 plans for milking parlors, 513 for pole or lounging barns, 575 for six cow stanchion and 171 for twelve cow stanchion barn plans, used for milking only.

Early in March a meeting of twenty county agents was held at the Upper Mountain Experiment Station where a trench silo was filled with unchopped alfalfa. The purpose of this meeting was to explain the construction and cost of various types of silos. Much interest was expressed in the brick and trench types because of their low cost per ton of construction. Silo construction was pushed by the entire Extension force and an estimated 1867 silos were constructed in sixty-six counties during August, September and October.

"Managed Milking" is a subject which has been discussed at many of our dairy meetings. It has been established that the occurrence of mastitis is greatly increased by improperly handling the milking machine. Herd Management cuts across the entire field of dairy production and is often the controlling factor in successful dairying.

PROJECT VI - COOPERATION WITH BREED ASSOCIATIONS AND OTHER ORGANIZATIONS

At the annual meetings of each of the Dairy Breed Associations, including the Jersey, Guernsey, Holstein, and Ayrshire, a plan of promotion work is developed. The Extension Dairymen assist in developing the plans. The associations have contributed financially and otherwise to the support of the Junior Dairy Cattle Projects. During 1952 they contributed $250 to be used as premiums in five Junior Dairy Cattle Shows, also certificates of merit to many 4-H Calf Club members. Assistance has also been given by Extension Specialists in farm meetings sponsored by the breed associations.

At the annual meetings of the State Grange and the Farm Bureau Federation, Extension dairymen have assisted in developing the dairy part of the program for each organization. Both of these organizations have been very helpful in legislative matters pertaining to the dairy industry.

The dairy specialists have also cooperated closely with the dairy section of the N. C. Department of Agriculture, the creamery field men, and the N. C. Federation of Milk Producers. By being familiar with the Extension dairy projects, these groups can be of material assistance in developing them.

PROJECT VII - DAIRY MANUFACTURING

The Extension work in Dairy Manufacturing during the past year was carried on jointly by W. M. Roberts and R. B. Redfern.

The main services rendered have to do with aid and assistance on technical plant control, advice on quality control, assistance on plant efficiency problems, advice and assistance in dairy plant layouts, advice and assistance in setting up plant records and aid in securing managers and management. The problems encountered most during the year can be placed in two categories:

1. Building expansion and equipment planning
2. Record analysis and plant efficiency

Many plants have increased in volume very rapidly and have had to expand. At the same time, other plants have not gained in volume but have studied their plant operations in an attempt to gain maximum efficiency. In order to obtain maximum efficiency, it is necessary to maintain records. Many plants do not have adequate records.

Creamery Butter

The majority of the creamery butter is being processed by the same plants that have been doing it for a number of years. Most of the sour cream butter was processed at Mooresboro Creamery, Mooresboro; Mooresville Creamery, Mooresville; and Shelby Creamery, Shelby. The sweet cream butter was processed at Biltmore Dairy, Winston-Salem, Yadkin Valley Dairy Cooperative, Inc., Wilkesboro, and Coble Dairy at Lexington. No information is available at this time pertaining to expected total production due to the fact that one of the largest plants processing butter used it as a balance wheel, i. e., when the milk could not be used in fluid milk channels the

cream was separated and made into butter. This type of operation makes it hard to predict how much will be used as butter. However, it is believed that the ratio of sour cream to sweet cream butter (30 to 70 per cent) will not change very much.

Ice Cream

There has been a slight increase in the production of ice cream for 1952 over 1951. Estimates are that the total gallonage will reach 13,350,000 in 1952. Also, there has been a slight increase in soft ice cream production through counter freezer establishments. There were 150 counter freezers in North Carolina last year and it is estimated that there are now approximately 213. The quality of all ice cream, both hard and soft, has improved very much. This is due partially to lower standard plate and coliform counts. Competition has also played a great role in this quality program. In most of the markets there is a real competition and low quality products are not condoned very long.

Cheese

Very little change has taken place in American Cheese production in North Carolina during the past year. The majority of this cheese is manufactured at one cheese plant owned by Kraft Foods Company, West Jefferson, N. C. This plant is well managed and requires little assistance on our part.

Market Milk

It is estimated that the production of Grade A milk is approximately 522,000,000 pounds as compared to 484,019,960 pounds in 1951. This is an increase over the previous year of approximately 38 million pounds. The figures for 1952 are estimated and, therefore, can only be used to show the

trend. The trend is that production of Grade A milk is on the increase. This is true in spite of the fact that for the second consecutive year the state suffered from a severe drought during June and July.

Even with this increase in production, more milk was imported. It is estimated that approximately 41,000,000 pounds of milk was imported. This is compared to approximately 27 million pounds in 1951 or an increase of 13 million pounds.

These figures show that the consumption of milk has been increased. This is due probably to an increase of persons in the milk-drinking age. The population of the state, as well as the U. S., is increasing daily.

Fluid milk packaged in paper containers has increased slightly this year but the ratio of paper to glass is still about 66 to 33 per cent. Many plants still have dual operations but the tendency is toward one operation, i.e., either all paper or all glass. The plants with the larger volumes are going to one operation, usually paper, so as to cut down plant overhead. The smaller plants are maintaining the dual operation, which in many instances is resulting in a high processing cost. These plants will have to give some attention to these cost factors if they remain in business. This year has seen five of the smaller plants sell out to larger dairies. They are:

Brasstown Cooperative, Brasstown, N. C. to Coble Dairy Products, Lexington, N. C.
Faulkner Dairy, Henderson, N. C. to Coble Dairy Products, Lexington
Surry Dairies, Mt. Airy, N. C. to Coble Dairy Products, Lexington
Lakeview Dairies, Raleigh, N. C. to Long Meadow Farms Cooperative, Durham, N. C.
Buffaloe Creamery, Raleigh, N. C. to Pine State Creamery, Raleigh

Another factor which has caused an unreasonable cost to many plants is the glass bottle loss. Bottle deposits have been removed in most plants which has caused a laxness in the return of bottles. In many plants this bottle loss has caused a considerable reduction in the net profit.

The annual two-week short courses on Market Milk and Ice Cream were not given this year because of an insufficient number of applicants. The reasons for this lack of applicants were thought to be twofold.

1. Many plants had already sent their personnel to short courses.

2. Because of a shortage of trained personnel, some plants could not release the personnel from their work for two weeks. Plans are being made; however, to continue the courses in the year 1953.

For the second year, the N. C. State Fair Dairy Bar Project was operated under the supervision of R. B. Redfern and was conducted in a manner very similar to the previous year. The Dairy Bar was located at one end of a tent and was operated by students majoring in Animal Industry from N. C. State College. This gave the students practical work on the operation of a dairy bar and also focused the attention of visitors to the spirit and interest shown by the students. Very generous servings of dairy products were given. It is believed that this atmosphere created good will and promoted dairying to a great extent.

At the opposite end of the tent colored films on dairying were shown by the Department of Agriculture.

The purpose was to provide a convenient place where the people could secure quality dairy products, rest and enjoy a good dairy motion picture all at the same time. The entire project was well received. The estimated participation ranged from 15 to 20 thousand people. This was an increase over the previous year of approximately 5,000 persons. The dairy products

served were chocolate and vanilla milk shakes, half pints of chocolate and homogenized milk, pints of buttermilk, ice cream cones, sandwiches and popsicles; assorted meat sandwiches and cakes were served also.

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Nature of Services Rendered in Dairy Manufacturing	No. Separate Contacts
Creamery and Cheese Manufacturing Problems	5
Ice Cream Manufacturing Problems	5
Market Milk Problems	3
Quality Dairy Products Conference	9
Dairy Plant Remodeling Conference	10
Dairy Plant Equipment Advice	17
Dairy Plant Record Analysis	31
Dairy Refrigeration Problems	2
Dairy Retail Problems	2
Dairy Building Planning	35
Dairy Organization (new plants)	2
Dairy Plants Managerial Problems	35
Milk Supply	2
Milk Delivery Problems	5
N. C. State Fair Conferences	3
Technical Plant Control	48
Promotion of Dairy Industry through N. C. State Fair Dairy Bar (days worked)	19
College Conferences, Dairy Work	12
General Dairy Industry Problems	18
Dairy Plant Efficiency Problems	13
N. C. Producers Association Meetings	5
Supervising and Instructing Short Courses	13
Promotion of Dairy Industry	41
Extension Staff Conferences	6
Dairy Short Course Planning Conferences	6
N. C. Dairy Products Association Meetings	5
* Southern Section, American Dairy Science Meetings	2
Visitations relative to Point IV Program	7
Annual Meetings Dairy Plants	6
N. C. Dairy Technology Society Meetings	6
* Dairy Exposition (Chicago)	2

*Out of State

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JUDGING DAIRY CATTLE SHOWS

During 1952 the Dairy Extension Specialist judged at fifty-six county and district dairy cattle shows. Most of these were Junior shows, previously referred to under the 4-H Club project.

In addition to judging, all of the Junior district shows were managed by Dairy Specialists.

COUNTIES WORKED IN DURING 1952

Alamance
Alexander
Alleghany
Anson
Ashe
Avery
Beaufort
Bladen
Brunswick
Buncombe
Burke
Cabarrus
Caldwell
Carteret
Caswell
Catawba
Chatham
Cherokee
Clay
Cleveland
Columbus
Craven
Cumberland
Davidson
Davie
Duplin
Durham
Edgecombe
Forsyth
Franklin
Gaston
Gates
Graham
Granville
Greene
Guilford
Halifax
Harnett
Haywood
Henderson
Hertford
Hyde
Iredell
Jackson
Johnston
Jones
Lee
Lenoir
Lincoln
McDowell
Macon
Madison
Martin
Mecklenburg
Mitchell
Montgomery
Moore
Nash
New Hanover
Northampton
Onslow
Orange
Pamlico
Pasquotank
Pender
Perquimans
Person
Pitt
Polk
Randolph
Richmond
Robeson
Rockingham
Rowan
Rutherford
Sampson
Stanly
Stokes
Surry
Swain
Transylvania
Tyrrell
Union
Vance
Wake
Warren
Washington
Watauga
Wayne
Wilkes
Wilson
Yadkin
Yancey

COMBINED STATISTICAL REPORT OF ENTIRE STAFF

Days in Field	1305
Days in Office	1102
Days Sick Leave	26
Days Annual Leave	57
Farm and Other Visits	3490
Meetings Attended	1213
Attendance at Meetings	112,265
Letters Written	21,492
Office Conferences	1895
Articles Written	234
Visits to County Agents	1240