



Brookings

Dairy Club

South Dakota
State College

1960



State Dairy Princess

Lucille Lee

Ambassadress of the Dairy Farmer

The Needs for Market Promotion of Our Dairy Foods Are
Fundamentally As Important As Efficient Production

American Dairy Association of South Dakota

Box 18
Brookings, South Dakota



FOREWORD

The South Dakota State College Dairy Club takes pleasure in presenting this brochure to better acquaint future students with the Dairy Department and the Dairy Club at South Dakota State College. The Department consists of Dairy Husbandry, Dairy Manufacturing, and Dairy Bacteriology. This publication contains information relating to the activities of Dairy Club, research and classwork carried on in this branch of Agriculture as well as information about graduating seniors.

The Dairy Club hopes you will find the brochure both informative and beneficial. A special thanks goes to the Dairy Club Adviser, Dr. Arthur Dracy, who has contributed guidance and articles to help form this booklet.

This booklet could not have been published had not the club received the whole-hearted support of its advisers. The club wishes to thank them for their enthusiastic help.

EmRoy Gehlsen
Editor

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OPPORTUNITIES: IN DAIRY PRODUCTION

1. Dairy Farming
2. Herdsman
3. Showing Dairy Cattle
4. Farm Manager
5. County Agent and 4-H Extension Work
6. Feed Salesman
7. Equipment Salesman
8. Milk Inspector
9. College Teaching
10. Research Work in Dairy Production
11. Working with Artificial Breeding Associations

OPPORTUNITIES: IN DAIRY MANUFACTURING

1. Dairy Plant Employee
2. Dairy Products Including Ice Cream, Cheese, Dry Milk and Marketing Milk Plants
3. Dairy Plant Manager
4. Ownership of Processing Plants
5. College Teaching
6. Research Work in Dairy Products or Dairy Manufacturing
7. Dairy-Bacteriology Research
8. Dairy Products Testing Laboratories, Local, State and Federal
9. Field Inspectors

Views from the Club Adviser



As the adviser views the club activities this year, many encouraging results can be reported. Club activities are arranged and designed to aid the majority of students through a series of well-planned activities. No attempt is made to direct any activity solely for the benefit of one individual. The accomplishments and experiences gained by the students are a distinct advantage to him in his other activities.

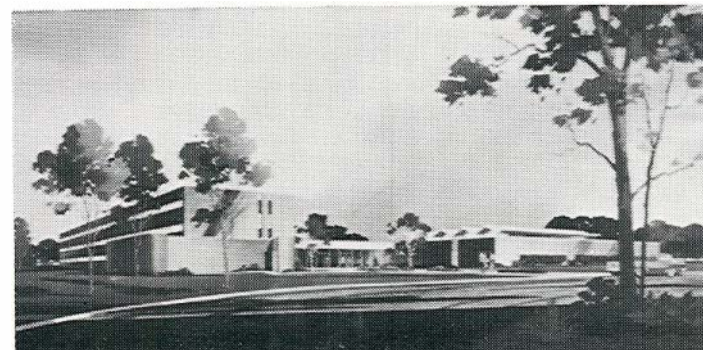
This year there were few extra curricular activities for students. In the fall the group had its usual orientation of freshmen, followed by participation at the Hobo Day Parade. The first group activity for incoming students was the participation in building and presenting the float.

A real accomplishment, especially for the newcomer, was the annual Christmas party sponsored by the Dairy Club. The winter quarter was climaxed by an outstanding booth at the Little International. Spring quarter was without doubt, the most active quarter, the planning and execution of the spring banquet was a major undertaking. This year, Dr. P. L. Kelley formerly of South Dakota State College was their speaker. Through all of these activities, students add to their individual statures and increase their ability to work with people in non-academic undertakings.

Academically, students are employed both at the barn and at the creamery to develop managerial skills. Here students gain much by applying, in their respective fields, what they have learned in classes. Class room work has been arranged and taught so as to partially fulfill the requirements necessary to integrate the student with useful citizenship.

Dairy and Bacteriology Building

D. F. Breazeale



There is little resemblance between this picture of the planned Dairy and Bacteriology Building and the one used in the Dairy Club brochure a year ago. The first picture was taken from a preliminary sketch and many changes have taken place since. It is hoped that the completed building will have much the same appearance as this photograph of the architects' drawings.

The three-story part of the new building will be parallel to Highway 77 and in line with the north wing of Ag. Hall. Offices, classrooms and laboratories for teaching and research will be in this portion of the building. The Dairy Department will occupy the first floor with Dairy Extension offices near the north end. The Bacteriology department will have the second floor for classrooms, teaching laboratories, media preparation and offices. The third floor will be shared by both departments. It will be used for research on the many problems affecting the dairy and food industries as well as others pertaining to agriculture and our daily lives.

The one-story structure on the southwest corner of the building and at the Eleventh street entrance to the campus will be an auditorium-type classroom with a seating capacity of 215. It is expected that this room will be used by many departments for large classes, as a similar room in the new Agricultural Engineering building is now being used. A very attractive south entrance and lobby will lie between this classroom and the dairy processing plant. Immediately between the plant and the lobby will be a modern salesroom for dairy products. This room will be easily accessible either from the front entrance or from a door just north of the lobby which opens onto a parking lot north and east of the building.

Contracts for the construction of this building are expected to be awarded during the last week in May, with actual construction beginning a few weeks later. The building should be completed

the following summer and be ready for use at the beginning of the Fall Quarter of 1961.

The new building will provide much-needed laboratory, classroom and office space for the two departments. Larger numbers of students can then be handled much more efficiently. It will be possible to offer a larger program with more variety of subject matter. It is hoped that the department can keep pace with the rapidly developing dairy industry in South Dakota and develop in students the kind of leadership and technical knowledge that will provide for future growth and development of this important industry. The challenge is great. Can we meet it?



Dairy Bacteriology

R. J. Baker

Research work in the Dairy Bacteriology section has centered largely around the bacteriological and biochemical changes in grass silage. Gene Ronald completed his M.S. degree last summer on the biochemical changes of silage and Larry Cadman is presently working on some of the bacteriological aspects of the problem. We hope to continue with this project during the coming year. Some work has been done with the test for antibiotics and with diagnostic procedures used in the detection of mastitis.

Considerable research has been done with lactic acid cultures. Mr. William Stoll has been the supervisor in much of the work. Factors influencing flavor production and means of preserving cultures have been the major factors studied. Much of Mr. Stoll's time has been spent in conducting chemical and bacteriological tests for the dairies in the state.

The courses in Dairy Bacteriology and Food Bacteriology have been conducted much the same as in the past. The lower college enrollment has been reflected in a reduced enrollment in these courses.

A new course in Dairy Cultures has been added to the curriculum and is being taught for the first time this year. The dairy products judging trips failed to materialize this past year due to a shortage of funds for travel expense.

Grading Dairy Products

Shirley W. Seas

The field of Dairy Products Judging is extremely interesting and provides a good future for more dairy graduates. The need for trained men in products judging is increasing because more and more attention is being directed toward the quality of the food we eat today.

In order to become an official Grader for the State or USDA, a person must have the ability to judge dairy products for flavor and aroma. This ability to judge dairy products can be learned in the class room. The Dairy Husbandry Department at SDSC offers courses that will train men to become graders and inspectors. One of these courses is Dairy Products Judging which teaches the different flavors and also offers regional and national competition in judging dairy products. Competition of this kind is a valuable asset for employment after graduation. Several Dairy Husbandry alumni are graders and inspectors with the USDA and large dairy industries. Positions of this kind offer advancement, retirement and security.

The ability to judge dairy products is also a valuable asset in everyday living, for everyone eats or drinks dairy products of some sort. This training may also help in the evaluation of other products which are controlled by flavor and aroma.

The dairy industry is always increasing the attention given to the quality of products, and with this increase there will be an increased need for men skilled in the field of products judging.



Ice Cream Is a Favorite

Kenneth Spurgeon

Students majoring in the Dairy Manufacturing Option at South Dakota State College reckon the course in Ice Cream Manufacturing to be one of their favorites. In lecture hours they learn the hows and whys of the preparation of ice cream mix (as the product is known before freezing) and the freezing process. During laboratory periods they have an opportunity to practice these procedures and observe the effects of various modifications; and

always, in the interest of improving methods, it is necessary to sample and taste the ice cream often!

All mix preparation and freezing in the laboratory periods is done on the semi-commercial sized equipment which is used in the normal operations of State College Creamery. A new mix vat, High Temperature Short Time Pasteurizing equipment, and a new continuous type freezer will be added in 1961 when the Dairy Husbandry and Bacteriology Departments move into a new building. The batch-type freezer presently being used however, will continue to do service for demonstration and special freezing jobs. Hence, students in dairying at South Dakota State College in years ahead will have an even broader experience in the art and science of ice cream making.

Students and professors between classes, visitors on campus, and campus employees taking a "break" all find that an ice cream cone from the retail sales room at the State College Creamery provides a most refreshing treat. Indeed, the year-long popularity of the "Cone" tangibly supports the philosophy stated by E. V. McCollum of Johns Hopkins University that, "There is no more attractive way of serving milk than in good ice cream."

Breeding and Nutritional Research

Howard Voelker

Research in the field of dairy cattle breeding is conducted with the Holstein-Friesian cattle in the college herd. This project is a federal regional study for improving dairy cattle. The South Dakota project involves the development of two inbred lines which will be crosses after the lines are developed. A third group of cows is randomly noted to highly proven sires. Approximately seventy-five head of animals are involved in the project. This past year the 41 milking cows averaged 15,201 lbs. milk, 3.5% and 528 lbs. butterfat per cow.

Nutrition work is also conducted at the college. It involves the uses of silage, preservatives for alfalfa silage, use of haylage and methods of preserving the high nutrient value of hay. Several preservatives for alfalfa silage are being investigated at the present time.

Teaching is distributed between dairy cattle nutrition and dairy cattle judging. Several courses are offered in dairy cattle judging. The top students in these classes compete in regional, national, and international competition. Students gain valuable experience by their contacts with some of the top cattle in herds in South Dakota and the United States.

Physiological Research

By Arthur E. Dracy

Physiological work can be divided into four major projects. A graduate student is responsible for the technical work done on each. Each project is designed to further the information now available to farmers.

Mr. Edward Michaelwicz has been studying the effects of increased pressures upon the well-being of sheep and cattle with regard to bloat. At this time his work seems to be purely academic, but since the alleged cause of death from bloat is result of increased pressure, he is attempting to reveal the exact cause. He can artificially kill an animal by increased intraruminal pressure the same way it would die from natural causes.

Mr. Mansur Ferdows is obtaining some interesting results of storing ova at -79°C . He has found that when fertilized ovum is stored at this low temperature for a long period of time, then thawed, it is still viable. He has been able to produce young rabbits after this freezing process.

No less interesting is the work conducted by Mr. George Marx on the antibody content of milk. He has been able to antigenize cows with several antigens like *Brucella abortus*, *Brucella cholerae suis*, and *Salmonella pullorum*. The results of these experiments clearly indicate that the cow is definitely able to produce gamma globulins. There is hope that some day these will be useful in the prevention of disease.

Mr. Donald Ditmanson has been experimenting with hormones in regard to the artificial stimulation of lactation. At the present time he has one heifer that started milking when she was four months of age and has milked for over one year. Unfortunately at no time was her production over 8 lbs. a day. On the other hand, it is interesting to discover that a young heifer that did not have a calf was capable of lactating.

Dairy Extension

By Hollis D. Hall

The Dairy Extension service serves as the link between the research done at South Dakota State College and the dairy farmers and processors. Responsible for this task are Mr. Ervin Kurtz, Mr. Hollis Hall and Mr. Leonard Benning. Mr. Kurtz and Mr. Hall

work with the dairy farms and plants. Mr. Benning works with plants concerning the marketing of dairy products. Information obtained through research is disseminated to the public by meetings, demonstrations, personal visits, bulletins, circulars, news stories, radio, T.V., exhibits and fairs. Besides taking the results of research to the field and the needs of South Dakota dairymen to the research staff, the Extension Service is directly responsible for other projects.

One of these projects is 4-H and FFA. The Extension Dairymen work with county agents and vocational agricultural instructors in conducting judging schools, demonstrations, and dairy cattle shows. Another project is the D.H.I.A. (Dairy Herd Improvement Association) production testing program through which feeding and management practices are reviewed for the dairymen's use. Also, the Extension Service gives technical aid to dairy farmers in management, feeding, breeding, and building construction. Technical assistance is given to dairy plants in quality control, building and marketing.



Club Activities

This year the Dairy Club has been very busy participating in special events on campus, as well as other activities. The first meeting of the year was a get-acquainted meeting for freshmen and past members. Hobo Day was one of the first activities for the club, and a float was entered in the education division of the parade. The club also had a booth at the Little International, based on the theme "75 Years of Progress."

The monthly meetings featured speakers, entertainment and discussion. At one meeting, wives and guests were invited to a speech and slides on etiquette. The December meeting was a Christmas party at Dr. Arthur Dracy's home. The last meeting of the year is a combined picnic with the Poultry Club. The Dairy and Poultry Clubs combine efforts to have fried chicken, ice cream and milk.

On April 7, the annual Spring Banquet was held. Dr. Philip Kelley, Head of the Dairy Department at the University of Nebraska, was speaker. The banquet is a special event at which awards are given to judging teams, scholarship winners are announced, and the big award, the T. M. Olson Scholarship, is given to the outstanding junior.

A spring trip is taken by Dairy Club members to various parts of the United States. This year members are planning a five-day

trip to Wisconsin and Chicago. The club will visit farms, plants and other points of interest.

The summer months are usually idle months, but not for the Dairy Club, which has a booth at the South Dakota State Fair. Club members donate their time in running the booth, with the profits being used for various club activities.

The Dairy Club has enjoyed a successful year because of the willingness of members to work and co-operate with others.

Dennis Swenson,

Dairy Club Vice President
and Banquet Chairman



Opportunities in Dairy Club

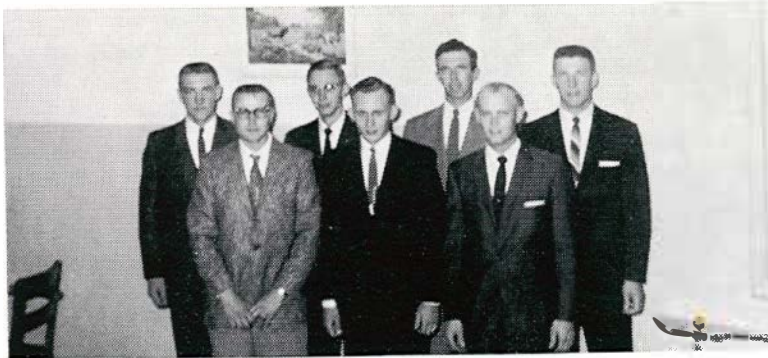
The Dairy Club is interested in promoting in its members an understanding of dairying and the problems that sometimes are encountered in this field. In order to create understanding, we strive to encourage the working together of students and faculty members on various projects throughout the course of the year. We strive to develop in our members responsibility and leadership in order that these individuals may be better fitted to head a useful life in society. We hope that the lessons that can be learned here may save them from some of the difficulties which may be encountered in later life.

The activities that the Dairy Club sponsors are varied in nature in order that the members may gain a broadened knowledge of such things as the social graces, leadership, and business undertakings. Through these activities it is hoped that experiences may be had which will enable these individuals to carry out the work that they do to their own satisfaction, and the satisfaction of their employers.

George Black,

Dairy Club President

DAIRY CLUB



Back row, left to right: Roy Beaird, George Black, Burdell Alfke and Kermit DeBoom.

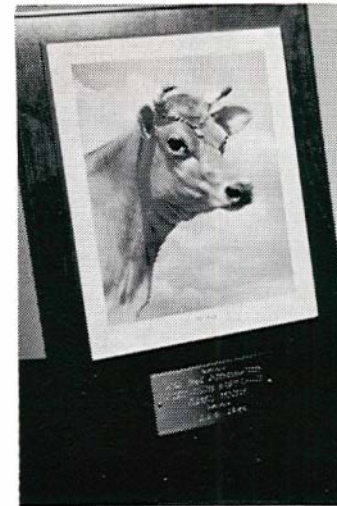
Front row, left to right: James Lundgren, Lloyd Bollerman and Dennis Swenson.



DAIRY CLUB OFFICERS



Left to right: Lloyd Bollerman, George Johnson, Roy Beaird, and George Black.



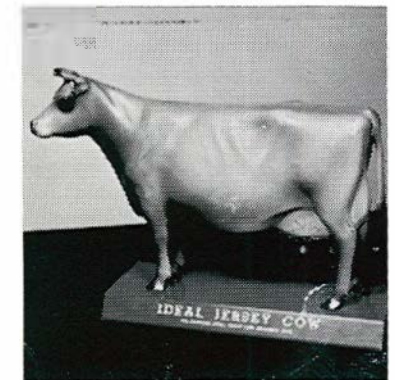
Opportunities to Participate in Judging Teams

One does not always realize that the opportunity of participating on a judging team may be the stepping stone to future success in the dairy field. Many of the nation's greatest dairy leaders gained their early experience from judging contests. The members of a judging team rate this as one of their most valuable experiences during college.

The first contest of the year was the Kansas State Fair, where valuable judging experience was gained. On this trip many outstanding herds were visited by the team and some of the nation's top animals were seen and judged.

The senior judging team competed in the National Inter-Collegiate Dairy Cattle Judging Contest at Waterloo, Iowa, in which twenty-seven teams participated. Marvin Gahr was high individual in Brown Swiss and Mayo Kjellson second high individual in Jerseys. This show was a thrill to the team because of keenness of the competition.

The Junior Judging Team had a very successful year, as it placed fifth in the International Dairy Show at Chicago. The team placed first in Guernseys, with Bob Fritz placing fourth and Mark Ripp placing ninth; fourth in Ayrshires, with Mayo Kjellson placing fifth and Bob Fritz placing seventh; ninth in Holsteins and Jersey and tenth in Milking Shorthorns. There were seventeen teams entered in the contest. The coach felt the team made a very good showing in the contest.



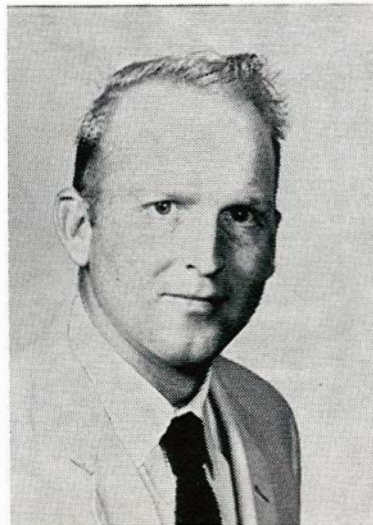
Dairy Club Seniors



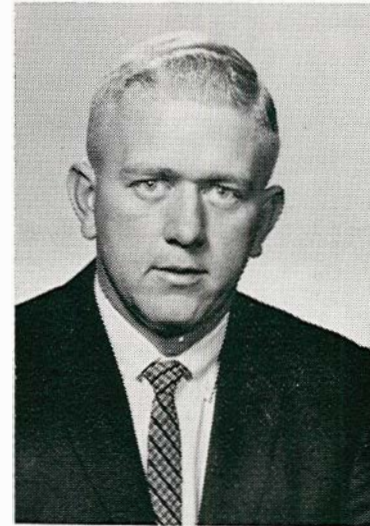
Kermit De Boom is a Dairy Manufacturing major from Avoca, Minn. He is 22 years old and married. De Boom's activities include, Dairy Club, Monogram Club, Varsity Football, and Intramural Basketball. He has worked three years at the College Creamery and worked at Kraft Foods in New Ulm, Minn., during the summer of 1959.



Dennis Wayne Johnson is a Dairy Production major from Arlington, S. D. He is 28 years old, married and has two children. His activities include Dairy Club, and dairy cattle showman for two years in the Little International. Johnson was raised on a farm and has spent three years working at the South Dakota State College dairy barn.



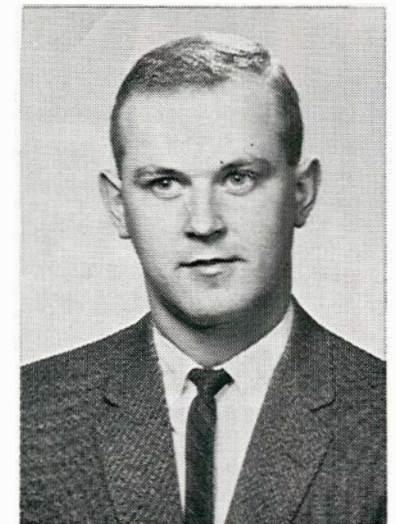
Dairy Club Seniors



Marvin A. Olson is a Dairy Production and Animal Husbandry major from Oral, S. D. He is 23 years old and single. Olson's school activities include Dairy Club, manager of the Little International, Ag Club, Block and Bridle, Alpha Zeta, Blue Key, Who's Who, and College 4-H Club. He has been show herdsman for Redfield State Hospital and Leo Klien's dairy herd.



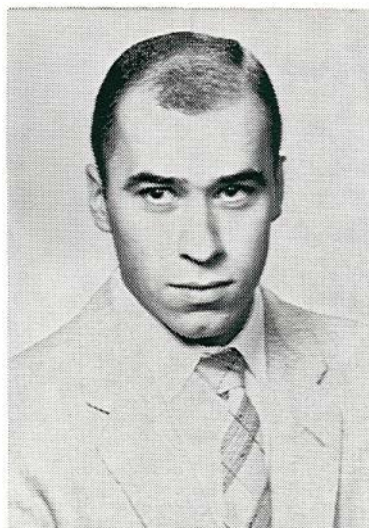
Thomas R. Schmidt is a Dairy Manufacturing major from Sheboygan, Wis. He is 21 years old and single. Schmidt's school activities include Dairy Club float chairman, Rooter Bums, and Officer's Mess. His work experience includes part time work in the College Creamery, one summer working in a dairy, making ice cream bars, and two summers working in a brewery.



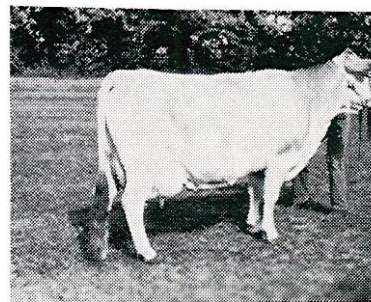
Dairy Club Seniors



Dennis F. Swenson is a Dairy Manufacturing major from Lafayette, Minn. He is 27 years old and married. Swenson's school activities include Dairy Club vice president, Little International, Dairy Products Superintendent and Lutheran Student's Association. For the past three years he has worked at the College Creamery.



Donald W. Wulf is a Dairy Production and Animal Husbandry major from Luverne, Minn. He is 25 years old and married. Wulf's activities include Dairy Club, Veterans Club, and Vets Bowling Team. He worked on a farm until he was 18, then he spent four years in the Navy. He has worked at the College Dairy Barn and part time at A. R. Wood Mfg. Co. in Luverne, Minn. He won the award for High Scholarship.



Green Pasture's Buttercup

Reg. No. 264047 "Ex"

2y-365d-2x-16,007M-3.96%
633.47F

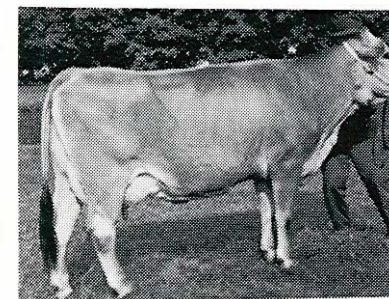
4y-365d-2x-16,788M-4.12%
691.26F

5y-365d-2x-19,620M-4.3 %
837 F

4 yr old National Bellringer—1957

Western District Reserve

Bellringer Aged Cow—1959



Green Pasture's Susie

Reg. No. 274994 "Ex"

1yr-11mo-365d-2x-12,583.8M
3.76%-473.1F

3yr14 mo-340d-2x-15,385.5M
4.27%-657.9F

4yr-4 mo-365d-2x-15,865 M
4.33%-687.5F

5yr-5 mo-365d-2x-21,545 M
4.3 %-928 F

Herd on HIR—on test for 18 years

Herd averages from 395 lb. fat to 563 lb. fat in 1959

Type Classification: 3 "Ex", 7 "VG"

Have had best uddered cow at S. Dak. State Fair

9 times in the 14 yrs. of showing

Herd Sire:

LEE'S HILL ROBIN HOOD H

Reg. No. 131353

HIS SIRE

Lee's Hill Magyar R. 128123

Classified VG. VG. VG. VG. E. E.

His 3 nearest dams average:
365 days — 21,714M — 1005.2 Fat

Paternal brother to:

Melody Grove Lucinla "Ex"

8y-351d-3x-22,888-4.5%-1043.5F

HIS DAM

Lee's Hill Redbreast I 317544

Classified:

E. E. E. VG. E. E. E. E.

ROP Records

2y-329d-2x-15,048-4.2%-635.2
1st prize 2 yr. National, Ohio and

ALL AMERICAN FUTURITY,
1958

1st 2 yr. old udder, National
Dairy Show, 1958

Green Pastures Farm

KENNETH BALO

White, S. Dak.

Phone Main 9-3565

Industry Supporters

40 Years



Brookings
Creamery

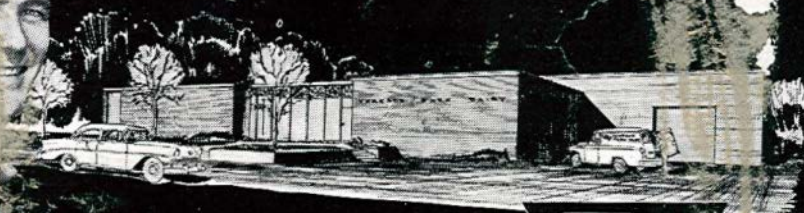
CULHANE'S DAIRY

Mitchell, S. D.

Manufacturers of
Sanborn County
Finest Milk
Products

Don Culhane, Mgr

MORE PEOPLE IN SOUTH DAKOTA
BUY TERRACE PARK DAIRY PRODUCTS
THAN ANY OTHER BRAND ..



THERE MUST BE A REASON!

Terrace
Park
DAIRY