THE COLLEGIATE STUDENTS' INTERNATIONAL CONTEST

IN JUDGING DAIRY PRODUCTS

1916 to 1964, inclusive

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The First Collegiate Students' International Contest in Judging Dairy Products was held in Springfield, Massachusetts, in 1916 in connection with the National Dairy Show, sponsored by the National Dairy Association. Nine colleges were represented in the contest. Butter was the only product judged at that time -- milk and cheese being included a year later. Ice cream was added in 1926; cottage cheese was introduced in 1962.

From this early beginning the Dairy Products Judging Contest, later known as the Collegiate Students' International Contest in Judging Dairy Products, has made a steady growth in spite of two intervening world wars. In 1956, at Atlantic City, 33 college teams of three men each participated in this outstanding and colorful event. This represented the largest competition in the history of the contest, exceeding by 5 teams the previous record of 28 teams established in Chicago, 1952. There were 30 teams in Chicago in 1958 and 28 in Atlantic City in 1962. Despite the present shortage of dairy students, team participation remains high.

However, in fairness to those students in schools with low enrollment, in 1962 the Rules were changed to allow entry of one or two individual contestants when a full team of three was not available.

Backdrop for the Contests

From 1916 to 1929, inclusive, the Dairy Products Judging Contests were held in connection with the National Dairy Show, which was largely a dairy cattle exposition. Nevertheless, dairy machinery was generally exhibited, the shows often creating profound interest, as at Detroit in 1926. However, the major attraction and emphasis seemed to be more closely allied to dairy cattle and dairy production.

Since 1930 the Collegiate Students' International Contest in Judging Dairy Products has been held concurrently with the Dairy Industries Exposition (predecessor of the Dairy and Food Industrial Exposition), and/or with the annual meetings of the Milk Industry Foundation and the International Association of Ice Cream Manufacturers. The idea of holding the Contest with this background and in conjunction with the Dairy Industries Exposition was first broached to the Dairy and Ice Cream Machinery and Supplies Association (later the Dairy Industries Supply Association and more recently the Dairy and Food Industries Supply Association), and to Professor Robert B. Stoltz, Secretary, American Dairy Science Association, Ohio State University, by Professor P. S. Lucas, Michigan State University, East Lansing, at the Cleveland Show in 1928. The Dairy and Ice Cream Machinery and Supplies Association's Directors met with the college representatives of the American Dairy Science Association, whose number had been increased to three by the addition of Professor Howard W. Gregory, Purdue University, Lafayette, Indiana, during the Dairy Industries Exposition at Toronto in 1929 to effect plans.

First Joint Contest in 1930

Meanwhile much of the preliminary work prior to the 1929 Directors' meeting was done by a Committee of the Dairy and Ice Cream Machinery and Supplies Association, headed by K. W. Schantz, of K. W. Schantz, Inc. The purpose of this work was to ascertain the feasibility of establishing an enlarged contest with the Dairy Industries Exposition and the Milk and Ice Cream Associations' meeting as a suitable background. As a direct result of the Toronto Conference, the first Dairy Products Judging Contest, jointly sponsored by the Dairy Industries Supply Association and the American Dairy Science Association, was held at the Dairy Industries Exposition in Cleveland in October, 1930.

As a result of this mutual relationship and understanding between the American Dairy Science Association and the Dairy Industries Supply Association, the present Collegiate Students' International Contest in Judging Dairy Products received its major impetus. The enthusiasm for judging dairy products was stimulated also by the establishment, in 1930, by the Dairy Industries Supply Association, of six Dairy Industrial Research Fellowships, each carrying a stipend of $750, sufficient then for maintaining a graduate student for one year during which he was required to study a problem pertaining to the dairy industry. During the 36 years of close association with the Supply Association, 30 contests have been held in 13 major cities of the United States and Canada. The contest was suspended from 1942 to 1946, inclusive, due to World War II.

In 1963 the Dairy Industries Supply Association changed its name to the Dairy and Food Industries Supply Association ant the name of its Exposition to the Dairy and Food Industrial Exposition. Over the years the amount of the Fellowships have been increased periodically, and since 1960 three Fellowships have been given yearly in amounts of $2,300, $2,150 and $2,000 for the first, second and third place team standings, respectively, whenever 25 or more teams were entered in the Contest. Generally, only the two higher Fellowships were given in years of lighter entry. Early in 1964 the Dairy and Food Industries Supply Association voted to give the three Fellowships if 21 or more teams were entered in years when no Exposition was held.

Extensive Influence

The ultimate influence of this training in the knowledge of quality in dairy products through the medium of the contest and the encouraging stimuli to dairy graduates to greater endeavor and wider horizons through the Dairy Industrial Research Fellowships is almost beyond comprehension. Since the inception of the Dairy Products Judging Contest in 1916, a total of 2,359 contestants have actively participated in the judging through 1964. In addition, since 1930 approximately 620 alternates have had the opportunity to sample the products used in the contests, to view the Expositions, and to attend the Annual Conventions of the Milk and Ice Cream Associations. Back of these spot-lighted young judges literally have been thousands of students trained in the judging of dairy products but who were not quite able "to make the team." Thus, the contest has served especially well in the institutions as an incentive and goal for the teaching of quality in dairy products.

To date, 99 Dairy Industrial Research Fellowships have been awarded to as many individuals in 23 different colleges. Graduate studies under these fellowships have been undertaken at 19 universities. Rules under which the research grants are made require that a Dairy Industrial Fellow pursue graduate work at an institution, other than his own alma mater, which had participated in the contest usually of the year in which the fellowship was won. Thus, a broader scope of learning and wider personal contacts are automatically provided in the research program.

The completed theses, technical and popularized articles resulting from the research studies -- indicated by the 99 fellowships granted since 1930 -- under the direction of dairy and food scientists at the 19 leading agricultural colleges and universities representing thousands of dollars of

research, have been outstanding contributions to the dairy literature. All this is in accordance with the plans and dreams of the early committees formulating the program. Important as these contributions are, they pale in significance, however, in comparison to the development of leadership resulting from the opportunities and training provided by the Fellowships. Many a dairy leader today owes his eminent position in large part to the incentive received by being awarded one of the Dairy Industrial Research Fellowships and the extra training provided thereby.

The wholehearted enthusiasm of the representatives of the various colleges, the American Dairy Science Association and the Dairy and Food Industries Supply Association in staging the contest bespeaks the fine relationship which can and does exist between the commerical and educational forces back of a great industry.

In this brief review of the development of the Collegiate Students' International Contest in Judging Dairy Products, difficulty is encountered in attempting to evaluate the efforts of the many who have contributed to its success. Nevertheless, specific contributions should not go unrecorded.

Pioneers

Credit must go to Professor W. P. B. Lockwood, University of Massachusetts, Amherst, Massachusetts, to S. C. Thompson and William White, United States Department of Agriculture, Washington, D. C., who probably experienced the greatest difficulty in getting the contest under way in 1916, 1917, and 1919.

In his annual report before the American Dairy Science Association meeting in 1917, Professor Lockwood pointed out some of the problems confronting them:

> "The students' judging contest for dairy products was carried on under adverse conditions this year . . . It cost more money to run our contest than to run the cattle judging contest . . . It would seem that the judging of dairy products deserves pretty nearly as good a place as the judging of cattle, and we can get it; but the attitude is not towards it; and we will have to create this attitude . . . When we find a high grade of butter, score it, discuss it and carry back to our institutions the ideas and standards that we will have to meet in our production . . . I believe manufacturers will put up a manufacturer's scholarship. Possibly a group of manufacturers, or interested men, may be persuaded to contribute a small amount each for its support."

S. C. Thompson, United States Department of Agriculture, superintended the first few contests and laid the groundwork for the present contests. The Department recognized the value of the contest as a means of improving the quality of dairy products and of maintaining a close liaison with the agricultural colleges. A member of the Department has superintended each of the contests since its inception. Following Mr. Thompson's untimely death, William White became superintendent. The long and faithful service of William White, who superintended the contest for 19 years, is a service fully appreciated and attained only by a few throughout a lifetime.

The impetus given the contest by Professor Robert B. Stoltz, Ohio State University, who foresaw the great benefits resulting from the establishment of suitable Dairy Industrial Fellowships has increased in intensity with the passing of the years.

Several Have Long Contest Affiliations

C. J. Babcock, P. A. Downs and G. M. Trout were affiliated with the contest as official judge, superintendent, coach, and/or committee men for a total of 103 years.

The active participation for 31 years of C. J. Babcock, United States Department of Agriculture, 13 years as an official judge and from 1941 until his untimely death in 1958 as Superintendent of the Contest, reflects the intrigued interest and loyalty of those associated with the contest. L. H. Burgwald, United States Department of Agriculture, formerly professor of dairy technology and coach at Ohio State University, superintended the contest from 1958 to 1961, inclusive. He and Mr. Babcock were aided by Assistant Superintendent D. R. Strobel from 1954 to 1962. Mr. Strobel then resigned to become Assistant Agricultural Attache, Japan. Upon Burgwald's retirement, 1961, Dr. Byron H. Webb, United States Department of Agriculture became Superintendent of the Contest. Burgwald has continued to serve as Assistant Superintendent.

To Dr. P. A. Downs of the University of Nebraska goes the unique credit and distinct honor of having coached and entered judging teams in every contest from 1924 to 1958, inclusive -- 35 years - until his retirement from the University in 1959. No other coach has such a record of continuous, uninterrupted participation in the Dairy Products Judging Contest. Iowa has entered teams each contest year since 1924, but the teams meanwhile were coached by various coaches. Ohio leads all other schools in team participation with 42 out of 43 possible entries, every year except 1927. But for the longest continuous participation credit must be given to Iowa. Professor Downs has the further distinction of having given 33 years of faithful, loyal, uninterrupted service to the Committee on Judging Dairy Products, American Dairy Science Association, the committee formulating the rules for the Collegiate Students' International Contest in Judging Dairy Products.

G. M. Trout, Michigan State University, became vitally interested in the contest in 1924 when he coached his first of 13 dairy products judging teams. From 1937 to 1959 he was a member of the Committee on Judging Dairy Products, American Dairy Science Association, serving as Chairman for 21 years. Thus his active participation in the contest as a coach and committee member spanned 35 years.

Since 1959, chairmanship and membership on the Committee on Judging Dairy Products is of shorter duration than heretofore. From 1959 to 1962 Dr. E. L. Thomas, University of Minnesota was Chairman. He was succeeded by the present Chairman Professor Leonard R. Dowd, Connecticut. The present Committee on Judging Dairy Products consists of the following eight people: L. R. Dowd, Connecticut, Chairman; E. W. Custer, Mississippi; J. H. Gholson, Louisiana; W. S. Rosenberger, Iowa; W. L. Slatter, Ohio; Joseph Tobias, Illinois; Byron H. Webb, U. S. Department of Agriculture, Superintendent; and J. J. Willingham, Texas Tech.

Industry Active Participant

Working closely with the American Dairy Science Association Committee are the members of the Dairy and Food Industries Supply Association Contest and Fellowship Committee consisting of: Charles Weinrich, Cherry-Burrell Corporation, Chairman; Dan Roahen, CP Division, St. Regis, Vice Chairman; R. J. Alberts, Potlatch Forests, Inc., Dairy Service Division; G. A. M. Anderson, The King Company; Neil C. Angevine, Meyer-Blanke Company; Clark Derleth, Kusel Dairy Equipment Company; J. E. Fike, Pennsalt Chemicals Corp.; G. L. Huffman, Ex-Cell-O Corporation; Hartl Jones, Mojonnier Bros. Co.; Lillian King, Sediment Testing Supply Company; R. L. Lloyd, American Maize-Products Company; Perry W. Meridith, Fort Wayne Dairy Equipment Company; B. B. Parker, Parker's Products, Inc.; O. E. Ross, National Pectin Products Company; Vernon T. Smith, Germantown Manufacturing Company; B. W. Taylor, DairyPak, Inc.; and Frederick Wegner, Stoelting Brothers Company.

The Official Judges

The official judges, who often select the products to be judged and place an evaluation thereon, contribute materially to the annual contests. The names of the official judges beginning in 1926 are listed herein. Originally the name of the official judge was a closely guarded secret until after the contest was under way. Since 1932, attempts have been made to retain the same judge year after year.

Their continuity of service has had a stabilizing influence in establishing quality standards. The official judges have been selected from commercial and usually non-university ranks, each having attained proficiency in his area. Those on butter have been Bert Aldrich, C. E. Eckles, L. S. Edwards, N. E. Fabricius, L. E. Gaylord, G. A. Gilbert, H. W. Gregory, C. L. Pier, L. D. Reekie, and H. D. Reynolds. Edwards and Fabricius served as official butter judges the longest of all.

In the judging of Cheddar cheese, the list of official judges includes E. L. Aderhold, W. E. Ayers, G. A. Gilbert, Robert Johns, L. H. Marlatt, J. W. Moore, G. N. Tobey, William White, and H. L. Wilson. The "dean" of cheese judging was Harry Wilson, who first judged the Cheddar cheese class in 1929 and, with two exceptions, was the official for the next 30 years.

The list of official milk judges has been comparatively short including such authorities as C. J. Babcock, R. W. Bell, C. E. Clement, F. M. Grant, Ernest Kelly, C. S. Leete, Donald Pettee, R. J. Posson, and R. Whitaker. Babcock's long period of service contributed much in setting the standards for milk judging.

The ice cream judges have been Everett Byers, A. D. Burke, A. C. Dahlberg, J. Hoffman Erb, H. F. Judkins, W. H. E. Reid, P. H. Tracy, and C. S. Trimble. Throughout the years, two judges A. C. Dahlberg and J. Hoffman Erb predominated the field in the number of years of service.

The official judge of cottage cheese, first introduced in the contest in 1962, was Ashley Wilson. Many others from industry have served as assistant official judges. From time to time two or more coaches have acted in this capacity for each product.

The current official judges are: butter, Bert Aldrich; Cheddar cheese, Robert Johns; milk, Donald Pettee; ice cream, Everett Byers; cottage cheese, Ashley Wilson; and all products, N. E. Fabricius.

Trophies Have Furnished the Needed Incentive

Were it not for trophies, most contests would be quite empty. So it would have been with the Collegiate Students' International Contest in Judging Dairy Products without the individual medals, prizes, cups and trophies. The committees are very much indebted to the American Butter Institute, the International Association of Ice Cream Manufacturers, the Milk Industry Foundation, the National Cheese Institute, and the Dairy and Food Industries Supply Association for the respective butter, cheese, milk, ice cream, and all products individual prizes and cups furnished since 1947. They are grateful also to the American Cottage Cheese Institute for furnishing the prizes for winners in the cottage cheese class inaugurated in 1962.

Several of these cups are in high competition for permanent possession. They must be won by one university three times before it becomes in permanent possession of the university and retired from competition. Usually the names of many schools are engraved on the trophy before it becomes the permanent possession of an individual school.

Credit Due Dairy and Food Industries Supply Association

To give credit in detail to those in the Dairy and Food Industries Supply Association who have helped develop and advance the contest in all of its ramifications and influences would call for a lengthy cataloging which must not be attempted in this brief history. A complete record would include officers, directors, and committee men and staff members. It would include, too, every one of the more than 400 companies comprising the Dairy and Food Industries Supply Association. Their support of the Association's sponsorship of the contest and the Dairy Industrial Research Fellowships has been unwavering and highly appreciated by the educational group.

Influence of ADSA Committee

The Committee on Judging Dairy Products, American Dairy Science Association, chairmaned by G. M. Trout, Michigan State University, from 1938 to 1959, by E. L. Thomas, University of Minnesota, from 1959 to 1962, and by L. R. Dowd, University of Connecticut, 1963 and 1965, deserves some little credit for the growth and influence of the Collegiate Students' International Contest in Judging Dairy Products since the linking of the Dairy and Food Industries Supply Association's to the American Dairy Science Association's sponsorship of the event. From 1930 to 1937, inclusive, the average number of colleges sending teams was 17; since then the average number of colleges entered in the contest has been 24; in the 13 contests prior to 1930 the average number of college teams participating in the contest was 10. The Committee has kept in contact with many contestants, especially the Dairy Industrial Research Fellows, through the years and has compiled much information on the history, development, and influence of the contest. Twenty articles resulting from the Committee's studies have been published.

These are:

(1) White, W., Downs, P. A., Mack, M. J., Fouts, E. L., and Trout, G. M. 1939. History and Development of the Students' National Contest in Judging of Dairy Products. Jour. Dairy Sci. 22: 375-387.

(2) Trout, G. M., White, W., Mack, M. J., Downs, P. A., and Fouts, E. L. 1939. The Dairy Industrial Fellowship Research Program. Jour. Dairy Sci. 22: 767-777.

(3) White, W., Downs, P. A., Mack, M. J., Fouts, E. L., and Trout, G. M. 1940. Correlation Between Grades on Scores and Grades on Criticisms In the Judging of Dairy Products. Jour. Dairy Sci. 23: 1-12.

(4) Trout, G. M., White, W., Downs, P. A., Mack, M. J., and Fouts, E. L. 1940. Official Flavor Criticisms of Dairy Products Judged in the National Contest. Jour. Dairy Sci. 23: 325-330.

(5) Trout, G. M., White, W., Downs, P. A., Mack, M. J., and Fouts, E. L. 1941. Official Body and Texture Criticisms of Dairy Products Judged in the National Contest. Jour. Dairy Sci. 24: 65-70.

(6) Trout, G. M., White, W., Downs, P. A., Mack, M. J. and Fouts, E. L. 1941. An Analysis of Contestant Judgments in the Scoring of Dairy Products with a Study of Some Factors Which May Affect Them. Jour. Dairy Sci. 24: 649-658.

(7) Trout, G. M., Downs, P. A., Mack, M. J., Fouts, E. L. and Babcock, C. J. 1942: Percentage Distributions of Specific Flavor Scores of Butter, Cheese, Milk and Ice Cream as Designated by Dairy Products Judges. Rpt. 37th Ann. Meeting, Amer. Dairy Sci. Assoc., Mich. State College, East Lansing. 14pp. (Mimeo). June, 1942.

(8) Trout, G. M., Downs, P. A., Mack, M. J., Fouts, E. L., and Babcock, C. J. 1942. The Evaluation of Flavor Defects of Butter, Cheese, Milk and Ice Cream as Designated by Dairy Products Judges. Jour. Dairy Sci. 25: 557-569.

(9) Trout, G. M., Downs, P. A., Mack, M. J., Fouts, E. L. and Babcock, C. J. 1943. Comparative Standardization of Butter, Cheese, Milk and Ice Cream Flavor Scoring. Jour. Dairy Sci. 26: 63-68.

(10) Trout, G. M., Anderson, E. O., Babcock, C. J., Downs, P. A. and Herzer, F. H. 1948. An Analysis of the Results of the 1947 Collegiate Students' International Contest in Judging Dairy Products. Jour. Dairy Sci. 31: 823-829

(11) Trout, G. M., Anderson, E. O., Babcock, C. J. Downs, P. A. and Herzer, F. H. 1951. The Collegiate Students' International Contest in Judging Dairy Products -- 1916 through 1950. 24pp. (Mimeo) 7 tables. Dairy and Food Industries Supply Association, Inc., 1145 19th St., N. W., Washington, D. C. 20036

(12) Trout, G. M., Anderson, E. O., Babcock, C. J., Downs, P. A., and Herzer, F. H. 1954. Proficiency in Judging Dairy Products as Shown by an Analysis of the Contestant Score Cards. Jour. Food and Milk Technol. 17: 188-189.

(13) Downs, P. A., Anderson, E. O., Babcock, C. J., Herzer, F. H. and Trout, G. M. 1954. Evaluation of Collegiate Student Dairy Products Judging Since World War II. Jour. Dairy Sci. 37: 1021-1026.

(14) Anderson, E. O., Babcock, C. J., Downs, P. A., Herzer, F. H., and Trout, G. M. 1955. Student Judging Effective Tool for Industry Training. Amer. Milk Rev. June 1955, 4pp.

(15) Babcock, C. J., Dowd, L. R., Downs, P. A., Thomas, E. L., Warren, F. G., Willingham, J. J., and Trout, G. M.
1957. University participation in the Collegiate Students' International Contest in Judging Dairy Products. (Annual Report). Jour. Dairy Sci. 40: 1639-1643.

(16) Babcock, C. J., Dowd, L. R., Downs, P. A., Thomas, E. L., Warren, F. G., Willingham, J. J. and Trout, G. M.
1958. Winning teams and contestants in judging dairy products in the Collegiate Students' International Contest in the Judging of Dairy Products, 1916-1957, inclusive. (Annual Report). Jour. Dairy Sci. 41: 1471-1481.

(17) Babcock, C. J., Dowd, L. R., Downs, P. A., Thomas, E. L., Warren, F. G., Willingham, J. J. and Trout, G. M.
1958. Survey of dairy products-judging contestants. I. What vocations do dairy products-judging contestants follow after graduation? Jour. Dairy Sci. 41: 1823-1826.

(18) Babcock, C. J., Dowd, L. R., Downs, P. A., Thomas, E. L., Warren, F. G., Willingham, J. J., and Trout, G. M.
1958. Survey of dairy products-judging contestants. II. What salaries do dairy products-judging contestants get after graduation? Jour. Dairy Sci. 41: 1826-1832.

(19) Babcock, C. J., Dowd, L. R., Downs, P. A., Thomas, E. L., Warren, F. G., Willingham, J. J., and Trout, G. M.
1959. Survey of dairy products-judging contestants, III. Dairy industry training in retrospect. Jour. Dairy Sci. 42: 715-723.

(20) Trout, G. M., Dowd, L. R., Downs, P. A., Thomas, E. L., Warren, F. G., Willingham, J. J., and Prescott, Beatrice
1961. The Collegiate Students' International Contest in Judging Dairy Products, 1916 to 1961, inclusive. 25pp. 7 tables. (Mimeo.) Dairy and Food Industries Supply Assoc., 1145 19th St., N. W., Washington, D. C. 20036

The Committee has been responsible also for the development of judging score cards which have aided in the establishment of uniform judging standards throughout the country.

Naturally, in a brief review of this kind, all the salient facts connected with the contests cannot be presented adequately. The tables appended hereto give concisely the historical data associated with the Collegiate Students' International Contest in Judging Dairy Products.

Table I. College winning first place in the 43 Dairy Products Judging Contests from 1916 to 1964. (Due to World Wars I and II contests were not held in 1918 and from 1942 to 1946)

All Products*

College	Year	Number
Ohio	1920, 1921, 1922, 1929, 1933, 1934, 1936, 1937, 1941, 1952, 1953, 1964	12
Iowa	1924, 1925, 1926, 1927, 1928, 1931, 1939, 1940, 1948, 1950	10
Mississippi	1932, 1935, 1949, 1951, 1955	5
Illinois	1956, 1959, 1960, 1961, 1962	5
Kansas	1930, 1954	2
Connecticut	1947, 1957	2
Minnesota	1958, 1963	2
South Dakota	1919	1
Pennsylvania	1923	1
Cornell (N. Y.)	1938	1
	Total	41

Butter*

Iowa	1919, 1924, 1927, 1928, 1936, 1938, 1939, 1948, 1950, 1951, 1954	11
South Dakota	1917, 1920, 1922, 1925, 1933	5
Minnesota	1934, 1940, 1949, 1958, 1964	5
Ohio	1921, 1953, 1956	3
Connecticut	1941, 1947, 1957	3
Illinois	1959, 1962, 1963	3
Mississippi	1930, 1931	2
Pennsylvania	1916, 1923	2
Oregon	1926, 1929	2
Tennessee	1935, 1955	2
Purdue (Ind.)	1932	1
Nebraska	1937	1
Cornell (N. Y.)	1952	1
Kansas	1960	1
Oklahoma	1961	1
	Total	43

Cheddar Cheese*

Ohio	1919, 1920, 1921, 1922, 1923, 1929, 1952	7
Iowa	1925, 1934, 1950, 1951, 1955, 1956	6
Michigan	1931, 1932, 1941, 1948	4
Mississippi	1935, 1940, 1947, 1949	4
Tennessee	1927, 1936, 1954	3
Minnesota	1937, 1958, 1963	3
Wisconsin	1933, 1939	2
Cornell (N. Y.)	1938, 1953	2
Kansas	1930, 1957	2
Illinois	1959, 1960	2
West Virginia	1928, 1962	2
Connecticut	1961, 1964	2
Nebraska	1917	1
Purdue (Ind.)	1924	1
South Dakota	1926	1
	Total	42

Milk*

Ohio	1920, 1921, 1923, 1929, 1936, 1938, 1941, 1953, 1964	9
Iowa	1926, 1931, 1939, 1940, 1948	5
South Dakota	1917, 1919, 1928, 1937	4
Connecticut	1947, 1950, 1955	3
West Virginia	1925, 1930, 1961	3
Massachusetts	1922, 1924	2
Kansas	1927, 1949	2
Mississippi	1934, 1951	2
North Carolina	1952, 1954	2
Minnesota	1958, 1960	2
Illinois	1933, 1963	2
Purdue (Ind.)	1932	1
Tennessee	1935	1
Wisconsin	1956	1
Nebraska	1957	1
Calif.Polytechnic	1959	1
Oklahoma	1962	1
	Total	42

Ice Cream*

Iowa	1926, 1929, 1939, 1947, 1949	5
Ohio	1928, 1934, 1937, 1953, 1957	5
Massachusetts	1927, 1933, 1952	3
Cornell (N. Y.)	1936, 1938, 1951	3
Connecticut	1940, 1941, 1960	3
Mississippi	1932, 1950	2
Michigan	1961, 1963	2
South Dakota	1955, 1964	2
Illinois	1930	1
Vermont	1931	1
Nebraska	1935	1
Tennessee	1948	1
Kansas	1954	1
Maryland	1956	1
Calif.Polytechnic	1958	1
Minnesota	1959	1
West Virginia	1962	1
	Total	34

Cottage Cheese*

Wisconsin	1962	1
Connecticut	1963	1
Iowa	1964	1
	Total	3

*There was no team rating for all products in 1916 and in 1917. Butter was the only product scored in the first contest in 1916; milk and cheddar cheese were introduced in 1917; ice cream was introduced in 1926; cottage cheese was introduced in 1962 but results were not included in All Products tabulation until 1963.

Table 2. College Having Highest Individual Contestant in the 3 Dairy Products Judging Contests from 1916 to 1964.

All Products*

College	Year	Number
Ohio	1920, 1921, 1922, 1929, 1936, 1937, 1941, 1952, 1953, 1961, 1964	11
Iowa	1924, 1926, 1931, 1939, 1947, 1949, 1950, 1951	8
Illinois	1930, 1933, 1956, 1959, 1960, 1963	6
Mississippi	1932, 1938, 1955	3
Minnesota	1940, 1954, 1958	3
Pennsylvania	1923, 1925	2
Michigan	1948, 1962	2
South Dakota	1919	1
Massachusetts	1927	1
Nebraska	1928	1
Arkansas	1934	1
Cornell (N. Y.)	1935	1
Connecticut	1957	1
	Total	41

Butter*

Iowa	1921, 1924, 1925, 1931, 1936, 1938, 1939, 1948, 1952, 1957	10
South Dakota	1917, 1933, 1934, 1958, 1964	5
Oregon	1922, 1926, 1927, 1929	4
Mississippi	1928, 1930, 1955, 1960	4
Minnesota	1940, 1949, 1956, 1959	4
Illinois	1961, 1962, 1963	3
Pennsylvania	1916, 1923	2
Maryland	1919, 1920	2
Tennessee	1935, 1950	2
Connecticut	1941, 1947	2
Michigan	1951, 1954	2
Purdue (Ind.)	1932	1
Kansas	1937	1
Ohio	1953	1
	Total	43

Cheddar Cheese*

Mississippi	1938, 1940, 1947, 1949, 1950, 1963	6
Ohio	1921, 1922, 1929, 1935, 1952	5
Nebraska	1917, 1932, 1933	3
Iowa	1925, 1927, 1951	3
Kansas	1930, 1954, 1956	3
Maryland	1919, 1920	2
Pennsylvania	1923, 1948	2
Michigan	1931, 1941	2
Tennessee	1936, 1939	2
Wisconsin	1937, 1962	2
Connecticut	1961, 1964	2
Purdue (Ind.)	1924	1
South Dakota	1926	1
West Virginia	1928	1
Arkansas	1934	1
Cornell (N. Y.)	1953	1
Georgia	1955	1
Fresno State (Cal).	1957	1
Washington	1958	1
Calif. Polytechnic.	1959	1
Illinois	1960	1
	Total	42

Milk*

Ohio	1917, 1923, 1925, 1926, 1929, 1935, 1936, 1941, 1953, 1963, 1964	11
Iowa	1920, 1924, 1928, 1939, 1940	5
Michigan	1947, 1951, 1958, 1959	4
Illinois	1933, 1938, 1960	3
Pennsylvania	1948, 1952, 1955	3
South Dakota	1919, 1937	2
Arkansas	1921, 1934	2
Massachusetts	1922, 1927	2
Kansas	1949, 1957	2
Connecticut	1950, 1961	2
West Virginia	1930	1
Vermont	1931	1
Purdue (Ind.)	1932	1
North Carolina	1954	1
Wisconsin	1956	1
Cornell (N. Y.)	1962	1
	Total	42

Ice Cream*

Iowa	1939, 1947, 1948, 1959	4
Cornell (N. Y.)	1932, 1935, 1936	3
Mississippi	1938, 1950, 1964	3
Michigan	1931, 1933, 1963	3
Massachusetts	1927, 1928	2
Illinois	1934, 1960	2
Minnesota	1940, 1952	2
Connecticut	1941, 1949	2
Ohio	1937, 1955	2
West Virginia	1961, 1962	2
South Dakota	1926	1
Purdue (Ind.)	1929	1
Ontario	1930	1
Texas A & M	1951	1
Kansas	1953	1
Texas Tech	1954	1
Maryland	1956	1
Washington	1957	1
Calif. Polytechnic	1958	1
	Total	34

Cottage Cheese*

Iowa	1963, 1964	2
Wisconsin	1962	1
	Total	3

*Butter was the only product scored in the first contest in 1916; milk and cheddar cheese were introduced in 1917; ice cream was introduced in 1926; cottage cheese was introduced in 1962, but results were not included in All Products tabulation until 1963.

Table 3. Summary of Colleges Leading in the Judging of Dairy Products, 1916 to 1964

Colleges winning first place in judging:

Year	Butter*	Cheddar cheese	Milk	Ice cream	Cottage cheese	All products	No. of teams entered per year
1916	Pa.	*	-	-	-	-	9
1917	S. Dak.	Nebr.	S. Dak.	**	***	****	3
1918	*****	-	-	-	-	-	-
1919	Iowa	Ohio	S. Dak.	-	-	S. Dak.	7
1920	S. Dak.	Ohio	Ohio	-	-	Ohio	5
1921	Ohio	Ohio	Ohio	-	-	Ohio	8
1922	S. Dak.	Ohio	Mass.	-	-	Ohio	9
1923	Pa.	Ohio	Ohio	-	-	Pa.	7
1924	Iowa	Purdue	Mass.	-	-	Iowa	10
1925	S. Dak.	Iowa	W. Va.	-	-	Iowa	10
1926	Ore.	S. Dak.	Iowa	Iowa	-	Iowa	13
1927	Iowa	Tenn.	Kans.	Mass.	-	Iowa	14
1928	Iowa	W. Va.	S. Dak.	Ohio	-	Iowa	15
1929	Ore.	Ohio	Ohio	Iowa	-	Ohio	15
1930	Miss.	Kans.	W. Va.	Ill.	-	Kans.	17
1931	Miss.	Mich.	Iowa	Vt.	-	Iowa	16
1932	Purdue	Mich.	Purdue	Miss.	-	Miss.	18
1933	S. Dak.	Wis.	Ill.	Mass.	-	Ohio	17
1934	Minn.	Iowa	Miss.	Ohio	-	Ohio	19
1935	Tenn.	Miss.	Tenn.	Nebr.	-	Miss.	17
1936	Iowa	Tenn.	Ohio	Cornell	-	Ohio	18
1937	Nebr.	Minn.	S. Dak.	Ohio	-	Ohio	17
1938	Iowa	Cornell	Ohio	Cornell	-	Cornell	23
1939	Iowa	Wis.	Iowa	Iowa	-	Iowa	14
1940	Minn.	Miss.	Iowa	Conn.	-	Iowa	21
1941	Conn.	Mich.	Ohio	Conn.	-	Ohio	22
1942-46	*****	-	-	-	-	-	-
1947	Conn.	Miss.	Conn.	Iowa	-	Conn.	19
1948	Iowa	Mich.	Iowa	Tenn.	-	Iowa	26
1949	Minn.	Miss.	Kans.	Iowa	-	Miss.	18
1950	Iowa	Iowa	Conn.	Miss.	-	Iowa	26
1951	Iowa	Iowa	Miss.	Cornell	-	Miss.	23
1952	Cornell	Ohio	N. C.	Mass.	-	Ohio	28
1953	Ohio	Cornell	Ohio	Ohio	-	Ohio	23
1954	Iowa	Tenn.	N. C.	Kans.	-	Kans.	26
1955	Tenn.	Iowa	Conn.	S. Dak.	-	Miss.	26
1956	Ohio	Iowa	Wis.	Md.	-	Ill.	33
1957	Conn.	Kans.	Nebr.	Ohio	-	Conn.	21
1958	Minn.	Minn.	Minn.	Calif. (Poly.)	-	Minn.	30
1959	Ill.	Ill.	Cal (Poly)	Minn.	-	Ill.	24
1960	Kans.	Ill.	Minn.	Conn.	-	Ill.	25
1961	Okla.	Conn.	W. Va.	Mich.	-	Ill.	21
1962	Ill.	W. Va.	Okla.	W. Va.	Wis.	Ill.	28
1963	Ill.	Minn.	Ill.	Mich.	Conn.	Minn.	24
1964	Minn.	Conn.	Ohio	S. Dak.	Iowa	Ohio	20
						Total	785

*Butter only judged in 1916.
**Ice cream not included until 1926.
***Cottage cheese not included until 1962; results not included in All Products until 1963.
****No rating for all Products.
*****No contest because of World Wars I and II.

Table 4. School Participation in the Collegiate Students' International Contest in Judging Dairy Products, 1916 to 1964 inclusive.*

Standing as to the total number of contests entered	School	Number of contests entered out of total of 43**
1	Ohio	42
2	Iowa	40
3	Nebraska	38
4	Connecticut	33
5	Kansas	33
6	Michigan	33
7	Mississippi	33
8	Massachusetts	32
9	Purdue (Ind.)	30
10	Minnesota	30
11	Pennsylvania	30
12	South Dakota	28
13	West Virginia	27
14	Cornell (N. Y.)	25
15	Illinois	25
16	Tennessee	25
17	Wisconsin	24
18	Oklahoma	23
19	Texas Tech.	23
20	Maryland	18
21	Georgia	18
22	Virginia	17
23	North Carolina	15
24	New Hampshire	11
25	Vermont	11
26	Washington	11
27	Texas A & M	11
28	Oregon	10
29	Clemson (S. C.)	10
30	Missouri	9
31	Rhode Island	7
32	California (Polytechnic)	6
33	California (University)	6
34	Colorado	6
35	Ontario	6
36	Rutgers (N. J.)	6
37	Kentucky	5
38	Wyoming	5
39	Arkansas	4
40	Louisiana	4
41	Utah	4
42	Auburn (Ala.)	3
43	Idaho	3
44	New Mexico	3
45	Florida	2
46	Arizona	1
47	California (Fresno)	1
	Total**	787

*Contests were not held during the war years of 1918 and of 1942 to 1946.
**Includes entering of individuals in less than full team by two schools in 1964.

Table 5. Location of the Collegiate Students' International Contest in Judging Dairy Products, 1916 to 1964.

Number of Contest	Year	Organization with whom Affiliated	Location	Number of Entries
1	1916	National Dairy Association	Springfield, Mass.	9
2	1917	" " "	Columbus, Ohio	3
	1918	No Contest - World War I		
3	1919	National Dairy Association	Chicago, Ill.	7
4	1920	" " "	Chicago, Ill.	5
5	1921	" " "	St. Paul, Minn.	8
6	1922	" " "	St. Paul, Minn.	9
7	1923	" " "	Syracuse, N. Y.	7
8	1924	" " "	Milwaukee, Wis.	10
9	1925	" " "	Indianapolis, Ind.	10
10	1926	" " "	Detroit, Mich.	13
11	1927	" " "	Memphis, Tenn.	14
12	1928	" " "	Memphis, Tenn.	15
13	1929	" " "	St. Louis, Mo.	15
14	1930	Dairy & Food Industries Supply Assn.	Cleveland, Ohio	17
15	1931	" " "	Atlantic City, N. J.	16
16	1932	" " "	Detroit, Mich.	18
17	1933	" " "	Chicago, Ill.	17
18	1934	" " "	Cleveland, Ohio	19
19	1935	" " "	St. Louis, Mo.	17
20	1936	" " "	Atlantic City, N. J.	18
21	1937	" " "	New Orleans, La.	17
22	1938	" " "	Cleveland, Ohio	23
23	1939	" " "	San Francisco, Calif.	14
24	1940	" " "	Atlantic City, N. J.	21
25	1941	" " "	Toronto, Canada	22
	1942-46	(No contest - World War II)		
26	1947	Dairy & Food Industries Supply Assn.	Miami Beach, Fla.	19
27	1948	" " "	Atlantic City, N. J.	26
28	1949	" " "	Los Angeles, Calif.	18
29	1950	" " "	Atlantic City, N. J.	26
30	1951	" " "	Detroit, Mich.	23
31	1952	" " "	Chicago, Ill.	28
32	1953	" " "	Boston, Mass.	23
33	1954	" " "	Atlantic City, N. J.	26
34	1955	" " "	St. Louis, Mo.	26
35	1956	" " "	Atlantic City, N. J.	33
36	1957	" " "	San Francisco, Calif.	21
37	1958	" " "	Chicago, Ill.	30
38	1959	" " "	Miami Beach, Fla.	24
39	1960	" " "	Chicago, Ill.	25
40	1961	" " "	Washington, D. C.	21
41	1962	" " "	Atlantic City, N. J.	28
42	1963	" " "	Dallas, Texas	24
43	1964	" " "	Chicago, Ill.	22
			Total*	787

*Includes two entries of less than full team.

Table 6. **Winners of the Dairy & Food Industries Supply Association Fellowships and the Schools to which They Were Assigned for Graduate Study, 1930 to 1964, inclusive.***

College or University	Name of winner at school where undergraduate work was taken	Year**	Name of fellow assigned to school for graduate studies	Year**
1. University of Arkansas				
	Niven, Charles F.	1934		
2. University of California			Homberger, R. E.	1931
3. California State Polytechnic College				
	Lord, Donald E.	1959		
4. Clemson College (S. C.)			Simmons, James C.	1956
5. The University of Connecticut				
	Gibson, G. L.	1932	Freeman, Robert	1935
	Kosikowski, Frank V.	1938		
	Marland, Richard E.	1941		
	Tobie, Alan F.	1947		
	Hunt, Roger W.	1949		
	Parkin, Willis E.	1950		
	Gray, Frederick D.	1951		
	Lusas, Edmund	1953		
	Clark, Warren	1955		
	Geishecker, Edward P.	1957		
	Pierpont, Peter F.	1958		
	Hutchison, Bruce R.	1962		
6. Cornell University (N. Y.)				
	Tomlinson, Albert S.	1936	Cantley, R. W.	1932
	Brereton, John G.	1937	Chilson, William H.	1933
	Ludington, V.	1938	Niven, Charles F.	1934
	Charlap, Henry N.	1952	Ford, Mark	1935
			Naylor, H. Brooks	1937
			Kosikowski, Frank V.	1938
			Tobie, Alan F.	1947
			Kleyn, Dick H.	1952
			Miller, Norbert L.	1956
7. University of Illinois				
	Ross, O. E.	1930	Haradine, C. E.	1931
	Corbett, W. J.	1933	Gibson, G. L.	1932
	Miller, Norbert L.	1956	Brown, Howard W.	1934
	Siebert, Scott E.	1960	Smith, Hiram P.	1935
	Crater, Patricia L.	1961	Wilson, Ashley	1938
	Rossi, Samuel E.	1962	Hollender, Herbert A.	1939
	Alwes, Marvin	1963	Moore, Donald R.	1948
			Lackey, George R.	1961

	WINNER		ASSIGNMENT	
8.	Iowa State University			
	Ause, O. H.	1931	Ross, O. E.	1930
	Brown, Howard W.	1934	Shepherd, Sidney	1932
	Ford, Mark	1935	Hostetler, P.	1933
	Wilson, Ashley	1938	Slatter, Walter L.	1934
	Russell, Ocrel M.	1939	Warner, James N.	1935
	Sandine, William E.	1950	Harris, William C.	1937
	Anderson, Delmar L.	1951	Ludington, V. D.	1938
	McAnelly, John K.	1953	Graham, Dee M.	1949
	Riekens, James A.	1955	Blackburn, Claude J.	1951
	Sherman, William P.	1960	Lusas, Edmund L.	1953
			Clark, Warren S.	1955
			Madsen, Fred M.	1962
9.	Kansas State University			
	Hostetler, P.	1933	Leach, H. J.	1931
	Chilson, William H.	1933	Loney, B. Edgar, Jr.	1960
	Byers, E. L.	1934		
	Vell, Donald C.	1954		
10.	University of Massachusetts			
	Shepherd, Sidney	1932	Brockschmidt, J. H.	1931
	MacCurdy, Robert D.	1937	Hunt, Roger W.	1949
			Charlap, Henry N.	1952
11.	Michigan State University			
	Dowd, L. R.	1930	Goodwillie, D. B.	1930
	Haradine, C. E.	1931	Long, John H.	1932
	Babel, Fred J.	1934	Larson, Richard A.	1936
	Openlander, H. F.	1936	MacCurdy, Robert D.	1937
	Moore, Donald R.	1948	Marland, Richard E.	1941
	Miller, Herbert L.	1958	Shiffermiller, W. E.	1948
	Madsen, Fred M.	1962	Milkie, Robert C.	1953
			Wales, Charles S.	1954
			Sapp, Charles W.	1955
			Wynn, John D.	1956
			Pierpont, Peter F.	1958
			Sherman, William P.	1960
			Rossi, Samuel F.	1962
			Snoddy, Duane S.	1964
12.	University of Minnesota			
	Sorenson, C. M.	1933	Ause, O. H.	1931
	Josephson, Donald V.	1934	Carithers, R. L.	1933
	Freeman, Robert	1935	Roberts, W. M.	1936
	Rivers, Philip W.	1936	Brereton, John G.	1937
	Naylor, H. Brooks	1937		
	Mykleby, R. W.	1940		
	Blomster, Galen G.	1963		

	WINNER		ASSIGNMENT	
13.	Mississippi State University			
	Quinn, J. D.	1930		
	Whitfield, B. H.	1931		
	Long, John H.	1932		
	Carithers, R. L.	1933		
	Harris, William C.	1937		
	Goodwin, T. J.	1939		
	Graham, Dee M.	1949		
	Gilmore, Thomas E.	1950		
	Blackburn, Claude J.	1951		
	Smallwood, Robert T.	1954		
	Barton, L. B.	1955		
	Simmons, James C.	1956		
14.	University of Nebraska			
	Kelley, Martin F.	1930	Whitfield, B. H.	1931
	Meridith, P. W.	1932		
	Warner, James N.	1935		
	Larson, Richard A.	1936		
	Rippen, A. L. ***	1939		
15.	North Carolina State College			
			Sandine, William E.	1950
			McAnelly, John K.	1953
			Smallwood, Robert T.	1954
16.	The Ohio State University			
	Homberger, R. E.	1931	Quinn, J. D.	1930
	Brockschmidt, J. H.	1931	Meridith, P. W.	1932
	Charles, Donald A.	1932	Spicer, W. Delmar	1933
	Slatter, Walter L.	1934	Openlander, H. F.	1936
	Smith, Hiram P.	1935	Henry, David	1937
	Adams, Joseph	1936	Rippen, A. L. ***	1939
	Roahen, Dan C.	1937	Vell, Donald C.	1954
	Shiffermiller, W. E.	1948	Geishecker, Edward P.	1957
	Kleyn, Dick H.	1952	Miller, Herbert L.	1958
	Milkie, Robert C.	1953	Crater, Patricia L.	1961
	Snoddy, Duane S.	1964		
17.	Oklahoma State University			
	Wynn, John D.	1956	Lord, Donald E.	1959
	Loney, B. Edgar, Jr.	1960		
	Lackey, George R.	1961		
18.	Ontario Agricultural College			
	Goodwillie, D. B.	1930		
19.	Oregon State College			
			Raistakka, Donald A.	1957

	WINNER		ASSIGNMENT	
20.	The Pennsylvania State University			
	Bradley, H. A. ***	1930	Bradley, H. A. ***	1930
	Snyder, Walter E. ***	1940	Josephson, Donald V.	1934
			Rivers, Philip W.	1936
			Russell, Ocrel M.	1939
			Mykleby, R. W.	1940
			Parkin, Willis E.	1950
21.	Purdue University (Ind.)			
	Cantley, R. W.	1932	Dowd, L. R.	1930
			Sorenson, C. M.	1933
			Babel, Fred J.	1934
			Flake, J. C.	1935
			Adams, Joseph	1936
			Blomster, Galen G.	1963
22.	South Dakota State College			
	Spicer, W. Delmar	1933		
	Henry, David	1937		
	Sapp, Charles W.	1955		
23.	University of Tennessee			
	Flake, J. C.	1935		
	Roberts, W. M.	1936		
24.	Texas Technological College			
	Wales, Charles S.	1954	Barton, L. B.	1955
25.	The University of Vermont			
	Leach, H. J.	1931		
26.	Washington State University			
	Raistakka, Donald A.	1957		

WINNER		ASSIGNMENT	
27. University of Wisconsin			
Hollender, Herbert A.	1939	Kelley, Martin F.	1930
		Charles, Donald A.	1932
		Corbett, W. J.	1933
		Byers, E. L.	1934
		Tomlinson, Albert S.	1936
		Roahen, Dan C.	1937
		Goodwin, T. J.	1939
		Snyder, Walter E. ***	1940
		Gilmore, Thomas E.	1950
		Anderson, Delmar L.	1951
		Gray, Frederick D.	1951
		Riekens, James A.	1955
		Siebert, Scott E.	1960
		Hutchison, Bruce R.	1962
		Alwes, Marvin	1963

*Some schools may have won more Fellowships than indicated in this tabulation. For one or more reasons, the Fellowships were sometimes forfeited in which case they were reawarded to the next highest standing individual or team. Thus the number of Fellows from a particular school may be more or less than the number actually won.

**Years given are those in which Fellowship was won.

***Finished work started by Fellowship winner.

Table 7. Publications Resulting from Research Projects of the Dairy and Food Industries Supply Association Fellows, by years, 1930 to 1964*

1930

1. Ross, O. E. Why Does a Tallowy Flavor Develop in Strawberry Ice Cream? Ice Cream Trade Journal, July, 1933.

2. Goodwillie, D. B., and Trout, G. M. Factors Other Than Bacteria That Influence the Body and Flavor of Granuled Buttermilk. The Milk Dealer, Feb. and March, 1933.

3. Quinn, J. D., and Burgwald, L. H. High Short Holding and Low Long Holding. Milk Plant Monthly, Feb., 1933.

4. Bradley, H. H., and Dahle, C. D. How Freezing and Hardening Affect the Texture of the Ice Cream. The Ice Cream Trade Journal, Nov., 1933.

5. Dowd, L. R. Some Factors Affecting the Efficiency of Pasteurization of Milk. American Creamery and Poultry Produce Review, Jan. 18, 1935.

6. Kelly, Martin F., and Price, Walter V. A Study of the Manufacture of Cottage Cheese. National Butter and Cheese Journal, Feb. 10 and 25, 1933.

1931

7. Ause, O. H., and Macy, H. The Relation of Oospora Lactis to the Keeping Quality of Butter. American Creamery and Poultry Produce Review, Dec. 12, 1934.

8. Homberger, R. E., and Cole, W. C. Some Factors Affecting Lactose Crystallization as Related to Sandy Ice Cream. The Ice Cream Review, Nov., 1933.

9. Haradine, C. E. Inversion of Sucrose in the Manufacture of Sweetened Condensed Milk, and Its Effect Upon Color of Finished Product. National Butter and Cheese Journal, Oct., 1933.

10. Whitfield, Benjamin H., Davis, H. P., and Downs, P. A. The Effect of Milk Upon Metals and Metals Upon Milk. The Milk Dealer, Nov. and Dec., 1934 and Jan., 1935.

11. Leach, H. J., and Martin, W. H. The Effect of a Surface Cooler on Flavor, Cream Line and Evaporation Loss. American Creamery and Poultry Produce Review, Nov. 22, 1933.

12. Brockschmidt, J. H., Mack, M. J., and Frandsen, J. H. How to Make High Butterfat Ice Cream; A Study of the Factors Involved in Making the Richer Type of Product. Ice Cream Field, Dec., 1933 and Jan., 1934.

1932

13. Long, John W., Huffman, C. F., and Duncan, C. W. A Study of the Vitamin D Requirements of Calves When Natural Milk Furnished the Sole Source of the Antirachitic Factor. Milk Plant Monthly, July, 1936.

14. Meridith, Perry W., and Stoltz, R. B. Bottled Concentrated Milk, A Lower Priced Fresh Milk for the Consumer. The Milk Dealer, Feb., 1935.

15. Cantley, Robert W. Comparison of Skimmed Milk Powder Media With Standard Nutrient Agar for Bacterial Counts on Milk. The Milk Dealer, Sept., 1935.

16. Gibson, G. L. Sandiness: Its Causes and Prevention. Ice Cream Field, May and June, 1935.

17. Shepard, Sidney, and Olson, H. C. The Relationship Between Changes in the Number of Bacteria and in the Scores of Butter Held at 32°F. National Butter and Cheese Journal, Sept. 25, 1935.

18. Charles, D. A., and Sommer, H. H. Causes and Practical Methods for Control of Sedimentation in Homogenized Milk. Milk Plant Monthly, April, 1935.

1933

19. Corbett, W. J., Frazier, W. J., and Price, W. V. A Gas Defect of Cream Cheese. The Milk Dealer, Dec., 1935.

20. Hostetler, Pius H. Effects of Preservatives on Results of Fat Test Studies. Confectionery and Ice Cream World, Aug. 7, 1936.

21. Chilson, William H. What Causes Most Common Off Flavors of Market Milk? A Study of the Oxidized Flavors of Market Milk. Milk Plant Monthly, Nov. and Dec., 1935.

22. Carithers, Robert L., and Combs, W. B. Drum vs. Spray Process Dry Milk in Ice Cream. The Ice Cream Review, March, 1936.

23. Sorenson, C. M. Studies on Milk Mold Oospora Lactis. American Creamery and Poultry Produce Review, Feb. 12, 1936.

24. Spicer, W. Delmar, and Burgwald, L. H. Use of Hydrogen Ion Determination on Young Cheese in Predicting Acid Development in Cheddar Cheese During Storage. National Butter and Cheese Journal, Nov. 10, 1935.

1934

25. Slatter, Walter L. Changes in the Acetylmethylcarbinol Plus Diacetyl Content of Butter. National Butter and Cheese Journal, Oct. 25 and Nov. 10, 1936.

26. Josephson, D. V. and Dahle, C. D. The Importance of the Fat Globule Membrane in the Freezing of Ice Cream. The Ice Cream Review, Jan., 1937.

27. Byers, E. L., and Price, Walter V. The Influence of Salt on the Composition and Quality of Brick Cheese. National Butter and Cheese Journal, July 25, 1937.

28. Babel, F. J. Significance of Laboratory Tests in the Control of Ice Cream. The Ice Cream Trade Journal, Sept., 1936.

1934 (Cont'd.)

29. Brown, W. H. This Matter of Mix. Ice Cream Field, July and Aug., 1937.

30. Niven, Charles F. and Sherman, J. M. The Hemolytic Streptococci of Milk. Journal of Infectious Diseases, 92: 190-201, 1938; The Milk Dealer, Aug., 1938.

1935

31. Rippen, A. L., and Burgwald, L. H. The Value of Acidifying Milk and Cream Cans From the Standpoint of the Effect Upon Quality. (Abstract) Jour. Dairy Sci. 24: 525, 1941; The Effect of Acidified Cans on the Quality of Dairy Products and on the Phosphatase Value of Cream and Butter. Milk Plant Monthly, Nov., 1941.

32. Flake, J. C., and Parfitt, E. H. Some Causes for the Deterioration in 10 Days at 15.5 Deg. C. of Salted Butter Made From Sour Cream; Jour. of Dairy Sci. 21: 545-551, 1938. Studies of Butter Keeping Quality; American Produce Review, May 10, June 14 and July 12, 1939.

33. Smith, Hiram P., and Tracy, P. H. Consumers' Preference for Ice Cream. Confectionery and Ice Cream World, Feb. 25, 1938.

34. Ford, Mark, and Knaysi, George. A Method of Counting Viable Bacteria in Milk by Means of Microscope; Jour. of Dairy Sci. 21: 129-141, 1938. A Direct Microscopic Method for Counting Viable Bacteria in Milk; Milk Plant Monthly, May, 1938.

35. Freeman, Robert, and Anderson, E. O. Sonic Vibration of Ice Cream Mixes. Proc. 36th Ann. Conv. International Association of Ice Cream Manufacturers. Vol. 2, Prod. and Lab. Council pp. 126-132, 1936.

36. Warner, James N. The Use of Resazurin in Determining the Bacterial Quality of Milk and Cream. Dairy World, Feb., 1938.

1936

37. Adams, Joseph, and Parfitt, E. H. Some Factors Influencing the Amount of Mold Mycelia in Butter. Jour. of Dairy Sci. 22: 367-374, 1939. National Butter and Cheese Journal, Oct., 1939.

38. Tomlinson, Albert S. A Study of Oxidized Flavor; Its Production in Milk of the Individual Cow Considered from the Standpoint of Copper or Oleinase as the Catalyst. American Milk Review, Feb., 1940.

39. Larson, R. A., and Lucas, P. S. A Method for Calculating the Baume Reading of Condensed Ice Cream Mixes; Jour. Dairy Sci. 23: 229-244, 1940. Relationship of Hydrometer Readings to the Composition and Some Physical Properties of Pan Condensed Ice Cream Mixes; Ice Cream Review, May, 1940.

40. Dahle, C. D., and Rivers, P. W. Protein Stability of Ice Cream Mixes and Its Effect on Certain Properties. Ice Cream Trade Journal, Oct., 1940.

1936 (Cont'd.)

41. Roberts, W. M., Coulter, S. T., and Combs, W. B. High-Temperature Pasteurization of Cream for Buttermaking; Jour. Dairy Sci. 23: 315-323, 1940. High Temperature Pasteurization-Studies of the Steam Injection Method of Heat Treating Cream for Buttermaking; American Butter Review, June, 1940.

42. Openlander, H. F., and Erb, J. H. The Use of Frozen Condensed Milk in Ice Cream. Vol. II. Proc. 38th Ann. Conv. International Association of Ice Cream Manufacturers, Cleveland, Oct., 1938.

1937

43. Roahen, D. C., and Sommer, H. H. Lipolytic Activity in Milk and Cream. Jour. Dairy Sci. 23: 831, 1940. Dairy World, Oct., 1940.

44. Harris, W. C., Hammer, B. W., and Lane, C. B. Effect of Various Bacteria on Flavor of Cheddar Cheese Made From Pasteurized Milk. Jour. Dairy Sci. 23: 701, 1940. National Butter and Cheese Journal. Jan., 1941.

45. MacCurdy, Robert D., and Trout, G. M. The Effect of Holder and Flash Pasteurization on Some Flavors of Milk. I. The Effect of Miscellaneous Flavors Common to Commercial Raw Milk. II. The Effect of Corn and Alfalfa Silage Flavors. Jour. Dairy Sci. 23: 843 and 23: 455, 1940. Milk Plant Monthly. Nov. and Dec., 1940.

46. Naylor, H. B., and Guthrie, E. S. The Incubation Test as an Indication of the Keeping Quality of Butter. N. Y. (Cornell) Agr. Exp. Sta. Bul. 739 June, 1940. National Butter and Cheese Journal. Sept., 1940.

47. Brereton, J. C., Combs, W. B., and Macy, H. Factors Influencing the Physical Characteristics of Chocolate Milk. The Milk Dealer, Feb., 1940.

48. Henry, David, and Slatter, W. L. Fat Losses in Buttermaking. National Butter and Cheese Journal, March, 1940.

1938

49. Ludington, Varnum D., and Bird, E. W. The Refractometer as an Instrument for Determining Total Solids in Certain Milk Products. Food Res. 6: 421-434, 1940. Application of the Refractometer to Determination of the Solids in Milk Products. Milk Plant Monthly, Dec., 1941.

50. Wilson, C. A., and Prucha, M. J. Changes in the Bacterial Flora of Butter. (Abst.) Jour. Dairy Sci. 23: 508, 1940. Wilson, C. A., Tuckey, S. L., and Ruehe, H. A. A Comparison of Butter Made From Cream Pasteurized by Three Different Methods. National Butter and Cheese Journal, Dec., 1940

51. Kosikowski, F. V., and Brueckner, H. J. A Study of Factors Influencing the Quality of Cultured Skimmilk or Buttermilk. Cornell Exp. Sta. Bulletin. The Milk Dealer, August, 1941.

1939

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REPRODUCED IN U. S. A.

*Reprints of dairy trade press papers available from Dairy and Food Industries Supply Association through courtesy of its Member publishing Companies.

a. paulk

Table 8.

COLLEGES PARTICIPATING IN THE COLLEGIATE STUDENTS' INTERNATIONAL CONTEST IN JUDGING DAIRY PRODUCTS BY YEAR 1916-1964

(Year in which team was entered in contest with team winning first place in judging All Products designated by 1)

College	'16	'17	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'47	'48	'49	'50	'51	'52	'53	'54	'55	'56	'57	'58	'59	'60	'61	'62	'63	'64	TOT.
1. Ala.																																+	+		+								3
2. Ariz.																																					+							1
3. Ark.					+												+	+	+																									4
4. Calif. U.								+		+				+									+					+								+							6
5. Calif. Poly.																																		+	+	+	+	+		+				6
6. Clemson																																+	+	+		+	+	+	+	+	+	+		10
7. Colo.																										+	+								+	+		+			+			6
8. Conn.	+						+			+	+			+	+	+	+	+	+	+	+			+	+	1	+	+	+	+	+	+	+	+	1	+	+	+	+	+	+	+	33
9. Cornell	+		+				+									+	+	+	+	+	+	1		+	+	+	+		+	+	+	+	+	+	+		+		+		+		+	25
10. Fla.																										+												+						2
11. Fresno																																				+								1
12. Ga.												+	+					+									+		+	+	+	+	+	+		+	+	+	+	+	+	+	18
13. Idaho																												+								+					+			3
14. Ill.														+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+				1		+	1	1	1	1	+	+	25
15. Iowa			+	+	+	+		1	1	1	1	1	+	+	1	+	+	+	+	+	+	+	1	1	+	+	1	+	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	40
16. Kan.										+	+	+	+	1	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	1	+	+	+	+	+	+	+	+	+	+	33
17. Ky.																													+		+			+				+					=	5
18. La.																+					+																			+	+			4
19. Md.			+	+			+									+				+		+		+	+	+	+		+	+	+	+	+	+	+		+						18
20. Mass.	+					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+		+		+		+		+		32
21. Mich.									+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	33
22. Minn.					+	+								+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	1	+	+	+	+	1	+	30
23. Miss.									1		+	+	+	+	+	1	+	+	1	+	+	+	+	+	+	+	1	+	1	+	+	+	1	+	+	+	+	+	+	+	+	+	+	33
24. Mo.																																	+	+	+	+	+		+	+	+	+	9
25. Neb.	+	+	+		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+		38
26. N. H.	+						+				+													+			+		+	+	+	+	+		+								11
27. N. M.																						+	+					+																3
28. N. C.										+	+	+															+		+	+	+	+	+	+		+	+	+		+			15
29. Ohio	+	+	+	1	1	1	+	+	+	+		+	1	+	+	+	1	1	+	1	1	+	+	+	1	+	+	+	+	1	1	+	+	+	+	+	+	+	+	+	+	1	42
30. Okla.												+	+				+	+	+			+					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		23
31. Ont.														+	+					+		+			+							+											6
32. Ore.						+		+	+	+	+	+	+	+																						+			+					10
33. Pa.	+				+		1	+	+	+	+			+	+			+		+		+	+	+	+	+		+		+	+	+	+	+	+	+	+		+	+	+	30
34. Purdue			+	+		+		+	+		+	+	+	+		+	+	+	+	+	+	+		+	+	+	+		+	+	+		+	+	+		+	+	+		+	30
35. R. I.																																+			+			+		+	+	+	+	7
36. Rutgers															+					+					+									+	+			+						6
37. S. D.	+	+	1	+	+	+			+	+	+	+	+			+	+	+	+		+	+	+		+	+							+	+	+		+			+	+	+	28
38. Tenn.											+	+	+	+				+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+		+			+		+	+	25
39. Tex. A&M																							+		+	+	+	+	+	+	+						+		+			+		11
40. Tex. Tech																					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	23
41. Utah																												+			+										+			4
42. Vt.	+													+	+							+		+	+		+		+		+		+			+								11
43. Va.													+		+									+	+		+			+	+	+	+	+	+	+		+	+	+	+	+		17
44. Wash.																												+		+	+		+	+	+	+	+		+	+	+			11
45. W. Va.					+	+		+	+	+	+	+	+	+	+	+	+					+					+		+		+	+	+	+	+		+	+	+	+	+	+	+	27
46. Wisc.								+						+		+	+	+	+	+	+	+	+	+	+	+	+		+	+	+			+	+	+	+		+		+	+		24
47. Wyo.																																				+	+		+			+	=	5
TOTAL	9	3	7	5	8	9	7	10	10	13	14	15	15	17	16	18	17	19	17	18	17	23	14	21	22	19	26	18	26	23	28	23	26	26	33	21	30	24	25	21	28	24	22	

NOTES: A contest was not held in 1918 due to World War I and from 1942 to 1946 inclusive due to World War II.

1 Indicates team took first place in Judging All Products.

= Indicates 2 Individuals entered.

LIST OF TABLES