

**MINUTES OF THE
THIRTY-NINTH ANNUAL MEETING
OF THE
SOUTH DAKOTA ACADEMY OF SCIENCE**

The business session of the thirty-ninth annual meeting of the South Dakota Academy of Science was called to order by President H. R. Fossler at 11:00 a.m., May 8, 1954. The President asked for prompt presentation of manuscripts. C. R. Estee, chairman of the Publication Committee, reported that the regulations of the Post Office Department require mailing of the Proceedings of the Academy within three months of the date of publication. As authorized by the Academy, he set July 1 as the deadline for the submission of papers to the editors.

President H. R. Fossler called for the report of the Membership Committee. K. K. Krueger, chairman, recommended the following persons for membership in the Academy:

Anderson, Eldon, State Food and Drug Dept., Vermillion, S. D.
Bailey, Harold S., Pharmaceutical Chemistry Dept., S. D. State College
Buttrey, Benton W., Zoology Dept., University of S. D.
Cho, James, University of S. D.
Deter, Charles W., University of S. D.
Erickson, Harold D., State Geological Survey, Vermillion, S. D.
Freiland, Gordon, Augustana College
Heimstra, Norman W., University of S. D.
Howard, Kenneth E., State College
Krause, Herbert, English Dept., Augustana College
Lee, Vernon H., Anatomy and Zoology Dept., S. D. State College
Matthews, Charles G., University of S. D.
Miller, Akeley, Physics Dept., University of S. D.
Nelson, Gorman, Augustana College
Nelson, V. R., Augustana College
Palmerton, L. R., Psychology Dept., S. D. School of Mines and Tech.
Prunty, Earl R., Chemistry Dept., Rapid City High School
Rauk, Julie, University of S. D.
Staudenbaur, Craig A., University of S. D.
Thomas, Howard, Chemistry Dept., University of S. D.
Van Gerpen, Ernest, Rapid City High School
Vaughn, Charles M., Zoology Dept., University of S. D.
Williams, P. W., Physics Dept., S. D. State College

On motion, the above applicants were declared members of the Society.

The Auditing Committee reported that the books of the Secretary-Treasurer had been examined, and found to be correct.

The report of the Resolutions Committee was accepted and is appended.

The Committee on Awards reported that the \$50 A.A.A.S. research award for 1954 has been given to Dr. Ernest A. Hughhins.

The report of Earl Scott, the A.A.A.S. delegate for 1954, was presented in his absence by Edwin Shaw, Jr. and was accepted.

The Nominating Committee presented the following slate of officers for the year 1954-55:

President, H. A. Klug
 First Vice-President, F. W. Jobes
 Second Vice-President, C. R. Estee
 Secretary-Treasurer, A. L. Haines
 A.A.A.S. Delegate, J. Greb
 Editorial Committee Member, C. R. Estee

The report was accepted, and on motion the entire slate was elected.

In the absence of the President-elect, President H. R. Fossler remained in the chair.

It was moved that in the future the Nominating Committee assume the duty of presenting nominations for the Advisory Committee to the Junior Academy. After due discussion, this motion was passed. Nomination for this committee from the floor resulted in the nomination of the present incumbents, and the enlargement of the committee by the addition of C. E. Shields. On motion, the entire slate was elected.

The Academy accepted the invitation of South Dakota State College to hold the 1955 meeting at Brookings.

On motion, the expenses of the secretary for the meeting were allowed.

C. R. Estee presented a bill for \$24.60 representing incidental expenses in the publication of the current volume of the Proceedings of the Academy. This bill was allowed.

W. Rogoff presented a motion that the President appoint a committee to study the certification of teachers of science in the secondary schools, and that this committee report to the Academy at the annual meeting in 1955. This motion was passed.

C. R. Estee made specific suggestions concerning manuscripts, which if followed by the members, would lead to savings in the publication costs. He also introduced a motion that all titles submitted for inclusion in the program be accompanied by an abstract of at least 100 words. This abstract will be submitted to the secretary as a prerequisite for the inclusion of title in the program. Motion passed.

It was moved that when papers are presented in absentia, the paper itself must be in the hands of the secretary before it is included in the program. In addition, when papers are to be read by title only, these papers also must be in the hands of the secretary before inclusion in the program. The above motion was carried

It was announced that the President-elect would appoint the Nominating Committee at a later date. The meeting was adjourned by the President.

A. L. HAINES,
 Secretary-Treasurer

TREASURER'S REPORT

May 1, 1953—May 1, 1954

Receipts

1953			
May 1—Balance on hand	-----	\$ 101.14	
May 4—Dues	-----	85.00	
May 25—Dues	-----	9.00	
June 29—Dues	-----	2.00	198.14

Expenditures

1953			
May 9—Postage	-----	\$ 18.38	
May 12—Stationery	-----	4.79	
May 12—Bank Service	-----	1.53	
Nov. 7—Postage	-----	5.00	
1954			
Feb. 1—Postage	-----	5.00	
Feb. 19—Bank Service	-----	.55	
April 2—Postage	-----	10.00	
May 1—Expense of Secretary to Meeting (Huron)	---	13.70	58.95

Balance on hand May 1, 1954 ----- \$ 139.19

Savings Account

May 1, 1953—Balance	-----	\$ 498.69
May 1, 1954—Interest	-----	4.99

Balance May 1, 1954 ----- \$ 503.68

A. L. HAINES, Treasurer

Reviewed and Audited on May 8, 1954
 by the Auditing Committee

Arthur M. Pardee
 David B. Camp

REPORT OF THE RESOLUTIONS COMMITTEE**BE IT RESOLVED:**

That the Academy notes with regret the passing of Dr. Austin P. Larrabee, a past president of the organization, whose many contributions to the meetings will be sorely missed.

That the Academy extends its deepest sympathy to the bereaved family.

That a copy of this resolution be sent to Mrs. Larrabee.

That the Academy express its appreciation to the South Dakota School of Mines and Technology for its hospitality in placing its excellent facilities at the disposal of the Academy and to L. R. Palmerton for his address of welcome.

That the Academy thank the South Dakota School of Mines and Technology for furnishing an excellent speaker.

That the Academy express its appreciation to Dr. Harold F. Walton for his very interesting and authoritative address, "Structure and Properties of Ion-exchange Resins."

That thanks be expressed to the Ladies of the Presbyterian Church for the excellent banquet furnished the Academy.

That the Academy express its thanks to Mr. Des Jarlais, who sang, and to an instrumental trio, composed of Mr. Victor, Mr. Smith, and Mr. Heth for providing a pleasant musical interlude.

That the Academy express its thanks to Professors J. H. Willard, Thomas Trevor, and R. H. Cook for making local arrangements and plans as well as providing facilities for a very effective meeting.

That the Academy express its thanks to Professors L. R. Palmerton, C. Schilz, R. Sandvig and J. R. Macdonald for their excellent handling of the affairs related to the Junior Academy meetings.

That the Academy wishes to commend President H. R. Fossler, Vice-President F. W. Jobs, and Secretary-Treasurer A. L. Haines for their very able leadership.

That the State Superintendent of Public Instruction be informed that this body is of the opinion that the requirements for certification of secondary school teachers in the sciences should include greater emphasis on training in the subject matter of the sciences.

VICTOR S. WEBSTER
MAGNHILD T. GREB
JOHN M. WINTER

REPORT OF THE AWARDS COMMITTEE

The American Association for the Advancement of Science Research Grant of \$50.00 is awarded to Dr. Ernest J. Huggins, South Dakota State College.

The American Association for the Advancement of Science Junior Awards are presented (upon recommendation of the Junior Academy Advisory Committee) to:

Lilly Seiler, Vermillion High School

Gordon Magney, Brookings High School

W. L. HARD

E. E. JOHNSON

REPORT OF THE A.A.A.S. DELEGATE

The following report by Frank E. German, Chairman of the Committee to study cooperation of the Academies of Science with the Academy Conference, will no doubt be more easily understood and its implications be more readily appreciated if a brief resume of the nature of the interrelationships between the American Association for the Advancement of Science, the various Academies, and the Academy Conference is given at the outset. This is all the more important since many of our number have never before participated in an Academy Conference meeting, and some of those that have may not have a clear concept of how our Conference came into being, or what its functions are.

The A.A.A.S. through its more than 100 years history has grown from 461 members in 1848 to some fifty thousand at the present time. What started as a simple organization has become through the years, one of great complexity. In addition to the nineteen or more sections and numerous subsections meeting regularly there are three major divisions which have been organized during the past forty years. These are the Pacific Division, the Southwestern Division and the Alaska Division. The constitution also provides for local branches, but there has been relatively little activity along this line. Then there are the Affiliated and Associated Societies, the only distinction in these being that the former have representation on the Council, whereas the latter do not. Prior to 1919 the Academies of Science operated as Associated organizations, but by a revision of the Constitution in that year Academies were given Council representation, and became known as Affiliated Societies. This active participation in the affairs of the Council soon led some of the leaders in the Academies to realize that, having common problems, some kind of cooperation between academies could be very beneficial. The idea was suggested to the officers of the A.A.A.S. in 1926 with the

result that the **Academy Conference** was born in 1927, under the general sponsorship of the A.A.A.S.

It was the original hope of the officers of the American Association that the Academies would come to play the part of Local Sections of the A.A.A.S. and that thereby membership would be increased in the Association and in the Academies. By fulfilling this double purpose, it appeared that the organization of scientific men and women in America would be more easily and expeditiously accomplished.

Our Conference has now been in existence for over twenty five years and our committee has been asked to survey the present and possible future cooperation with our Academies. In our report given in St. Louis last year it was pointed out that we have not been too successful in our chief purpose partly because membership in the Conference has been in many if not most cases on an annual basis, a different person being appointed each year by the various Academies. Appointment has been made on the basis of the assumption that a given person would be in attendance at the meeting of the A.A.A.S. and accordingly could be the representative of the Academy at no expense. The situation is very much the same as if members of a city council were elected to participate in a single meeting.

We must therefore again emphasize, as we did in our report last year, that Academies should be urged to appoint delegates who can and will be active in the affairs of the Conference for a number of years. These appointees should also be persons who are ready and willing to sacrifice some of the A.A.A.S. sectional meetings which coincide in time with the Conference sessions. Some Academies are already paying part or all of the expenses of Conference delegates. Should this become a more general practice, there is no doubt that the delegates would begin to take a more serious and sustained interest in our work.

Some of our Academies carry the name of the Academy Conference representative as one of their officers and in several cases this delegate is also a member ex-officio of the Academy Executive Committee. In such cases the term of office is indefinite continuing until a successor is elected. This procedure insures that delegates know far in advance that they are expected to be prepared to go, and participate in, Conference meetings. However, in many cases the new Conference officers fail to realize that it is their duty to see to it that every Academy has appointed its delegate, well in advance, (a year if possible,) and that they should be supplied with the delegates name at an early date. If this were done, and the Conference Secretary had a tentative list of delegates before him far in advance of a given meeting, the question of preparing a suitable program of the annual meeting would be greatly facilitated.

It sometimes happens that the Academy Secretary is not interested in affairs beyond his own group. He may not even be a member of the A.A.A.S. and hence have no interest in the larger question of cooperation with others. Obviously in such cases the president of the Academy may never be informed about correspondence concerning the

Conference. It would, therefore, seem advisable that Conference officers should send their requests for information to both the president and the secretary of the Academy, and if the Conference delegate is known, to him also. This lack of familiarity with the general make up of our various groups is emphasized by the fact that some academies do not recognize that the A.A.A.S. council representative may know nothing of the existence of an Academy Conference. They do not recognize the fact that they must appoint both a Council member and a Conference delegate. The Council member must be a Fellow of the A.A.A.S., but the Conference delegate need not even be a member of A.A.A.S. They may appoint the Council member to serve also as the Conference delegate, but the Conference delegate may not serve as a Council member unless he is also a Fellow of the A.A.A.S.

In 1951 the Indiana Academy appointed a Conference delegate who was not a member of the A.A.A.S. When he found that most delegates were members of the A.A.A.S., he concluded that he was not a proper representative. The same year the Indiana Council member reported back that he attended the Council meeting in Philadelphia, but that nothing of immediate importance was noted insofar as the Indiana Academy was concerned.

For fear that the above involved explanations may have been unduly confusing we shall conclude by making the following suggestions:

1. Academy representatives to the **A.A.A.S. Council**, being of necessity Fellows, may also be appointed **Conference delegates**, but they should be specifically advised of the nature of each group and their responsibilities for each set of meetings.
2. **Academy Conference Delegates** are not now required to be members of the A.A.A.S. and hence they may have no official connection with the affairs of the **Association**. It would be well if we required all delegates to the Conference to be **A.A.A.S. Members**, and preferably **Fellows**.
3. It would seem wise for the **Academy Conference** to have a definite understanding that all of its officers be **Fellows** of the **A.A.A.S.**
4. We should urge every **Conference Delegate** to request time at his Academy meeting to present a brief resume of both the proceedings of the **A.A.A.S. Council** and of the **Academy Conference**. (Assuming that he is a member of both bodies.)
5. If the Academy has a periodic publication, efforts should be made to have the above reports published in it.
6. In my last report I stated that often the Secretary or the President of the Conference has arranged for the program with little or no help from the Conference membership. It has been suggested that a committee should be appointed to do this job, and thus leave the President free for broader functions.
7. During recent years our secretary has written to the Academies and has obtained significant information which was mimeographed and presented to us in a bound bulletin. Last year it was suggested that

each Academy Conference Delegate give a brief report on the activities of his Academy at the Conference. The secretary has felt that this would make his report unnecessary. This, however, is not necessarily true, since the reports are presented to somewhat different groups at different times and would be useful to supplement each other. One is a permanent record, whereas the other is oral, so there would be no real duplication.

8. **Academy Conference** programs should relate to Academy activities and problems. Delegates should be given something of value to take back to the home Academy. We should serve our true purpose, that of a **Clearing House** for gathering and disseminating information about academies. Lengthy papers, research reports, etc. not related to Academy activity should be minimized.

9. It has been suggested that each Academy secretary include with whatever notice he may send out to the membership during the autumn months a statement of the time of meeting of the **Academy Conference**, the name of the Academy delegate to the Conference, and an invitation to Academy members in general to attend the sessions of the **Conference**.

10. Academy secretaries should be asked to send their membership lists once each year to the Washington Office of the A.A.A.S.

11. The A.A.A.S. should be asked to send lists of its members residing in a given state to the secretary of the State Academy once each year. Such a mutual exchange of membership lists should serve to increase membership both ways.

The above report is the result of an exchange of correspondence with the other members of the committee, Dr. C. L. Baker and Dr. A. O. Weese.

Respectfully submitted,

EARL SCOTT, A.A.A.S. Delegate

MINUTES OF THE TWELFTH ANNUAL MEETING OF THE SOUTH DAKOTA JUNIOR ACADEMY OF SCIENCE

The Junior Academy of Science meeting was called to order by President Jack Hermanson. He then appointed Charles Braun to serve as Secretary Pro Tem in the absence of Secretary Marlene Murphy. He then appointed a committee on nominations consisting of Wayne Burke, Sioux Falls; Gladys Slagle, Vermillion; Gordon Magney, Brookings; and Dr. Elmer Johnson. Next he appointed a committee on resolutions which included Charles Braun, Rapid City; Curtis Westly, Aberdeen; Helen Wiles, Brookings; and Mr. Manley, Vermillion. Demonstrations of different projects followed. New members of the Junior Academy introduced themselves after the completion of the projects. For the minutes of the previous meeting on May 1, 1953, a reading of the projects was substituted and accepted in place of the entire minutes. A motion was made to the effect that the business of the previous meeting be transferred to the next meeting as the Secretary was absent. The motion was seconded and approved. The report of the resolutions committee was unanimously accepted and a vote of thanks was given to all who co-operated on this meeting. Discussion on whether or not to have a booth at the SDEA convention was brought up. It was moved that the Junior Academy have a booth at the SDEA convention at Huron next year. This motion was defeated. It was then moved that a committee, consisting of Dr. Johnson acting with the officers, investigate the possibility of sponsoring an exhibit at either the State Fair or the SDEA Convention. Dr. Johnson was unable to serve as chairman of the committee. A motion to amend the motion to allow Dr. Johnson to appoint someone in his capacity passed. The main motion passed to establish the committee. The report of the nomination committee, which suggested Charles Hurwitz, president; Charles Braun, Vice President; and Lee Jones, Secretary-Treasurer; was accepted. These three officers were elected and replaced the old officers in their capacities. The meeting was then closed with the calling for a motion to adjourn by President Charles Hurwitz. The motion was made and carried.

CHARLES BRAUN
Sec. Pro-Tem
LEE JONES
Secretary-Treasurer

**PERSONS REGISTERING FOR
THE TWELFTH ANNUAL
JUNIOR ACADEMY OF SCIENCE**

Name—High School

Bill C. Auer, Deadwood
Bruce R. Boke, Rapid City
James R. Boyer, Watertown
Charles L. Braun, Rapid City
Elaine Bruyer, Vermillion
Sylvia Budd, Vermillion
Anita Bultman, Watertown
Vernon Bump, Rapid City
Wayne Burk, Washington
Ray Cash, Vermillion
Roy Cook, Rapid City
Sally Cope, Rapid City
Louie Cornelius, Washington
Alex DeMersseman, Sturgis
Joe Floyd, Washington
Ronald Gudd, Washington
Virginia Gnirk, Deadwood
Jim Grant, Watertown
Jack Hermanson, Washington
James Hinek, Hot Springs
Tommy Holen, Watertown
Charles Hurwitz, Washington
Irvin Sngraham, Whitewood
(Spearfish)
Elmer Johnson, S.D.S.C.
Lee Jones, Vermillion
Donald Kahler, Vermillion
Harold Knecht, Rapid City
Lynn Kurte, Rapid City
Craig Loe, Vermillion
James Logue, Rapid City
Robert McGinnis, Rapid City
Gordon Magney, Brookings

Name—High School

Clifford M. Manley, Vermillion
(advisor)
Harold Marchant, Spearfish
Tom Meinicke, Watertown
Colin Michael, Vermillion
Larry Peterson, Rapid City
Betty Radigan, Vermillion
Robert Randal, Central
Thomas Rammey, Washington
Bob Redfield, Washington
Bryon Russell, Vermillion
Walter Schick, Rapid City
Dorothy Seiler, Vermillion
Lilly Seiler, Vermillion
William Shanks, Rapid City
Dorothy Simons, Vermillion
Gladys Slagle, Vermillion
Dick Smith, Washington
Carolyn Soliday, Spearfish
Gary Stark, Rapid City
Robert Thomas, Rapid City
Marilyn Timm, Watertown
Ken Trask, Rapid City
John Trunn, Rapid City
Lloyd Warner, Hot Springs
Curtis Westley, Central
Barbara Westre, Vermillion
Thomas Wetsch, Rapid City
Ron Whitaker, Rapid City
Wilfred White, Watertown
Helen Wiler, Brookings
Nelson Williams, Sturgis

**TWELFTH ANNUAL
JUNIOR ACADEMY OF SCIENCE PROGRAM**

RADAR. Louis Cornelius, Sioux Falls
MILK AS A BALANCED FOOD. Barbara Westre, Vermillion
ACCELEROMETER. Joe Floyd, Sioux Falls
VITAMIN C IN GUINEA PIGS. Elaine Bruyer, Vermillion
TESTING FOR VITAMIN C. Dorothy Seiler, Vermillion
TWO CYCLE GAS ENGINE. Craig Loe, Vermillion
RADIANT ENERGY. Dorothy Simons, Vermillion
PLASTER OF PARIS ILLUSTRATING CONVERSATION. Bill Auer,
Deadwood
AIR FOILS AND CURRENTS. Tom Holland and Jim Grant, Water-
town
ELECTROSTATIC MACHINE. Gladys Slagle, Vermillion
TESTING SOAP. Marilyn Timm and Anita Buhman, Watertown
T. V. INTERFERENCE. James Boyer, Watertown
ISOLATING APPLE ROTTING FUNGUS. Lilly Seiler, Vermillion
MELTING IRON. Wilfred White, Watertown
COMBUSTION. Tom Meinicke, Watertown
GENEOLOGY-FAMILY TREE. Virginia Gnirk, Deadwood
COAGULATION OF BLOOD. Helen Wiler, Brookings
DEMONSTRATION OF LUMINESCENCE IN CONNECTION WITH
FIREFLIES. Sally Cope, Rapid City
DIAZONIUM COMPOUND PHOTOGRAPH. Robert Randal, Aberdeen
FORMULA FOR FINDING SQUARE ROOTS. Roy Cook, Rapid City
CRUDE OIL DISTRIBUTION. Bill Shanks and Charles Braun, Rapid
City
CONSTRUCTION OF THREE PENETRATING CUBES. Walter Schick,
Rapid City
THE USE OF THYROID TO ACCELERATE METAMORPHOSIS IN
FROG TADPOLES. Colin Michel, Vermillion
DEMONSTRATION OF STROBOSCOPIC LIGHT. Charles Hurwitz,
Sioux Falls
POLARIZED LIGHT. Dick Smith, Sioux Falls
SOUND ON A LIGHT BEAM. Bob Redfield, Sioux Falls
THREE TYPES OF REFLEX ACTION IN FROGS. Bryon Russell,
Vermillion
HIGH FREQUENCY OSCILLATOR. Lee Jones, Vermillion
REMOVAL OF RUST BY ELECTROLYTIC PROCESS. Curtis Westley,
Aberdeen
THERMAIC. Tom Ranney, Sioux Falls
DEMONSTRATION OF AMATEUR RADIO. Don Kahler and Charles
Cash, Vermillion
IMPORTANCE OF MILK IN A DIET. Sylvia Budd, Vermillion
SOUND COMPENSATED AMPLIFIER. Gary Stark, Rapid City
APPARATUS FOR MEASURING THE VERTICAL POTENTIAL
GRADIENT OF THE ATMOSPHERE. Wayne Burk, Sioux Falls

LIST OF PAPERS PRESENTED AT THE THIRTY-NINTH ANNUAL MEETING

- Critical Rotational Speeds of Bulged and Constricted Shafts—R. H. Cook and A. G. Mueller, South Dakota School of Mines and Technology.
- Factors Affecting the Failure of Ductile Cylindrical Shells Under Internal Pressure—P. M. Stafford, South Dakota Schools of Mines and Technology.
- X-Radiation of Pheasant Ovaries—Raymond J. Greb, South Dakota State College.
- PRESIDENTIAL ADDRESS: Self-management, A Goal of Psychological Inquiry—Dr. H. R. Fossler, University of South Dakota.
- Manganese-Iron Concretions in Northwestern South Dakota—Robert E. Curtiss, South Dakota State Geological Survey, Vermillion.
- Radiological Monitoring Problems in Civil Defense—Edwin H. Shaw, Jr., University of South Dakota.
- Some Endocrine Changes in Rats Following the Administration of Antithyroid Drugs—H. J. Clausen, University of South Dakota.
- Preparation of Radioactive Chemicals from Plants—F. E. Kelsey, University of South Dakota.
- The Lower Pliocene Faunas of South Dakota—J. R. Macdonald and Morton Green, South Dakota School of Mines and Technology.
- Cementations in Northwestern South Dakota—Robert E. Stevenson, University of South Dakota.
- Condensation of Maleic Anhydride with Phenols II—V. S. Webster and George W. Engstrom, South Dakota State College.
- Loss of Artesian Pressure in Eastern South Dakota—Harold D. Erickson, South Dakota State Geological Survey, Vermillion.
- The Separation of Cadmium, Cobalt, Copper, and Nickel—J. A. Froemke, H. Stensrud, and M. Tschettler, Augustana College.
- Respiration of *Saccharomyces Cerevisiae* in the Presence of Selenium and Arsenic—Edward C. Berry and Robert Pengra, South Dakota State College.
- Quantitative Spectrographic Method for the Determination of Beryllium in Minerals and Ores—Amos L. Lingard, South Dakota School of Mines and Technology.

- Techniques in Quantitative Analysis by X-Ray Spectroscopy—J. H. Cope, South Dakota School of Mines and Technology.
- What is the Williston Basin?—E. P. Rothrock, South Dakota State Geological Survey, Vermillion.
- Report on Black Hills Teachers College-Methods of Instruction for Science Teachers—Mark Richmond, Black Hills Teachers College.
- The Spectrographic Analysis of Commercial Feedstuffs—C. R. Estee and Fred Burtch, University of South Dakota.
- Nesting of Pine Siskin in Eastern South Dakota—Herbert Krause, Augustana College.
- Transverse Vibrations of Stubby Cantilever Beams—R. H. Cook, South Dakota Schools of Mines and Technology.
- Nutritional and Physical Activity in the Albino Rat. Preliminary Study of Controlled Thiamine Deficiency—Milton Grodsky and Robert H. King, University of South Dakota.
- Nutritional Significance of DL-Methionine in the Weanling Albino Rat—Roger Jernstrom and Robert H. King, University of South Dakota.
- A Note on the Incubation Time in Urinary Neutral 17-Ketosteroid Estimation—W. E. Hawkins and Robert H. King, University of South Dakota.
- A Note on Circulating Alkaline Phosphatase Levels in the Scorbatic Guinea Pig—Milton Grodsky and Robert H. King, University of South Dakota.
- Four Percent Sodium Bentonite in a Turkey Starter Diet and the Results and Four-week Weights of BSW Poults—R. A. Wilcox, South Dakota State College.
- Selenium and Lung Tumors—Harlan L. Klug and Catharine Hendrick, South Dakota State College.
- Effect of Linseed Oil Meal and Arsenicals on Selenium Poisoning in the Rat—O. E. Olson and A. W. Halverson, South Dakota State College.
- Negative Relation of the Selenium Protective Factor and the Anti-Vitamin B₆ Principle of Linseed Oil Meal—A. W. Halverson and C. M. Hendrick, South Dakota State College.
- A Preliminary Report on the Phytotoxic Effect of Rat Blood—John M. Winter and Walter L. Hard, University of South Dakota.
- The Seasonal Occurrence of Cattle Grubs in the Gullets of Cattle—Vernon H. Lee and Wm. M. Rogoff, South Dakota State College.

- The Effects of Different Levels of Phosphorus and Calcium on the Body Weights of Growing Turkeys—R. A. Wilcox, C. W. Carlson, Wm. Kohlmeier, and G. F. Gastler, South Dakota State College.
- A Graphical Method for the Recognition of X-Ray Diffraction Powder Patterns of Hexagonal Crystals and the Estimation of their Parameters—Edmunds M. Pogainis, Robert E. Stevenson, and Edwin H. Shaw, Jr., University of South Dakota.
- About the Interpretation of Electrical Resistivity Data from Surface Measurement on Glacial Drift—Akley Miller, University of South Dakota.
- The *Corpora Pedunculata* of the Mosquito Brain—Wm. M. Rogoff, South Dakota State College.
- Performance of Monkeys on the Discrimination Problems with Reduced Stimulus Cues—Roger T. Davis, University of South Dakota.
- A Quantitative Analysis of the Chewing Performance of Rhesus Monkeys—A. A. McDowell and Roger T. Davis, University of South Dakota.
- The Performance of Rhesus Monkeys on Oddity Principle Learning Following Massed Discrimination and Manipulation Problems—Roger T. Davis and A. A. McDowell, University of South Dakota.
- Perception of Absolute Size in a Distorted Room—Norman W. Heimstra and James B. Cho, University of South Dakota.
- The Effects of Opposing Scaled Preferences for Names and Faces—Craig Staudenbaur and Virgil Sterling, University of South Dakota.
- A Paired Comparisons Scale of Musical Preferences—Julie A. Rauk and Yo Yee, University of South Dakota.
- Manipulatory Behavior of College Students: A Pilot Study—Charles Matthews, Charles W. Deter, and Roger T. Davis, University of South Dakota.
- A Hormone Assay—Elliott V. Miller, Granville, Ohio.
- The Synthesis of C^{14} -labeled Ethyl Malonate by the Arndt-Eistert Reaction—David B. Camp, University of South Dakota.
- Use of Grain Characters in Identifying Love-Grasses—Charles A. Taylor, South Dakota State College.
- Some Plants Not Previously Reported From the Black Hills—Charles A. Taylor, South Dakota State College.
- The Determination of Transference Numbers of Neodymium Chloride by the Electromotive Force Method—C. R. Estee and Marlowe Iverson, University of South Dakota.

- The Effect of Clamping the Esophagus upon the Gas Accumulation in the Rumen and the Well-being of Sheep—Arthur E. Dracy, R. M. Jordan, and D. D. Shaffhausen, South Dakota State College.
- Effect of Amount of Oxytocin and Type of Injection on Milk Let-Down of Sheep—R. M. Jordan, Arthur E. Dracey, and D. D. Shaffhausen, South Dakota State College.
- The Dipole Moments of a Selected Series of Organic Compounds—Donald E. Neil and C. R. Estee, University of South Dakota.