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**TRANSACTIONS
of the
NEBRASKA ACADEMY OF SCIENCES**

Volume XIX

November 1992

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The *Transactions of the Nebraska Academy of Sciences* publishes results of original research by members of the Academy in good standing. It is indexed in *Biological Abstracts* and is received by more than 600 libraries worldwide. Presentation of a paper at the annual meeting of the Academy is not a prerequisite or a guarantee of publication in the *Transactions*. Persons wishing to submit a paper for consideration should consult the inside back cover of this volume for information about preparation and style of manuscripts. Manuscripts are reviewed by at least two referees, including at least one from outside the author's institution. Following review by the referees and the editorial board, the author is notified whether or not the paper is accepted for publication and, if accepted, of necessary revisions.

The valued assistance of the many reviewers of manuscripts is gratefully acknowledged.

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NEBRASKA ACADEMY OF SCIENCES, INC.

The membership of the Academy consists of those individuals and institutions interested in science and those persons actively working and contributing to science in the State of Nebraska. It includes nonprofessional persons, as well as representatives from education, the professions, industry, and governmental agencies.

The Academy was organized in 1880 in Omaha with seventy-five charter members, and reorganized in 1891 in Lincoln. The Academy was incorporated in 1950 as a nonprofit educational institution, and it is neither a state agency nor is it sponsored by any particular university, college, or other Nebraska educational organization. In 1963, the Internal Revenue Service established the Academy's rating as "Section 501(c) (3)" of the Internal Revenue Code. The Policy Committee of the Academy is made up of one representative from each of the colleges and universities of the State.

OBJECTIVES: The objectives of the organization are to further the work of scientists and science teachers in the high schools and colleges of the state, to facilitate cooperation among them, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of science in human progress.

RESOLUTION: The following resolution concerning our environment was recently approved by the Academy membership: "Be it resolved that the Nebraska Academy of Sciences, as the principal organization representing the scientists of the state, is greatly concerned with the deterioration of the environment. The scientific talent of Nebraska is considerable, and it is hoped that individually-collectively it may be better utilized by both State and federal agencies in addressing problems of destruction of trees, native prairie, groundwater resources and habitats."

"FRIENDS OF SCIENCE" AWARDS: These awards are given to persons who are not actively engaged in scientific teaching or research, but who have shown unusual interest in promoting science and in sponsoring scientific programs in Nebraska. The following Nebraskans have received a Friend of Science Award: Mrs. Mabel L. Criss, Omaha (1970); Dr. Walter D. Behlen, Columbus (1976); Vance D. Rogers, Lincoln (1977); George and Olivia Lincoln, Lincoln (1980); Mr. and Mrs. Thomas C. Woods, Jr., Lincoln (1981); Dr. Lewis E. Harris, Lincoln (1984); Dr. Robert W. Allington, Lincoln (1989); and Florence Boring Lueninghoener, Fremont (1992).

FRIENDS OF THE ACADEMY: In 1959 the Academy received a farm (Maiben Scientific Research Center in Otoe County) and its first endowment from the estate of Benjamin and Rachel Corr Maiben (Academy Life Members). In addition, the following individuals and organizations have shown interest in the program of the Nebraska Academy of Sciences and have generously provided funds (including donations for scholarships, memorials, and research involved with the interdisciplinary environmental division, TER-QUA) during the past ten years to help expand the work of the Academy in promoting research and good basic teaching of science and technology especially through the Junior Academies and the NATS Division in the science departments of the high schools, community colleges, colleges, and universities of the State:

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