

# THE PLANT SCIENCE SEMINAR

## ABSTRACT OF THE PROCEEDINGS.

The sixteenth annual meeting of the Plant Science Seminar was held at the University of Minnesota, Minneapolis, August 15-19, 1938. Monday was devoted to arrival, registration and the location of living quarters, many finding excellent accommodations at Pioneer Hall, a University dormitory.

Tuesday morning the first session was called to order by Chairman Harris at 10:30, in the main lecture room of the College of Pharmacy. Dean Charles H. Rogers of the College of Pharmacy gave the address of welcome. Following the appointment of committees by the chairman and announcements by Professor Earl B. Fischer, a program of papers was presented. Mr. Ralph F. Voigt described his work on the pharmacognosy of *Chrysanthemum Balsamita* var. *tanacetoides*, a Composite plant yielding an oil very similar to that of spearmint. Mr. Voigt's paper was illustrated with many excellent drawings. Mr. Charles E. Smythe spoke on "Photography of Medicinal Plants," exhibiting cameras, screens and other apparatus as well as a large number of excellent photographs. Dr. R. H. Landon discussed the "Carbon Dioxide Treatment of Fruits," to improve their keeping qualities. This treatment using about 40% carbon dioxide is especially adaptable to strawberries and raspberries.

Tuesday afternoon was devoted to a botanical excursion under the direction of Dr. John W. Moore of the Botany Department of the University of Minnesota. The cavalcade of automobiles left the College of Pharmacy building at two o'clock, visiting several spots along the Minnesota River bottom in the vicinity of the town of Savage. Dr. Moore explained the ecology of the region and identified several species unfamiliar to the Seminarists. At the beginning of the excursion he distributed mimeographed sheets enumerating thirty-six plants of medicinal and pharmaceutical interest likely to be found in the area. Many of the seminarists collected numerous specimens to add to their herbarium collections and Professor Fisher was kept busy supplying plant presses after the return to the College.

Tuesday evening marked the holding of the annual, "Seminar at Work and Play." Dr. L. K. Darbaker, the Seminar's official cinematographer exhibited his films of past Seminars, which were augmented with films taken by Dr. Wirth at the 1936 and 1937 Seminars. Many a hearty laugh was forthcoming when we saw ourselves, ten or more years ago, and a note of sadness entered when the faces of Professor Albert Schneider, Professor Charles C. Plitt, Mr. W. W. Eggelston and others, who are no longer with us, appeared upon the screen. Movies of past Seminars are becoming an interesting and looked-forward-to occasion at the Seminar and the reminiscing following their exhibition always results in a most pleasant evening.

The Wednesday morning session was devoted to addresses and the reading of papers.

A paper entitled, "The Identification of Pollens," by Dr. A. O. Dahl was presented by Dr. John W. Moore. Methods for the capture of pollens from the air were described as was also the preparation of pollen mounts and the identification of pollens in this type of field work. Mimeographed outlines were distributed listing 40 hay-fever producing plants occurring in and about Minneapolis, classified into sixteen groups. This paper was followed by one entitled, "The Manufacture of Allergic Extracts," by Miss Hallie Bruce. Miss Bruce, who is Head Pharmacist at the University of Minnesota Hospital, described in detail the manufacture of allergic extracts and presented formulas for buffered saline, extracting fluid for house-dust and glycerol-saline solution for pollen extracts. Check lists for inhalants and foods were presented as well as a list of 168 plants causing hay fever, together with their blossoming seasons. A third paper in this group entitled, "Hay Fever and Asthma in Relation to Plants," was presented by Dr. Horatio Sweetser, Jr., who mentioned that a pollen to cause hay fever must be (a) wind borne, (b) produced in large quantity and (c) must have an irritation factor. These papers comprised a most interesting Symposium on the subject of pollens and hay fever.

The morning meeting was concluded by Dr. R. B. Harvey who discussed, "The Effect of Ethylene on Flavor during the Ripening of Fruits." Dr. Harvey is a well-known plant pathologist, University of Minnesota, and is largely responsible for the development of processes for ripening fruits using ethylene, and for the artificial coloring of oranges. Dr. Harvey's talk was illustrated with lantern slides and the physical and chemical changes in the fruits during this treatment were discussed at length.

Wednesday afternoon the Seminar made a tour of the University Hospital under the direction of the superintendent, Dr. Ray M. Amberg and Miss Hallie Bruce. Several wards, clinical laboratories and the drug room were visited and the work in progress explained. While at the Hospital the Seminar was favored with a talk by Dr. Carl W. Laymon on "The Use of Aloe vera in the Treatment of Skin Diseases." The expressed juice of the fresh leaves of *Aloe vera* is incorporated into an aquaphor base, which preparation has met with splendid success in the treatment of skin affections, particularly those caused by X-ray burns. The Hospital Tour was followed by a brief meeting at the College of Pharmacy at which Dr. Wirth discussed the official synonyms of National Formulary drugs together with certain proposed changes in these synonyms.

On Wednesday evening the Seminar was favored with an illustrated lecture by Dr. E. C. Stakman on "The Importance of Varieties within Species." Dr. Stakman's discussion was devoted to wheat rusts and other parasites (smuts) affecting the cereal grasses. As fast as a rust-resisting strain of wheat is developed nature produces, not one, but many sub-species and varieties of rusts. Hundreds of these were tabulated by Dr. Stakman who reviewed his studies on wheat rusts covering practically every corner of North America. Some two hundred slides were used by Dr. Stakman to illustrate his discussion.

Thursday morning was devoted to a second botanical excursion, this time to the Moore Lake Sand Dunes in Anoka County, Minnesota. This is a small area of active dunes the sand of which is outwash from the Grantsburg sublobe of the late Wisconsin glaciation. Here was seen a mingling of western prairie plants and eastern Atlantic Coastal Plain species. As before, the trip was under the able direction of Dr. John W. Moore who presented each member with a mimeographed list of fifty representative plants likely to be found in the area. Again, in his able manner, Dr. Moore discussed the plants in this locality, identifying them for the members who added several specimens to their herbaria. Both botanical excursions were recorded on movie films for the enjoyment of future Seminars, by Darbaker and Wirth.

Thursday afternoon several papers were presented. Dr. Raymond N. Bieter discussed "Local Anesthesia," classifying the local anesthetics. Dr. Ole Gisvold classified "Sterols" and discussed their constitution. "The Medicinal Uses of Plants by the American Indians" was discussed by Miss Frances Densmore, who has been a member of the United States Bureau of Ethnology and has made extensive studies of Indian Medicine. She presented a most interesting discussion of this subject, naming several plants still found in our own materia medica. Dr. Glenn L. Jenkins spoke on "The Phytochemical Studies of Medicinal Plants at the College of Pharmacy, University of Minnesota." Plants gathered in Nevada at an elevation of 4500 to 6000 feet are being studied from a phytochemical standpoint. Dr. John W. Moore discussed "The Taxonomy of Tahitian Vanilla and Its Comparison with That of Vanilla Planifolia." Dr. Moore has classified Tahitian Vanilla as *Vanilla Tahitensis*. Dr. Forest J. Goodrich of the University of Washington discussed "The Perpetuation of the Washington Cascara Groves." Dr. Goodrich described methods of cultivation and the efforts under way to insure a future supply of this important medicinal bark. Dr. Marin S. Dunn of the Philadelphia College of Pharmacy and Science spoke on "The Teaching of Taxonomy." Dr. Dunn illustrated his talk with work sheets devised by himself and used in his laboratory and class room. Dr. Heber W. Youngken, of the Massachusetts College of Pharmacy, presented "The Botanical Outline of the New Pharmaceutical Syllabus." Mimeographed copies were distributed and the outline was discussed at length by Dr. Youngken. In the absence of Dr. James C. Munch, Dr. Youngken presented a brief report of his "Color Test for the Identification of Cannabis." In this test a low-boiling petroleum ether or acetone extract is evaporated to dryness and treated with paradimethylaminobenzaldehyde and water. In the presence of cannabis an indigo-violet color may be observed.

On Thursday evening the Seminar was favored with an address on "Stratosphere Experiences," by Mrs. Jean F. Piccard. Mrs. Piccard presented a most interesting discussion on the work of her illustrious husband, Dr. Jean Piccard, his brother, Auguste Piccard, and herself in stratosphere flights. The talk was illustrated with many lantern slides and with motion pictures. Mrs. Piccard related several amusing incidents from their past experiments.

Following Mrs. Piccard's address the Seminar revived one of its past social occasions, the Schwarz Brothers "Watermelon Party," which was presided over by Dr. A. John Schwarz. The Seminararians and their guests consumed the luscious fruits of *Cucurbita citrullus* to a point of stress, all inhibitions being thrown to the winds.

On Friday morning "The Glossary of Histological Terms" was discussed by Professor Paul D. Carpenter of the University of Illinois. Professor Carpenter, who is chairman of the Seminar's committee on histological terms discussed the work of that committee during the past year and suggested changes in certain definitions and terms. It was moved by Darbaker and seconded by Goodrich, and unanimously carried that the Committee on Histological terms be continued and be given authority to appoint auxiliary committees to consider various phases of the terms. Dr. L. D. Hiner discussed, "The Cultivation of Ephedra in South Dakota." He traced the cultivation of this drug plant and mentioned, as one of the future problems to be solved, the separation of male and female plants. Mr. Kenneth L. Kelly spoke on "Color Names for Use in the Botanical Monographs." Mr. Kelly, who is research associate in the color division of the Bureau of Standards has led the color committees of the National Formulary during the past year in this work. He explained the use of the Munsell system and the methods used in arriving at definite color names. Mr. Kelly's talk was followed by a Symposium on color naming at which several of the N. F. color committee members were present and at which the seminararians demonstrated the methods for themselves.

At the opening meeting the chairman appointed the following committees: (1) Delegate to the House of Delegates of the A. Ph. A. (Wirth); alternates (Dunn, Miss Graham, Ireland, Seybert); (2) Delegates to the National Conference of Pharmaceutical Research (Miss Graham, Darbaker, Fischer, Jones); (3) Nominating Committee (Gathercoal, Goodrich, Uhl); (4) Committee on Resolutions (Darbaker, Youngken, Miss Griffith) and (5) Committee on Publicity (Fischer, Wirth). The following resolutions were adopted by the Seminar:

1. *Resolved*, that the National Plant Science Seminar express its profound appreciation to Dean Charles H. Rogers and the University of Minnesota for the excellent facilities and many courtesies extended this organization during its meetings in Minneapolis.

2. *Resolved*, that the National Plant Science Seminar extend its hearty thanks to Professor Earl B. Fischer and his colleagues for the very excellent program provided during these meetings.

Officers elected for the 1939 Seminar are: *Chairman*, Marin S. Dunn, Philadelphia; *Vice-Chairman*, Earl B. Fischer, Minneapolis; *Secretary-Treasurer*, Elmer H. Wirth, Chicago; *Members of the Council*, L. K. Darbaker, Pittsburgh, and Loyd E. Harris, Norman, Oklahoma.

The sixteenth Seminar was attended by over 70 members and guests and many additional visitors attended one or more of its sessions. Among those present were: Mr. R. Almin, Minneapolis; Professor Gustav Bachman, Minneapolis; Professor Haakon Bang, Pullman, Wash.; Professor and Mrs. Leslie B. Barrett and Gordon Barrett, New Haven, Conn.; Dr. Raymond Bieter, Minneapolis; Miss Carolyn A. Binder, Oak Park, Ill.; Miss Hallie Bruce, Minneapolis; Professor and Mrs. Paul D. Carpenter, Chicago; Dr. and Mrs. B. V. Christensen, Gainesville, Fla.; Mr. G. C. Crossen, Minneapolis; Dr. L. K. Darbaker, Pittsburgh; Miss Frances Densmore, Red Wing, Minn.; Dr. and Mrs. Marin S. Dunn, Philadelphia; Professor and Mrs. Earl B. Fischer, Minneapolis; Professor and Mrs. E. N. Gathercoal, Chicago; Dr. Ole Gisvold, Minneapolis; Dr. Karl Goldner, Minneapolis; Dr. and Mrs. Forest J. Goodrich, Seattle; Dr. Katherine Graham, Chicago; Miss Ina Griffith, Norman, Okla.; Dr. Loyd E. Harris, Norman, Okla.; Dr. R. B. Harvey, St. Paul; Professor and Mrs. L. D. Havenhill, Lawrence, Kan.; Dr. and Mrs. L. D. Hiner, Brookings, S. Dak.; Dr. J. Hampton Hoch, Charleston, S. Car.; Dr. Edward Ireland, Gainesville, Fla.; Mr. William Janacek, Minneapolis; Dr. and Mrs. Glenn L. Jenkins, Minneapolis; Prof. and Mrs. D. B. R. Johnson and Mr. Ray Johnson, Norman, Okla.; Prof. and Mrs. Larny F. Jones, Indianapolis, Ind.; Mr. Kenneth Kelly, Washington, D. C.; Mr. Vincent Kenjoski, Minneapolis; Dr. H. A. Langenhan, Seattle, Wash.; Dr. R. H. Landon, Minneapolis; Dr. Carl W. Laymon, Minneapolis; Professor A. W. Matthews, Edmonton, Alberta; Professor L. R. McMurray, Columbus, Ohio; Mrs. Frank Meyers, Apache, Okla.; Dr. and Mrs. John W. Moore, Minneapolis; Mr. and Mrs. H. A. Nelson, Peoria, Ill.; Prof. and Mrs. Charles V. Netz, Minneapolis; Prof. Kenneth Redman, Fargo, N. Dak.; Dean and Mrs. Charles H. Rogers, Minneapolis; Dr. A. John Schwarz, Memphis, Tenn.; Mr. John E. Seybert, Indianapolis, Ind.; Mr. and Mrs. Charles E. Smythe, Minneapolis; Dr. Horatio Sweetser, Jr., Minneapolis; Dr. and Mrs. A. H. Uhl, Madison, Wis.; Mr. and Mrs. Ralph F. Voigt, Minneapolis; Miss Anna Webb, Norman, Okla.; Dr. and Mrs. George L. Webster, Chicago; Dr. Elmer H. Wirth and Miss Marilyn Wirth Chicago; Dr. and Mrs. Heber W. Youngken and Mr. Eugene Youngken, Boston, Mass.