SUGGESTIONS TO CONTRIBUTORS TO THE
JOURNAL OF SEED TECHNOLOGY

General Requirements. Articles should be original reports covering some area of seed science and technology not previously or simultaneously published in any other scientific or technical journal. Three kinds of articles may be considered for publication: (1) research papers, (2) brief communications covering new techniques or developments, and (3) review articles by special arrangement with the editor.

Page Charges. Eight pages of each article accepted will be printed free of charge. Page charges in excess of eight pages will be based on the actual printing costs.

Manuscripts. The manuscript must be typed on good-grade bond paper approximately 21 x 28 cm. The lines of type must be numbered on each page. Two carbon or xeroxed copies, also on line-numbered paper, are required. The entire manuscript must be double spaced. Each table must be typed on a separate sheet. An Abstract and list of Additional Index Words must be included at the beginning.

Order. Assemble the manuscript in the following order: Title (no separate title page), Author(s), Abstract, Additional Index Words, Text, Literature Cited (begin on a new page), Tables, Captions for Figures (begin on a new page), and Figures. Although the text is most commonly divided into the following sections: Introduction, Materials and Methods, Results and Discussion, and Acknowledgements, the specific arrangement for articles submitted to the Journal of Seed Technology will vary. Place headings in the center of the page and capitalize throughout. Begin the subsection headings at the left hand margin (do not indent), capitalize the first letter, underline, and follow with a period. Begin the first sentence on the following line with the first word indented five spaces. Do not include a summary or list of conclusions.

Numbers. Use arabic numerals for all numbers with two or more digits and for all measurements such as time, weight, or degrees except when the number is the first word in a sentence. Spell out numbers when they are the first word in a sentence or when they are less than 10 and not measurements, except when in a series in which one figure has two or more digits.

Author(s). Place the name(s) of the author(s) in full caps below the title and footnote with a superscript arabic two (2). In listing the authors, do not leave a space between the period after each initial and the next letter. Give the place where the study was conducted and the title and address including the zip code of each author in footnote two at the bottom of the page.

Footnotes. Footnotes are numbered consecutively and typed at the bottom of the pages. Number 1 should contain identification of the article or research project. It includes the "date received" supplied by the editor. Number 2 identifies the author(s).
Tables. Tables are numbered consecutively. Use the following symbols for footnotes, in this order: a, b, c, d, etc. Use asterisks (*, **, etc.) to indicate statistical significance (5%, 1%, etc.). Do not duplicate matter that is presented in charts or graphs.

Figures. Photographs for half-tone reproduction should be glossy prints with good dark and light contrast. Prepare drawings for graphs and charts with India ink on white drawing paper or blue tracing cloth. Typewritten matter should be avoided on graphs and charts. Label each figure with name of author, title of author, and number of figure. Do not use figures which duplicate matter presented in tables.

Style Manual. The Style Manual for Biological Journals prepared by the Committee on Form and Style of the Council of Biology Editors and published by the American Institute of Biological Sciences (AIBS) shall be followed for writing papers submitted to the Journal of Seed Technology.

Abbreviations. Use standard abbreviations listed in the AIBS Style Manual without definition. Other abbreviations should be defined at first usage and may be used thereafter without further definition. State names should be abbreviated following city names, using the two letter abbreviations of the U.S. Post Office Department.

Nomenclature. The Latin binomial or trinomial and authority must be shown for all plants, insects, and pathogens at first listing) In title, abstract, or text). Crop varieties should be identified by single quotations marks at first listing only, e.g., 'Ranger' alfalfa (Medicago sativa L.) or Medicago sativa L. 'Ranger'; Bothriochloa ischaemum var. songarica (Rupr.) cel. et Harl, 'King Ranch.'

Units of Measure. Metric units must be used for all measurements.

References. All citations whether to published literature or to unpublished work are to be listed alphabetically by senior authors at the end of the manuscript. Citations to published works should include names of all authors, the year, complete title, publication, volume number, and inclusive pages, as appropriate.
ASSOCIATION OF OFFICIAL SEED ANALYSTS
OFFICERS AND COMMITTEES FOR 1980-81

President ............................................. C. C. Abbott
Vice-President ....................................... L. E. Wiesner
Secretary-Treasurer ................................. C. C. Baskin

EXECUTIVE BOARD

J. Bloodgood
K. W. Boatwright
A. B. Ednie

G. Fenderson
R. K. Marx
L. O. Copeland

STANDING COMMITTEES

Editorial
L. O. Copeland, Chairperson and Editor, Journal
W. P. Ditmer, Editor, News Letter
M. M. Kulik, Bibliographer
L. N. Bass, Editor, Science Education

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G. Fenderson, Chairperson
W. N. Rice
E. E. Hardin
R. K. Marx
D. Svik

Liaison
E. E. Hardin, Chairperson

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A. Lunden
G. Fenderson
M. Meadows
W. Still

Resolution
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R. Trent
Referee
S. Dobbins, Chairperson

Region I
Region II
Region III
Region IV
Region V

Region I
Region II
Region III
Region IV
Region V

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M. B. McDonald, Jr.

Browse, Shrub and Forbs
E. Belcher, Chairperson

Cultivar Purity
R. Payne, Chairperson

Flower Seed
B. Atwater and L. N. Bass, Co-Chairpersons

Moisture Determination
D. F. Grabe, Chairperson

TZ and Biochemical Measurements
C. E. Vaughn, Chairperson

Rules
R. Danielson, Chairperson

SPECIAL COMMITTEES

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L. E. Wiesner, Chairperson

C. C. Baskin
K. W. Boatwright

Constitution
M. H. Day, Chairperson

Necrology
C. L. Sciple, Chairperson

Merit Award
L. E. Wiesner, Chairperson

A. L. Larsen
R. R. Marx
M. V. Meadows
Nominations
M. V. Meadows, Chairperson

Advisory Committee to the Seed Standardization Branch

W. P. Ditmer, Chairperson
M. H. Day E. E. Hardin
P. J. Hall W. N. Rice
R. Ruud
G. E. Spain

C.A.S.T.
B. E. Clark

Meeting Place
L. W. Nees, Chairperson
G. R. Wilson
M. Bristol

Nomenclature
C. R. Gunn, Chairperson

Program
A. L. Larsen, Chairperson

Teaching and Training
L. N. Bass, Chairperson

Administrative Procedures
W. N. Rice, Chairperson

Symposium
D. F. Grabe, Chairperson
L. E. Wiesner
R. H. Hofmann
L. O. Copeland

Accreditation of Laboratories
G. E. Spain, Chairperson
D. Lambert
A. B. Ednie

Index
D. F. Grabe, Chairperson
MINUTES OF THE ASSOCIATION OF
OFFICIAL SEED ANALYSTS MEETING

Seventy-First Annual Meeting

Orlando, Florida

June 11-19, 1981

EXECUTIVE BOARD MEETING

June 13, 1981

President Abbott called the meeting to order at 9:15 A.M.

Members Present
L. Wiesner
C. C. Baskin
J. Bloodgood
R. Marx
A. Larsen
A. B. Ednie
C. Sciple
T. Turner
G. Fenderson

Others Present
R. Danielson
M. Meadows
W. Ditmer
F. W. S. Dale
W. N. Rice
D. Svik
J. Lair
D. Lambert
R. Trent

Milton Meadows made some announcements. Wiesner moved, Sciple seconded to approve the agenda presented by Abbott; motion passed. Abbott presented the president’s report, Baskin presented the Secretary’s report and Treasurer’s report; these reports were accepted.

Ditmer discussed the CAST newsletter exchanges and questioned the value of the exchange. This was discussed; Abbott suggested that any decision be delayed until this was discussed with Ben Clark, our representative to CAST.

Wiesner moved, Marx seconded to accept the minutes of the last board meeting as published in the newsletter; motion passed. Abbott appointed an Auditing Committee with D. Lambert, Chairman, J. Bloodgood, and R. Trent, and a Resolution Committee with C. Sciple, Chairman, J. Lair, and D. Svik.

The following Standing Committee reports were presented and accepted:

<table>
<thead>
<tr>
<th>Editorial</th>
<th>Liaison</th>
<th>Referee</th>
<th>Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislation</td>
<td>Membership</td>
<td>Public Service</td>
<td>Research</td>
</tr>
</tbody>
</table>
The following Special Committee reports were presented and accepted:

- Budget Program
- Necrology
- Merit Award
- Teaching and Training
- Accreditation of Laboratories
- CAST
- Seed Standardization Research Advisory
- Nomenclature
- Administrative Procedures
- Symposium
- Journal Index
- Meeting Place

There was no report of the Constitution Committee.

Wiesner moved, Ednie seconded that rules and handbook sections be a standard size; motion passed. Marx moved, Fenderson seconded that newsletter subscription rates be increased to $12.00 per year beginning in 1982; motion passed. The suggestion was made that the Journal editor automatically send information on reprints to authors. Marx and Baskin will compile information for a new directory; this will be published as a supplement to the Newsletter.

Danielson will represent AOSA at the ASTA meeting in Atlanta. Wiesner will represent AOSA at AOSCA and NASDA. A representative to the Seed Control Officials meeting in Portland will be named later.

The following persons are recommended for honorary membership:

- Ben E. Clark
- Paul J. Hall
- Leroy Everson
- Duane Isely

The following were recommended for associate membership:

- Roy Becker
- Ann H. Hoffman
- George A. Berger
- Francisco C. Krzyzanowski
- U. R. Bishnoi
- Jose de B. Franco Neto
- Marc A. Cohn
- James R. Shearl
- Louis W. Harper
- S. H. West

Robert Trent said the Washington State Laboratory had authorized the Idaho Laboratory to vote for them by proxy if this were permissible. The constitution prohibits voting by proxy. Fenderson moved, Sciple seconded that, in view of the fact that proxy voting was not permitted, the future possibility of voting by mail be referred to the Constitution Committee; motion passed. Danielson moved, Wiesner seconded that voting on proposed rule changes by mail be referred to the Constitution Committee for study. The Constitution Committee is to consult the Rules Committee for details.

Wiesner read a letter from D. TeKrony concerning interaction of the Rules, Research and Referee Committees. Abbott suggested that the chairmen of these committees get together to work out such interactions.
Dale raised the question about investigating the use of electronic data processing for seed laboratories. The suggestion was made that this might be a good topic for a future symposium.

Following the Rules Committee report, the question that had been raised concerning the classification of other varieties as other crop seed was discussed. The following clarification evolved; In order to avoid confusion resulting from a misinterpretation of the Association of Official Seed Analysts (AOSA) Rules, the following interpretations of the definition of *other crop seeds* was issued by the Rules Committee and approved by the Executive Board at their June 1981 meeting in Orlando, Florida:

"Other crop seed as referred to in the AOSA Rules includes both kinds and varieties other than the pure seed of the sample submitted for testing."

In essence, this requires seed of varieties other than the variety of seed being tested to be reported as other crop seeds by the analysts testing the sample whenever the presence of these varieties is known. (Refer to section 2.5c, 2.8 and 3.2a of the AOSA Rules.)

If any organization wishes to change this rule so that other varieties are not included as other crops, the request should be made to the AOSA Rules Committee with justification. This is to be mailed to AOSCA, AASCO, ASTA and published in AOSA and SCST Newsletters.

Resolutions passed at last year’s convention regarding the term of the president and recommendations regarding the Public Service Committee change in function will be passed on to this year’s Constitution Committee.

Abbott read a letter from Dr. Butler, president of CAST. No action was taken on this letter.

Wiesner moved, Fenderson seconded that another Symposium Committee be appointed to develop symposiums for three years; motion passed.

The Executive Committee recommends that the following invitations be accepted for meetings: Ottawa, Ontario, for 1983, and Idaho for 1984. Invitations for 1985 were not acted on at this time.

Old business:

Abbott discussed material for the archives at Iowa State University Library. A. B. Ednie presented suggestions for organization of materials. Fenderson moved, Wiesner seconded that an Archives Committee be formed to decide on and prepare materials to be sent to archives.
New business:

The constitution and bylaws are to be brought up-to-date and distributed to the membership.

The Vigor Handbook was discussed; money was budgeted for possible printing.

The possibility of a permanent secretary-treasurer was discussed. Incoming president Wiesner is to appoint a committee to study this possibility.

Issuing of ISTA certificates was discussed.

Federal Laboratory attendance at AOSA meetings was discussed. Wiesner moved, Fenderson seconded that a resolution be prepared to ask for participation; motion passed.

Abbott read a letter from Dr. Roy Creech concerning AOSA-USDA Federal Seed Act relations. No action was taken.

The general seed blower is being discontinued. A letter from Seedburo was read without comment.

Abbott read a letter concerning the Waterman Award and solicited nominations for this award. No action was taken.

A letter from Mrs. McFee to Coralie Wilson regarding differences in Canadian and U.S. regulations was read. This matter will be discussed during the meeting.

The question of hard seed — dormant seed as it appears in the Rules was discussed. Wiesner suggested that a change be made to combine the two and show as dormant seed on reports.

Sciple moved, Marx seconded for adjournment. Meeting adjourned at 11:30 P.M.

C. C. Baskin, Secretary-Treasurer
President Abbott called the meeting to order.

**Members Present**
- L. E. Wiesner
- J. Bloodgood
- G. Fenderson
- R. Marx
- C. Sciple
- T. Turner
- A. B. Ednie
- C. C. Baskin

**Others Present**
- M. Meadows
- S. Glassman

Distribution of the upcoming reprinting of the Rules was discussed. Baskin read from the minutes of a prior board meeting that one free copy be distributed to the Journal mailing list and to SCST and CSAAC members who are not receiving the Journal. It was decided to follow this precedent.

Baskin reported that covers for the Rules had been reprinted and that the cost was up from the last printing. Ednie moved, seconded by Wiesner that the price of covers be increased from $2.50 to $3.50; motion passed. Wiesner moved, Fenderson seconded to send one free copy of new and revised handbook sections to members and associate members; motion passed. Glassman discussed revision of Contribution No. 26 to the AOSA Handbook. The board voted to print 500 copies and set the price at $2.00 per copy.

The budget for 1981-1982 was reviewed. Wiesner moved, Fenderson seconded that the budget be approved; motion passed.

The board discussed the statement by the Rules Committee concerning other crop seed. Sciple moved and was seconded by Wiesner to approve the statement; motion passed.

With no further business the meeting was adjourned.

C. C. Baskin, Secretary-Treasurer
President Abbott called the meeting to order at 1:30 P.M.

The secretary called the roll; the following members and associate members were present:

**STATE LABORATORIES — 30**

- Alabama
- Alaska
- Arkansas
- Colorado
- Florida
- Georgia
- Idaho
- Illinois
- Indiana
- Kentucky
- Maryland
- Massachusetts
- Michigan
- Mississippi (State)
- Mississippi (Seed Tech.)
- Missouri
- Montana
- Nebraska
- New Jersey
- New York
- North Carolina
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- South Carolina
- Tennessee
- Texas
- Virginia
- Wisconsin

**USDA LABORATORIES — 3**

- Eastern Tree Seed Laboratory, Macon, Georgia
- National Seed Storage Laboratory, Fort Collins, Colorado
- National Seed Standardization Laboratory, Beltsville, Maryland

**CANADIAN LABORATORIES — 4**

- Plant Products Seed Laboratory, Edmonton, Alberta
- Plant Products Seed Laboratory, Winnipeg, Manitoba
- Plant Products Seed Laboratory, Saskatoon, Saskatchewan
- Seed Biology Laboratory, Ottawa, Ontario

**ASSOCIATE MEMBERS — 3**

- J. Lamb
- J. Opolka
- C. Hansen

Wiesner gave the report of the Executive Committee meetings; Bass moved, Lambert seconded that the report be accepted, motion carried.

Baskin gave the Secretary’s report and the Treasurer’s report; Bass moved, seconded by Lambert that these reports be accepted, and the motion
passed. Lambert gave the report of the Auditing Committee, moved for its acceptance. Bass seconded and the motion carried.

The following Standing Committee reports were presented and accepted:

Editorial
Legislation
Liaison

Public Service
Referee
Research

Membership: The following were accepted as honorary members:

Leroy Everson    Ben E. Clark    Paul J. Hall    Duane Isely

The following associate members were accepted:

Roy Becker    Ann H. Hoffman
George A. Berger    Francisco C. Krzyzanowski
U. R. Bishnoi    Jose de B. F. Neto
Marc A. Cohn    James R. Shearl
Louis W. Harper    S. H. West

Danielson presented the Rules Committee report. The report was accepted; the proposed changes were voted on individually as follows:

(1) To delete the existing formulas for determining percentages of annual and perennial ryegrass.

Danielson moved, seconded by Hardin to accept the proposed change. After some discussion Ditmer moved, seconded by Still, to table the motion; motion to table passed.

(2) Delete the requirement that normal cowpea seedlings must have cotyledons.

Danielson moved, seconded by Bass, that the change be accepted; motion passed.

(3) Establish a uniform blowing method for bluegrass.

Danielson moved, seconded by Wiesner, that the change be accepted; motion passed.

(4) Various nomenclature changes throughout the rules.

Danielson moved, seconded by Bass, that these changes be accepted; motion passed.

(5) Reducing the length of germination for carrot from 21 to 14 days.

Danielson moved, seconded by Lambert, that the change be accepted; motion passed.
A requirement that carrots and parsnips must have a long vigorous primary root, rather than allow secondary roots to substitute for the primary root.

Danielson moved and Bass seconded that the change be accepted. After discussion Kirkland moved and Vaughan seconded that the motion be tabled; motion to table passed.

Changing the definition of ergotized seed of both crops and weeds.

Danielson moved and Spain seconded that the change be accepted. After discussion Lambert moved and Delouche seconded that the motion be tabled; motion to table passed.

Bass moved and Belcher seconded that rule changes become effective October 1, 1981; motion passed.

The following Special Committee reports were made and accepted

- Budget
- Resolution
- Program
- Necrology
- Merit Award
- Teaching and Training
- Accreditation of Labs

- SSB Advisory
- Nomenclature
- Adm. Procedures
- Symposium
- Journal Index
- Meeting Place

There were no reports of the Constitution or CAST committee.

Lambert moved and Day seconded that the recommendation of the Executive Board as to meeting place be accepted; motion passed. The meeting places are Ottawa, Ontario, Canada — 1983, and Idaho — 1984.

Dwight Forsyth received the Merit Award.

Resolutions commending Florida for convention arrangements and thanking contributors, requesting Federal Seed Lab participation in annual meeting and regarding information for ISTA representative were passed. A resolution regarding formation of a special committee to make recommendations to the Rules Committee did not pass.

Delouche moved and was seconded by Spain that the Association express confidence in our incoming president that he can do what is necessary to resolve the problem with rule changes regarding ryegrass; motion passed.

Old business:

President Abbott discussed material for archives. Ednie's suggestions were presented that a committee be appointed to collect and prepare old materials. After that each outgoing president would be responsible
for accumulation of materials during his administration. The Freda Wertman slide collection was discussed. Bass and others are working on this project.

New business:

The Nomination Committee report was accepted:

Vice President, Gail Fenderson
Board Member 3 years, Russell Marx
Board Member 3 years, Sharon Dobbins
Board Member 2 years, Terry Turner

Abbott passed the gavel to Wiesner who expressed his appreciation for being elected to the office of President. He reviewed committee chairman appointments and appointed Dave Svik to the Executive Board to fill the one year unexpired term of Fenderson.

There being no further business, the meeting adjourned.

C. C. Baskin, Secretary-Treasurer
SECRETARY'S REPORT

The activities of the Secretary during the past year were the usual.

Honorary and associate members were notified of their election shortly after the meeting. Certificates for honorary members were prepared but not yet mailed because I failed to get the President's signature on them at the meeting last year.

It is still necessary at times to explain that the Rules are Vol. 3, No. 3 and no other volume of the Journal has 3 issues. Not everyone can remember that the Newsletter has changed from 4 issues to 3. Three issues of the Newsletter and 2 issues of the Journal were mailed.

Efforts to collect overdue accounts continue with some measure of success. Some of these overdue accounts have been passed from one secretary to another and this has created some confusion. I have collected some accounts as far back as 1976. This effort will continue as time is available.

We badly need some type of information to distribute about careers in seed.

The Newsletter is costing us money. Over the last two years we have spent $9,000.16 on the Newsletter while our income was only $3,390.25. This is not a true picture however. We averaged 582 copies per mailing for Vol. 54. Of these, 101 were members and associate members and 211 were without charge. Taking this into consideration we are still over $3,312.00 in the red. I suggest we increase the price of the Newsletter to $10.00 to all subscribers. This will give us a revenue of $2,770.00 from subscriptions which will offset our loss. This should be effective January 1, 1982. This will give us an opportunity to notify all subscribers and not penalize SCST which, by agreement, is now billed July 1 instead of January 1.

The covers for the Rules were reprinted during the year. The price of a cover is now $3.50 instead of $2.50. The supply of copies of the Rules is about 250 which, at the present rate of orders, is about one year's supply.

My wife and my secretary continue to be valuable assets in the secretary-treasurer's job. Dwight Lambert continues the valuable assistance of storing and distributing the older publications. Wendell Ditmer and Larry Copeland continue to capably handle the distribution of the Newsletter and the Journal for which I am grateful.

C. C. Baskin, Secretary-Treasurer
TREASURER'S REPORT

June 1, 1980 - May 31, 1981

CHECKING ACCOUNT BALANCE, May 1, 1980 $11,855.19

RECEIPTS:

Dues:
Active & Associate 4,595.00

Publications:
Handbooks $2,012.51
Newsletter 1,237.50
Journal 7,320.07
Rules 1,605.40 12,175.48

Interest:
Checking Account 32.61

Miscellaneous:
AIBS Dividend 20.00
Transfer from Savings 3,100.00
Convention Book Order 30.57
Annual Meeting Refund 2,675.00 5,825.57

TOTAL CHECKING ACCOUNT $34,483.85

DISBURSEMENTS:

Publications:
TZ Handbook $1,990.57
Newsletter (Vol. 54-2) 1,098.75
(Vol. 54-3) 1,039.00
(Vol. 55-1) 1,398.75
(Vol. 52-2) 873.91
Postage 1,125.00
Typing 168.00 $ 5,703.41
Journal (Vol. 4-1) 3,269.34
(Vol. 4-2) 3,272.80
Postage 860.00
Envelopes 121.85 7,523.99
Postage: 762.14
Office Supplies: 105.79
Secretary: 793.00

Miscellaneous:

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TOTAL: 27,999.59

CHECKING ACCOUNT BALANCE: 6,484.26
SAVINGS ACCOUNT BALANCE: 1,000.00
MONEY MARKET CERTIFICATE: 11,985.40 (Includes interest earned)
TOTAL CASH ON HAND, May 31, 1981: $19,469.66

C. C. Baskin, Secretary-Treasurer
RESOLUTIONS COMMITTEE

I. WHEREAS: the seed testing regulations adopted under the Federal Seed Act and used by USDA-AMS, Federal Seed Laboratories are the same or similar to those of AOSA and;

WHEREAS: the AOSA convention is held annually to make changes in, or generate discussion on, methods of analysis and inform attending individuals of such changes that they may act accordingly.

BE IT RESOLVED that the membership of AOSA is interested in and feels a need to have USDA-AMS Federal Laboratory representation and participation at annual AOSA-SCST meetings.

II. WHEREAS: the AOSA has interests in all species of seed and all aspects of seed evaluation and;

WHEREAS: the Association has established formal communication with the International Seed Testing Association through our representative to ISTA.

BE IT RESOLVED that the Secretary-Treasurer of the AOSA forward to the AOSA-ISTA representative pertinent information from the proceedings of the 1981 AOSA meeting for the 1983 ISTA meetings.

BE IT ALSO RESOLVED that the AOSA interest continue to be considered in the positions taken by the representative.

C. Sciple, Chairperson
EDITORIAL COMMITTEE

Report of the Committee Chairman
and Editor, Journal of Seed Technology

Two issues of the *Journal of Seed Technology* were printed during the past year. The second is being mailed during June 1981. Twelve hundred 3-ring loose leaf binders were also ordered and sent to the AOSA Secretary. Dr. Robert Yaklich has agreed to be Associate Editor for the JOST. He has been extremely helpful in compiling the proceedings of the annual meetings and preparing them for publication as well as proof-reading all JOST page proofs before final printing. We expect this partnership to help eliminate errors that sometimes occur.

Six hundred copies of the Journal of Seed Technology (Vol. 4, Nos. 1 and 2) were printed and mailed to the following:

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</table>

Five AOSA publications were sent for display in the Book Exhibits at the American Society of Agronomy meetings in Detroit, December 1980.

L. O. Copeland, *Editor*

NEWSLETTER

This is the second year in which we have published only three issues and we average about 80 pages per issue. We have had responses from thirteen member laboratories, twenty committees (thirteen of these were reports from the 1980 annual meeting), eighteen technical or semi-technical articles and two bibliographies over the year.

Cost will go up some this coming year. Printing cost did not rise and postage had a big increase.
Cost for printing and mailing the 1980-81 Newsletter:

<table>
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<tr>
<th></th>
<th>Vol. 54 No. 3</th>
<th>Vol. 55 No. 1</th>
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Copies Mailed 577 575 593
Pages 79 91 62

Two copies of the CAST Newsletter were mailed with each issue. All three issues are on index cards.

Because of the increase in paper, printing and postage rates, I recommend that the subscription rate of the newsletter be increased.

W. P. Ditmer, Editor

BIBLIOGRAPHY SUBCOMMITTEE

During the past year, I prepared two bibliographies of seed research papers for the Newsletter. These two lists contained 454 papers on “Seed Biochemistry and Physiology,” 55 papers on “Seed Pathology,” 12 papers on “Identification of Cultivars and Species,” 49 papers from Seed Science and Technology, 26 papers from the Israel Journal of Botany (“Control Mechanisms in Seed Germination”), 8 papers from the Journal of Seed Technology (AOSA-SCST “Seed Pathology Symposium”), and 7 papers from HortScience (“Symposium on Seed Quality”), for a total listing of 611 papers.

M. M. Kulik, Bibliographer

SCIENCE EDUCATION EDITOR

During the 1980-81 year, the Science Education Editor has prepared a post-1980 meeting report which was sent to the various seed trade publications. Each published the article in its entirety or an abstract of it.

A large number of letters have been written to people inquiring about available positions, and a similar number of letters have been written to persons having job openings. At the present time, the list of job openings and people seeking employment are fairly extensive. However, because of the failure to receive reports from the parties concerned, the Editor has been unable to keep the lists accurately updated.
There still remains a need for trained seed technologists. It is hoped that the seed technology program which will be getting under way in September of 1981 at the Larimer County Voc-Tech Center in Fort Collins, Colorado, will, in a year or two, help alleviate this shortage.

L. N. Bass, Editor

LEGISLATIVE COMMITTEE

Since the Association of American Seed Control Officials meets biennially, there are no new legislative changes to the Recommended Uniform State Seed Law (RUSSL) to report. Up to this date there have been no amendments proposed for the September 1981 meeting.

We expect the Ryegrass Fluorescence Test — and the tolerances applied to new varieties described as being one-hundred-percent non-fluorescent (or fluorescent) — to be a major item of discussion at both the AOSA meeting and the AASCO meeting this year.

Uniform labeling for lawn grasses was adopted into RUSSL but has not been accepted in several of the major lawngrass consumer states so changes may still be necessary. Another problem in the lawngrass area is seed being sold in a mulch or mat-form which complicates both the labeling and testing when the actual seed portion is only one to three percent.

We are having weed seed labeled as crop; Crabgrass and Kochia spp. Also, certain other crop seeds being possibly labeled as noxious weed seeds. So — before the vigor test and pelleted seed problems can be agreed upon, there are other problems to be considered.

A meeting of the Legislative Committee here at Orlando was limited to discussion of the above mentioned topics and a few other topics that arose during the meeting. Two of these were: (1) procedure for establishing minimum germination standards for 14 herbs, requested by W. N. Rice who has some suggested germination norms for these; (2) treatment processes being applied to seed for purposes other than seed treatment for control of insects and disease.

G. Fenderson, Chairperson

MEMBERSHIP COMMITTEE

The Membership Committee Report for the year 1980-81 is as follows:

Nominations for Honorary Membership:
  Dr. Leroy Everson
  Dr. Ben E. Clark
  Paul J. Hall
  Dr. Duane Isely
Applications for Associate Membership:
Roy Becker
Dr. George A. Berger
Dr. U. R. Bishnoi
Dr. Marc Alan Cohn
Louis W. Harper
Ann M. Hoffman
Francisco Carlos Krzyzanowski
Jose De Barros Franco Neto
James R. Shearl
Dr. S. H. West

Attached are nominations and supporting documents for these two items. The committee recommends the acceptance of these nominations and applications.

R. K. Marx, Chairperson

RESEARCH COMMITTEE

The research within AOSA is maintained through the involvement of many subcommittees that include AOSA and SCST members. A summary of the accomplishments of these subcommittees for the past year follows (chairman in parentheses):

1. Browse, Shrub and Forb — (Earl Belcher). This active committee has continued testing of many species on a regional basis. They are writing descriptive and seed analysis information on each species which will be published in a loose leaf handbook (plan to complete 50 pages by June, 1982).

2. Cultivar Purity — (Richard C. Payne). The committee has initiated the development of a Cultivar Purity Handbook with anticipated completion of the first draft by June 1, 1981. Future plans include the development of new and continued evaluation of old testing procedures for cultivar purity.

3. Flower — (Betty Atwater and Louis Bass). The committee conducted referee tests relating to the germination and dormancy of Delphinium, Verbena and Vinca, Catharanthus and are presently discussing a list of proposed rule changes for germination of flower seed. They plan to continue coordination of testing rules with the flower seed committees of ISTA and the American Seed Trade Association.

4. Moisture Content Determination — (Don Grabe). A progress report was not received.

5. Range Grass — (Ken Boatwright—resigned). The committee completed research on the blowing point for blue grama grass and submitted
a proposal to the Rules Committee for approval of this method (AOSA Newsletter 55(1):27-28). They also conducted research on blowing points for side-oats grama and little bluestem and initiated an investigation toward the development of lists of multiple factors for western and tall wheatgrass.

6. Red/Hard Fescue — (Barbara Hass). Excellent progress was made toward finalizing the methodology for the Ammonia Fluorescence test for separating and identifying red and hard fescue seedlings. The proposed procedure for this test was submitted to the Varietal Handbook Committee. Future research will include the evaluation of the proposed procedure using mixtures of red/hard fescue.

7. Seed Pathology — (D. C. McGee). The membership for this new committee has been determined and the objectives for research are being established. The committee plans to work closely with the Seed Pathology Committee of the American Phytopathology Society.

8. Tree and Shrub — (Frank Bonner). The committee continued cooperation with ISTA on the development of a Tree Seed Testing Handbook and proposals for moisture testing rules. Two members instructed at ISTA/IUFRO Tropical Seed Workshop in Mexico in October, 1980.

9. TZ and Biochemical — (Charles Vaughn). A referee was conducted to evaluate the tetrazolium test for sunflower seed. In the future the committee suggests the evaluation of other crops that are not presently listed in the tetrazolium testing handbook.

10. Vigor — (Miller McDonald, Jr.). The committee established the development and completion of a Vigor Test Handbook as a principal goal for 1980-81. The procedural section which describes commonly used vigor tests is completed. The preface to the handbook under the direction of Dr. Kim Joo is nearing completion.

The committee recommends that all research data and other information supporting recommended rule changes and/or publication of AOSA Handbooks be reviewed by the research committee prior to submitting to Rules Committee or AOSA Board.

The committee recommended the formation of a new research subcommittee;

Bean seed germination — Robert Trent, Idaho, Chairman.

Research oriented to two specific areas:
(1) Comparison of alternate germination methods in present rules.
(2) Procedures for breaking seed dormancy.

The committee recommends new chairman for the existing subcommittees.
(a) Range grass — Larry Prentiss, Nebraska, Chairman
(b) TZ and Biochemical — Ed Hardin, Oregon, Chairman
Specific objective to revise and update TZ handbook.

We recommend continuation of the following other sub-committees:
(a) Browse, Shrub and Forb
(b) Cultivar Purity
(c) Flower
(d) Moisture Content Determination
(e) Red/Hard Fescue
(f) Seed Pathology
(g) Tree and Shrub
(h) Vigor

D. M. Tekrony, Chairperson

REFEREE COMMITTEE

GARDEN BEAN GERMINATION: Region I, Chairperson Robert Trent, compared the current AOSA rules with the ISTA rules. Under AOSA Rules, abnormal seedlings include those having insufficient (less than half the original) cotyledon tissue remaining attached; under ISTA rules, abnormal seedlings include those having insufficient leaf area, but the amount of cotyledon tissue remaining is not considered. Four lots of seed were tested.

Thirteen laboratories tested the first two lots (samples). Results of three laboratories were out of tolerance at the 5% level on sample one when tested by both the AOSA and ISTA rules. On sample two, results of eight laboratories were out of tolerance at the 5% probability of error level using the AOSA rules, and six laboratories were out of tolerance using the ISTA rules.

Samples three and four were tested by only five laboratories. Using ISTA tolerances for a probability of error of 5%, on sample three, results of two of the five laboratories were out of tolerance using AOSA rules and the ISTA rules. On sample four, results of one laboratory were out of tolerance using AOSA rules and ISTA rules.

Test results on these four samples of garden beans suggest somewhat greater uniformity of results may be obtained using ISTA rules rather than AOSA rules.

SOYBEAN GERMINATION: Region II, Chairperson Allyn Lunden, pursued soybean germination using AOSA rules. Three samples were tested, with 47 tests performed on each sample. Most laboratories germinated the seed on rolled towels at 20-30 C.

Forty-seven tests were made per sample; at least 10 (just over 21%) tests per sample were out of tolerance at 5% probability of error. A total
of 141 tests were performed on the three samples, with 32 (23%) out of tolerance at 5% probability of error.

Greater uniformity of results would be desirable for soybean germination. Chairman Lunden suggests research with the hydration preconditioning of seed before planting on paper towels as discussed by Quentin Schultz in AOSA News Letter 53:2 (May, 1979).

**RUMEX, POLYGONUM SPP. IDENTIFICATION: CROWNVETCH GERMINATION:** Region III, Ellen Chirco, Chairperson, participated in two referee projects this year. One project was identification of various specimens of *Rumex* and *Polygonum* spp. Of the fifteen species distributed for identification, twelve were misidentified by one or more analysts from the fourteen laboratories that participated in this project.

The other project was a continuation of last year’s crownvetch germination project. The objective was to determine whether variation in test results of the percentage of swollen seeds could be reduced if swollen seeds were left in test an additional 5 days, making a total of 10 days for swollen seeds at the end of the test. Also, pricking vs. non-pricking of swollen seeds was contrasted.

Two varieties of crownvetch, Chemung and Penngift, were tested using four separate methods. The four methods, all at 20°C, were:

- **Method IA** 14 days germination + 5 days for swollen seed
- **Method IIA** 14 days germination + 5 days for pricked swollen seed
- **Method IB** 14 days germination + 10 days for swollen seed
- **Method IIB** 14 days germination + 10 days for pricked swollen seed

For both varieties of crownvetch, variation in test results was the least (and uniformity of test results the greatest) using the method of pricking the swollen seeds and leaving them in test 10 additional days beyond the initial 14 days of test.

**COTTON SEED GERMINATION:** Region IV, Terry Turner, Chairperson, pursued the germination of cotton seed using the AOSA rules and the Texas cool germination test which is conducted at a constant temperature of 18°C. The cool test provides that all seedlings having a combined hypocotyl and root 1½ inches or longer, and normal for this length, at the end of the test period will be considered as high vigor seedlings. Two samples of cotton seed were tested.

Using methods prescribed by the AOSA rules, the germination percentages for sample #1 ranged from a low of 85.50% to a high of 98%; the range for sample #2 was 65.25% to 89.50%.

For both sample #1 and sample #2, there was great variation in test results using the Texas cool germination test. For sample #1, the percentages ranged from 23.50% to 94%; for sample #2, percentages ranged
from a low of 5.50% to a high of 72.50%. Possible causes of the excessive variation in results among laboratories using the cool test could include (1) the germinator used did not maintain an 18°C constant temperature (a higher temperature would promote a faster growth rate and therefore a combined hypocotyl-root length longer than 1½ inches at the end of the test period), and (2) the analyst included the cotyledons in the measurement instead of restricting the measurement to the combined length of only the hypocotyl and root.

COWPEA GERMINATION: Region V, Joseph Vines, Jr., Chairperson, pursued cowpea germination. The average germination was 71% and the median germination was 61%. It appears uniformity of results among laboratories is difficult to attain based on the cowpea germination percentages which ranged from a low of 33% to a high of 90%. Cowpea germination should probably be a continuing agenda item for federal seed schools held in areas where cowpea is a significant agricultural crop.

S. Dobbins, Chairperson

RULES COMMITTEE

The following rule changes were approved by the AOSA. They become effective October 1, 1981.

Change 1: Delete the requirement that normal cowpea seedlings must have cotyledons (section 7a and 7c, pages 112 and 113 of the rules).

Change 2: Establish a uniform blowing method for bluegrass (sections 2.7g (1), 2.7g (2) and 2.11g, pages 23, 24, and 26 of the rules).

Change 3: Reduce the length of germination for carrot from 21 to 14 days (section 4.10, table 3, page 55 of the rules).

Change 4: Accept various nomenclature changes throughout the rules.

Several proposals were tabled for further study and were not accepted as rule changes. These included (1) a proposal to delete the existing formulas for determining percentages of annual and perennial ryegrass; (2) a proposal that carrots and parsnips must have a long, vigorous primary root; and (3) a change in the definition of ergotized seed of both crops and weeds.

R. Danielson, Chairperson

PUBLIC SERVICE COMMITTEE

The Public Service Committee had a very active year.

First of all, we had requests for and loaned out the Merle Pierpoint slides and drawings, and the AOSA slide set. We have two sets of AOSA
slides available, and both are now back in the kit. We also had a few requests for information on the Reference Collection of 100 Weed Seeds of Canada.

Our main project was a survey of all the AOSA labs concerning seed testing equipment and the various sources of this equipment. The survey was to be summarized and held on file for anyone looking for equipment or material relating to seed testing. The survey was similar in design to the SCST Survey conducted by Jim Neilson, of E. J. Funk and Sons, Kentland, Indiana.

We divided the AOSA Survey into three regions with Robert Trent, Idaho, handling the west; Jim Lair, Illinois, handling the east; and I handled the midwest. I am currently in the process of condensing the three regions' responses into one comprehensive inventory. This should be a valuable addition to the Committee's files for anyone needing information on sources of equipment or supplies in the future. I would like to give special recognition to the other members of the Committee, Robert Trent and Jim Lair, who both spent a lot of time on this project.

D. V. Svik, Chairperson

NOMENCLATURE COMMITTEE

The Nomenclature Committee reviewed the scientific and common names in the AOSA Rules (including the index) for the 1981 update of these Rules. A report was filed with the Rules Committee Chairman that primarily included corrections of "printer's errors" and author's names.

Coordination of the nomenclature used in the AOSA Rules, the Federal Seed Act, and the ISTA Rules has progressed at a rapid rate. An analysis of the similarities and differences was prepared by John Scott in 1980. His report will be very useful in the next few years.

C. R. Gunn, Chairperson
## AOSA Budget for the year 1981-82

### Receipts

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L. E. Wiesner, Chairperson
The following representatives are serving as advisors to the committee from their respective organizations: R. H. Edwards and R. H. Emmett (SCST); P. King and R. Sayers (ASTA); and D. Lancaster and D. M. Tekrony (AOSCA).

In October 1980 and May 1981, I had the opportunity to visit the Seed Standardization Branch at Beltsville and talk with individual staff members. Each member explained what projects they were currently working on. The staff is willing to cooperate and work with us within certain limitations. Dwight Lambert’s report was given earlier in the morning.

The laboratory is working on many of the projects that are on our list. Seed schools or conferences — are being conducted. Germination procedures are being worked on — some of these are the results of referee samples. Many identifications and referee samples have been checked. The list needs to be reviewed and rewritten.

One of our biggest complaints is that the calibration samples are still not available.

There is still a deep concern that the Seed Standardization Branch and the FSA activities should be separated. Staff and budget are now separated, but there is still the feeling that FSA ideas still dominate the SSB. Many people feel there needs to be more of a physical separation such as the laboratory moving to another part of the country.

W. P. Ditmer, Chairperson

NECROLOGY COMMITTEE

Jennie Sale Jones


Miss Jones began her career as a seed analyst in the Virginia State Seed Laboratory in 1917. She retired in 1959 as Laboratory Supervisor. In retirement she lived at her country home, “Marl Hill,” in New Kent County, Virginia.

During her forty-two year career, she was a mainstay in the Virginia laboratory. She was very thorough and knowledgeable in her work and was an excellent teacher. She trained many analysts who have worked in both official and commercial laboratories.
She had a keen interest in collecting and identifying plants, with a love for the native wild orchids. The herbarium in the Virginia laboratory is much richer for her efforts.

She attended a number of Association meetings, and served on a number of committees, including a five-year term on the Rules Committee. She has been an Honorary Member of the Association since 1960.

Miss Jones will be remembered with respect and affection by those privileged to have worked with her.

**Dr. J. Morris Smith**

Dr. J. Morris Smith passed away in a hospital on March 20, 1981.

Dr. Smith received a Ph.D. in Entomology from the University of California at Berkley and held a variety of positions before joining Agriculture Canada’s Alberta/British Columbia District Seed Laboratory in June 1968. During his eleven years as Officer-in-Charge of the laboratory, he specialized in the identification of Cannabis and was relied upon heavily by the RCMP and other police forces to provide expert testimony. Dr. Smith attended several AOSA-SCST conventions and served on referee and membership committees. Both he and his wife, Deborah, enjoyed the friendship of many colleagues in the Association.

Dr. Smith retired from government service in April 1979, and in August 1980, he and Mrs. Smith moved back to his native Southern Ontario. He was thoroughly enjoying retirement and was in good health until January when the first symptoms of heart trouble appeared. Mrs. Smith will continue to reside in their Ridgeville, Ontario home and anyone wishing to extend their sympathy may do so by writing her at R. R. #1, Ridgeville, Ontario, LOF 1MO.

**Edith C. Higgins**

Edith C. Higgins, Laboratory Supervisor of the North Dakota State Seed Department died on October 24, 1980. She was born on July 6, 1881 at Beatrice, Nebraska.

Before coming to North Dakota, Miss Higgins had been a seed analyst for commercial seed firms. She began working as laboratory supervisor of the North Dakota State Seed Department in 1933, and retired in August, 1960. Edith was chairperson of a sub-committee which wrote the history of the Association of Official Seed Analysts. Miss Higgins was a very dedicated worker in all the activities of the seed laboratory. She was always striving for better methods of seed testing and did a lot of research in seed identification. She was a considerate supervisor in help-
ing all her analysts with accuracy in seed work. Her prime goal was always accuracy.

Upon retiring, she moved back to Beatrice, Nebraska, to live with her sister, where she continued her interest in gardening and flowers. She spent a lot of time visiting with patients in retirement homes in that city.

Mary E. Lamphier

On October 28, 1980, Mary Elizabeth Lamphier passed away at St. Joseph’s Health Centre in Toronto, Canada.

Born in Oakville, Ontario, in 1906, Mary E. Lamphier began her agricultural career in 1930 as seed analyst with the Canada Department of Agriculture, Plant Products Division in Toronto. She joined the staff of the United Cooperatives of Ontario in May 1944, and worked there in the capacity of seed analyst and purchasing agent until the closing of the Seed Plant in November 1967.

Mary was a charter member of the Commercial Seed Analysts Association in Canada and served as President of that organization during 1950 - 1952, 1956 - 1957 and 1961 - 1963. In 1957 - 1958, she served as President of the Society of Commercial Seed Technologists. She was a member of the Agricultural Institute of Canada and the Ontario Institute of Agrologists.

She was a former President and member for 50 years of the Catholic Women’s League at Holy Family Church in Toronto, a former director of the Parish Credit Union and active in the Golden Age Social Club.

Needless to say, the passing of Mary E. Lamphier will leave a gap in the Canadian seed industry and she will be sadly missed by all who knew her.

Elizabeth L. Gage

We were all shocked and saddened by the unexpected death of Elizabeth Gage on June 17, 1981. She was only 31 years old.

Beth, as she was known by her friends and co-workers, was born in Lincoln, Nebraska, on December 15, 1949.

She earned a Bachelor of Science degree from Kearney State College in math and chemistry. Beth joined the Nebraska State Seed Laboratory on September 12, 1977, as a Purity Analyst. She was also in charge of the Honey Testing Program.

Beth was well liked by all who knew her, and she will be missed by her family, friends, and co-workers.
William C. Sloan

William C. Sloan, State Seed Analyst, retired from the Delaware Department of Agriculture on December 3, 1979. He came to the department in 1968 to head the National Poultry Improvement Plan. In 1971, he assumed the responsibilities of the Seed Laboratory, supervised the grain grading in conjunction with the Federal Grain Inspection Service and Seed Certification Program.

Reared on a farm in Chester County, Pennsylvania, he attended the University of Delaware and received his B. S. degree in Agronomy. He served as a Navy flyer during World War II in the Pacific. He joined the Extension Service upon his return from the war and became a veterinary sales representative for American Cyanamid Company in 1952. He joined the Delaware Department of Agriculture in 1968, where he remained until his retirement. Mr. Sloan passed away on March 6, 1980.

C. L. Sciple, Chairperson

MEETING PLACE COMMITTEE

The Meeting Place Committee is happy to report there has been a definite interest in hosting the annual meeting in future years, with a wide variety of geographical locations to choose from. During the past year, the committee has received five invitations to host the meeting with reference to 1983, 1984, 1985 and 1986. The invitations are as follows:

1) Minnesota, for 1983, submitted by Mr. C. W. Dunn on behalf of the Minnesota Department of Agriculture, to be held in the Minneapolis-St. Paul area.

2) California, for 1983 or 1984, submitted by Sharon Dobbins on behalf of the California Department of Food and Agriculture, to be held in either Sacramento or San Diego.

3) Ontario, Canada, for 1983, submitted by Mr. A. B. Ednie on behalf of Agriculture Canada, to be held in Ottawa during the week prior to the 1983 ISTA Meeting, which runs from June 16-24.

4) Idaho, for 1983, 1984, or 1985, submitted by Mr. Robert Trent on behalf of the Idaho Department of Agriculture, to be held in Boise.

5) Virginia, for 1984, 1985, or 1986, submitted by Mr. Harry L. Smith on behalf of the Virginia Department of Agriculture and Consumer Services, to be held in Richmond.

In summary, four states expressed an interest to host the meeting in 1983, three states expressed an interest for 1984, two states expressed an interest for 1985, and one state was willing to host the meeting in 1986. It was because of these numerous possibilities that the committee members were unable to agree upon specific recommendations for each year. The majority of the committee favors California for 1983, Minnesota (if possible) for 1984, Idaho for 1985, and Virginia for 1986.

L. W. Nees, Chairperson
TEACHING AND TRAINING COMMITTEE

The program for the 1981 Annual Meeting of the Teaching and Training Committee will consist of a talk entitled “Quality Soybean Production” by Charles Baskin, and “Quality Peanut Seed Production” by George Spain. There will also be a limited amount of discussion of the seed technology training program at the Larimer County Voc-Tech Center in Fort Collins, Colorado which is tentatively scheduled to open in September of 1981.

L. N. Bass, Chairperson

LIAISON COMMITTEE

AOSA was well represented at all major seed related meetings this past year. President C. C. Abbott represented us at an important meeting of NASDA in November, 1980, at Las Cruces, New Mexico. The topic of AOSA Seed Analyst accreditation was discussed. We were fortunate to have our President representing us to explain the AOSA position and objectives of such an accreditation procedure. Even though they did not give us overwhelming approval, perhaps the groundwork has been laid should we continue such an effort.

Rodger Danielson officially represented the AOSA at the 97th American Seed Trade Association annual convention in San Diego, California, during June 1980. In his capacity as AOSA Rules Committee Chairman, he was able to enter into a lively discussion during the ASTA Seed Technology Committee meeting. We must continue to have individuals attend this meeting who are knowledgeable in AOSA affairs, and especially in the rules. If one incorrect statement goes unchallenged at such meetings, it may never get changed in the minds of those present. We cannot afford to have such misconceptions among those who utilize or conform to the results we supply.

As Chairman of the Liaison Committee, I attended the annual Association of Seed Certifying Agencies held in Portland, Oregon, during August, 1980. They appreciated our participation and used our presence upon a few occasions to answer questions which related to AOSA Rules.

I hope we can continue to provide our most qualified representation at meetings which are important to AOSA. It is always tempting to utilize local people at the meetings because of the travel expense involved, but if the individual is not active, or involved, in the internal affairs of AOSA, they cannot adequately answer the questions or discuss topics which so often arise. Our image is then one of uncertainty and weakness. We must assure those we deal with that we are knowledgeable in our field and present a strong image of certainty, strength, and leadership.

E. E. Hardin, Chairperson
SYMPOSIUM COMMITTEE

A list of potential symposium topics was compiled. From the list, topics for three AOSA meetings were selected, together with symposium organizers as follows:

1979 — Seed Pathology, A. B. Ednie
1980 — Seed Processing, C. C. Baskin
1981 — Seed Dormancy, L. E. Wiesner

Each symposium organizer was responsible for the specific subject matter discussed under each topic and for selecting speakers.

Each symposium was a half day in duration and included four or five speakers.

D. F. Grabe, Chairperson

ADMINISTRATIVE PROCEDURES
HANDBOOK COMMITTEE

Further work on the handbook was not accomplished this past year. Essentially what has to be done is to type and edit the material.

W. N. Rice, Chairperson

VIGOR TEST SUBCOMMITTEE

The AOSA Vigor Test subcommittee, an arm of the AOSA Research Committee, is composed of representatives from seed testing, seed industry, and academia. The basic charge of this subcommittee has consisted of four objectives:

1) To define seed vigor.
2) To develop tests which can measure various aspects or components of seed vigor.
3) To standardize vigor tests for their use in seed testing laboratories.
4) To develop a Handbook of Vigor Test Methods.

Each one of these objectives is addressed individually.

A definition for seed vigor was initially prepared and submitted to AOSA, AOSCA, ASTA, SCST, and AASCO for their comments and suggestions in 1977. In 1978, these seed organizations agreed that the following definition for seed vigor successfully captured its concept and meaning:

Seed vigor comprises those seed properties which determine the potential for rapid uniform emergence and development of normal seedlings under a wide range of field conditions.
As straightforward and simple a definition as this may appear, this was a significant accomplishment because of the diverse groups and interests present on this subcommittee. Despite the fact that the definition represented agreement by the subcommittee, it was agreed to not formally submit such a definition to AOSA until it had time to "test the waters" and would perhaps be most appropriate for inclusion in a Vigor Test Handbook at the time of its completion. Consequently, this definition has appeared only in the AOSA Newsletter and no formal document.

The second objective — development of vigor tests which could measure various aspects or components of seed vigor — was completed in 1976 when this subcommittee, under the direction of Dr. Lowell Woodstock, produced the Progress Report on the Seed Vigor Test Handbook. Within this document appeared eight vigor tests with specifically outlined procedures for completion of each test. Here, for the first time, were recommended procedures which could be used by testing laboratories in "referee" programs to determine their merits for:

1) Measurements of seed vigor as related to field emergence, and;
2) Standardization both within and among seed testing laboratories.

Again, to be emphasized, these recommended procedures appeared only in the AOSA Newsletter because of the need to insure that such procedures were not hastily adopted in regulatory channels.

These two objectives have been successfully completed. The final two objectives remain and will continue to remain partially or completely unresolved in the near future.

Objective 3 — The standardization of vigor test procedures for their use in seed testing laboratories — has been a prime goal of this subcommittee since adoption of the Progress Report. Four of the last five years have been devoted to conducting extensive "referees." The results of these "referee" tests have been reported annually both here at the AOSA Meetings, and in the AOSA Newsletter. In general, the results indicated that vigor tests were useful in forecasting field emergence. In other words, vigor tests do have specific utility beyond routine germination analysis. Secondly, the "referee" program demonstrated that many of the vigor tests were standardized within laboratories. However, the results also showed a woeful lack of standardization of the vigor tests between and among laboratories. These indicated that vigor test results could not be compared from laboratory to laboratory for the same seed lot because of the extreme divergence of testing results. In other words, standardization of vigor test results between testing laboratories has yet to be achieved.

Objective 4 — Development of a Handbook of Vigor Test Methods— Throughout this entire four year period of "referee" testing, a consider-
able concern regarding the proper use of vigor tests and interpretation of vigor test results has been generated by enforcement groups, the seed industry, and the seed consumer. It was apparent that the impetus for vigor testing and the use of vigor tests were here to stay and that appropriate guidelines for vigor interpretation need to be addressed. For this reason, an *ad hoc* educational committee chaired by Dr. Kim Joo, Northrup-King, was formed to develop an informational bulletin regarding the limitations and use of vigor tests. Initially, this informational bulletin was conceived as a 3-4 page circular. However, through unknown evolution, this informational bulletin has increased in size to the stage where it now represents a much more thorough and comprehensive review of our state of knowledge regarding seed vigor.

Also, at the 1980 Des Moines meetings, it was resolved by the sub-committee to develop a *Handbook of Vigor Test Methods*. This responsibility was assigned to the Chairman whose major role was to contact authors of each vigor test and have them update and revise vigor test procedures to reflect recent research advances. The tests and authors responsible for these tests included:

1) Accelerated Aging — C. C. Baskin
2) Cold Test — B. E. Clark
3) Cool Germination Test — G. Moore
4) Conductivity — J. Tao
5) Seedling Vigor Classification — G. E. Spain
6) Seedling Growth Rate — J. Burris
7) Tetrazolium — C. C. Baskin

On receipt of these updated versions, the procedures were edited in order that they closely followed the same format. For the most part, this stage of development of a Vigor Test Handbook has also been completed.

The purpose of the AOSA closed vigor test subcommittee meeting at Orlando was to determine what were the next steps in completion of the AOSA Handbook and what should be its format. The ISTA Vigor Test Handbook was recently completed this year under the direction of Dr. Derek Perry. The AOSA Vigor Test Handbook will have little resemblance to this ISTA version. It was agreed by the subcommittee that the AOSA Vigor Test Handbook will be composed of two significant parts housed in *one* Handbook. The first part will be that portion developed by Dr. Joo initially as the informational bulletin and will be entitled, Seed Vigor: Its Meaning and Application. The second part will consist of the vigor test methods which will be entitled, Seed Vigor: Suggested Procedures.

The Handbook will be in a loose-leaf format to demonstrate that vigor test procedures are dynamic and new and additional information can be supplemented for outdated procedures when research dictates these use-
ful changes. As these parts are completed, they will be submitted to Dr. Ben Clark, who has agreed to edit these portions into a readable and meaningful text. Following editing, this version will again be submitted to the Vigor Test Subcommittee for final review, to ASTA for any additional suggestions, and finally to the AOSA research committee for approval and submission as an AOSA Vigor Test Handbook. Although this may sound complicated, it is anticipated that the Handbook will be completed no later than June, 1982.

It should be emphasized that the procedures which will be outlined in this Handbook are developed solely as recommended guidelines. They are not intended for use in regulatory channels. This point should be underscored and is in accord with unanimous approval of the subcommittee. The subcommittee recognizes that vigor testing remains an unexact science and is still in a developmental stage. However, it also recognizes that there is an urgent need for recommended vigor test procedures which laboratories initiating vigor test programs or wishing to establish “referees” can utilize in their standardization programs. This, in addition to emphasizing the merits and limitations of vigor testing, is the purpose of the Handbook.

Throughout the development of this Handbook, the AOSA vigor test subcommittee has attempted to maintain close coordination with seed industry counterparts because of the potential implications such a Handbook would have on the marketing and enforcement of seed. The industry has been particularly helpful in assisting this subcommittee in this effort as well as highlighting their specific concerns regarding its formulation. In general, the Handbook as it is presently designed satisfies the requirements of ASTA while it simultaneously provides a framework on which further vigor test development can be achieved. On behalf of this Chairman, I wish to thank everyone who has had a part in its materialization.

M. B. McDonald, Jr., Chairperson

MERIT AWARD COMMITTEE

This committee received two nominations for the 1981 Merit Award. Information concerning the two nominees was circulated to the committee and Dwight D. Forsyth was unanimously selected.

L. E. Wiesner, Chairperson

AUDIT COMMITTEE

The committee examined the records, and found them to be in order.

D. Lambert, Chairperson
NOMINATIONS COMMITTEE

The new slate of officers are:

Vice President — Gail Fenderson
Board Member 3 years — Russell Marx
Board Member 3 years — Sharon Dobbins
Board Member 2 years — Terry Turner

M. V. Meadows, Chairperson

INDEXING COMMITTEE

Two previous indexes to the AOSA Proceedings were published by the Association and covered the periods 1908-1937 and 1938-1959. This index will cover the period from 1960 through the last issue published in 1975.

The manuscript should be completed in early summer, 1981. The length is expected to be equivalent to that of the 1938-1959 Index, or 65 printed pages with 62 lines per page. The Executive Board is requested to provide funds for publishing the Index during the 1981-82 Association year.

D. F. Grabe, Chairperson

ACCREDITATION OF LABORATORIES COMMITTEE

The framework of the Seed Analysts’ Accreditation plans came unglued at the Des Moines meeting. The committee has reviewed the circumstances, and feels the need of direction from the association before more proposals are made.

While there are those who believe the Association should cease all efforts in this direction, we believe the numbers are limited. From others, we hear that some effort for analysts’ accreditation is desirable, but there is not agreement on the committee’s proposals at the 1980 meeting for implementation.

Subjects which need clarification seem to include:

1. Comprehensive examination vs. segmented examination.
2. Use of analysts’ accreditation as a means of categorizing laboratory accreditation.
3. Voluntary participation vs. required examination.
4. Examination process, location and expenses.

Maybe there are other differences that require resolution.
In any event, the committee came away from the last association meeting with the thought that resolution of these differences must come only after more discussion within the body of representatives. Not one of the committee members feels either qualified, or inclined, to push for a decision until the association has arrived at more of a consensus than seems apparent up until now. The committee members also look upon the challenge of this subject as one which should unite our association rather than divide it.

The discussions about laboratory or analysts' accreditation, and the possible direction that could come out of it, will reflect on this committee's future efforts.

G. E. Spain, Chairperson

ONCE UPON A TIME . . . The Moon advertised for someone to gather baskets of stray moonbeams every night from the tops of small trees and tall bushes.

The first applicant was an enormous moose, at least six feet tall at the shoulder and leader of his herd. “Easy,” said The Moose. “I can stand on my hind legs and shake the moonbeams into a basket on my antlers. It’s a cinch!”

But by dawn, he had collected only half a basket. “Sorry,” said The Moose. “I had to lead the herd away from a wolf pack; then one of the young bulls had to be put in his place. I would have gathered many more moonbeams, but I just had to tend to these things first.” The Moon was disappointed.

The next to apply was a little gray mouse. “I know I’m small,” said the Mouse, “but I can work where it’s steep, I’m eager to start, and work quite cheap.”

But by dawn only one basket was filled. “I worked and I worked all night,” said The Mouse, “but my legs are short, the trees are tall, and your moonbeams are so heavy that I had to run down with each one to put it in the basket. This job is much tougher than I thought.” The Moon was very discouraged.

The last applicant was a monkey with a very long tail. “Rather than carry a heavy basket, or run down with each moonbeam, I’ll put them in a sack, then empty the sack into the basket.” With that, The Monkey jumped into a tree, swinging from branch to branch, putting moonbeams in the sack slung over his shoulder.

When dawn came, The Monkey sat, eating a banana, in front of The Moon’s office. At the Monkey’s feet were ten full baskets, and the trees and bushes were picked clean of moonbeams.

At last, The Moon was very happy.

MORAL:
THE VERY LARGE SUPPLIER often has other jobs of higher priority.
THE VERY SMALL SUPPLIER may find that good intentions and hard work are not enough — it's just more than he can handle.

THE EXPERIENCED SPECIALIST SUPPLIER, mentally and mechanically equipped for the job, knows how to get the work done on time.

That little story was among the more interesting advertising that came across my desk last winter. Put it on the back burner for a little while and we'll try and work it in later.

A letter from Arnold Larsen just about a year ago arrived a few weeks later than it should have and by way of explanation, it was stamped "Found In Supposedly Empty Equipment." The first time this happens, it makes you wonder what they will think next.

I knew what I had to think of next and that was preparing for our meeting here in Orlando so I rummaged around in my own supposedly empty equipment and found an expression left over from the meeting in Des Moines last May. I recalled that Sandy Ednie had at one point used the term "bench analyst" and it caught my attention because I never recall hearing it before. And it set me to thinking.

The bench analyst is, after all, the mainstay of this organization and after whom it is named. He's also the individual who stays behind and works when the rest of us go off to this and other meetings and once-in-a-while, if there's enough money around, he can go to a seed school. You present and former bench analysts know that you and your friends at home are harnessed to a continual learning process because your colleagues in the industry have been making things tougher and more complicated.

Now I've expressed to some of you at different times my concern that plant variety protection might add to our woes by prompting the development of many new varieties too quickly just in order to get a new "model" on the market. This appears to have been a valid concern. We find many varieties so similar in character that the unique qualities possessed are almost negligible and many varieties are not accurately described. How, for example, does one interpret a condition described as "seed mostly fluorescent under ultra-violet light." Is "mostly" 51% or 95%? The latest bulletin from the PVP office lists several protected varieties of soybeans whose only novel characteristic reported are flower or hilum colors different from the older varieties they most closely resemble.

The analyst does what he does because of his involvement with seed law that is primarily a truth-in-labeling law. (And this doesn't apply just to official analysts.) An important part of the label the analyst seeks to corroborate is the variety name. How diligently is he expected to pursue his quest for authenticity? The buyer of a lot of seed, regardless of the
size of the lot, and whether it is for resale or personal use, expects to get what he ordered. The seed company buyer expects his analyst to verify his contract specifications. The certification agency wants its analyst to determine that seed samples meet certification standards which above all require varietally pure seed. The official analyst must try to resolve complaints from all sources. Granted, all seeds can't be identified as to variety and so we have the dilemma of variety being emphasized in our merchandising versus natural and deliberate road blocks being placed in the way of our identification and verification procedures. We are told by some plant breeders that our concerns with the accuracy of their descriptions of new varieties is "nit-picking."

We are told that the breeder is the expert and he will decide what is a variety and what is not. Along with that we are expected to believe all plant breeders are totally expert and totally honest.

In the analyst's continuing efforts to be totally expert and totally honest, he must devise ways to aid him in carrying out his responsibilities to the industry. But if he gets too active in his research, someone from industry will come along and say that industry won't support his research if he's going to use it against them. Industry will say, in effect, "You mustn't be wasting your time and our money on ways to check up on us until you have what we consider to be a legitimate complaint."

But Mr. Wholesale Seedsman, suppose you have a complaint against one of your industry members; wouldn't it be convenient if we were able to help you? If you don't want us to prepare, where will we be when you need us?

A year-and-a-half ago a position paper was published by the ASTA entitled, "Varietal Development Program Endangered by Government Bureaucrats." This article proceeded to find fault with various grow-out tests conducted by SRB (Seed Regulatory Branch) and while laying most of the blame on the weakest of the test programs, the inference remains that department test schemes are not as satisfactory as those operated with industry input. The intent of all the tests is to come as close as possible to determining whether or not the variety is the one claimed by the tagger. A grow-out test of any kind may not be conclusive, but is a logical and helpful step in the process. I happen to think seed analysts, or technologists, if you will, and regulatory people working in concert should be given credit for the ability to recognize the limitations of these tests and to conduct them accordingly.

A year later the "Federal Seed Program Review" appeared. Authored by Dr. Roy Creech, it summarized the wealth of criticism aimed at the Federal Seed Act and the Federal Seed Regulatory Branch. It should be required reading for all of us for this is probably as fair an appraisal
as will be made of the relationships of the SRB to the various other agencies involved with the seed industry. I was glad to note that the existence of the Federal Seed Act will still be tolerated and the guidelines for classifying cultivars remain as before, but with a definite reminder that interpretation is the key. However, it always seems that if an official analyst, or just an official, makes an interpretation, it is immediately suspect as being inimical to the industry point of view and therefore likely to be dismissed as a blunder made by a bureaucrat.

I have to object to the notion that industry has a monopoly on expertise in our profession. Nor can I appreciate reminders that we are adversaries. I think there are more and more varieties appearing in the marketplace that cannot stand the test of novelty, uniformity and stability and I as a regulatory official and former bench analyst want to have the tools to convincingly demonstrate my contentions. I think it is equally useful to all concerned that I (and all of you) have this capability.

If Plant Variety Protection is to continue to protect and seed certification to continue to certify, with confidence, the bench analyst is going to need more than a vague, hastily written description of the variety, particularly the seed. Argument by the breeder and geneticist for flexible restraints and flexible interpretations reinforces the need for precise terminology whenever possible. The analyst has an inescapable responsibility to be right in the determination and reporting of his findings.

To the dismay of some folks, I opposed the idea that the Seed Standardization Laboratory be split off from the Regulatory Branch. I still question the need for that rearrangement and would oppose in principle the establishment of an additional central lab just for regulatory purposes. While the company that employed me for 17 years had its share of reprimands, I always knew that any assistance I sought at Beltsville would be generously and graciously given. Research carried on at that time; the great work of Musil, Justice, Colbry and Anderson to name a few, was of equal benefit to all of us official and commercial analysts as it is now. It distresses me to think that that spirit of sharing was nearly destroyed.

We’ve got to get it back for the bench analyst will need to share his expertise and his needs with the plant breeder. The more he can share, the more he can gain in return. These annual meetings we enjoy together with industry specialists and researchers contributing so much, are a perfect example of the kind willing and generous spirit of which I speak. But we must move along and I am going to reiterate earlier suggestions that representatives of the National Council of Commercial Plant Breeders be invited to attend on a regular basis.

Furthermore, we must keep in mind that we owe our existence to a federal seed law and a group of state laws, and all we really have to offer
is service. That service can only be enhanced by improved capabilities of the bench analyst. This, in turn, tends to increase the confidence of industry members who still have many skeptics among them. Fortunately, there is a lot of effort being devoted to improving analytical methods; unfortunately, there are cash flow problems. What cash there is for operations seems to flow elsewhere. This means our techniques must be as efficient as possible and that our research in methodology must be kept at a level that the bench analyst can handle. Not all of us, particularly in this present cash-crunch situation can hire the people we want at the salaries they want. So laboratory techniques sometimes have to be geared to the talent available rather than the preferred situation of talent beared to the technique. At the same time, we must be alert to seize any opportunity to up-grade our people and our facilities.

We have talked a great deal and for as long as I can remember about accreditation going back to when Al Carter was active. The SCST folks solved their accreditation problem with considerably more dispatch than we have which makes one wonder why we have been so slow. “States Rights” and fear of coercion have been mentioned as stumbling blocks. Rights we were told, carry responsibilities — in this case to Agriculture. Coercion is described as taking the form of dictating to a state what it must do to meet a standard. I submit that needs of the industry will dictate much more than the aspirations of the AOSA. Certainly the progress we have made so far can be attributed to the demands of agriculture and people rising to the challenge.

All of which leads me to remind you of the fable at the out-set and to admonish you to go home and make monkeys out of your bench analysts.
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