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## 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.

**Publication Charges.** Page charges have been established for the Journal and will become effective for volume 13 (1). Charges are \$20 per page for the first 10 pages and \$50 per page for each additional page. Authors will be billed for charges when galley proofs are received.

**Manuscripts.** The manuscript must be typed on good-grade bond paper approximately 21 by 28 cm. The lines of type must be numbered on each page. Three 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, 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 each page. Number 1 should contain identification of the article or research project. Number 2 identifies the author(s).

**Tables.** Tables are numbered consecutively. Use the following symbols for footnotes, in this order: †, ‡, §, ¶, #, etc. Use asterisks (\*, \*\*, etc.) to indicate statistical significance (5%, 1%, etc.). Do not duplicate information 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 words should be avoided on graphs and charts. Label each figure with the name of author, title of article, and number of figure. Do not use figures which duplicate information 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*. The Publications Handbook and Style Manual of the American Society of Agronomy can also be used as a guide in manuscript preparation.

**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. Names of states 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 quotation 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.'

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**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.

#### Subscription Information

Subscription rates are \$25.00 per year for the *Journal of Seed Technology* (JOST) and may be obtained by writing to the Secretary-Treasurer, Association of Official Seed Analysts (AOSA). Back issues of the JOST, as well as other AOSA publications are also available.

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## THANKS TO OUR REVIEWERS

The Journal of Seed Technology would like to thank all of the individuals who reviewed articles for Volume 13 issues. A special thanks is given to the Associate Editors who worked with the reviewers and the authors to make each manuscript of the highest quality. We appreciate all the valuable time and effort each reviewer gave to improving the manuscripts they reviewed.

L. E. Wiesner, Editor

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**MINUTES OF THE ASSOCIATION OF  
OFFICIAL SEED ANALYSTS MEETING**

Seventy-Eighth Annual Meeting  
Rochester, New York  
June 11-17, 1988

**EXECUTIVE BOARD MEETING**  
June 11 and 14, 1988

**ATTENDING:**

James N. Lair (*)	T. Wayne Still (*)	Gurnia Moore (*)
Stephen J. Hurst	Rodger Danielson	Dr. Richard Payne
Doug Ashton (*)	Randy Kocurek (*)	Loren Wiesner (*)
Buddy Vaughan (*)	David Svik (*)	A. D. Knapp (*)
Ellen Chirco (*)		

(\*) indicates board member

The board meeting was called to order at 8:58 AM, Dr. Allen Knapp-President, presiding. Calls for additions to the agenda were made by Dr. Knapp and 4 items were added. Those items were (1.) Dr. Elgin to address the board (2.) the reading and approval of last year's minutes. (3.) the presentation of the secretary and treasurer reports. and (4.) the presentation of the seed analysis certificate report. Wayne Still moved and Buddy Vaughan seconded to accept the additions. Report accepted. It was announced that Beverly Jackson was retiring and could not serve. Randy Kocurek was appointed chairman of the audit committee. Wayne Still was appointed chairman of the Resolutions committee.

Jim Lair read the legislative report for Charles Abbott who was not in attendance at the board session. Law changes either proposed or adopted by the various states were presented. Buddy Vaughan moved and Gurnia Moore seconded to accept the report. Report accepted.

Dr. Knapp read the membership report for Russel Marx. Mr. Volario was recommended for associate membership and George Spain for honorary membership. Wayne Still moved and Randy Kocurek seconded to accept the report. Report accepted. Wayne Still moved and Buddy Vaughan seconded to accept Mr. Volario as an associate member. Motion passed. Wayne Still moved and Gurnia Moore seconded to accept George Spain as an honorary member. Motion passed.

Jim Lair read the public service report. One slide set had been distributed to an SCST lab for use in 1988-89. Jim Lair moved and Loren Wiesner seconded to accept the report. Report accepted.

Dr. Knapp read the research committee report on the various sub-committee activities for Fiscal year 88. Dr. Knapp moved and Wayne Still seconded to accept the research committee report. Report accepted.

The budget committee report was read by Buddy Vaughan. As a review of the report, the board was informed of the line item proposals regarding printing costs for the rules and journals, the contributions to the research fund, and other budget report topics. Buddy Vaughan moved and Wayne Still seconded to defer action on the report to the Tuesday board session. Motion accepted.

The certification of Analysts report was given by Wayne Still, chairman. In 1988 56 analyst certificates for purity or germination will go out to AOSA members at the Rochester, New York meeting. A meeting announcement was also made that AOSA and SCST groups would meet jointly at 1 PM Monday to review items concerning the AOSA reciprocity for SCST certificates. Gurnia Moore moved and Loren Wiesner seconded to accept the report. Report accepted.

The constitution committee report was read by David Svik, member, on the committee activities. Buddy Vaughan moved and Randy Kocurek seconded to accept the report. Report accepted. Following discussion of the report contents, Jim Lair moved and Gurnia Moore seconded that the President is to direct the chairman to appoint added members as needed to conduct a survey on researching membership of other types that would be available in AOSA. Motion passed.

The AOSA analysis report committee under Rodger Danielson made a presentation. The report, an instruction booklet, and a copy of a certificate were presented by Rodger Danielson to the board. He reviewed comments received from AOSCA. His committee recommended that no adoption at this time be made of the certificate in its present format. He asked for inputs from the board. The board gave Rodger comments on revisions they felt were needed. Buddy Vaughan moved and Loren Wiesner seconded to accept the report. Report accepted.

Last year's board and general session minutes were reviewed by the board as taken from the newsletter by Jim Lair presenting them. Wayne Still moved and Gurnia Moore seconded that the minutes be accepted as printed in the newsletter. Motion passed.

The merit award report was read by Buddy Vaughan and notice was given that a candidate had been selected. Randy Kocurek moved and Doug Ashton seconded to accept the report. Report accepted.

The nominations report was read by Dr. Knapp and notice was given that a roster of candidates had been selected and ballots tallied to elect new officers. Loren Wiesner moved and Wayne Still seconded that the report be accepted. Report accepted.

The Necrology report was read by Buddy Vaughan. No deaths of any AOSA members had occurred. Wayne Still moved and Randy Kocurek seconded to accept the report. Report accepted.

The program report was given by David Svik and additions to the program were brought to the attention of the board. Wayne Still moved and Gurnia Moore seconded to accept the report. Report accepted.

The symposium report was read by Allen Knapp and symposium topics were announced as those appearing in the program per the survey of members on items. Dr. Knapp moved and Buddy Vaughan seconded to accept the report. Report accepted.

The Latin American Seed Analyst Report was given by Ellen Chirco. Ellen read from a letter received from Charles Baskin, in which he was asked by S. American interested analysts, for AOSA to establish a membership category for them. Wayne Still moved and Buddy Vaughan seconded to

A letter was read to the board membership from Dick Lawson, Idaho Dept. of Agriculture on additional copy requests he had received to put lower germs on a report without germination being run to verify results. The seed owner had wanted to have a result to match his tag claim which was lower. No action was taken. Loren Wiesner gave the seed standardization report. The report showed two seed schools were offered plus other referee work and a garden bean sample had been mediated with the original results confirmed by six other labs. Loren moved and Buddy Vaughan seconded to accept the report. Report accepted.

Wayne Still then moved and Buddy Vaughan seconded to adjourn the meeting for lunch to reconvene at 1:15 PM. Motion passed. Meeting adjourned at 11:57 AM.

The meeting was called to order by Allen Knapp, President presiding at 1:25 PM. The board was addressed by Dr. Jim Elgin of USDA. Dr. Elgin gave the background of the OECD from its implementation under the Marshall Plan and the involvement of the seed certification group up to 1984 when 30 million lbs of seed were exported versus 1988 when 130 million lbs of seed were exported. He stated that in 1984 the EEC (European Economic Community) members had begun to express concerns on the AOSA and ISTA sampling, testing, and procedural differences. In developing his speech background, Dr. Elgin supplied the following documents to the board for review. They were:

1. A 12 member nation map of the EEC showing locations
2. A document date 6/27/85 that led to EEC recognizing ISTA tests and sampling procedures for incoming seeds. In the document EEC gave 2 years to implement tests and uses of ISTA orange certificates.
3. A page addressed to AOSA asking them to implement procedures to show ISTA tests to EEC member buyers.
4. A 12/85 telegram asking for a meeting to judge progress on the implementation of said procedures.
5. A record of the 2/27/86 meeting held in USDA offices where AOSA was not in attendance and the statements made at that meeting.
6. A summary of the points made at the meeting which were the following:
  - a. EEC wanted United States to lay out an ISTA test adoption plan.
  - b. EEC wanted United States to use ISTA green and/or orange certificates.
7. A 1/87 document listing the goals above (6) and a 2/18/87 letter that listed progress made to date to meet the ISTA requirements. (The document stated that United States would issue a packet of tests run plus a document stating test methodology and source. A list of recognized labs able to do EECs testing was also included.)
8. A report by Doug Ashton that sought to clarify AOSA/ISTA testing, evaluation, and procedural differences for the EEC, AOSA, and ISTA.
9. Documents showing additional concerns by EEC after review and a ARS response on the terms of reconciliation, plus staff and lab requirements of AOSA/SCST by-laws that qualified personnel to do the work

10. A record of a 5/13/87 meeting and materials that showed the lab and staff requirements being distributed to concerned parties.
11. A 5/19/87 promemoranda communication from ARS to the EEC on the deadline and a request to seek progress by a joint review of concerns.
12. A notice that the EEC on October 1, 1987 had granted an extension to sell under AOSA rules to EEC up to 7/1/88.

As of April 1988, the ARS and EEC had met again on March 1, 1988 to consider AOSA test acceptable up to June 30, 1990. Dr. Elgin then closed by stating that he felt four items needed rectified by 1990. Those items were: 1. Sampling and the related topic of number of seeds tested. 2. Procedural differences for purity and germination. 3. That he approach ISTA to form a joint investigative group of differences. 4. That a review of hand procedures versus AOSA blowing procedures for *Poa trivialis* be looked into as well.

Discussion of Dr. Elgin's presentation was made on the possibility that EEC would want United States to certify as ISTA members and at a future time issue ISTA orange certificates if the issues were not as great as stated and that by researching and/or compromise it could be shown that AOSA and ISTA testing, sampling, and methodology are comparable. Dr. Elgin asked for the AOSA to issue a statement of intent to be used by him to present to the EEC that AOSA will cooperate to assess perceived differences. A change was also discussed in ISTA lot size changes of overseas shipmen ts prior to Dr. Elgin leaving.

Wayne Still moved and Buddy Vaughan seconded that AOSA's President Knapp respond to Jim Elgin's concerns favorably in a letter to reconcile differences with AOSA and ISTA cooperation. Motion passed.

The meeting then recessed for a fifteen minute break to reconvene again.

The CAST report was given by Dr. Dennis TeKrony. Dr. TeKrony emphasized three points he had been made aware of in his first term with CAST. They were that 1. Our dues of \$264 did not meet his estimated travel expenses of \$450 for the CAST board meeting he attended. 2. That CAST has a varied membership from which AOSA benefits by as an association and has expertise available to it. 3. That AOSA should consider nominating a member of the association for the C. A. Black award given out by CAST. Randy Kocurek moved and Gurnia Moore seconded to accept the report. Report accepted.

Dr. TeKrony gave the board a copy of the vigor committee's agenda and items they would cover on seed vigor labelling in NY. No actions or recommendations were made by the board. A copy of a letter request by Dr. TeKrony to Dr. Knapp on designating Wednesday of each annual meeting session as research day for paper presentations by graduate students was also circulated. Wayne Still moved and Loren Wiesner seconded that beginning in 1989 the AOSA program agenda be set such as to allocate a day for seed research presentations and that such policy be continued annually thereafter. Motion passed.

The referee report was given by Wayne Guerke for each of the six AOSA regions and projects they had run in this fiscal year. Wayne Still moved and Buddy Vaughan seconded to accept the report. Report accepted. A wildflower uses survey was then presented by Dr. Guerke at the request of President Knapp. Concern on standard wildflower procedures has been expressed to the President. It was found in the survey that some states are requiring wildflower labelling and that industry is producing these seeds and routinely running tests. The labs surveyed wanted standard tests and currently use AOSA and ISTA tests on 67% of the species the survey showed as routinely produced. Gurnia Moore moved and Wayne Still seconded to accept the survey. Motion passed.

The Rules Report was given by Stephen Hurst. Thirty eight rules proposals were to be voted on in the general session. Randy Kocurek moved and Loren Wiesner seconded to accept the report. Report accepted.

The Seedling Evaluation report was given by Doug Ashton on new additional interest for studying AOSA/ISTA difference, to establish various procedures, and to rectify some differences. Jim Lair moved and Gurnia Moore seconded to accept the report. Report accepted.

The Standardization Research Funding Report was given by Dr. Knapp. A survey was given out for review. 32% of labs surveyed had responded from AOSA and SCST membership. 3 priorities for research goals were established by the survey information. Loren Wiesner moved and Buddy Vaughan seconded that AOSA would move/establish the seed testing standardization research committee as a sub-committee under the AOSA research committee. Motion passed.

The editorial committee report was read by Loren Wiesner. Loren started with a request that a letter of thanks be sent to Robert Yaklich and his superiors thanking them for Bob's time and efforts in doing the job of journal editor for AOSA. Loren informed the board that Journal issue #1 of volume 12 and the rules inserts materials had all been received at his office. Loren also reported on advertising and per page fees that had been discussed in committee. Loren Wiesner moved and Wayne Still seconded to accept the report. Report accepted.

Discussion was made to alternate methods the printers contacted in Montana had available for printing, their costs, and a presentation made by Loren of per page charges assessed by other societies and associations.

The board interrupted discussion for dinner and adjourned at 6 PM to reconvene at 9 PM. The board reconvened at 9:10 PM and discussion was resumed.

Discussion on AOSA establishing journal page charges was continued. Concerns on what to charge AOSA member labs, or graduate students was discussed. It was also brought up on whether or not AOSA minutes and meeting reports should continue to go in the journal.

Buddy Vaughan moved and Jim Lair seconded to authorize the editorial committee to establish a per page charge with notice of charges to go out in volume 12 @2 of the journal for charges to commence with the publication of Volume 13 @1. Motion passed.

Loren Wiesner moved and Gurnie Moore seconded that the Journal Annual Subscription fee be increased to a charge of \$25.00 per year. Motion passed.

Still moved and Randy Kocurek seconded that the AOSA supply CABS, an indexing firm, with a complimentary journal subscription. Motion passed.

Loren read the board the Science Education Editor's report. Ellen Chirco stated that the SCST board had voted to supply \$200 for printing costs of the bulletin on its completion for printing. Buddy Vaughan moved and Dave Svik seconded to have AOSA fund the remaining costs incurred in printing 2000 copies of the bulletin. Motion passed.

Larry Nees gave the meeting place report. A site for 1990 had been selected at Annapolis, Maryland to be hosted by the Maryland Dept. of Agriculture. Larry also reported on the difficulties he had in securing an invitation. Wayne Still moved and Randy Kocurek seconded to accept the report. Report accepted.

Loren Wiesner moved and Wayne Still seconded that the AOSA in conjunction with SCST develop an alternative for hosting meetings should no site invitations be received. Motion passed.

The Secretary report was presented by Jim Lair. In 1988 the association had been able to maintain membership for both full and associate status with some gains in paid subscribers. It was announced that the rules would need reprinted in 1989 and alternatives for funding should be investigated. Other items were left for the treasurer's report. Wayne Still moved and Gurnie Moore seconded to accept the report. Report accepted.

The Treasurer's report was presented by Jim Lair. Items covered included the current status of checking and savings accounts of the association including the research fund. Explanations of the accounts receivable was also made. Jim Lair moved and Dave Svik seconded to accept the report. Report accepted.

No other business was brought before the board meeting. Gurnie Moore moved and Dave Svik seconded to adjourn the 6/11/88 board meeting. Motion passed and board adjourned at 10:50 PM, 6/11/88.

**6/14/88**

**ATTENDING:**

James N. Lair (*)	Randy Kocurek (*)	Ellen M. Chirco (*)
Wayne Still (*)	Buddy Vaughan (*)	Gurnie Moore (*)
Loren Wiesner (*)	Ed Hardin	Doug Ashton (*)
A. D. Knapp (*)	Steve McGuire	Michael Davy

\* indicates board member

The board meeting was called to order at 7:23 PM, Dr. Allen Knapp-President, presiding. The agenda for the evening was read and it was determined that a quorum of the board was present to conduct business. The agenda was read by Dr. Knapp.

Ed Hardin read the liaison report on efforts to get AOSA representatives to NASDA, AOSCA, and ASTA's annual meetings since he felt board representation was needed. AOSA president, Dr. Allen Knapp, was able to attend all meetings for the association with the exception of the AOSCA mid-winter sessin which Dr. Loren Wiesner attended. Items of interest discussed at the various meetings had included the AOSA certificate and discussion regarding AOSCA & Latin American membership in AOSA. Our liaison representative, Dr. Knapp, presented greetings to AOSCA, AASCO, and ASTA. Other topics for the next fiscal year that the AOSA liaison might be involved with were also reported on. Ed Hardin announced that there would be a new liaison chairman for FY89. Loren Wiesner moved and Randy Kocurek seconded that the Liaison committee report be accepted. Report accepted.

No report or communication was received from the nomenclature committee chairman by any board members. As such no action or report to the board could be made.

Buddy Vaughan presented the modifications to the budget committee report as a result of board actions taken Saturday and committee information received in Rochester, New York. Buddy Vaughan moved and Gurnia Moore seconded that the budget report be accepted. Report accepted.

Randy Kocurek read the audit committee report in which the secretary treasurer's books had been audited and found to be in order. Randy Kocurek moved and Wayne Still seconded that the report be accepted. Report accepted.

Wayne Still presented the resolutions committee report. He stated that at least one resolution would be made at this meeting. Wayne Still moved and Randy Kocurek seconded that the resolution committee report be accepted. Report accepted.

Jim Lair read the June 11, 1988, record of board minutes as taken that day. Discussion on the minutes was made and some corrections made. Jim Lair moved and Doug Ashton seconded that 6/11/88 board minutes as read and corrected 6/14/88 be accepted. 6/11/88 minutes accepted.

Doug Ashton presented the publication schedule his committee envisioned for completing seedling evaluations in order to facilitate a committee review, distribution to the membership for review, printing for a rules change in 89, and final printing of the evaluations as revised seedling evaluation handbook (i.e. appendix 1 of the rules.) Final distribution of the changes as appendix 1 would occur by 1990 if the schedule was met and all evaluations voted in as rules. Wayne Still moved and Loren Wiesner seconded that the board approve the publication schedule for the seedling evaluation handbook (i.e. appendix 1) and that the publication schedule be presented at the open rules committee meeting to be held in Rochester, New York. Motion passed.

Jim Lair presented information he and AOSA President Knapp had received from Jim Bruce on a misunderstanding of AOSA billings with regard to Mr. Bruce's associate membership status. Wayne Still moved and Loren Wiesner seconded that due to extenuating circumstances, the AOSA continue associate membership of Jim Bruce contingent on receipt within sixty days of all dues currently in arrears.

Dr. Allen Knapp continued with the presentation of the STSRFC committee report and the incorporation of modifications suggested by the committee and the AOSA board at the Rochester, New York, meetings session that Dr. Knapp held. Allen Knapp moved and Wayne Still seconded to accept the report. Report accepted. Discussion was made on continuing the committee activities in the next fiscal year.

Dr. Knapp read a memo regarding suggested guidelines for AOSA workshops held and how they could be incorporated into future workshop formats to standardize the presentations. Wayne Still moved and Loren Wiesner seconded that the teaching and training committee develop guidelines for use in AOSA sanctioned workshops. Motion passed.

Dr. Knapp read a draft of his letter to Jim Elgin regarding interaction with ISTA. President Knapp was instructed by the board to send his communication to Dr. Elgin.

Loren Wiesner read recommended page charges his committee had agreed to and set in meeting at Rochester, New York. No action was required per a review of the June 11, 1988 board minutes.

Loren Wiesner read a report from the cultivar purity sub-committee on their recommended charge for the cultivar purity progress report. Jim Lair moved and Gurnia Moore secnded thbat the remaining progress reports be offered for sale at the regular \$7 newsletter issue charge. Motion passed.

Loren Wiesner gave a progress summary on activities and the meetings held in Rochester, New York, by the AOSA seed analysis report committee. Loren Wiesner moved and Randy Kocurek seconded that the executive board supports the work of the seed analysis certificate sub-committee to develop a standardized report of seed sample analysis and that the sub-comittee work with appropriate associations regarding the use of the standardized form. Motion passed.

Wayne Still moved and Buddy Vaughan seconded that the necrology report as given June 11, 1988 be rescinded. Motion accepted.

Buddy Vaughan read the necrology report in which it was noted that Ellen Emack had passed away. Buddy Vaughan moved and Wayne Still seconded that the necrology report be accepted. Report accepted.

Wayne Still presented information from the discussion held 1 PM Monday in the seed analysts certification committee session in Rochester, New York, with the SCST on reciprocity. The committee recommended to the board that in the future all candidates for AOSA certification be required to pass the appropriate certification examinations. Gurnia Moore moved and Buddy Vaughan seconded that the board support the seed analysts certification committee recommendation. Motion passed.

No other business was brought before the board.

Jim Lair moved and Doug Ashton seconded that the meeting be adjourned. Motion passed. Meeting adjourned at 11:24 PM Tuesday evening.

**ASSOCIATION MEETING**

Minutes June 16, 1988

The 78th annual meeting of AOSA was called to order at the Stouffer's Rochester Plaza hotel Rochester, NY at 1:00 PM 6/16/88 with Dr. Allen Knapp-President, presiding.

Jim Lair, Secretary, read the roll call of AOSA member laboratories. Of 58 full member labs, 37 were in attendance at Rochester, NY. Secretary Lair stated that over 40% of member labs were present for a quorum and business proceeded. Mr. David Svik was appointed parliamentarian for the general session.

Vice President Buddy Vaughan read the executive session board minutes for board meetings held in Rochester, NY on 6/11/88 and 6/14/88. Buddy Vaughan moved and Charles Baskin seconded that the minutes as read be accepted. Reports accepted.

Buddy Vaughan moved and T. Wayne Still seconded to adopt the recommendation for an increase in the annual journal subscription from \$18 annually to \$25 annually. Motion adopted.

Jim Lair read the secretary's report in which the association activities for the secretary's office were outlined and the expected mailings for newsletters and journals for 1988-89 were stated. Jim Lair moved and Charles Baskin seconded to accept the secretary's report. Report accepted.

Jim Lair read the treasurer's report for the AOSA. The report outlined the monies in each account and the money accumulated to date for the research fund and Illinois meeting. Jim Lair moved and Randy Kocurek seconded to accept the treasurer's report. Report accepted.

Loren Wiesner read the Editorial report in which he noted that Volume 12 '91 of the Journal of Seed Technology was in the final print form for review and would be printed shortly. Loren Wiesner moved and Sandy Ednie seconded to accept the Editorial Report. Report accepted.

Loren Wiesner moved and Tim Gutormson seconded to adopt per page charges for Journal articles at the rates of \$20 per page for the first ten (10) pages and \$50 per page for remaining pages of Journal articles submitted for printing. Motion adopted.

Charles Abbott gave the Legislative report in which he summarized law changes made in state laws the past year. Mr. Abbott also mentioned his discussions with the SCST about AOSA and SCST receiving the same report of law changes to eliminate duplication. Charles Abbott moved and Jim Warren seconded to accept the Legislative report. Report accepted.

The Liaison report was given by Ed Hardin on Liaison representatives and President Knapp's activities for the association in the previous year. Ed Hardin also mentioned the importance of the AOSA Liaison representing AOSA's position to other groups and associations. Topics of memberships and other items of interest that came up at other association meetings were mentioned. Ed Hardin moved and Sandy Ednie seconded to accept the Liaison Report. Report accepted.

The membership report was read by Russell Marx on two applications he had received for membership in AOSA. Russell Marx moved and T. Wayne Still seconded to accept the membership report. Report accepted.

Russell Marx moved and Charles Baskin seconded to accept Steven Volario as an associate member of AOSA. Motion accepted.

Russell Marx moved and Rodger Danielson seconded to accept George Spain as an honorary member of AOSA. Motion adopted.

The public service report was read by Jim Lair. In the report it was stated that one slide set had been distributed to an SCST lab for their use in training. Jim Lair moved and Randy Kocurek seconded to accept the Public Service Report. Report accepted.

Wayne Guerke read the Referee report in which the various regional projects for AOSA referees were summarized. Wayne also announced replacements within AOSA regions of chairman and his replacement as Mr. Steven McGuire. Wayne Guerke moved and Buddy Vaughan seconded to accept the referee report. Report accepted.

The research committee report was read by Dr. Allen Knapp. He presented the sub-committee projects and each sub-committee's FY89 objectives. A total of 13 sub-committee reports were summarized by Dr. Knapp. Buddy Vaughan moved and Randy Kocurek secnded to accept the Research Committee Report. Report accepted.

Buddy Vaughan moved and T. Wayne Still seconded that the cultivar purity progress reports be sold at a cost of \$7 per issue. Motion adopted.

Stephen Hurst read the rules committee report summarizing the 38 rules proposals to be voted on this year. Stephen Hurst seconded and Rodger Danielson seconded to accept the Rules Committee Report. Report accepted.

Rule change #1 was read by Stephen Hurst on adding Kimpak (TC) as a germination media for field and garden beans. Stephen Hurst moved and Stephen McGuire seconded to adopt Rule change #1. Motion adopted.

Rule change #2 was read by Stephen Hurst on the change in germination procedure for green needlegrass. Stephen Hurst moved and Dick Lawson seconded that Rule Change #2 as amended be adopted. Motion adopted.

Rule change #3 was read by Stephen Hurst on the addition of Louisiana Sagewort to the Rules. Stephen Hurst moved and Debby Meyer seconded to adopt Rule Change #3. Motion adopted.

Rule change #4 was read by Stephen Hurst on the addition of Black Sagebrush to the Rules. Stephen Hurst moved and Debby Meyer seconded to adopt as amended Rule Change #4. Motion adopted.

Rule change #5 was read by Stephen Hurst on the addition of Big Sagebrush to the Rules. Stephen Hurst moved and Debby Meyer seconded to adopt as amended Rule Change #5. Motion adopted.

Rule Change #6 was read by Stephen Hurst on the addition of Green Mormon tea to the Rules. Stephen Hurst moved and Bob Karrafelt seconded to adopt Rule Change #6. Motion adopted.

Rule Change #7 was read by Stephen Hurst on the revision to paragraph 5.2a of the Rules adding *Lolium spp.* as a new chaffy kind of grass. Stephen Hurst moved and S. M. Dhaliwal seconded to adopt Rule Change #7. Motion adopted.

Rule Change #8 was read by Stephen Hurst on the revision of instructions for obtaining a working sample in section 2.2 of the Rules. Stephen Hurst moved and Debby Meyer seconded the motion as amended rule change #8. Motion adopted.

Rule Change #9 was read by Stephen Hurst on the revision of multiple unit procedures in 2.12 of the rules. Stephen Hurst moved and Bob Karrafelt seconded to adopt as amended rule change #9. Motion adopted.

Rule Change #10 was read by Stephen Hurst on the change in endophyte test sect. 9.2 of the Rules. Stephen Hurst moved and Tom Umstadd seconded to adopt rule change #10. Motion adopted.

Rule Change #11 was read by Stephen Hurst on the addition of Blue Bells of Scotland to the Rules. Stephen Hurst moved and Debby Meyer seconded to adopt rule change #11. Motion adopted.

T. Wayne Still moved and Jim Warren seconded that AOSA membership accept the consideration of Rule changes 12 through Rule change 35 as a body for adoption as amended. Motion accepted.

Stephen Hurst moved and Debby Meyer seconded that Rule changes 12 through rule change 35 be adopted as a body as amended. Motion adopted.

Rule Change #36 was read by Stephen Hurst on the addition of Brassica Olearacea and Zea May to table 4 of the Rules. Stephen Hurst moved and Debby Meyer seconded to adopt Rule Change #36. Motion adopted.

Rule Change #37 was read by Stephen Hurst on the change in germination procedure for alyssum in table 4 of the Rules. Stephen Hurst moved and Tim Gutormson seconded to adopt Rule Change #37. Motion adopted.

Rule Change #38 was read by Stephen Hurst on the addition of trifolium dubium to table 4 of the Rules. Stephen Hurst moved and Debby Meyer seconded to adopt Rule Change #38. Motion adopted.

Loren Wiesner gave the Seed Standardization Committee report and it's 3 sub-committee reports of Teaching & Training, Uniformity, and Sample Mediation. Loren Wiesner moved and T. Wayne Still seconded that the Seed Standardization Committee report be accepted. Report accepted.

The Audit committee report was read by Randy Kocurek. The books of the treasurer were found to be in order. Randy Kocurek moved and Rodger Danielson seconded to accept the Audit committee report. Report accepted.

The budget committee report was read by Buddy Vaughan on the changes in the budgeting process to facilitate tracking of AOSA revenue and expenses over a three year period and itemizations by general areas for the three years and the past fiscal year. The FY89 budget was then given by line item estimates of the revenues and expenses the association would bear. Buddy Vaughan moved and Sandy Ednie seconded to accept the Budget Committee Report. Report accepted.

Buddy Vaughan moved and Sandy Ednie seconded to adopt the FY89 proposed AOSA budget. Some discussion was made on the banking fees the association budget showed. No further discussion was perceived and question was called for. Motion adopted.

Dr. Knapp read the CAST report for Dennis Tekrony, CAST representative. In the report items brought back from Dr. Tekrony's attendance at the board session of CAST were mentioned. Buddy Vaughan moved and Charles Baskin seconded to accept the CAST report. Report accepted.

T. Wayne Still gave the Certification of Analysts Committee report. He announced the addition of 2 new members on the committee membership. Wayne Still then read the statistics on exams given and announced that 56 certificates had been issued to 37 analysts. He noted that at this time 35 states now employed AOSA certified seed analysts. Wayne Still gave a summary of a meeting held with SCST on reciprocity of certificates. The committee recommended that in the future analysts test to obtain AOSA certificates. T. Wayne Still moved and Charles Baskin seconded to accept the Certification of Analysts Committee report. Report accepted.

T. Wayne Still moved and Jim Warren seconded that analysts who certify with AOSA after June 16th, 1988 shall take accreditation testing for said certification. Motion adopted.

The Constitution Committee Report was read by Dr. Knapp on the committee activities. Randy Kocurek moved and Richard Payne seconded to accept the Constitution Committee report. Report accepted.

Larry Nees gave the meeting place report. Annapolis, Maryland's invitation to hold the 1990 meeting with Maryland Dept. of Agriculture as host was given. It was also stated that no 1991 site had been selected. Larry Nees moved and Debby Meyer seconded to accept the report. Report accepted.

The Merit award report was read by Buddy Vaughan and T. Wayne Still was announced as the 1988 Merit aware recipient at the Wednesday night AOSA banquet. Buddy Vaughan moved and Charles Baskin seconded to accept the Merit Award Report. Report accepted.

The Necrology report was read by Buddy Vaughan. It was noted that Ellen F. Emack had passed away. A letter of her accomplishments with AOSA and her department was read. Buddy Vaughan moved and Sandy Ednie seconded to accept the Necrology Report. Report accepted.

The Program Report was given by David Svik on the Rochester, NY meetings and the people from the Geneva Lab and SCST who had been involved with it. David Svik moved and T. Wayne Still seconded to accept the Program Report. Report accepted.

T. Wayne Still gave the Resolution's Committee report of resolutions received for the Rochester, NY meeting. A resolution thanking the various people and groups involved with the meeting planning and activities for their work in order to make the Rochester, NY meeting a success was read. A second resolution prepared by Dr. Knapp-President, on including funding for the Federal Seed Act was read. The resolution had been sent

to various associations and heads of state government. T. Wayne Still moved and Rodger Danielson seconded to accept the Resolution Committee report. Report accepted.

T. Wayne Still moved and Charles Baskin seconded to adopt the courtesy resolution on the New York meeting. Motion adopted.

T. Wayne Still moved and Malcomb Sarna seconded to adopt the resolution calling for funding of the Federal Seed Act. Motion adopted with Federal Seed Lab Abstaining.

Dough Ashton gave the Seedling Evaluation Committee report and an outline of their activities for the next year. Dough Ashton moved and Bob Karrafelt seconded to accept the seedling evaluation committee report. Report accepted.

The symposium report was read by Dr. Knapp on the symposium topics presented at the Rochester, NY meetings. Randy Kocurek moved and Debby Meyer seconded to accept the Symposium report. Report accepted.

The STSRFC report was read by Dr. Knapp on the symposium topics presented at the Rochester, NY meetings. Randy Kocurek moved and Debby Meyer seconded to accept the Symposium report. Report accepted.

The Latin American Seed Analyst's Report was given by Ellen Chirco from a letter she received from Charles Baskin who had attended the S. American Seed Analyst sessions. Ellen Chirco moved and Charles Baskin seconded to accept the Latin American Seed Analyst's Report. Report accepted.

Dr. Knapp made a call for any old business to be brought before the association. No old business was brought forth.

The Nominations report was read by Dr. Knapp for Terry Turner on the candidates that had been selected and voted on by membership for offices of Vice-President, Secretary-Treasurer, and board membership. Randy Kocurek moved and T. Wayne Still seconded to accept the Nominations Committee Report. Report accepted.

The officers for installation were announced as Buddy Vaughan-President, Charles Baskin-Vice President, and Jim Lair, Secretary-Treasurer. New board officers were installed in President and Vice President by passing of the gavels.

President Buddy Vaughan announced his appointments for the committee chairmen of standing committees. A call was made for additional announcements or comments.

No announcements were made. The New York Experiment Station and New York SCST lab staffs received a thank-you from President Vaughan on behalf of AOSA for their hospitality. An invitation was also issued by Doug Ashton to the President of AOSA to attend the Annual ISTA meetings in 1989. Vice President Baskin also spoke briefly on his attendance at the Latin American Seed Conferences and their desires. Mr. David Svik requested that the minutes show that he was requesting the board to consider investigation into the possibility of a 2 year term for the President's office in AOSA. Mr. Dick Lawson gave changes to Idaho's state seed law that had not been part of the Legislative Report since they were recently made.

T. Wayne Still moved and Stephen McGuire seconded that the 1988 general session of AOSA at the Rochester Plaza Hotel in Rochester, NY be adjourned. Motion accepted.

Meeting adjourned at the Stouffer's Rochester Plaza Hotel, Rochester, NY on 6/16/88 at 4:06 PM.

### MEMBERS IN ATTENDANCE

Rochester, New York

GENERAL SESSION

6/16/88

Wyoming State Seed Laboratory, . . . . .	Laramie, WY
Wisconsin State Seed Laboratory, . . . . .	Madison, WI
Virginia State Seed Laboratory, . . . . .	Richmond, VA
Utah Department of Agriculture State Seed Laboratory, Salt Lake City, UT	
Texas State Seed Laboratory, . . . . .	Giddings, Texas
Tennessee Department of Agriculture Seed Laboratory	
S. Dakota State University Seed Laboratory, . . . . .	Brookings, SD
Pennsylvania State Seed Laboratory, . . . . .	Harrisburg, PA
Oregon State University Seed Laboratory, . . . . .	Corvalis, OR
Oklahoma Department of Agriculture	
State Seed Laboratory, . . . . .	Oklahoma City, OK
Ohio Department of Agriculture State Seed Laboratory,	
North Dakota Department of Agriculture Seed Laboratory, . . . . .	Fargo, ND
N. Carolina Department of Agriculture Seed Laboratory, . . . . .	Raleigh, NC
New York Ag Experiment Station Laboratory, . . . . .	Geneva, NY
New Jersey Department of Agriculture Seed Laboratory, . . . . .	Trenton, NJ
Nebraska State Seed Laboratory -	
Nebraska Dept. of Agriculture, . . . . .	Lincoln, NE
Montana State University Seed Laboratory, . . . . .	Bozeman, MT
Mississippi State Seed Technology Laboratory, . . . . .	Mississippi State, MS
Minnesota State Department of Agriculture Seed Laboratory, St. Paul, MN	
Michigan State Department of Agriculture Seed Laboratory, E. Lansing, MI	
Maryland Department of Agriculture Seed Laboratory, . . . . .	Annapolis, MD
Missouri Department of Agriculture Seed Laboratory, Jefferson City, MO	
Mississippi Department of Agriculture Seed Laboratory, Mississippi State, MS	
Iowa State University Seed Science Center Laboratory, . . . . .	Ames, IA
Indiana Department of Agriculture Seed Laboratory, . . . . .	W. Lafayette, IN
Idaho Department of Agriculture Seed Laboratory, . . . . .	Boise, ID
Kentucky Department of Agriculture State Seed Laboratory	
Illinois State Department of Agriculture Seed Laboratory, Springfield, IL	
Hawaii Department of Agriculture State Seed Laboratory	
Georgia Department of Agriculture Seed Laboratory, . . . . .	Atlanta, GA
Florida Department of Agriculture Seed Laboratory, . . . . .	Tallahassee, FL
California Department of Agriculture Seed Laboratory, Sacramento, CA	
Arkansas State Plant Board Seed Laboratory	
S. Carolina Department of Agriculture Seed Laboratory	
USDA National Tree Seed Laboratory, . . . . .	Dry Branch, GA
USDA Federal Seed Laboratory - L&S Division, . . . . .	Beltsville, MD
Canada Seed Biology Laboratory - Ottawa, . . . . .	Ontario, Canada

## SECRETARY REPORT

JUNE 1988

The secretary office operated another year at Springfield, IL following the 1987 AOSA California Meeting. In Fiscal 88, the functions of the office were relatively normal. There were no changes in dues structures, subscription fees, or other charges made by AOSA. New AOSA honorary and associate members were accepted, and AOSA letters of appreciation were sent to the California Dept. of Agriculture staff and SCST after the meeting. My thanks to my own lab staff for their work and cooperation allowing me the time to keep up with the association activities.

Correspondence consisted of membership inquiries in the AOSA and requests for information on the booklets and/or seed pamphlets the AOSA has regarding testing. Inquiries for membership were forwarded to Russ Marx, membership chairman, while inquiries on booklets or pamphlets available were filled as orders or by sending the price list back. File change information held on computer, such as updates or name changes, was made on receipt. The computer breakdown for types of membership in AOSA, numbers of mailings made, and other data pertaining to AOSA customer listings was pulled off in summary format on FY 88 for a review by the Audit committee. The breakdown of that information follows:

YEAR COVERED IN REPORT	GROUP & AFFILIATION CONTACTED BY AOSA	NEWSLTRS MAILED	JOURNALS MAILED
1987-(88)	ISTA & Complimentary	128(126)	128(126)
1987-(88)	Paid Subscribers	119(121)	191(191)
1987-(88)	AOSA Full Membership	58(58)	58(58)
1987-(88)	AOSA Assoc. Membership	35(34)	35(34)
1987-(88)	AOSA Honorary Members	47(48)	
1987-(88)	SCST (\$20/mbr/yr fee)	182(176)	
Newsltrs/Journal 1987-(1988)		569(563)	412(409)

The mailing data shown above is the number of copies by group per issue that were mailed in 1987 versus same group mailings per issue that will be distributed in (1988). The numbers show where subscriptions made very slight gains while AOSA as a group remains stagnant for new members in the associations.

Other information of importance to the association and SCST regards the Rules for Testing. By prior practice, an update to the Rules has consisted of all previous changes to insure purchased inserts resulted in a complete Rules book. Due to cost, the 87 updates were printed without the 82-86 changes. With a new journal editor starting, this policy should be reviewed to see if another method or cheaper alternative exists. Also both associations should be aware that a one year's supply of 1981 Rules and the Rule updates for 82-87 is all that remains in Springfield, IL for distribution. This supply limit will necessitate completion of some board actions and direction to specific committee heads plus the treasurer prior to their exhaustion. Actions to do are the following:

1. The Seedling Evaluation Handbook *must be completed* and printed prior to, or in conjunction with, the reprinting of the 1989 Rules for Testing

Seeds. Failure to do so will mean that evaluation guides are removed from the Rules at the time of reprinting with no substitute made available via the new handbook. To get funding for both printings was part of 87 Secretary Report. No AOSA board action or directive was given to establish a set-aside fund. There is money in savings but the board must decide if the money will be enough to cover print costs.

2. Adopting the budget report prepared as a reference for the incoming Vice-President(s) to use as a guide for a fiscal budget. High priority is given to all committee or office heads having budgets available to justify any request for money and adhering to a May 1 deadline for submission of requests to be honored in the fiscal year. Without such constraints, balancing a budget in FY 89 while paying for the Rules reprinting is a big problem.
3. A continued monitor on other costs of AOSA publications related to printing cost and complimentary distribution policies for journals and newsletters. If printing cost continues to escalate, it is possible we could see the cost of exchange agreements for complimentary issues be of no real benefit to the financial position of AOSA. This is the same action recommended in Secretary report 87. Board action of approaching ISTA was made with a decision to continue distribution due to constitutional constraints not allowing us to cancel last year.

The policy of prepayment for overseas shipments was adhered to during 1987-88. Even so, the 1988 balance of Accounts Receivable will end at \$2785.70. As the 88 Treasurer Report shows, we are also getting order cancellations during a year. In comparison, Accounts Receivable in 87 was \$2693.32 with no cancellations. As of this date, all nonpaid accounts or non-renewals were already informed by mail that they owe AOSA and are over 90 days past due. It continues to be a board policy that after a 90 day notice, such accounts are cancelled. That is the action I will take following a review of the treasurer by the audit committee at the New York meeting this June.

James N. Lair, Secretary Treasurer

**TREASURER'S REPORT**  
**INCOME STATEMENT**  
**ACCOUNTING PERIOD 06-01-87 TO 06-01-88**

**INCOME**

AOSA CDE	DESCRIPTION	DEBIT	CREDIT
010	STARTING ACT BALANCES AS OF 6/1/87		13294.10
020	CANCELLED SALES/ACT ORDERS FOR FY88	488.53	
100	AOSA DIRECTORY ISSUE SALES		12.00
101	BLOWING PROCEDURE SALES, HDBK #24		63.00
102	BROWSE/FORBES/SHRUB HANDBOOK SALES		30.00
103	CALIBRATION SAMPLE SALES - BLUEGRASS		200.00
104	CALIBRATION SAMPLE SALES - ORCHARDGRS		180.00
105	CLASSIFICATION HANDBOOK SALES		40.00
106	JOURNAL SUBSCRIPTION - ANNUAL SALES		4356.00
107	JOURNAL VOL./ISSUES SALES		86.00
109	NEWSLETTER SUBSCRIPTION - ANNUAL SALES		2920.00
110	NEWSLETTER VOL./ISSUE SALES		236.00
111	RADIOGRAPHIC TREE SD HANDBOOK SALES		45.00
112	RHIZOBIA GROWTH TEST BULLETIN SALES		5.00
113	RULES FOR TESTING - (binders) SALES		185.50
114	RULES FOR TESTING - (inserts) SALES		1525.00
115	RULES FOR TESTING - (81 body) SALES		2100.00
117	STANDARDIZED WHEAT PHENOL TEST BULLETIN		7.00
118	TETRAZOLIUM TEST HDBK #29 SALES		678.00
119	VIGOR TEST HANDBOOK SALES		1320.00
120	miscellaneous SALES INCOME		29.05
121	DUES - AOSA ASSOCIATE MEMBERSHIP		1505.00
122	DUES - AOSA FULL MEMBERSHIP		9450.00
123	DUES - SCST ANNUAL AFFILIATION		3720.00
126	VIGOR TEST - (88 inserts) SALES		175.00
202	FY 88 INTEREST INCOME		704.46
204	CALIFORNIA MTG ADVANCE/PROFITS RETURN		4410.96
400	PREVIOUS FISCAL YEAR INCOME REC'D FY88		2695.50
		488.53	49972.57
	<b>TOTAL INCOME</b>		<b>49484.04</b>

**EXPENSES**

AOSA CDE	DESCRIPTION	DEBIT	CREDIT
300	BANK HANDLING CHARGES	45.44	
301	COMPUTER TIME CHARGES	987.00	
304	JOURNAL EXPENSE - PRINTING	5531.44	
305	NEWSLETTER EXPENSE - EDITOR CHARGES	143.74	
306	NEWSLETTER EXPENSE - POSTAGE	428.04	
307	NEWSLETTER EXPENSE - PRINTING	5504.80	
310	PRINTING EXPENSE - PUBLICATIONS	3944.79	
308	SEC./TREAS PAPER/SUPPLIES EXPENSE	321.60	
309	SEC./TREAS POSTAGE EXPENSE	672.24	

311	SEC./TREAS SECRETARIAL SV EXPENSE	63.30
312	TAXES - PREPARATION EXPENSE	125.00
313	TAXES - DONATIONS BY GROUP	264.00
314	TAXES - AOSA TRAVEL EXPENSE FOR TRIPS	1614.24
315	miscellaneous EXPENSES	337.01
316	AOSA ANNUAL MEETING SET-UP ADVANCE	2000.00
003	AOSA FY87 RESEARCH FUND DONATION	1500.00
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	TOTAL EXPENSES	23482.64
		23971.17
	TOTAL CASH FLOW	49972.57
		26001.40

**BALANCE SHEET**  
ACCOUNTING PERIOD 06-01-87 TO 06-01-88

**ASSETS**

AOSA CDE	DESCRIPTIONS	DEBIT	CREDIT
200	LAND OF LINCOLN (RESEARCH CD)	7500.00	
201	LAND OF LINCOLN (CHECKING 111-813)	4473.82	
202	LAND OF LINCOLN (SAVINGS 12001716)	18741.88	
207	L&L-1989 IL MTG (SAVINGS 12001856)	2475.00	
210	ACCOUNTS RECEIVABLE FOR AOSA, INC.	2785.70	
<hr/>			
	CASH ASSETS	35976.40	
	ASSETS	35976.40	

**LIABILITIES**

LIABILITIES	0.00
RETAINED EARNINGS	35976.40

J. Lair, Secretary-Treasurer

## REPORTS OF STANDING COMMITTEES AND SUBCOMMITTEES

### EDITORIAL COMMITTEE

#### Journal of Seed Technology - Editor Loren Wiesner

I assumed the editorship of this Journal last January and have tried to continue the excellent work being done by Dr. Yaklich. On behalf of the Association I would like to thank Dr. Yaklich for the outstanding work he has done as Editor. I now realize just what he has done over the past several years. I would request that AOSA send Dr. Yaklich a special letter of thanks for the time and efforts he has contributed to AOSA. A copy of this letter should be sent to his supervisor.

Since becoming Editor I have tried to set up an organization which will facilitate a quick and thorough review of papers and have them published twice a year. The time schedule I will try to meet is publishing the first number of a volume in June and the second number in December. I plan to set up several associate editors to help with the paper review.

To date, we have reprinted the "Rules" inserts and Vol. 12(1) is in the final stages of printing. Vol. 12(1) contains ten papers. A subcommittee consisting of Don Grabe and Dennis Tekrony have studied the possibility of establishing Journal page charges and advertising. At the request of the Executive Board, the Editorial Committee recommends the following page charges: \$20 for first ten pages and \$50 for each additional page. The committee will continue to study the possibility of selling advertising space in the Journal.

#### Science Education - Editor Arnold Larsen

A brochure entitled "Career Opportunities in Seed Analysis" has been developed and approved for printing. AOSA and SCST are both supporting the printing of 2000 copies.

#### Newsletter - Editor Larry Prentice

Volume 61(3) and Volume 62(1,2,3) of the Newsletter have been published. Volume 62(3) was the Progress report of the Cultivar Purity Testing Handbook. The editor also printed the inserts for the Vigor Handbook.

Plans are being made for printing a revised AOSA directory.

L. Wiesner, Chairperson

### LEGISLATIVE COMMITTEE

As in previous reports of this Committee, we have tended to ignore changes not of primary interest to the analyst. However, to alert others who may read this report, fee changes, arbitration provisions, etc. are briefly mentioned.

The changes reported to this Committee are as follows:

<i>State</i>	<i>Effective date</i>	
California	Proposed*	1. Change in treated seed labeling to require the same information on the seed treatment label as on the chemical label.

<i>State</i>	<i>Effective date</i>	
Colorado	Proposed*	1. Change in the definition of "official sample" and additions to the noxious weed list.
Florida	Now*	1. Changed name of arbitration council to "Seed Investigation and Conciliation Council." 2. Requires labeling to notify buyer of requirements for filing a complaint.
Hawaii	Proposed*	1. Revision of noxious weed list and germination standards.
Idaho	7/1/87	1. Germination labeling period extended to 15 months. 2. Rye seed prohibited in other grains. 3. Tree and shrub seed must be labeled: a. Common and scientific name. b. Lot identification c. Origin, if known or "origin unknown." (1) Location of indigenous stand or, (2) "Origin not indigenous." d. Elevation and locality. e. Percent pure seed by weight. f. Germination and test date. g. Name and address of seller. 4. Five range species may be labeled with the TZ test result in lieu of germination stating, "Viability by TZ%." The species are: Bitterbush, Saltbush, Sagebrush, Indian Ricegrass and Winterfat.
Illinois	1/1/88	1. Added definitions of AOSA, brand, certified seed, conditioning, false and misleading advertisement, handling seed, mixture or blend, and packet seed. 2. Added labeling requirements for coated seeds. 3. Added "dormant seed" to germination labeling requirements. 4. Added labeling for vegetable seed n packets for home use and in preplanted containers. 5. Requires lot identification of packet vegetable seeds. 6. Extends germination labeling period from 9 to 12 months. 7. Brand names must be identified by the word "Brand." 8. Restricted noxious weeds must be listed on a per-pound basis.

<i>State</i>	<i>Effective date</i>	
Illinois	Proposed	Regulations probably effective 7/1/88.
		<ol style="list-style-type: none"> <li>1. Establishes a list of 6 native grasses:           <ol style="list-style-type: none"> <li>a. Big Bluestem</li> <li>b. Indian grass</li> <li>c. Switch grass</li> <li>d. Little bluestem</li> <li>e. Side-oats grama</li> <li>f. Nodding wild rye</li> </ol> </li> <li>2. Defines "uncleaned" seed.</li> <li>3. Changes some fees and sample sizes.</li> </ol>
Louisiana	Proposed*	Change in fees and fee structure.
Maryland	4/20/87	The changes reported a year ago are incorporated in the newly rewritten seed regulations.
	7/27/87	Regulations further amended to permit labeling of pelleted vegetable and flower seed on a seed-count basis, when in containers weighing less than a pound, instead of by percent pure seed and inert matter.
Michigan	Proposed	Effective in June if passed by the legislature: <ol style="list-style-type: none"> <li>1. Definitions added to and reworded.</li> <li>2. Complete labeling to be required on bulk containers from which seed is sold.</li> <li>3. Will require labeling as to kind and variety or kind and "variety not stated."</li> <li>4. Will delete "fine" and "coarse textured" headings on grass seed mixture labels.</li> <li>5. Will provide for labeling germination plus either hard seed or dormant seed percentage.</li> <li>6. Will modify and expand tree seed labeling.</li> <li>7. All treated seed must be colored.</li> <li>8. Will include Federal "Title V" provisions.</li> </ol>
Mississippi	Proposed*	To establish a seed arbitration council.
Montana	2/11/88	<ol style="list-style-type: none"> <li>1. Both law and regulations rewritten mainly to improve the wording.</li> <li>2. Halogeton, Medusa-head Wild Rye and Creeping</li> <li>3. The following are deleted from the Restricted Noxious Weed list: Blue Lettuce, Oxeye Daisy, Hoary Alyssum, Buckhorn Plantain, Chickweed(spp.)</li> </ol>

State	Effective date	List of changes
Montana		<p>4. The following weeds have been added to the Restricted list: Dyers Woad, Common crupina, Tansy Ragwort, Jointed Goatgrass, Persian Darnel, Diffused Knapweed, Yellow Starthistle, Rush Skeletonweed.</p> <p>5. The maximum number of Restricted Noxious Weeds allowed per pound have been changed as follows:</p> <ul style="list-style-type: none"> <li>a. Spotted Knapweed from 18 to 0.</li> <li>b. Wild Oats - 45 per pound of grass or legume seeds and from 45 to 9 per pound of cereal seeds.</li> <li>c. St. Johnswort from 27 to 18.</li> <li>d. Yellow Toadflax switched from Prohibited to Noxious at 9 per pound.</li> </ul>
Nebraska	Proposed*	Study of entire law. An arbitration provision may be added.
New Jersey	Now*	Law amended to provide for labeling of "undesirable grasses" and related regulations.
N Carolina	Proposed*	<p>Law</p> <ol style="list-style-type: none"> <li>1. Labeling to be the same for "free" seed as for seed offered for sale.</li> <li>2. Hybrid labeling requirements clarified.</li> <li>3. Lawn and turf seeds separate from agricultural seeds.</li> </ol>
	Proposed*	<p>Regulations</p> <ol style="list-style-type: none"> <li>1. Extend germination labeling period from 9 to 12 months for vegetable seed in hermetically sealed containers.</li> <li>2. Common name of <i>Centaurea cyanus</i> changed from Ragged Robin to Corn Flower.</li> </ol>
S Carolina	6/30/87	Provides for establishment and conduct of an arbitration committee.
Texas	Now*	Increased service fees and label fees.
Canada	Now*	<ol style="list-style-type: none"> <li>1. Germination time period on imported seed extended from 6 to 9 months.</li> <li>2. Purity standards for herb seeds having more than 1000 seeds per gram must meet requirements of Table 12.</li> <li>3. Seeds lots of five kilograms or less of seeds the size of wheat or larger need not have an analysis certificate for importation.</li> </ol>

<i>State</i>	<i>Effective date</i>
Canada	<ol style="list-style-type: none"><li>4. Seed lots of 250 grams or less of seed smaller than wheat need not have an analysis certificate for importation.</li><li>5. No purity analysis is required for lots of large seeded crop kinds.</li></ol>

The above information was supplied by the head of the Seed Division who recommended that anyone concerned should ask for information on any given kind of seed by contacting Mr. Bill Hanson, Seed Division, Agriculture Canada, K.W. Neatby Bldg., Ottawa, Ont. K1A-0C6, Canada.

\*No date reported.

#### Changes suggested for RUSSL

1. Require labeling of "type" - medium or mammoth - of Red Clover seed.
2. Labeling of wild flower mixtures.

C. Abbot, Chairperson

#### LIAISON COMMITTEE

Our president, Dr. Allen Knapp, represented us at the annual meetings of ASTA, AOSCA, AASCO, and NASDA. Items discussed with these affiliate organizations included: actions on constitutional amendments regarding membership for Certification seed testing laboratories, efforts to develop standardized seed analysis report form, and efforts to establish a research funding mechanism.

Dr. Loren Wiesner has been AOSA's representative to AOSCA's advisory committee for several years.

Two meetings of the AOSCA advisory committee were attended, July 15, 1987 and February 26, 1988. Several items concerning seed certification were discussed. The committee authorized a small group of people to develop a proposal to address the Michigan Certification problem in some areas and this matter was brought to the attention of the committee. The AOSCA Executive board is looking into some type of membership for Latin American countries who are interested in joining AOSCA. ASTA reported on the possible effects of plant patents on variety development. They would like to change the farmers' exemption of the PVPA so more people would use it instead of plant Patents.

AOSCA has appointed a committee to study the quality assurance programs being incorporated into certification in some states. A concern of labeling seed lower than the test results was discussed. The general consensus was that this is a common practice and done in many states and that seed laboratory reports should not be changed to reflect the labeled information.

The requirement for European Economic Community equivalency (EEC) were discussed. Presently the EEC is recognizing AOSA rules. I requested that Jim Elgin come to the AOSA meeting and discuss the requirements with the Executive board.

E. Hardin, Chairperson

### MEMBERSHIP COMMITTEE

The Membership Committee report for the year 1987-1988 is as follows:

Application for associate membership-  
Stephen H. Valerio, USDA, Geneva, N.Y.

Application for honorary membership-  
George E. Spain

Supporting documents were received and the committee recommends the acceptance of these applications.

R. Marx, Chairperson

### PUBLIC SERVICE COMMITTEE

During FY88 the public service committee has been relatively quiet. This year the committee chairman received one request for slides to be sent to California for assisting in training of RST candidates.

The slide set has been sent and will be returned in a year or when they are finished with it.

J. Lair, Chairperson

### REFEREE COMMITTEE

*REGION I - NORTHWEST:* Ryegrass fluorescence. Rodger Danielson and Sharon Lusk

The Northwest Region Joint AOSA/SCST Referee was a questionnaire dealing with ryegrass fluorescence and selection of appropriate formulas. Answers to the questions will be published in the Newsletter. There was a very low response. This, combined with the answers of those responding, indicated a general lack of understanding regarding the application of formulas to fluorescence data. It is hoped that standardization on this important issue can develop. Perhaps an informational sheet can be developed and circulated by the Standardization Committee, and a "seminar" presented at the next annual meeting to reinforce information on the circular.

*REGION II - MIDWEST:* Quackgrass identification. Steven McGuire.

A referee was conducted which involved the identification of authenticated quackgrass seed and four other similar-appearing species. The objective was to determine if laboratories have difficulty distinguishing quackgrass from other *Agropyron* species. Species chosen were quackgrass (*Agropyron repens*), western wheatgrass (*A. smithii*), intermediate wheatgrass (*A. intermedium*), slender wheatgrass (*A. trachycaulum*) and Virginia wildrye (*Elymus virginicus*). Each of 50 laboratories were sent 5 numbered envelopes, each containing 4 seeds of the same species. Participants were asked to identify by both common and Latin name. Results from the 32 labs that responded revealed not only a high

level of proficiency in identifying the quackgrass, but the other species as well. Only 2 labs mis-identified the quackgrass and there was only one instance where another species was identified as quackgrass. The species that drew the most incorrect identifications were intermediate wheatgrass which was frequently called tall wheatgrass and Virginia wildrye. The accurate identifications of the quackgrass (the primary objective) were encouraging especially since the specimens used were in rather poor condition.

**REGION III - NORTHEAST:** Germination and tetrazolium (TZ) tests on wheat.  
Malcolm Sarna and Marilee Thompson.

Participating laboratories were provided two wheat samples and asked to conduct a standard germination test and tetrazolium (TZ) test. The tetrazolium results were reported as normal (strong), abnormal (weak) or dead, and according to the viability rating scale devised by Dr. R. P. Moore. The standard germination results on the first sample varied greatly (62 - 80.50% with an average of 71.68%). This is believed due to the evidence of *Fusarium* noted by several of the laboratories.

Many laboratories reported considerably higher results from the TZ test than from the standard germination test. TZ results ranged from 60 - 89% with an average of 80.24%. The second sample exhibited much closer standard germination results (88 - 93% with an average of 90.3%) and much closer agreement between the standard germination and tetrazolium results. TZ results ranged from 80 - 95% with an average of 89.09%. Ratings using Dr. Moore's system varied considerably between analysts. Some expressed a lack of experience using this system and indicated a difficulty in determining which of the eight possible categories to assign each seed.

**REGION IV - SOUTHWEST:** Germination and tetrazolium (TZ) tests on pepper. Richard Kochevar.

The Region IV referee was an extension of last year's project of pepper TZ and germination tests. The purpose of the referee was two-fold: 1) to increase precision among the labs; and 2) to compare two different TZ procedures for pepper seeds. Participants were each sent 15 gr. of pepper seed and were asked to perform two TZ tests and two germination tests. TZ Method #1 was the pierce and stain method used last year while TZ Method #2 was a cut and stain method. Four categories of data were requested: 1) % viability (TZ); 2) % germination TB or P (GB test); 3) Sum of % germination plus % abnormal plus % dormant TB or P (GAD test); and 4) % germination sand or soil. Overall precision was up this year with the percentage of labs staying within ISTA tolerances either increasing or remaining about within ISTA tolerances either increasing or remaining about the same for each procedure. TZ Method #1 displayed the same pattern that occurred last year. TZ percentage was higher than the GB and sand test percentages but agreed very closely with the GAD test percentage. This suggested that the TZ stained some seeds normal that became abnormal seedlings after emergence from the seed coats. TZ Method #2 gave less conclusive results. Its percentage fell midway between the TZ #1-GAD percentages and GB-Sand test percentages yielding two interpretations: Either TZ Method #2 displayed the same

pattern as TZ Method #1 in giving higher readings than the germ tests (GB, Sand) or TZ Method #2 approximated the germ test results better than TZ Method #1. A poll taken among the participants showed a strong preference of TZ Method #1. The data still shows that TZ percentages will generally be higher than germination percentages for pepper seed and that TZ results should be used cautiously.

*REGION V - SOUTHERN:*

1.) Cool germination test of cotton. Roger Osburn and Nancy McGhee.

Two samples of cotton were mailed to participating labs with instructions for two variations of the cool germination test. One procedure was the current AOSA method found in the Seed Vigor Testing Handbook. The other was a new method developed by Delouche, et al., of Mississippi State University. It was thought that the Delouche method would prove to be the answer to the problem of "duplicatable" cool germination of cotton testing due to the specificity of the procedures. However, the result show there is a wide variation in test results among labs utilizing either method. Several factors may have contributed to the variation in results, e.g., differences in germinators (dry vs. water curtain) or inability to maintain a constant 18 degrees C (+/- 0.5 degree). The information received from each lab was insufficient to determine whether or not these factors actually were contributors. A comparison was made between the water curtain and dry germinators with no conclusive results. Further work is needed to develop a cool germination test that each lab can duplicate and/or to identify and eliminate the problem areas in the currently used procedures in order to establish uniformity among the labs conducting cool germinations of cotton. Many thanks to Fabian Watts, RST, of Delta and Pine Land Company for providing the cotton seed, to Dr. Wayne Guerke for his advice and assistance, and to all the participating laboratories.

2.) Fescue identification. Nancy McGhee and Roger Osburn.

Each lab was sent a packet of seed which contained a blend of Kentucky 31 and Fawn tall fescue. They were instructed to conduct a purity analysis on at least five grams and then separate the varieties on a 400 seed portion of the pure fescue component. Six labs were within tolerance, two labs were within 1%, and two labs were within 2%. The results were considered satisfactory because at times there can be an overlapping population of seed that makes it difficult to distinguish between the varieties, and being a chaffy grass also makes it difficult to uniformly mix.

*CANADIAN REGION:* Identification of *Bromus* species. M. S. Dhaliwal.

Seventeen seeds representing nine *Bromus* spp. were mixed in a 2 g sample of *Bromus inermis* and sent to 31 laboratories. Participants were requested to identify and report the name and number of each of the contaminants. A chart listing comparative characteristics was provided. Fourteen of 23 participants who responded correctly identified 80% or better of the contaminants. *B. biebersteinii* was missed most often with 17 labs finding none and four additional labs finding only one of two seeds added. *B. commutatus*, *B. japonicus* and *B. mollis* were interchangeably misidentified. Some labs had difficulty in identifying *B. carinatus* and *B. sterilis*.

A summary of the activities of the AOSA Research Subcommittees allows (Chairperson in parentheses):

1. *Cultivar Purity* (Miller McDonald, Jr.)

The Progress Report on the Cultivar Purity Testing Handbook was completed and published as a special edition of the AOSA Newsletter. The Progress Report is 90 pages in length and includes an Introduction to Cultivar Purity Testing, four categories of recommended testing procedures (seed morphology, quick tests, growth chamber tests, and electrophoresis) and testing methods known to differentiate cultivars of 17 important crops as well as associated references for further information. The committees objectives for the coming year are to review and improve the Progress Report, develop new tests for new crops, and develop new tests for crops already considered.

2. *Flower Seed* (Ellen Chirco and Aleta Meyer)

The flower seed committee conducted referees in the past year. One on Petunia germination and the other on the germination of Vinca. The objectives of this committee are to continue to study the germination requirements, seedling evaluation criteria, and to develop testing rules for flower species.

3. *Moisture Content Determination* (Don Grabe)

Moisture testing methods are being developed in conjunction with the ISTA Moisture Testing Committee since the requirements are the same for both organizations. To be acceptable, oven methods must produce results in agreement with those obtained with basic reference methods. From a literature review, it was possible to tabulate even moisture testing methods for 65 species that have proven accurate by calibration with basic reference methods. The future objectives of the committee are to continue calibrating oven testing methods for various seed types against the Karl Fischer standard reference method.

4. *Rangegrass* (Tim J. Gutormson)

The committee has not been able to complete any of our objectives this past year due to the busy testing season. The committee plans to continue work on standard blowing methods for switchgrass, reed canarygrass, and Indian ricegrass. Other objectives are to evaluate the "seed shucker" as an aid for conducting chaffy grass purities, develop multiple unit factors for thickspike wheatgrass, and work on tolerances for "super chaffy" rangegrasses.

5. *Seed Vigor* (Dennis M. TeKrony)

Revisions published for accelerated aging and conductivity methods. A new section added to the handbook: Section III, Recommended Vigor Tests. The accelerated aging test for soybean was the first test placed in this section. The objectives of this committee are to continue to standardize the seed vigor tests in the AOSA Vigor Testing Handbook for use in seed laboratories and to develop and evaluate tests to measure various aspects and components of seed vigor in a wide range of crop species.

**6. Tree and Shrub Seed (Robert Karrfalt)**

Germination trials have been started on 5 species of *Abies*. Nine laboratories participated by examining 4 temperatures and three germination media. The seed was obtained by Oregon State and the NTSL. These tests are in progress and will be discussed at the Rochester Meetings. The committee has cooperated on a similar study with ISTA on *Pinus strobus*. The committee plans to continue work with species of *Abies* and evaluate the potential for rules changes. The current trials utilize seed lots from a wide range of geographic sources. Current rules are believed to have been developed using a limited genetic base and this appears to cause some problems with some sources of seed.

**7. Bean Seed Germination (Pat Brownfield)**

This committee participated in a referee to evaluate Kimpac as a substrate for the germination of bean seeds. It is currently involved in a literature survey and will be setting future objectives in Rochester.

**8. Tolerances (Lawrence O. Copeland)**

The tolerances committee has made an evaluation of the suitability of noxious weed seed tolerances for use with undesirable agricultural species. A paper will be presented on the results and progress at the 1988 meetings. The committee plans to continue to look at variability in results of other tests as well, particularly vigor tests.

**9. Germination and Dormancy (Quentin Schultz)**

Submitted a rules change for green needlegrass germination and began a three year project to gather comparative test data regarding standard germination, standard germination with prechill, and standard germination with GA3 for a range of species. A report providing a complete outline of this project has been submitted and will appear in the AOSA Newsletter.

**10. Conditioning (Manjit Misra)**

The goal of this committee is to mechanically assist seed analysts in the area of equipment and engineering. There is considerable interest in the committee in regard to providing information on new and emerging technologies such as image analysis and automation. A survey was sent to 163 AOSA and SCST laboratories with 96 responding. The results of this survey will be summarized and made available to all interested parties. The committee has also organized the AOSA symposium. The committees future objectives are to continue toward meetings the goals set last year.

**11. *Lolium* Labeling (Malcom Sarna)**

This committee was inactive in the past year however it is establishing membership and priorities in Rochester.

**12. Seed Pathology (Betsy Randall)**

Betsy Randall has taken over leadership of this committee as of this spring. She is currently developing membership and objectives.

**13. *Tetrazolium* (Tim J. Gutormson)**

The tetrazolium subcommittee will be setting up objectives and developing membership at the June AOSA/SCST meeting.

A. Knapp, Chairperson

## RULES COMMITTEE

Thirty-eight proposals for changes in, or additions to, the AOSA Rules for Testing Seeds were received and approved by the Committee. These proposals include: (1) the addition of creped cellulose paper (kimpak) as a substratum for germination of field and garden beans; (2) a change in the germination prescription for *Stipa viridula* in Table 3, use of tetrazolium as an alternative to germination for *S. viridula*, an explanation of germination procedures in 4.8 I and reporting germination results in 4.7d for this species; (3) the addition of testing procedures for *Artemisia ludoviciana*; (4) the addition of testing procedures for *Artemisia nova*; (5) the addition of testing procedures for *Artemisia tridentata*; (6) the addition of testing procedures for *Ephedra viridis*; (7) a change in the wording of the second paragraph in 5.2a, addition of *Lolium* spp. as a new chaffy kind and addition of scientific names for kinds listed by common name in this section and (8) a revision of the instructions for obtaining the working sample in 2.2. Several other proposals involve revision of 2.12 to include: (9A) an additional word in the first sentence of part a; (9B) two additional statements at the end of the last sentence in part b; (9C) a change in the wording of part c; (9D) a change in the wording and addition of footnote (c) to the Table; and (9E) an example and a note following the table in this section. Another proposal (10) concerns a revision of the statement in 9.2a. Germination prescriptions are proposed in table 4 for the following kinds: proposal (11) *Campanula rotundifolia*, (12) *Centranthus ruber*, (13) *Eustoma grandiflorum*, (14) *Exacum affine*, (15) *Helianthemum nummularium*, (16) *Hypoestes phyllostachya*, (17) *Leontopodium alpinum*, (18) *Liatis* spp., (19) *Aster novae-angliae*, (21) *Collinsia heterophylla*, (22) *Achillea millefolium*, (23) *Anaphalis margaritacea*, (24) *Lythrum salicaria*, (25) *Monarda* spp., (26) *Oenothera argillicola*, (27) *Oenothera biennis*, (28) *Camissonia cheiranthifolia*, (29) *Oenothera macrocarpa*, (30) *Oenothera pallida*, (31) *Polygonum capitatum*, (32) *Sagina subulata*, (33) *Silene armeria*, (34) *Stachys byzantina* and (35) *Tanacetum vulgare*. A change under Additional Directions for *Saintpaulia* spp. in table 4 is proposed in (20). Proposal (36) concerns adding germination prescriptions for *Brassica oleracea* var. *acephala*, *Capsicum* spp., *Phaseolus coccineus* and *Zea mays* (all of which are already in Table 3) to table 4. Proposal (37) concerns changes in the germination prescription for *Alyssum* in table 4. Proposal (38) concerns adding the germination prescription for *Trifolium dubium* (which is already in table 3) to table 4 and including TB as an additional substratum for this species.

The Committee assisted the chairman of the Editorial Committee in reprinting the pages of the Rules affected by changes adopted at the 1987 AOSA meeting.

Several items listed below were directed to the Committee for consideration and are under study: (1) revising the explanation and examples for noxious-weed seed tolerances given in 5.3; (2) classification statement for small and/or immature seed units of wild carrots and other weedy APIACEAE in 2.10b; and (3) classification of multiple units of *Dactylis glomerata* which are found in the heavy fraction after the blowing procedure for contain no fertile florets.

Stephen J. Hurst, Chairperson

All thirty-eight proposals were adopted by AOSA membership at the 1988 annual business meeting in Rochester, New York. Original proposals with supporting evidence for changes in, or additions to, the Rules appear in the *AOSA Newsletter* 62(1):9-45. Several of these proposals have been amended or slightly modified. Please note that these adopted proposals that follow become official rules on October 1, 1988.

1. Addition of TC (top of creped cellulose) as a substratum for the germination of field and garden beans (*Phaseolus vulgaris*):

**ADOPTED PROPOSAL—**

Table 3—Testing Agricultural Seeds (page 47)

Kind of seed	Substrata	Temp. °C.	First Count	Final Count
<i>Phaseolus vulgaris</i> field bean	B,T,S, TC	20-30; 25	5	8a

Table 3—Testing Vegetable and Herb Seeds (page 56)

<i>Phaseolus vulgaris</i> garden bean	B,T,S, TC	20-30; 25	5	8a
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<sup>a</sup>Hard seeds often present; see sections 4.2d and 4.9k(6).

2. Change in germination prescriptions for *Stipa viridula* in Table 3, an explanation of germination procedures for this species in 4.8l and reporting germination results in 4.7d:

**ADOPTED PROPOSAL as amended from original—**

1) Kind of seed	Substrata	Temp. °C	First	Final	Additional Directions	
			count	count	Specific requirements	Fresh and dormant seed
<i>Stipa viridula</i> green needlegrass	P	15-30	7	14	H <sub>2</sub> SO <sub>4</sub> , GA <sub>3</sub> and Thiram; dark (see section 4.8l)	TZf on 400 seeds.
	P	15-30	7	14	KNO <sub>3</sub> ; dark (see section 4.8l)	

- 2) Add the following footnote after Table 3:

fTZ Tetrazolium: see section 4.9k(2).

- 3) Add new 4.8l to read:

- I. Green needlegrass (*Stipa viridula*).—Two test methods as prescribed in table 3 shall be used on each sample: for method 1, acid scarify 400 seeds for 10 minutes in 98% H<sub>2</sub>SO<sub>4</sub>. Rinse seeds and dry on blotters for 16 hours. Then place seeds on blotters moistened with 0.055% (500 ppm) GA<sub>3</sub> and 0.46% (3000 ppm) thiram and germinate 14 days. As an alternative to method 1, conduct a TZ test on 400 seeds. For method 2, plant 400 seeds on blotters moistened with 0.2% KNO<sub>3</sub> and germinate 14 days. Refer to section 4.7d.

- 4) Add new 4.7d to read:  
 d. When *Stipa viridula* is tested, report results of method 2 (see table 3, and 4.8l) as percentage germination. If the number in method 2 is less than method 1, subtract results of method 2 from method 1 and report as dormant seed percentage.
- 

3. Addition of *Artemisia ludoviciana*—Louisiana sagewort to the Rules:

**ADOPTED PROPOSAL—**

- 1) Include in table 1 (Weights for working samples, AGRICULTURAL SEEDS) the following:

Kind of seed	weight for purity analysis	weight for noxious weed seed examination	Minimum Approximate number of seeds per gram	Minimum Approximate number of seeds per ounce
	Grams	Grams	Number	Number
<i>Artemisia ludoviciana</i> Nuttall Louisiana sagewort	1/2	5	8,900	253,000

- 2) Include in table 3 (Methods of testing for laboratory germination, AGRICULTURAL SEEDS) the following:

Kind of seed	Substrata	Temp. °C	First count days	Final count days	Additional Directions
<i>Artemisia ludoviciana</i> Louisiana sagewort	P	15-25	7	14	Light.

- 3) Include *Artemisia ludoviciana* in the list of species under section 2b of APPENDIX 1. Seedling descriptions for normal and abnormal classification.  
 4) Add this species to Handbook 25 (Uniform Classification of Weed and Crop Seeds) and consider it as classification 3.
- 

4. PROPOSAL

Addition of *Artemisia nova*—(syn. *Artemisia arbuscula* subsp. *nova*) black sagebrush to the Rules:

**ADOPTED PROPOSAL as amended from original—**

- 1) Include in table 1 (Weights for working samples, TREE and SHRUB SEEDS) the following:

Kind of seed	Minimum weight for purity analysis	Approximate number of seeds per gram	Approximate number of seeds per ounce
<i>Artemisia nova</i> A. Nelson 1 1/2 black sagebrush		2,200	62,400

- 2) Include in table 5 (Methods of testing for laboratory germination, TREE and SHRUB SEEDS) the following:

Kind of seed	Substrata	Temp. °C	duration days	Test days	Additional Directions
<i>Artemisia nova</i> big sagebrush	P	15; 20	21		Dormant lots may need 14 days prechill.

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## 5. PROPOSAL

Addition of *Artemisia tridentata*—big sagebrush to the Rules:

ADOPTED PROPOSAL as amended from original—

- 1) Include in table 1 (Weights for working samples, TREE and SHRUB SEEDS) the following:

Kind of seed	Minimum weight for purity analysis	Approximate number of seeds per gram	Approximate number of seeds per ounce
<i>Artemisia tridentata</i> Nuttall big sagebrush	3/4	4,500	127,000

- 2) Include in table 5 (Methods of testing for laboratory germination, TREE and SHRUB SEEDS) the following:

Kind of seed	Substrata	Temp. °C	Test duration days	Additional Directions
<i>Artemisia tridentata</i> big sagebrush	P	15; 20	21	Dormant lots may need 14 days prechill.

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## 6. Addition of *Ephedra viridis*—green mormon tea to the Rules:

ADOPTED PROPOSAL as amended from original—

- 1) Include in table 1 (Weights for working samples, TREE and SHRUB SEEDS) the following:

Kind of seed	Minimum weight for purity analysis	Approximate number of seeds per gram	Approximate number of seeds per ounce
<i>Ephedra viridis</i> Coville green mormon tea	60	45	1,280

- 2) Include in table 5 (Methods of testing for laboratory germination, TREE and SHRUB SEEDS) the following:

Kind of seed	Substrata	Temp. °C	Test duration days	Additional Directions
<i>Ephedra viridis</i> green mormon tea	B,T	15	28	Prechill dormant lot 28 days. Light not required for maximum germination.

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7. Change second paragraph of 5.2a to revise wording, add *Lolium* spp. as a new chaffy kind and include scientific names for kinds listed by common names:

ADOPTED PROPOSAL—

Revise second paragraph of 5.2a to read: Seeds of the following genera and species shall be considered chaffy when not hulled: *Agropyron* spp., *Agrostis* spp., *Alopecurus pratensis* (meadow foxtail), *Andropogon* spp., *Anthoxanthum odoratum* (sweet vernalgrass), *Arrhenatherum elatius* (tall oatgrass), *Axonopus affinis* (carpetgrass), *Bothriochloa ischaemum* (yellow bluestem), *Bouteloua* spp., *Bromus*

spp., *Buchloe dactyloides* (buffalograss), *Cenchrus ciliaris* (buffelgrass), *Chloris gayana* (rhodesgrass), *Cynodon dactylon* var. *dactylon* (bermudagrass), *Cynodon Dactylon* var. *aridus* (giant bermudagrass), *Dactylis glomerata* (orchardgrass), *Ehrharta calycina* (perennial veldtgrass), *Elymus* spp., *Festuca* spp., *Lolium* spp., *Melinis minutiflora* (molassesgrass), *Oryzopsis hymenoides* (Indian ricegrass), *Panicum maximum* var. *maximum* (guineagrass), *Paspalum dilatatum* (Dallisgrass), *Paspalum urvillei* (Vaseygrass), *Poa* spp., *Schizachyrium scoparium* (little bluestem), *Sorghastrum nutans* (Indiangrass).

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8. Revision of instructions for obtaining the working sample in 2.2.

ADOPTED PROPOSAL as amended from original—

2.2 Obtaining the working sample

The working sample on which the actual analysis is made shall be taken from the submitted sample in such a manner that it will be representative. A suitable type of mechanical divider (conical, centrifugal, riffle, etc.) should be used. The sample shall be run through the divider at least twice to insure thorough mixing of the seed. Then the sample shall be reduced by passing the seed through the divider repeatedly, removing half the sample on each occasion. This process of successive halving is continued until a working sample of approximately, but not less than, the required amount is obtained. With centrifugal (Gamet type) dividers, keep the divider level, pour seed centrally into the hopper and operate the spinner on each occasion after seed is placed into the hopper.

In case the proper mechanical divider is not available, the sample shall be thoroughly mixed by hand on a clean smooth surface and placed in a pile. Then the pile shall be divided in half and successive halving continued until the working sample of approximately, but not less than, the required amount is obtained.

Note: When dividing coated seeds, see 2.13d. When dividing large-seeded kinds, prevent seeds from falling great distances on hard surfaces to avoid damage.

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9. Revise 2.12 (Multiple unit procedures) to include: (A) an additional word in first sentence of part a, (B) two additional statements at the end of the last sentence in part b, (C) change of wording in part c, (D) change wording and add footnote (c) to the table, and (E) an example and note following the table:

ADOPTED PROPOSAL—

2.12 Multiple unit procedures:

- a. Multiple units: The following methods shall be used only for the species included in the following table when multiple units are present in a sample. These methods are applicable to the species listed when they occur in mixtures or singly.

- b. Definition: A multiple unit is a seed unit that includes one or more structures as follows:

- (1) An attached sterile or fertile floret that extends to or beyond the tip of a fertile floret (structures 8-12);
- (2) A fertile floret with basally attached glume, glumes, or basally attached sterile floret of any length (structures 13-14);
- (3) A fertile floret with two or more attached sterile and/or fertile florets of any length (structures 5-7).

The length of an awn shall be disregarded when determining the length of a fertile floret or an attached structure. Any seed unit without attached structures, as described above, shall be considered a single unit (structures 1-4). Multiple units and single units for the species listed shall remain intact. The attached glumes and fertile or sterile florets shall not be removed from the fertile floret.

- c. Procedures for determining multiple units:

- (1) For a single species: determine the percentage of single units present, based on the total weight of single units and multiple units. Apply the appropriate factor, as determined from the following table, to the weight of the multiple units and add that portion of the multiple unit weight to the weight of the single units. The remaining multiple unit weight shall be added to the weight of the inert matter.
- (2) For mixtures that include one or more of the species in the following table, determine the percentage of single units, based on the total weight of single units and multiple units, for each species. Apply the appropriate factor as determined from the following table, to the weight of the multiple units of each species.

**Table of Factors to Apply to Multiple Units<sup>a</sup>**

Percent of single units of each species	Red and Chew- ings fescue	Creep- ing red fescue	Orch- ard- grass	Pubes- cent wheat- grass <sup>b</sup>	Inter- cent wheat- grass	mediate wheat- grass	Tall wheat- grass <sup>c</sup>	Western wheat- grass <sup>c</sup>	Smooth smooth brome
%									
50 or below	91	80	80	70	66	72	-	-	72
50.01-55.00	91	81	81	72	67	74	-	-	74
55.01-60.00	91	82	81	73	67	75	-	-	75
60.01-65.00	91	83	82	74	67	76	-	-	76
65.01-70.00	91	84	82	75	68	77	-	60	78
70.01-75.00	91	86	82	76	68	78	-	66	79
75.01-80.00	91	87	83	77	69	79	50	67	81
80.01-85.00	91	88	83	78	69	80	55	68	82
85.01-90.00	91	89	83	79	69	81	65	70	83
90.01-100.00	91	90	84	79	70	82	70	74	85

<sup>a</sup> The factors represent the percentages of the multiple unit weights which are considered pure seed. The remaining percentage is regarded as inert matter.

<sup>b</sup> Includes both *Agropyron cristatum* and *A. desertorum*.

<sup>c</sup> Dashes in table indicate that no factors are available at the levels shown. For evaluation refer to AOSA Newsletter 60(1):10 (February 1986).

## Example:

For a single species (*Festuca rubra* - creeping red fescue)

## (1) Purity Analysis Results:

Components	Weight (in grams)
Single Units	= 2.9044
Multiple Units	= 0.1683
Other Crop	= 0.0069
Inert Matter	= 0.0033
Weed Seed	= 0.0021
Total	<u>3.0850</u>

## (2) Determine percent of Single Units:

(a) Single Units	= 2.9044	(b) $\frac{2.9044}{3.0727} = 94.52\%$
+ Multiple Units	<u>= 0.1683</u>	
Total	<u>= 3.0727</u>	

(3) Factor from table for creeping red fescue with 94.52% Single Units  
= 90%(4) Portion of Multiple Unit Weight (grams) considered Pure Seed: 0.1683  
 $\times 90\% = 0.1515$ 

## (5) Total weight (grams) of Pure Seed:

Single Units	= 2.9044
+ Amount from (4)	<u>= 0.1515</u>
Total	<u>= 3.0559</u>

## (6) Portion of Multiple Unit weight (grams) considered Inert Matter:

Multiple Units	= 0.1683
- Amount from (4)	<u>= 0.1515</u>
Total	<u>0.0168</u>

## (7) Total weight (grams) of Inert Matter:

Amount from (1)	= 0.0033
+ Amount from (6)	<u>= 0.0168</u>
Total	<u>0.0201</u>

## (8) Purity Analysis Percentages:

	Weight	Percentages
Pure seed from (5)	= 3.0559	= 99.06
Other crop from (1)	= 0.0069	= 0.22
Inert matter from (7)	= 0.0201	= 0.65
Weed seed from (1)	<u>= 0.0021</u>	<u>= 0.07</u>
Total	<u>3.0850</u>	<u>100.00</u>

Note: The same steps are followed if one or more of the species in the table occur in a mixture. If germination on the sample is requested, the multiple units and single units of the same kind are recombined following the purity analysis computation.

**10. Revision of 9.2 of Fungal Endophyte Testing:**

**ADOPTED PROPOSAL—**

9.2 a. Take a sub-sample of seed (1 gram is sufficient) from the pure seed portion of the kind under consideration.

**11. Addition of *Campanula rotundifolia*—blue bells-of-Scotland, bellflower to the Rules:**

**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Campanula rotundi-folia</i> L. blue bells-of-Scotland bellflower	TB	20	7	14	Light

**12. Addition of *Centranthus ruber*—Jupiter's beard to the Rules:**

**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Centranthus ruber</i> L. D.C. Jupiter's beard	TB	15; 20; 15-25	7	21	Light.

**13. Addition of *Eustoma grandiflorum*—prairie gentian to the Rules:**

**ADOPTED PROPOSAL as amended from original—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Eustoma grandiflorum</i> (Rafinesque) Shinners prairie gentian	TB	20; 20-30	7	14	Light, the native species may not germinate with these procedures

**14. Addition of *Exacum affine*—German violet to the Rules:**

**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Exacum affine</i> Balfour f. German violet	TB	20, 20-30	7	21	Light.

15. Addition of *Helianthemum nummularium*—rock rose to the Rules:**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Helianthemum nummularium</i> (L.) Miller rock rose	TB	20-30	7	28	Light; scarify with sand paper.

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16. Addition of *Hypoestes phyllostachya*—polka-dot plant to the Rules:**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Hypoestes phyllostachya</i> , Baker polka-dot plant	TB	20; 20-30	7	14	Light.

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17. Addition of *Leontopodium alpinum*—edelweiss to the Rules:**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Leontopodium alpinum</i> , Cass. edelweiss	TB	20; 20-30	7	14	Light.

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18. Addition of *Liatis spp.*—gayfeather to the Rules:**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Liatis spp.</i> gayfeather	TB	20; 20-30	7	28	Light.

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19. Addition of *Aster novae-angliae*—New England aster to the Rules:**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Aster novae-angliae</i> L. New England aster	TB	20-30	7	28	Light.

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20. Change *Additional Directions* of *Saintpaulia* spp.—African violet in the Rules.

**ADOPTED PROPOSAL** as amended from original—

Change *Additional Directions* for *Saintpaulia* in table 4 to read: Continuous light (if not available, moisten substrata with 500ppm GA<sub>3</sub> and use 8 hr light).

21. Addition of *Collinsia heterophylla*—Chinese-houses to the Rules:

**ADOPTED PROPOSAL** as amended from original—

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Collinsia heterophylla</i> Buist Chinese-houses	TB	10; 15; 20	7	21	

22. Addition of *Achillea millefolium*—common yarrow to the Rules:

**ADOPTED PROPOSAL**—

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Achillea millefolium</i> common yarrow	TB	20-30	7	14	Light.

23. Addition of *Anaphalis margaritacea*—pearly everlasting to the Rules:

**ADOPTED PROPOSAL**—

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Anaphalis margari-</i> <i>tacea</i> (L.) Bentham & Hooker f. pearly everlasting	TB	20	7	28	Light.

24. Addition of *Lythrum salicaria*—purple loosestrife to the Rules:

**ADOPTED PROPOSAL**—

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Lythrum salicaria</i> L. purple loosestrife	TB	20-30	7	28	Light.

**25. Addition of *Monarda* spp.—bergamot to the Rules:**

**ADOPTED PROPOSAL** as amended from original—

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Monarda didyma</i> L.,	TB	20-30	7	28	
<i>M. fistulosa</i> L. <i>bergamot</i>					Light.

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**26. Addition of *Oenothera argillicola*—evening primrose to the Rules:**

**ADOPTED PROPOSAL**—

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Oenothera argillicola</i>	TB	20-30	7	14	
Mackenzie evening primrose					Light.

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**27. Addition of *Oenothera biennis*—evening primrose to the Rules:**

**ADOPTED PROPOSAL**—

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Oenothera biennis</i> L.	TB	20-30	7	28	
evening primrose					Light, KNO <sub>3</sub>

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**28. Addition of *Camissonia cheiranthifolia* (syn. *Oenothera cheiranthifolia*)—beach evening primrose to the Rules:**

**ADOPTED PROPOSAL**—

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Camissonia cheiran-</i>	TB	20	7	21	
<i>thifolia</i> (Hornemann)					Light.
Raimann (syn. <i>Oenothera cheiran-</i> <i>thifolia</i> )					
beach evening primrose					

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29. Addition of *Oenothera macrocarpa* (syn. *Oenothera missouriensis*)—Ozark sundrops to the Rules:

**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Oenothera macrocarpa</i> Nuttall (syn. <i>O. missouriensis</i> ) Ozark sundrops, Missouri primrose	TB	15; 20	7	21	Light.

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30. Addition of *Oenothera pallida*—jasmine primrose to the Rules:

**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Oenothera pallida</i> Lindley jasmine primrose, pale evening primrose	TB	20	7	21	Light.

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31. Addition of *Polygonum capitatum*—fleece flower to the Rules:

**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Polygonum capitatum</i> Buchanan-Hamilton fleece flower	TB	20-30	7	28	Light.

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32. Addition of *Sagina subulata*—pearlwort to the Rules:

**ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Sagina subulata</i> (Swartz) K. Presl pearlwort	TB	15; 20; 20-30	7	14	Light.

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**33. Addition of *Silene armeria*—sweet william catchfly to the Rules:  
ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Silene armeria</i> L. sweet william catchfly	TB	20; 20-30	7	14	Light.

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**34. Addition of *Stachys byzantina*—lamb's ears to the Rules:  
ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Stachys byzantina</i> TB C. Koch lamb's ears	TB	20; 20-30	7	14	Light.

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**35. Addition of *Tanacetum vulgare*—tansy to the Rules:  
ADOPTED PROPOSAL—**

Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Tanacetum vulgare</i> L. tansy	TB	20-30	none	7	Light.

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**36. Addition of *Brassica oleracea* var. *acephala*, *Capsicum* spp., *Phaseolus coccineus* and *Zea mays* to table 4 of the Rules:  
ADOPTED PROPOSAL—**

Maintain the following kinds of table 3 but also include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Brassica oleracea</i> var <i>acephala</i> T, B, P ornamental kale, ornamental cabbage	T, B, P	20-30	3	10	For fresh and dormant seed, prechill at 5°C or 10°C for 3 days; $\text{KNO}_3$ and light.
<i>Capsicum</i> spp. ornamental pepper	T, TB, RB, P	20-30	6	14	For fresh and dormant seed, light and $\text{KNO}_3$ .
<i>Phaseolus coccineus</i> scarlet runner bean	B, T, S	20-30	5	9 <sup>c</sup>	
<i>Zea mays</i> ornamental corn	B, T, S TC	20-30; 25	4	7	

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37. Change the germination prescription for *Alyssum* in Table 4 of the Rules:

**ADOPTED PROPOSAL—**

- 1) Include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Alyssum saxatile</i> L. golden-tuft alyssum, basket-of-gold	TB, P	20; 20-30	7	14	Light.

- 2) *Alyssum compactum* eliminated from Table 4.

38. Additional of *Trifolium dubium* to table 4 of the Rules and include TB as an additional substratum:

**ADOPTED PROPOSAL—**

- Maintain the *Trifolium dubium* in table 3 but also include in table 4 (Methods of testing for laboratory germination, FLOWER SEEDS) the following:

Kind of seed	Substrata	Temp. C°	First count days	Final count days	Additional Directions
<i>Trifolium dubium</i> Irish shamrock	B, T, TB	20	4	14 <sup>c</sup>	See section 4.9c. New crop seed may require 15°C.

<sup>c</sup>Hard seeds often present; see sections 4.9k(6) and 4.2d.

## SEED STANDARDIZATION COMMITTEE

The three subcommittee were quite busy during the past year. The Teaching and Training Subcommittee conducted two Beginning Seed Analysts short courses and two *Agropyron* identification workshops. The Uniformity Subcommittee prepared and published an article in the AOSA Newsletter on the accomplishment and purpose of the subcommittee. The subcommittee is also working on several problems to improve uniformity of testing. The Sample Mediation Subcommittee received one sample for arbitration. This sample was handled and the results returned to all parties involved.

### Subcommittee Reports:

#### *Teaching and Training Subcommittee Report—Ed Hardin*

The year 1987-88 was a fairly busy year for the Teaching and Training Subcommittee. Two Beginning Seed Analyst short courses were held during the year in Oregon and Iowa.

Oregon State University hosted the first class of the year from April 11-22, 1988. Twenty-four participants, including seed technologists representing India and The People's Republic of China, as well as people from California, Arizona, Washington, Idaho, Illinois, and Oregon completed the two-week course. In addition, two participants attended on a weekly basis in either purity or germination.

Iowa State held a short course for beginning seed analysts May 16-27, 1988. They had a total of 14 people attend. Twelve attended the purity section, and eleven the germination week. Those attending came from the region served by Iowa.

A total of 38 analysts received training through these short courses. This is a significant number of people when we consider that they are basic training courses and do not deal with advanced problems occurring in seed laboratories. An important degree of standardization will be achieved through this program if the interest continues.

It is the subcommittee's desire to develop a handbook to be used in this training activity. It will be useful in maintaining standardization in interpretation of rules by those offering the short course and should be useful for those preparing to take exams for AOSA certification or for the RST examination. Each year the material used has been refined by the subcommittee and it should be close to final preparation.

On January 12-14, a workshop was offered where AOSA Certificates of Attendance were issued. Dr. Arnold Larson conducted two one-and-a-half day *Agropyron* Workshops for OSU Seed Lab staff and other AOSA and commercial lab members in the area. The interest was so great that it was necessary to break it into two sessions so Dr. Larson could give proper personal attention to each person attending. The workshop included 3 hours of lecture, plus 7 hours of hands-on training. A total of 26 certificates were issued to those attending from AOSA and SCST. These were excellent work sessions due to Dr. Larson's presentation and intimate working relationship with these kinds of seed. We are appreciative of the opportunity to strengthen the two organizations by these efforts of Dr. Larson. The committee encourages others who provide workshops to consider presenting AOSA certificates to those participating. The certificates can be obtained through the Chairman of the Teaching and Training subcommittee.

#### *Uniformity Subcommittee—Steve McGuire*

Although the Uniformity Subcommittee got off to a rather slow start in 1987, several projects are underway. Early in the year, the committee decided it advisable to recruit another member to bring the size of the committee up to its original level of 5 members. A couple prospects were contacted but were unable to serve due to extenuating circumstances. Selecting a new member should remain a goal for the coming year.

Steve Hurst prepared an article on behalf of the subcommittee to be printed in the May, 1988 "Newsletter." This article explained the purpose of the committee, listed past accomplishments, and solicited suggestions from the membership at large.

Randy Kocurek reviewed all the referee projects conducted in 1987 for the purpose of detecting uniformity problems. After some discussion, the committee decided to investigate the use of the copper sulfate test to distinguish yellow from white blossom sweet clover. This was chosen, in part, due to some problems encountered in a referee test conducted by Region II in 1987. In his investigation, Randy discovered that there has already been some work on the procedures of this test by Iowa State University. The committee, rather than work independently on the project, will co-

operate with Iowa State by preparing and mailing a questionnaire to the membership which will provide more information for study.

Jim Effenberger is putting some final touches on a couple of rules-change proposals which would include factoring methods for determining multiple-unit inert in annual and perennial ryegrass and tall fescue. Dan Niffenegger of Montana State University did a considerable amount of work on this in the late fifties. Jim is carefully reviewing the work before using it as the basis for the rules change on behalf of the Uniformity Subcommittee.

Although our projects are incomplete, the committee has made considerable headway in meeting many of the goals set in 1987.

In 1987 the Seed Analysis Certificate Special Committee was assigned to the Uniformity Subcommittee. A draft of an AOSA Seed Analysis report was presented to the membership at the 1987 annual meeting.

During this past year the committee published a draft report in AOSA and SCST Newsletters and asked for comments. Copies of this draft were also sent to ASTA, AASCO, and AOSCA for their input.

Comments from member laboratories were generally positive and constructive. All were considered and most were incorporated into the latest revision (attached). AOSCA was the only organization to respond in writing. Their Executive Committee voiced the following two concerns:

1. Only official tests should be reported on the report.
2. Paper size should be 8½" x 11".

They commended AOSA's efforts and concluded that the report should support AOSA rules.

The committee members are happy with the revised document and are proceeding to develop an instruction booklet describing its use. It favors early adoption by AOSA.

#### *Seed Sample Mediation Subcommittee Report—Rodger Danielson*

One sample of garden bean seed was submitted for arbitration. The germination of the sample was in question.

The sample was divided and sent to 6 laboratories known to test significant numbers of bean samples. Results were within tolerance of one another and confirmed a low germination. All parties were informed of the results and told that the probable cause of the low germination was mechanical damage.

No other samples were submitted for mediation. However, several disputed samples were exchanged between laboratories and did not have to enter further into the mediation system.

I would like to thank all Seed Standardization Committee members and subcommittee chairman and members for their accomplishments during 1987-88.

L. Wiesner, Chairperson

**REPORTS OF SPECIAL COMMITTEES****AUDIT COMMITTEE**

On June 12, 1988 at 10:00 A.M. the Audit Committee consisting of Randy Kocurek, chairman, and Steve Hurst, member, conducted an audit of AOSA Treasurers records. Treasurer Jim Lair was present. The books were found to be in good order. The starting balance for 1989 will be \$23,215.70.

R. Kocurek, Chairperson

**BUDGET COMMITTEE**

The Budget Committee in addition to its normal responsibility of preparing next years budget, was charged by Executive Board action, June 1987, to develop a standard budget procedure or format to include standard line item budget materials by component with a closing date.

The Budget Committee recommends the following procedure.

1. Line item budget request by committee or subcommittee must be submitted to Budget Committee by May 1st. Any request should include a outline of cost based on one or two bids if possible.
2. All line items expenditures should be reviewed and adjusted each year with particular attention given to:
  - a. Newsletter, Journal, Handbook, and the Rules with each being broken down into printing, mailing, and editor's expense.
  - b. Travel estimate for each association activity to be attended by an AOSA representative to be broken into travel, single room rate, and meal expense, if possible.
  - c. Office operation broken down by postage, supplies, and miscellaneous expense. Miscellaneous should include outside assistance as tax preparation, etc.
  - d. Total numbers of Newsletters and Journals mailed out in previous fiscal year with estimate of same to be mailed out in coming fiscal year. Also, number of subscribers and complimentary mailings.
  - e. Estimated income from sales broken down by items sold under AOSA logo.
  - f. Previous fiscal and current fiscal figures for the accounts receivable carried forward to the end of the fiscal year involved. It would then be possible to see if our account payment activity was improving. Same for starting balances each fiscal year.

*AOSA Budget for year 1988-1989*

<b>REVENUE</b>	<b>3 yr. Av.</b>	<b>Fy 88</b>	<b>88-89 Budget</b>
Starting Balance	\$11,211	\$13,294	\$23,216
Past Due Acct. Collections	3,942	2,696	2,000
Convention Profit	2,760	4,411	2,700
Interest Income	463	656	500
Miscellaneous Income	1,635	553	500
Starting Available Funds	20,010.53	21,609.21	28,916.00
Member Laboratory Dues		9,450	9,450
Associate Laboratory Dues		1,505	1,505
SCST Affiliation Dues		3,720	3,720
Membership Income	13,799	14,675	14,675
Newsletter Subscriptions	2,537	2,920	2,650
Journal Subscriptions	3,833	4,338	4,000
Annual Subscriptions <sup>a</sup>	6,370	7,258	6,650
Rules/Binders/Inserts	4,126	3,535	3,700
Vigor Handbook/Inserts	1,557	1,390	1,500
TZ Handbook	626	660	600
Calibration Samples	403	380	350
Publication Sales	6,712	5,965	6,150
Total Operating Income	\$46,891	\$49,507	\$56,391
<b>EXPENSES</b>			
Annual Meeting Allowances	1,000	1,000	1,000
Account Past Due Owed	2,189	2,925	3,000
Bank Fees/Refunds	331	646	600
Annual Research Fund transfer	2,500	1,500 <sup>b</sup>	3,000
Cast Dues/Donations	481	264	264
Office Operations			
Insurance (3 yr. bond)	29	0	112
Computer Equipment	1,071	950 <sup>c</sup>	1,000
Supplies	259	242	250
Postage	753	717	1,000
Misc. (Tax Prep., etc.)	327	300	300
Publications			
Rules			
Printing	2,474	2,976	10,000
Mailing			
Editor's Assistance			
Journal			
Printing	10,263	11,063 <sup>c</sup>	12,000
Mailing			
Editor's Assistance	1,510	1,265 <sup>d</sup>	3,000
Newsletter			
Printing	5,411	6,568	7,068
Mailing			
Editor's Assistance			

**Expenses (cont'd)**

Handbooks			
Vigor	294	883	0
Printing			
Mailing			
Editor's Assistance			
Seedling Evaluation	0	0	3,000
Printing	Mailing		
Editor's Assistance			
Misc. Handbook Costs	266	0	300
Travel			
AOSCA	3,931	498	1,000
AASCO		1,116	1,000
ASTA			500
NASDA			500
<b>TOTAL EXPENSE</b>	<b>\$33,089</b>	<b>\$32,913</b>	<b>\$48,894</b>

<sup>a</sup> 119 paid newsletter subscriptions mailed per issue in 1988 & 121 is estimated 1989 mailing.

191 paid Journal subscriptions mailed per issue in 1988 & 191 is estimated 1989 mailing.

128 complimentary newsletters mailed per issue in 1988 & 126 is estimated 1989 mailing.

128 complimentary Journals mailed per issue in 1988 & 126 is estimated 1989 mailing.

182 newsletter/issue mailed to SCST members.

<sup>b</sup> Normal transfer is \$3,000.

<sup>c</sup> Estimated

<sup>d</sup> Includes mailing and Editor's Assistance for Rules, Newsletters, & Handbook.

**REVENUE**

Reserves 51% Dues 26% Subscriptions 12% Sales 11%

**EXPENSES**

Other 6% Office Operations 6% Research Fund 7% Travel 7%

Publications 74%

**COUNCIL FOR AGRICULTURAL SCIENCE AND TECHNOLOGY REPORT  
(CAST)**

It has been my pleasure to serve AOSA as Director to CAST in 1988. The CAST Board of Directors has representation from 28 member societies. The primary mission of CAST is to provide summary information on the scientific aspects of broad public issues in agriculture to the government, the news media and the public. Specifically CAST:

1. Serves as a resource from which the government and public seek information on current issues concerning the science and technology of food and agricultural issues.
2. Identifies developing issues of broad public concern, enabling food and agricultural scientist and technologists to provide information.
3. Organizes task forces of scientists and technologists from relevant disciplines to assemble and interpret factual information related to these issues.
4. Disseminates the information in layperson's language to the government, the news media, and the public as needed.

In 1987-88 the CAST board met in June and February with the following action taken:

1. Because of budgetary constraints the summer board meeting in 1988 was cancelled.
2. The magazine "Science of Food and Agriculture" has been causing a serious financial drain on the CAST budget. Thus, it was approved that;
  - a) the **primary** target audience of this magazine is high school science teachers and students,
  - b) that a less expensive, alternative vehicle be developed by September, 1988 that meets the needs of science teachers,
  - c) that this new publication will be a 12 page newsletter in black and white. It will be published four times annually and mailed to 16,000 heads of high school science departments. It will include; two, two page articles with learning activity directed toward high school science disciplines, "The Cutting Edge" (a one page news brief), food and nutrition feature, careers in agriculture feature.
3. Task force publications completed during the last fiscal year include "Evaluation of 2,4-D as a Carcinogen." Other task forces approved for review and future publication; "Antibiotics in Animal Feeds," and "The Adoption of Science and Technology to Enhance Competitive-ness of U.S. Agriculture."
4. Two new member societies joined CAST; American Veterinary Medi- cal Association and American Peanut Research and Education Society.
  5. Approved a Strategic Plan for CAST and minor changes in the CAST By-laws.
6. Election of President, Wayne R. Dutson and Vice-President, Virgil W. Hays.

Seed Scientists and technologists are fortunate that AOSA has mem- bership in CAST. I am convinced that CAST provides a vital function for

U.S. Agriculture by responding to the public and providing unbiased scientific information to the following groups: U.S. Congress, State Legislatures, Scientific community, High School Science Teachers, and the Media. Task force publications that have been published during the past five years that relate directly to the seed industry and seed technology are:

- R97 The Resistance of Agricultural Pests to Control Measures. April 1983, 18 pp., \$2.50
- R102 Development of New Crops: Needs, Procedures, Strategies, and Options. October 1984, 30pp., \$3.00
- R106 Plant Germplasm Preservation and Utilization in U.S. Agriculture. November 1985, 35pp., \$3.50
- R108 Forages: Resources for the Future. March 1986, 50pp., \$4.00
- R110 Genetic Engineering in Food and Agriculture. September 1986, 47pp., \$4.00
- R112 Pests of Plants and Animals: Their Introduction and Spread. March 1987, 40pp., \$3.00

If you are not presently an individual member of CAST, I strongly suggest that you consider joining. The annual membership dues are only \$20.00 and would provide you with current CAST publications as well as the CAST newsletter. This is one organization that your money may assist in explaining our role in agriculture to an urban public. If you have questions regarding CAST contact me or Mr. Bill Marion at CAST headquarters, 137 Lynn Avenue, Ames, Iowa 50010-7120, telephone 515-272-2125.

D. TeKrony, chairperson

#### CERTIFICATION OF ANALYSTS COMMITTEE

Seed analyst certification examinations were administered in each of the five regions of a total of 38 candidates during 1987-88.

The Northcentral region, Allen Knapp coordinator, examined 12 candidates—six for purity and germination, two for purity only, and four for germination only; the Northeast region, Richard Deppen coordinator, examined 4 candidates—two for purity and germination, and two for germination only; the Northwest region, Rodger Danielson coordinator, examined 3 candidates—one for purity and germination, one for purity only, and one for germination only; the Southern region, Monte Lange coordinator, examined 15 candidates—eleven for purity and germination, one for purity only, and three for germination only; and the Southwest region, Randy Kocurek coordinator, examined 4 candidates—two for purity and germination, and two for germination only.

A total of 114 examinations (written and practical) were administered to the 38 candidates with a pass-fail ratio of 104:10. The results, by region, are:

Region	Purity Examination Taken	Purity Examination Passed	Germination Examination Taken	Germination Examination Passed
Northcentral	15	14	15	13
Northeast	4	4	8	8
Northwest	4	4	4	4
Southern	24	19	28	28
Southwest	4	3	8	7
	51	44	63	60

Fifty-two certificates were presented to 35 successful candidates at the AOSA banquet in recognition of their accomplishments and two former RST's were awarded certificates for purity and germination.

We now have in AOSA 147 analysts that are certified in purity, germination, or both, representing 35 states and 2 federal laboratories. A list of Certified Seed Analysts follows this report.

The committee is continuing work on revision of the examinations as needed and drafting of a proposed constitutional amendment to make this committee a standing rather than a special committee.

Region coordinators will announce to laboratories in their region dates the examinations are to be offered in 1988-89.

As a reminder, I want to mention a few pertinent points relative to the Certification of Analysts program.

1. A minimum of 24 months experience in an AOSA laboratory is required to take the examinations.
2. The program, on the part of AOSA, is voluntary.
3. Analysts may be certified in two areas, purity and germination, or in only one area, purity or germination.
4. Written and practical examinations are given in each area, purity and germination. Thus an analyst desiring certification in both purity and germination must take and pass four examinations.
5. A minimum score of 60% is required to pass the written examination, 80% is required to pass the practical exam, and an average of 75% for the written and practical is required to pass each area, purity and germination.
6. An analyst not passing an examination, written or practical, may take the exam again after one year.
7. In the event a candidate passes one of the exams (written or practical) and fails the other it is not necessary to retake both exams, only the one failed. The score attained on a retake is the one used in determining candidates eligibility for a certificate.

#### AOSA Certified Seed Analysts (as of June 16, 1988)

NAME	LABORATORY	CERTIFICATE AWARDED
Cauthen, Joseph A.	Alabama	Purity-Germination
McCartha, Joyce M.	Alabama	Purity-Germination
Till, Linda M.	Alabama	Purity-Germination
Kopperud, Barbara	Alaska	Germination
Hill, Deborah	Arkansas	Purity-Germination

James, Minta J.	Arkansas	Germination
Lambright, Daphne D.	Arkansas	Purity-Germination
Lange, Monte Cochran*	Arkansas	Purity-Germination
Moore, Barbara	Arkansas	Purity-Germination
Palmer, Aaron	Arkansas	Purity-Germination
Smith, Mary	Arkansas	Purity-Germination
Stane, Suzy	Arkansas	Germination
Chesi, Jacquelyne	California	Purity-Germination
Effenberger, Jim	California	Purity-Germination
Meyer, Debbie	California	Purity-Germination
Peterson, Paul S.	California	Germination
Stephenson, Marian*	California	Purity-Germination
Cardona, Irene	Colorado	Purity-Germination
Durkin, Paula	Colorado	Purity-Germination
Johnson, Cheryl	Colorado	Purity-Germination
Larsen, Arnold	Colorado	Purity-Germination
Milhous, Marilyn S.	Colorado	Purity-Germination
Moreng, Miriam	Colorado	Purity-Germination
Ramirez, Connie	Colorado	Purity
Chason, Wallace C.	Florida	Purity-Germination
Caldon, Vicky*	Idaho	Purity-Germination
Duehlmeier, Corrie	Idaho	Germination
Lawson, Richard	Idaho	Purity-Germination
Weber, Sharon K.	Idaho	Purity
Trent, Robert	Idaho	Purity-Germination
Baldwin, Minak	Illinois	Germination
Books, Brenda	Illinois	Germination
Bickey, Jean	Illinois	Purity
Buckles, Brenda	Illinois	Purity-Germination
Cowan, Scott	Illinois	Germination
Faires, Carol	Illinois	Germination
Guimard, Debby	Illinois	Purity
Haught, Fred	Illinois	Purity-Germination
Kumpel, Velva	Illinois	Germination
Lair, Jim	Illinois	Germination
Miller, Wilma	Illinois	Purity
Pape, Jean	Illinois	Germination
Tonelle, Nellie	Illinois	Germination
Clark, Barbara	Indiana	Purity
Follick, Loretta	Indiana	Purity-Germination
Metsger, Judy	Indiana	Germination
Richards, John	Indiana	Purity-Germination
Shoaf, Helene	Indiana	Purity
Hegna, Sandra*	Iowa—Ames	Purity-Germination
Kayser, Eileen	Iowa—Ames	Germination
Roys, Elaine	Iowa—Ames	Germination
Rudyanski, Diana Kay	Iowa—Ames	Germination
Shevokas, Rose Marie	Iowa—Ames	Germination
Stahr, Mike	Iowa—Ames	Germination
Wysong, Myrt*	Iowa—Ames	Purity-Germination

Webster, Carroll M.	Kansas	Purity-Germination
Willey, Kathleen A.*	Kansas	Purity-Germination
Still, Wayne	Kentucky	Purity-Germination
Tillery, Tina	Kentucky	Purity-Germination
VonLanken, Kent	Kentucky	Germination
Fisher, Linda	Louisiana	Germination
Bitzel, David F.	Maryland	Germination
Buschling, Darryl Ann	Maryland	Germination
Capshaw, Lois	Maryland	Purity
Crippen, Lyle	Maryland	Purity
Miller, Jennifer	Maryland	Purity
Dunn, C. W. (Will)	Minnesota	Purity-Germination
Muggli, Michael	Minnesota	Purity-Germination
Rufleldt, Harold	Minnesota	Purity-Germination
Hoskins, David	Missouri	Purity-Germination
Johnston, David	Missouri	Purity-Germination
Umstattd, Tom R.	Missouri	Purity-Germination
Pape, Marjorie	Nebraska	Purity-Germination
Svik, David F.	Nebraska	Purity
Prentice, Larry*	Nebraska Crop Imp.	Purity-Germination
Brightbill, Margaret	New Jersey	Purity-Germination
Freeman, Glenn	New Jersey	Purity-Germination
Ogburn, Connie	New Jersey	Purity-Germination
Kochevar, Richard	New Mexico	Purity-Germination
Turner, Terry L.	New Mexico	Purity-Germination
Chirco, Ellen M.	New York	Germination
Samimy, Cyrus	New York	Germination
Wicksall, Joyce	New York	Purity
Armstrong, Sharon	North Carolina	Purity-Germination
Saunders, Patricia H.	North Carolina	Purity-Germination
Stallings, Jewell G.	North Carolina	Purity-Germination
Hafdahl, Mark*	North Dakota	Purity-Germination
Rogers, Brenda	North Dakota	Purity-Germination
Abbott, Charles C.*	Ohio	Purity-Germination
Watts, Jeanette	Oklahoma	Germination
Bolton, Kristi	Oregon	Germination
Danielson, Rodger	Oregon	Purity-Germination
Knower, Jo	Oregon	Germination
Peterson, Phyllis	Oregon	Germination
Post, Ruth	Oregon	Purity-Germination
Cook, William R.	Pennsylvania	Purity-Germination
Deppen, Richard	Pennsylvania	Purity-Germination
Garvey, Joe	Pennsylvania	Purity-Germination
Foy, J. Robin	South Carolina	Purity-Germination
Sumter, Mary L.	South Carolina	Purity-Germination
Vines, Joseph S., Jr.	South Carolina	Purity-Germination
Gutormson, Tim	South Dakota	Purity-Germination
Franklin, John*	Tennessee	Purity-Germination
Patterson, Jean*	Tennessee	Purity-Germination

Arriaga, Mary Francis	Texas	Purity-Germination
Book, Kelly	Texas	Purity-Germination
Brendle, Janice	Texas	Germination
Bryant, Virgie	Texas	Purity-Germination
Chumney, Lou	Texas	Purity-Germination
Cranford, Patricia	Texas	Purity-Germination
Dalby, Ella Ruth	Texas	Purity-Germination
Demons, Marilyn	Texas	Purity-Germination
Dunk, William G.	Texas	Purity-Germination
Edwards, Martha	Texas	Purity-Germination
Flatt, Sibbie	Texas	Purity-Germination
Franke, Jeannette	Texas	Purity-Germination
Gonzales, Miguel	Texas	Germination
Govan, Lois	Texas	Purity
Griffin, Betty	Texas	Germination
Helms, Kay	Texas	Purity-Germination
Jones, Jimmie Lois	Texas	Germination
Keilberg, DeAnn	Texas	Purity-Germination
Kieschnick, Florence	Texas	Germination
Kocurek, Randy	Texas	Purity-Germination
Medack, Ruth	Texas	Purity-Germination
Ogle, Dixie	Texas	Purity-Germination
Pack, Marion Jane	Texas	Purity-Germination
Schkade, Ellie M.	Texas	Germination
Speer, Myrvlyn	Texas	Purity-Germination
Waymack, Mary Ann	Texas	Purity-Germination
Scott, John*	USDA—FSL	Purity-Germination
Coil, Janice	USDA—NSSL	Germination
Dideriksen, Mike	USDA—NSSL	Purity-Germination
Hall, Jane	USDA—NSSL	Purity-Germination
Klein, Pat	USDA—NSSL	Germination
Moss, Dennis	USDA—NSSL	Germination
Nelson, Lana	USDA—NSSL	Germination
Prange, William	USDA—NSSL	Germination
Stratton-Reed, Janie	USDA—NSSL	Germination
Freeman, Terry	Utah	Germination
Burwell, Mary E.	Virginia	Purity-Germination
Jackson, Beverly*	Virginia	Purity-Germination
Langford, Margaret	Virginia	Purity-Germination
Smith, Harry	Virginia	Purity-Germination
Selzler, Ruth	Washington	Purity-Germination
Houser, Allan C.	Wisconsin	Purity-Germination
Parker, Rita A.	Wyoming	Purity-Germination

\*Former RST

W. Still, Chairperson

### CONSTITUTION COMMITTEE

The constitution committee proposed no changes to the constitution articles or bylaws this year. At the Sacramento California Joint AOSA-SCST annual meeting the committee tabled a notion to broaden Article III—Membership—. This was sent back to the committee for further study. No action was taken.

L. Prentice, Chairperson

### REPORT OF THE LATIN AMERICAN SEED ANALYSTS INTERESTS COMMITTEE

The committee report consists of a communication from Charles C. Baskin, Mississippi State University, who represented AOSA at the Pan American Seed Seminar in Montevideo. He reported back to the committee that AOSA was well received at both the Seminar and the workshop and that the Latin American Group is still interested in receiving AOSA publications and periodicals. There is continued interest in establishing a closer relationship with AOSA and that some type of membership is still desirable.

Ellen M. Chirco, Chairperson

### MEETING PLACE COMMITTEE

The Meeting Place Committee has breathed a "big" sigh of relief following the recent submission of an invitation to host our annual meeting in the near future. The Turf and Seed Section of the Maryland Department of Agriculture has invited the Association to meet in Annapolis, Maryland, in 1991. However, since the 1990 meeting place has not been selected and time is running short, Malcolm Sarna, Chief of the Maryland Turf and Seed Section was contacted by the committee and asked if he would consider hosting the 1990 meeting. He graciously has agreed to switch years and host the 1990 meeting in Annapolis. As it is described, Annapolis is an historic colonial seaport on the Chesapeake Bay and was first settled in 1649. It served as the first capital of the United States. Both Washington, D.C., and Baltimore are nearby, making it a convenient location for sight-seeing.

The committee hereby recommends acceptance of this invitation for the 1990 meeting.

L. Nees, Chairperson

### MERIT AWARD COMMITTEE

The recipient of the 1988 AOSA Merit Award has served this Association and the seed industry in various capacities for over thirty years. He is a dedicated professional who has gained the respect of his peers in seed testing and regulatory work; and T. Wayne Still is truly deserving of the honor and recognition of the AOSA Merit Award.

T. Wayne Still provided dedicated service and leadership to the Association of Official Seed Analysts for over 20 years and to the seed industry for more than 30 years. He is one of few individuals who has served the seedsmen, the seed consumer and many facets of public service including university extension, research, teaching and seed control work. His professional experience in seed technology started with commercial alfalfa seed production in California (Waterman Loomis Co., 1956-59) and continued as seed marketing specialist in North Carolina (1959-60). This background allowed him to be keenly aware of seed producer and conditioner problems as he entered a career in seed testing and regulatory work at both Mississippi State University (1960-68) and the University of Kentucky (1969 to Present). It also made him an effective teacher and researcher. Few AOSA members can relate to such a diverse career which includes as many aspects of seeds and seed quality for a wide range of crop species.

Wayne Still has utilized his professional experience to the benefit of two national seed organizations; the Association of Official Seed Analysts and The Association of American Seed Control Officials. He has been elected to the presidency of AOSA and AASCO as well as both the Southern and North-Central Seed Control Officials. He has effectively chaired the AOSA Public Service, Referee, Resolutions and Budget committees and served on many other committees. Through his leadership the AOSA developed an effective and fair certification procedure for seed analysts. Wayne is a certified seed analyst. He has also chaired or served on many important and controversial committees of the seed control officials.

Wayne Still is recognized in Kentucky and nationally as a fair but strict seed control official and a knowledgeable seed analyst. Following his arrival in Kentucky in 1969, he recognized that the state was a "dumping ground" for low quality seed of many crops because of a weak, outdated seed law. He worked diligently with seedsmen, certified seed growers and the university to strengthen the Kentucky seed law. Thus, major revisions were approved in 1973, 1977 and 1982, which resulted in higher quality seed for all Kentucky consumers. In recognition for a job well done, both the Kentucky Seed Improvement Association and Kentucky Seedsmen's Association have presented him with their Distinguished Service Awards in 1979 and 1986, respectively.

As a staff member at Mississippi State University, Wayne taught several courses in seed testing, production and processing. This included direct involvement with many international students including a 10-week Seed Improvement Course annually. He has also provided valuable lectures in the Seed Technology course at the University of Kentucky. His research and extension efforts in Mississippi and Kentucky have resulted in more than 25 technical publications in seed journals or bulletins. This included the bulletin on tetrazolium testing which has been used by many seed analysts for years.

Wayne has received strong support at home from a lovely wife, Charlisse and two daughters, Delynn and Jeannine. In recent years he has also acquired bragging rights to three grandsons and finally a granddaughter. If he isn't caring for the grandchildren on any weekend you can find him happily restoring various antique Corvairs, Studebakers and other old automobiles.

W. Vaughan, Chairperson

### NECROLOGY COMMITTEE

The Necrology Committee was notified of the passing of Ellen Phelps Emack, an affiliate member from Maryland.

#### ELLEN PHELPS EMACK

Ellen Phelps Emack passed away on January 23, 1988 after a long illness. She was eighty-nine years old. A native of Beltsville, Maryland, Miss Emack began her career at the Maryland State Seed Laboratory in March 1925. After retiring in July 1968 she was asked in October of the same year to return to work half days as a Seed Analyst Specialist which she did for many years. In March 1975 she received the Distinguished Maryland Agronomist Award for fifty years service to agriculture. Her regular duties were in purity analysis but in her typical enthusiastic and dedicated fashion she became involved in many extra activities which improved the work of the Seed Laboratory. By 1975, largely because of her untiring efforts the Maryland laboratory had a seed herbarium of approximately 14,000 specimens. As a further undertaking, she illustrated in pen and ink "Grasses of Maryland" written by Dr. J.B.S. Norton and made the drawings for the seal of the Association of Seed Analysts which was designed by Dr. Norton. Her many student analysts will remember her quick wit, good humor and common sense. She served on the vestry of St. Andrews Episcopal Church in College Park and was interred at St. James Episcopal Church in Beltsville.

W. Vaughan, Chairperson

### NOMENCLATURE COMMITTEE

The Nomenclature Committee's main activity was the editing of names used in the newly published pages of the Rules For Seed Testing. The Committee has started to check all scientific names used in the Rules preparatory for a complete new edition of the Rules.

The Committee remains active in overseeing the uses of correct scientific names in both national and international seed trade.

C. Gunn, Chairperson

### NOMINATIONS COMMITTEE

Members of AOSA were mailed nomination ballots and asked to nominate persons for vice-president, two executive board members (3 year term positions), and secretary/treasurer (3 year term). Of the 12 people nominated for vice-president, Charles Baskin and Tim Gutormson were selected. Their selection was based on the number of nominations they received, and their willingness to run for the position.

There were eighteen persons nominated for the two executive board positions. From the 18 nominated, Doug Ashton, Steve McGuire, Wayne Gurke and Jim Warren were selected, based on the number of nominations they received and their willingness to run for the positions. Of the four people

nominated for secretary/treasurer, Jim Lair agreed to run for the office. Results of the 40 ballots cast in the final election are as follows:

AOSA Vice-President—Charles Baskin  
Executive Board Member (3-year term)—Doug Ashton  
Executive Board Member (3-year term)—Steve McGuire  
Secretary/Treasurer (3-year term)—Jim Lair

T. Turner, Chairperson

### PROGRAM COMMITTEE

The 65th annual meeting of the Society of Commercial Seed Technologists and the 78th annual meeting of the Association of Official Seed Analysts will be held at the Stouffer's Rochester Plaza Hotel in Rochester, New York on June 9-17, 1988. The initial program appeared in the May issue of the *AOSA Newsletter*, Volume 62, No. 2. Some minor changes and additions were included in the final program.

The joint opening session has been scheduled for Sunday, June 12. The first AOSA/SCST two mile run/walk is also scheduled for Sunday morning. Two symposiums will be held. On Monday, the SCST symposium is entitled "Biotechnology—The Future?" On Tuesday, the AOSA symposium is entitled "Development and Needs of New Equipment and Technology for Seed Analysis." There will be 17 scientific papers given on Wednesday, June 15.

The AOSA business meeting is scheduled for Thursday afternoon, June 16. The Friday tour will be to Niagara Falls, New York.

D. Svik, Chairperson

### RESOLUTION From the ASSOCIATION OF OFFICIAL SEED ANALYSTS

WHEREAS, the 78th Annual Meeting of the Association of Official Seed Analysts was held June 11-17, 1988 in the Stouffer's Rochester Plaza Hotel, at Rochester, New York; and

WHEREAS, the meeting was highly productive in terms of constructive committee work, Executive Board deliberations, seed testing equipment and supply displays, presentation of research papers and other professional activities associated with seed quality evaluation; and

WHEREAS, the social events of banquets, entertainment, tours, travel and talks were very well planned, informative, interesting and greatly appreciated by all in attendance;

THEREFORE BE IT RESOLVED, that the members of the Association of Official Seed Analysts extends its gratitude to the following in recognition of their contribution to the success of this meeting.

#### Program Committee

David Svik, AOSA Co-Chair  
Charlotte Jennings, SCST Co-Chair

**Local Arrangements**

Ellen Chirco, AOSA Co-Chair  
Lynn Schramel, SCST Co-Chair  
Marilee Thompson, SCST Co-Chair  
Peter Garrisi  
Ann Hamblin  
Philena Heckert  
Pat Judd  
Theresa Kennedy  
Barbara Mosele  
Pat Ozminkowski  
Norma Rossel  
Cyrus Samimy  
Trudy Snyder  
Mary Volk  
Joyce Wicksall  
Joann Woodham

SCST Presidents Coffee Hour  
Lofts Seeds, Inc.

**Coffee Breaks**

Asgrow Seed Company  
Sunseeds

A. Knapp, President

**RESOLUTION**  
From the  
**ASSOCIATION OF OFFICIAL SEED ANALYSTS**

WHEREAS, the Federal Seed Act since 1939 has served in partnership with state seed laws in enforcement of truthful labeling of seeds resulting in incalculable benefit to farmers, seedmen, and all agricultural interests of this nation; and

WHEREAS, funding for the continuation of the Federal Seed Act was not included in the FY 89 budget for the USDA; and

WHEREAS, the loss of funding for the Federal Seed Act would be of serious consequence in the efficient and orderly marketing of seeds in this country, and the United States would lose the only agency that can speak in international trade and would lose its national representation to the International Seed Testing Association; and

WHEREAS, the United States would lose its central clearing house for resolving disagreements about misrepresentation and substandard quality of seeds and would lose the national coordinator for the labeling of the genetic identification of seeds; and

WHEREAS, the withdrawal of funding for the Federal Seed Act would result in the loss of a laboratory which provides a significant amount of teaching and training, and performs important mediation functions in interstate disputes by its application of the Federal Seed Act;

THEREFORE BE IT RESOLVED, that the Association of Official Seed Analysts, meeting in Rochester, New York, June 11-17, 1988, hereby affirms its support for the retention of funding for the Federal Seed Act and all programs administered under the Act.

Copy to:

USDA—Honorable Richard E. Lyng, Secretary

AASCO—Charles C. Dale

AOSCA—Foil McLaughlin

ASTA—William T. Schapaugh

SCST—Paul Johnson

NASDA—Thomas W. Ballow

Honorable John C. Stennis, U.S. Senate

Honorable Jamie L. Whitten, U.S. House of Representatives

A. Knapp, President

### **SEEDLING EVALUATION COMMITTEE**

There has been a renewed interest in bringing the seedling descriptions of AOSA and ISTA closer together. A collaborative project between the AOSA Seedling Evaluation Committee and the ISTA Germination Committee has been initiated to study the significance of split coleoptiles in corn, with the aim of eliminating the differences in interpretation between the Associations. The Committee is also studying the importance of primary roots in the Solanaceae, another area of discrepancy between AOSA and ISTA. Problems with the description of seedlings of the super-sweet corn varieties, specifically with respect to short leaves and weak roots, was brought to the attention of the Committee. Data from a Southern Idaho Seed Analysts Association study on evaluation of super-sweet corn will be reviewed to aid in the development of an appropriate seedling description.

Two members of the Committee, Beverley Jackson and John Scott, have retired from seed testing. We thank them for the significant contributions they have made to the work of the Committee.

Progress towards the Handbook of Seedling Evaluation has been slow over the past year, but it is our hope to publish a draft for review by the AOSA and SCST membership early in 1989.

Doug Ashton, Chairperson

### **SEED TESTING STANDARDIZATION RESEARCH FUNDING COMMITTEE**

About three years ago, the AOSA membership voted to accept an increase in membership dues in order to establish a research fund. Following that, the STSRFC was formed to develop the mechanisms by which the AOSA could accomplish the wishes of its membership.

The STSRFC has worked over the past two years to accomplish that

task. The committee has developed a document which describes the purpose of the committee, its membership, the mechanisms for prioritizing research needs, proposal submission guidelines, proposal review procedures, and reporting requirements.

This document has now been reviewed twice by the AOSA Executive Board and will be published in the September issue of the AOSA Newsletter.

The committee has also sent out a preliminary survey to AOSA and SCST member laboratories to establish general priorities for research needs based on seven general research topic areas.

The AOSA Executive Board recommended, in Rochester, that the STSRFC become a subcommittee of the AOSA Research Committee. The subcommittee is now chaired by Dr. Dennis TeKrony and his committee has set several objectives for the coming year. First, the committee will be sending out a more detailed survey based on the results of the preliminary survey. Remember, this survey will be used to establish priorities for the research efforts of the association. Hence, the subcommittees asks that you give this survey careful consideration. The committee will also begin to assess the interest of various other groups and associations in supporting this research fund. Dr. TeKrony would appreciate any suggestions you may have.

#### AOSA GUIDELINES FOR SEED RESEARCH

The AOSA Constitution states as its first objective the improvement of seed testing in all its branches by "promoting uniform laboratory methods and practices through seed research" (Article I, objective a). The responsibility for this research is assigned to the AOSA Research Committee consisting of five members. "The research committee shall initiate, co-ordinate, supervise and conduct research that will lead to improved methods and practices in seed testing." The work may be conducted by members of the Research Committee or by Subcommittees, in accordance with Article VI of the Constitution. The Committee shall promote and co-ordinate research in the field of seed testing in colleges, universities, private and endowed research institutions and departments of agriculture. The Research Committee shall either publish or retain in a permanent file its research results. When research data are adequate, the Research Committee shall make recommendations to the Rules Committee for changes in the Rules for Testing Seeds (AOSA Bylaws V).

To promote research in the AOSA, the Seed Testing Standardization Research Committee was formed and has established the following policy regarding seed research grant funding:

I. Seed Testing Standardization Research Funding Committee (STSRFC)

- A. The purpose of this committee is to 1) obtain financial support for research, 2) determine research needs and priorities, 3) prepare requests for soliciting research proposals, 4) evaluate and select research proposals which would be funded, and 5) evaluate progress and results.
- B. To accomplish its purpose, the committee must have close coordination with the AOSA Research, Rules, and Referee Committees in the determination of research needs and proposal evaluation.

Therefore, these committees should function in an advisory capacity to the Seed Testing Standardization Research Funding Committee.

- C. The membership of the Seed Testing Standardization Research Funding Committee will consist of the following individuals:
  - 1. The STSRFC chairperson who is appointed by the Chairperson of the AOSA Research Committee for a three (3) year term and who must be actively involved in seed research
  - 2. Chairperson of the SCST Research Committee
  - 3. Chairperson of the AOSA Research Committee (ex-officio)
  - 4. Chairperson of the AOSA Referee Committee
  - 5. Chairperson of the AOSA Rules Committee
  - 6. Two AOSA members selected by the STSRFC committee chairperson each for a three year term with a concern for maintaining a balance of the various interests and activities of the AOSA. The terms of these committee members should be staggered with that of the STSRFC Chair in order to provide continuity.
  - 7. Budget Committee Chairperson (ex-officio)

II. PRIORITY OF RESEARCH NEEDS—Research needs will be prioritized within one of the following seven major research areas:

- A. Analytical Purity
- B. Germination and Dormancy
- C. Pathology
- D. Sampling and Tolerances
- E. Storage and Deterioration
- F. Varietal Purity
- G. Vigor

The STSRFC will identify subheadings in each area and survey AOSA and SCST laboratories on a regular interval (every 5 years) to establish priorities for major areas and solicit suggestions for research needs under each area. Every three years the STSRFC will identify at least three to five specific research areas that will be funded and solicit proposals provided funds are available. During that time period, only those proposals relating directly to the identified research areas will be funded. The STSRFC will not accept grants or proposals specifically identified with other research projects during the three year period.

III. SEED RESEARCH PROPOSAL GUIDELINES

- A. Title Page
  - 1. Concise descriptive title (100 characters or less)
  - 2. Name of the organization submitting the proposal
  - 3. Name, title, full mailing address and telephone number of the principal investigator and/or investigators
  - 4. Proposal project starting date, duration and total cost
- B. Overall Aim and Specific Objectives—This should be a concise statement of what you will actually do and why. It should not exceed one paragraph. Leave more detailed, context-setting to the "Background" section.

- C. Relevance to Seed Testing/Technology—Discuss the relevance of this work to seed testing/technology. What differences will it make? How does it relate to the established research priorities? Discuss the potential for effective utilization of the results for the benefit of seed testing.
- D. Innovative Aspects—Provide a brief statement describing the innovations of the proposed research, how it may improve an existing situation, how it relates to the state-of-the-art or develops new technology. Comparisons of methods among laboratories are generally not acceptable since these can generally be handled through the referee format.
- E. Background and Rationale—Provide a substantive rationale for the proposed research. Explain the existing problem, the status of previous efforts to solve it, and the logic behind your new approach. Spell out your assumptions, theories, and research hypotheses; address the likelihood of success. Include a brief but complete literature review. If you must cite unpublished work, please enclose copies.
- F. Technical Work Plan—Describe in detail your experimental design (including any statistical issues) and research protocols (including any special techniques). Provide an estimated time schedule for meeting the research objectives.
- G. Staff and Resources—List all investigators essential to the project and describe the institutional facilities and resources available for the proposed research.
- H. Budget Information—Provide a full, detailed, justified budget for each year of the proposed project plus appropriate totals. Travel and training must be directly related to the research. Itemize:
  - 1. Salaries
  - 2. Equipment
  - 3. Materials and Supplies
  - 4. Training (purpose, duration, when, where)
  - 5. Consultation (topic, amount, rate)
  - 6. Travel (purpose, duration, when, where)
  - 7. Other costs
- I. Submission of Proposals (not to exceed 5 pages)
  - 1. Submit one (1) original and ten (10) copies to  
Chairperson  
Seed Testing Standardization Research Funding  
Committee
  - 2. The deadline date for receiving grant proposals is March 1 and  
investigators awarded grants will be notified before July 1 each  
year. Grants will be funded on a fiscal year basis from July 1  
to June 30.

#### IV. SELECTION OF PROPOSALS FOR FUNDING

- A. The STSRFC will evaluate the proposals utilizing the following criteria:
  - 1. Scientific and technical quality of the proposal

2. Scientific validity and quality of research approach
  3. Relevance of proposed research to a previously identified research area
  4. Feasibility of attaining objectives during proposed time period
  5. Adequacy of professional training or research experience of investigators.
- B. A member of the STSRFC will not be allowed to evaluate his/her own proposal or proposals from his/her research team. In such situations, the STSRFC Chairperson (chairperson of the research committee, if the chairperson's proposal) will appoint another person to evaluate the proposal(s) in question and enter into committee discussions regarding the proposal.
- C. When appropriate, the chairperson of the STSRFC may appoint a peer panel to evaluate proposals and make recommendations to the STSRFC regarding their suitability for funding.
- D. The STSRFC will submit those proposals recommended for funding to the research committee of the AOSA.
- E. The STSRFC will also submit a report of the committee's deliberations and actions on all proposals considered.
- F. Those agencies receiving grants will not be awarded funds for institutional charges such as overhead, equipment, etc.

#### V. REPORTING REQUIREMENTS

- A. Progress Reporting—A reporting schedule for major progress reviews will be developed based on the research proposal and the major developmental stages of the research. Additionally, an annual progress report form will be made available to be completed two (2) months prior to the annual AOSA meeting for review by the STSRF Subcommittee who will report their findings to the AOSA Research Committee. Based on the annual report and major progress reviews, the STSRFC may suggest alternative approaches to properly focus the research or to improve the schedule and determine if satisfactory progress is being made relative to the investigator's proposal format.
- B. Final Report—The general format of the final report will be established at the project's beginning. The format and approach will depend upon the nature of the project. The final report shall be prepared in a publication format to document the entire effort. Reports shall be published for the AOSA membership in either the AOSA Newsletter or the Journal of Seed Technology. When handbooks or other reference materials logically result from research projects, this will not preclude a report in the AOSA Newsletter even if this report simply states that such material is being developed.
- C. Evaluation of the Applicability of Results—Upon receipt of the final report by the chairperson of the Research Committee, the report will be circulated, for review, to committee members, chairs of any appropriate research subcommittees, and other selected knowledgeable specialists. Studies should be evaluated in the following areas:

1. Were the objectives of the original proposal accomplished?
2. Do the results suggest the need for further study?
3. Do the results indicate the need for addition to or change in the AOSA rules?
4. Is the information valuable to other seed-related organizations?

## VI. SEED RESEARCH GRANT FUND

- A. Solicitation of Funds—The STSRFC will advise interested agencies of the priorities identified for seed research(as per section II. Priority of Research Needs) on an annual basis and solicit funding to support this research. Those agencies providing funds will be informed that the funds will be utilized to support seed research as determined by the STSRFC. The STSRFC will not accept funds earmarked for a specific research area that was not previously identified as a high priority.
- B. All funds collected from agencies for seed research will be deposited in a separate Seed Testing Standardization Research Grant Fund account. This account will be maintained by the treasurer of the AOSA.

## SYMPOSIUM COMMITTEE

The AOSA symposium was held on June 14, 1988 in Rochester, New York. The symposium was titled "Development and Needs of New Equipment and Technology for Seed Analysts." The following five talks (18 minutes each) were presented:

1. Results of the seed analysis equipment survey—Bill Ebner and M. Misra
2. Time lapse photography for measuring seed germination—Tom Thomas and Dr. A. Taylor
3. Need for computer identification of seeds—Dr. L. Wiesner
4. Need for using automated equipment for improving seed analysts' job—Dr. C. Delouche
5. Ultrasound and computer vision technology for measuring soybean quality—M. Misra

M. Misra, Chairperson

**PRESIDENTIAL ADDRESS**

A. D. Knapp

In any undertaking, it is always a good idea to assess past efforts. And in that enterprise, like so many before me, I referenced previous presidential addresses. Again, like so many before, I sought themes and continuities. Like so many before me, I found them—at least on a personal level. So today I would like to share with you some of my personal observations regarding seed testing and our association, and provide you with what I consider to be some important areas we need to continue to maintain an emphasis in.

I found several important concepts to recur with great regularity in the presentations of past presidents. Concepts which I believe we, as an association, can take pride in. Perhaps the most consistent concept which surfaced in my readings was that of service. Whenever, the question was raised as to the purpose of our association, the answer was always to provide a service to the agriculture of this country. Obviously, we provide that service in a number of different ways. We provide a service when we establish procedures to generate labelling information, when we inform our clientele of the uses of this information, when we train analysts, when we pose questions, when we seek solutions. If there is one thing that I have learned from this year as your president, it is that this membership's commitment to service cannot be questioned.

Another topic that recurs and therefore bears some discussion, is that of research. At various times throughout the history of the AOSA, presidents and others have cited the need for increased emphasis on research. The AOSA's relationship with research, conducted by its members or obtained from related fields of endeavor, has been a two-way street. I would venture that one of the most highly cited references in the so-called "applied" literature on seed quality is the AOSA Rules for Testing Seeds. The Rules have given researchers a means by which to communicate. They have provided a definition of germination which has standardized the study of germination and provided a baseline for the evaluation of other definitions. By the same token, future advancement and increased understanding of the variables which determine the AOSA's ability to meet the needs of the agriculture of the future is dependent on maintaining a sound research base. Our ability to effectively adapt, adopt, and utilize that technology will require attention to the needs and processes of developmental research. It will also require an understanding on the part of those who develop that technology that there is an important difference between technology development and its application.

The technology that surrounds and affects us will continue to increase in complexity and cost. During the past year, in addition to serving as your president, I have served as Professor-in-Charge of the Iowa State University Seed Science Center. In that capacity, I have studied the sources of funding available for seed research. I have also had the opportunity to study some of the national initiatives in agriculture while, of course, evaluating the potential of these initiatives for program development in areas of seed research. It is and always has been a frustrating experience. I would like to cite just two examples of issues which illustrate the need for national priorities related to seed research.

In June, 1987, The New Farm and Forest Products Task Force reported to Secretary of Agriculture Lyng. Their goal was to evaluate new uses for existing agricultural products as well as new products from new species. Their recommendation was "to develop and commercialize within 25 years, an array of new farm and forest products, utilizing at least 150 million acres of productive capacity." In order to accomplish this, the task force recommended the establishment of a one billion dollar trust fund. Within all of their recommendations for studying and developing agricultural diversification, not once was the need to study how to produce, harvest, condition, store, and evaluate the quality of the seed of these new farm and forest species mentioned.

There are, to my knowledge, no national priorities and few regional priorities in seeds in either research or extension and yet the value of seed in commercial channels, world-wide, was estimated to be between 45 and 50 billion dollars in 1983. Remember, this figure does not include the innate value of the facilities and properties of the seed companies—only the value of the commodity in trade.

The need for research and new technology will only increase as the agricultural industry advances toward the release of genetically engineered organisms and germplasm. Several research groups are very excited about the possibility of drastically modifying the composition of the seed to increase the yield of a specialized product. Yet none have considered the potential ramifications that this activity may have on the ability of the seed to germinate and store, or to withstand harvesting and handling.

While the ability to gain sustenance or value from crop seeds is of primary importance to those who produce, eat, feed, sell, or wear the product, we must also remember that the fundamental function of the seed is as a reproductive unit. The goals of maximum economic gain and species reproduction are not always compatible. We all know of examples of seed problems which have developed through "classical" breeding programs. There is no reason to believe that fewer problems will occur when genetically engineered products are commonplace.

I am not trying to criticize these agencies or to lay blame on any working group. Rather, I am citing a need. We must, as an association and as individuals, place a high priority on informing others about seeds and their role in agriculture.

In this regard, I am pleased to announce that the Experiment Station Committee on Policy has invited the AOSA to provide input as ESCOP develops its new list of research priorities. I am convinced that this activity as well as our membership in CAST are important to us as an association and as professionals.

Up to this point my discussion has involved what I believe to be important topics yet they concern just one aspect of efforts which may serve to position us for the future. There are however some issues which are of a more immediate nature that I would like to address.

We are an information-based association. The work of our committees must be made known to our members and others. Like many other information-based organizations, our association is experiencing large increases in the cost of publication. The report of the special budget committee, appointed last year, indicates that 74% of this association's

operational expenses are the result of publication costs. Since this is effectively benchmark data for our association, this percentage is difficult to interpret. However, it is a fact that our publication costs are up drastically in recent years and it is a near certainty that these costs will continue to rise. The association has already taken steps to determine ways to hold down or reduce publication costs. I hope any proposed committee actions receive your careful consideration and input.

My views on the length of term for the office of president have changed as a result of my opportunity to serve you in this capacity. I believe this association should continue to investigate the potentials of a longer term of office for the president. My personal recommendation, at this point, would be that the term of office for the president be expanded to two years. I believe that a longer term of office would provide greater continuity and be more consistent with the complexity of the issues which face today's agriculture.

The activity and productivity of our committees continues to increase. Therefore, it is my opinion, that it is time for the association to take a hard look at its committee structure. Again, the major reason for this recommendation is that we continue to expand our activities through the dedicated work of our membership. I believe that we would benefit greatly from an in-depth study of information flow and committee interaction. I have stated several times recently that we have probably reached the all-important milestone wherein a special committee on committees would be in order. The purpose of this committee would be to assess existing committees, the membership of these committees and develop recommendations for committee structure and membership. The ultimate goal would be to ensure that individual committee memberships include the appropriate individuals such that duplication of effort is minimized. This concept already exists in the AOSA Constitution wherein the Chairmen of the Rules and Referee committees are ex-officio members of the Research Committee. I am simply proposing that this or a similar concept be expanded to other committees as well.

I have to agree with the comments of one of our recent presidents wherein he stated that he perceived a renewed interest in the activities of the AOSA on the part of our affiliated organizations. I would add that this renewed interest is due to, among other things, the fact that we are in a time of change. New technology and new challenges are approaching. I would also add that I think that the AOSA has taken specific and positive steps to meet those challenges.

In closing, the opportunity that you have given me to serve as your president has been challenging, educational, and within my own limitations, fulfilling. I would like to thank the executive board, and all of the committees for their hard work over the past year. And, finally, I would like to thank you for your kind attention to these remarks.

**GREETINGS FROM THE ASSOCIATION OF AMERICAN  
SEED CONTROL OFFICIALS**

Charles G. Dale, President

AOSA President Knapp, SCST President Johnson, officers, members, and guests. I greet all of you from the Association of American Seed Control Officials. It is very much a pleasure for me to be here with you today.

The sale of seed in the U.S. or the world, for that matter, is an ever changing business. No two years are ever alike it would seem. From a regulatory standpoint, it is a continuing challenge to insure that truthfully labeled seed is offered for sale. We have come a long way since the first effort to regulate seed. Times have changed, needs have changed, and laws have changed to meet the new needs of the times. This cycle will likely continue long into the foreseeable future. I would like to take a few minutes to discuss two items which we feel are important areas where changes are imminent and needed.

**VARIETY LABELING**

It would seem that the time has come again to establish the variety name as the only acceptable nomenclature for subdivisions of kinds. This system of naming was developed a long time ago to distinguish between relatively few varieties. At present, however, we have literally hundreds of varieties available for many of the popular kinds of agricultural seed. In the quest for new proprietary plant varieties, some individuals and businesses have taken a short cut in the development of new varieties by simply putting one or more new names on existing and new varieties. These new names are commonly called brand names and they serve a useful function in designating source. They are not and should not be a substitute for variety names. To look at this issue another way, I ask the following questions. If all we need to do to come up with a new variety is to change the name of an existing variety, why do we need any research in varietal development in either the public or private sector Furthermore, why did anyone think that we needed a federal law to patent or protect the developer of new varieties if all we have to do is change the name of older varieties?

Many states have already legislated their own variety labeling requirements in their state seed laws. We urge all other states to do likewise to stop the proliferation of an endless stream of brand names for existing varieties or multiple brand names for one new variety. We also urge these states to follow the requirements of the Recommended Uniform State Seed Law in legislating variety labeling requirements.

As I said earlier, brands do serve a function in identifying the source of the seed. The source is important. Laws and regulations do not need to prohibit brands. All that is needed is to provide to the purchaser the label information which designates the brand name and the variety name. We must further recognize that the label includes all other representations relating to the sale of seed such as advertisements. Biotechnology likely will dramatically increase the number of varieties available to consumers. Because of this it is all the more important to not have two systems for naming new varieties. It will be confusing enough for consumers with just one system.

**FEDERAL SEED ACT REVISION**

There are a number of areas in the present act that should be updated or changed to meet the present day needs for seed regulation on an inter-state basis. We need to get started on the revision process again. If all interested parties cannot agree on what the content of these changes should be, then the USDA should play a lead role in mediating and resolving these differences. It is their responsibility to enforce this act, they can and should also play a lead role in changing it to meet their needs, the states' needs, and the industry's needs.

One very important part of the act that should get our first attention is Title III. The staining requirements for certain imported seeds are outmoded in their usefulness. In addition, for most agricultural crops, Title III is not being enforced at all on imported seeds. We definitely need a new and more enforceable mechanism by which to regulate imported seed.

Uniformity among the various state seed laws is a problem to some extent. The Recommended Uniform State Seed Law (RUSSL) has had a good effect upon improving uniformity. The RUSSL is not, by itself, enough because it is voluntary. The solution to the non-uniformity is to have a strong administration of an up-to-date and stringent Federal Seed Act. The regulation of pesticides and feeds is for the most part, uniform because of strong federal laws in these areas.

I ask you to consider these two issues and when the time comes, make comment and contribute your time to improvements in these areas of seed regulation.

Thank you for allowing me time to speak to you. If you have questions, please contact me during the meeting or at any time afterward as well.

**GREETINGS FROM THE AMERICAN SEED TRADE ASSOCIATION, INC.**

David R. Lambert,  
Assistant to the Executive Vice President

I appreciate the opportunity you have provided to bring greetings on behalf of the American Seed Trade Association. Jim Carnes, President of the ASTA, as well as Bill Schapaugh, our Executive Vice President, are in England attending an International Seed Trade Association meeting. They, as well as the other officers of ASTA, asked me to also bring their greetings and wishes for a very productive meeting.

All of the organizations associated with the seed industry generally are concerned with a number of common issues. Although ASTA has exercised benign neglect of the issue, I noted that you have a resolution supporting funding of the Federal Seed Act for FY '89. The funding for the '89 program was included in the House Appropriations Bill, and there is every reason to believe the Senate will follow suite. Our concern has been focused on the \$11 million in funding for new construction at the Federal Seed Storage Laboratory at Fort Collins. The House Appropriations Committee postponed funding for the facility and distributed the money to some 17 pork barrel projects in as many states. We have concentrated our energies in the Senate, and as a result, \$5.5 million have been included in the

Senate Appropriations Bill. Before action is complete in the Senate, we would like to see the other \$5.5 million restored. We would appreciate any help you might be able to give in order to accomplish this goal.

After several years of work and a great deal of soul searching, ASTA published a position paper in January 1988, addressing the patenting of plants. There is a whole host of issues intertwined within the overall subject area, ranging from genetic engineering to international property rights, from Supreme Court decisions to mandatory licensing. I am of the opinion that it is the single most important issue facing the industry in the coming years.

Moving a little closer to home, I had an opportunity to discuss some of industries reservations concerning seed vigor, AOSA certificates and the Cultivar Purity Testing Handbook at the Committee of Affiliates meeting this morning. There has been a lot of progress made in these areas and the individuals who are responsible deserve a lot of credit for their work. However, ASTA is apprehensive about moving precipitously into areas that have far reaching legal and financial implications for the seed industry.

We all know that each organization looks at these issues from a different perspective. There is a need to appreciate where each group is coming from and to recognize their concerns.

Your program indicates that you will be addressing these and other important issues in the next few days, and I would hope that reason would prevail.

ASTA will begin its annual meeting next weekend in Seattle, Washington. We would be delighted to have each of you attend our meeting. With Jim Carnes as President, there can't help but be a number of surprises. Again, thanks for your hospitality and for the opportunity to participate in your meetings.

#### **GREETINGS FROM THE ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES**

Robert A. Burdett, President

Thank you, Mr. President. Good afternoon, ladies and gentlemen. On behalf of the officers and directors of the Association of Official Seed Certifying Agencies, I bring you greetings and our best wishes for a very successful meeting.

Seed testing is an essential service to seed certification and we thank you and congratulate you on your efforts in our behalf.

We in AOSCA have launched a "self-study" that we are calling "Project '90s—A Strategic Plan for the Association of Official Seed Certifying Agencies." We are endeavoring to determine where we are today, where we need to be in the '90s, and how we are going to get there. We will be seeking your input, particularly through your representative on our advisory committee and otherwise, as we prepare a document for use by all our member agencies.

Many national issues that continue to be of vital concern to us and that we have dealt with include intellectual property rights, crop exemption under the Plant Variety Protection Act, funding for the Federal Seed Branch,

innovative variety release policies, and quality assurance programs.

During this past year, we have continued the development of a linkage between AOSCA and the seed certifying agencies in Latin American. We have a task force drafting a proposal to increase our involvement. Don Brewer attended and participated in the Pan American Seed Seminar and the workshop on seed quality improvement systems held in Montevideo, Uruguay during November, 1987. Our by-laws committee will be determining membership categories for these certifying agencies.

Speaking of membership categories, we sincerely hope that you will soon finalize an official category for seed testing labs operated by seed certifying agencies. We feel that this will be mutually beneficial.

We value very highly our relationship with AOSA and SCST and feel that we are all working toward assuring and determining the value of seed for planting. We look forward to a continued relationship that will enhance seed improvement for our ultimate clientele.

I am looking forward to meeting all of you whom I have not had the pleasure of meeting and discussing topics of mutual interest. Thank you for the invitation to bring greetings and, again, best wishes for a fruitful and prosperous meeting.

#### **GREETINGS FROM THE COMMERCIAL SEED ANALYSTS ASSOCIATION OF CANADA**

M. French, President

Mr. Chairman, fellow colleagues:

On behalf of the members of the Commercial Seeds Analysts Association of Canada, it is a pleasure to extend greetings to the 65th Annual SCST-AOSA Joint meeting.

These conventions offer the opportunity for analysts from all areas of the country to get together and discuss their problems, learn new techniques, meet old friends and make new ones. Arranging conventions such as these takes a lot of hard work and I would like to thank the host committee who has done this so that we can all take part in your meetings and enjoy the program you are offering.

Canadians have been experiencing many changes over the past couple of years. Our new Seeds Act became effective on April 1, 1987, and as of April 1, 1988, government labs will no longer be doing service testing, except for export samples that require an Official certificate. They will be acting only as a regulatory agency. Commercial accredited seed labs will be taking over the services previously offered by Agriculture Canada.

If anyone should have questions regarding information required on U.S. seed testing certificates which accompany seed shipments into Canada, we will have persons available at an information table, or just contact any Canadian member and we will see that you get the necessary information.

The Commercial Seed Analysts Association of Canada will be holding their 44th Annual Meeting and Convention at the Holiday Inn, Edmonton, Alberta on Oct. 19-21, 1988. If any of our American friends would like to attend we would be very pleased to have you.

I would like to extend our warm wishes for an informative and productive meeting here in Rochester.

**GREETINGS FROM THE USDA SOIL CONSERVATION SERVICE**

John Dickerson, Plant Materials Specialist  
Syracuse, New York

Welcome to New York! I'm here representing the USDA-Soil Conservation Service and our Plant Materials Program. I have brought you a small token of our thanks for your key role in our conservation programs. Sure, I realize that most of you are not USDA employees, but consider this:

In the last three years, America's farmers have taken over 25 million highly erodible acres out of production. As you know, the demand for grass and legume seed for permanent cover has been enormous, and we suspect that the number of seed samples you have analyzed have increased proportionately. Your tests determine which seed lots are of acceptable quality for use in conservation programs such as CRP. The positive relationship between quality seed of known varieties and success of conservation plantings has been documented since the dust bowl days. Thank you for the extra effort which we in SCS know you have applied to our national seed supply.

The seed which I have brought for you is "Golden Jubilee" Blackeyed Susan. It was developed by the Big Flats, New York, plant materials center and released to commercial growers in 1985, the 50th anniversary of the Soil and Water Conservation Service. The attractive packets were put together by Bentley Seed Company, of Cambridge, New York, especially for you folks. I will rely on Helen Chirco to distribute the packets.

We hope your stay in New York is both enjoyable and informative, and we appreciate the technical expertise which you bring to the nation's conservation programs. Thank you.

**GREETINGS FROM THE  
INTERNATIONAL SEED TESTING ASSOCIATION**

A. B. Ednie, President

Presidents Allan Knapp and Paul Johnson, special guests, ladies and gentlemen, it gives me great pleasure to bring you greetings and warmest regards from the International Seed Testing Association. As always, your organizations have the ISTA's best wishes for productive and stimulating meetings and discussions. A review of the program that has been prepared for this meeting certainly indicates that we are all going to be fully occupied during our brief stay in this beautiful picture perfect city.

Our organizations have a long history of cooperation and dedication to goal of seeking uniformity in seed testing. The fact that the AOSA was a member of the ISTA between 1924 and 1950 indicates the closeness of the relationship that has existed between our organizations. The international trading of seed between North America and other parts of the world has increased dramatically over the past 10 to 15 years. It is predicted that this trend will increase, especially given the need for the seed industry to seek new markets for its products given the increasing use of set aside and production quota policies being adopted by governments in the developed countries. This increase in the international trading of seed especially

the trade between North America and Europe requires that we continue to work together so that our seed produces and trade can operate efficiently in the international seed market. The regulatory authorities also require uniform, standardized accurate testing methods in order to set up efficient mechanisms to carry out their responsibilities of ensuring that seed entering their countries meet the quality and phytosanitary requirements of their countries.

A number of activities have occurred under the ISTA umbrella since I last spoke to you in Sacramento. These events have been reported in the ISTA News Bulletin. Recently, the Executive Committee and most of the chairmen of the 17 Technical Committee of ISTA met in Karlsruhe, Germany from May 24 to 28. This meeting was held to review progress within the Technical Committees, finalize plans for the 1989 Congress, and discuss major issues facing the association. The major points from this meeting that may be of interest to you include the following items:

- a) Anticipated Seed Testing Rules Change Proposals
  - increase in maximum seed lot size for herbage seed in bulk to 20 tonnes
  - inclusion of 15-17 new species in the rules that have been added to the OECD seed schemes
  - updating of nomenclature
  - a procedure for handling pesticide treated seed
  - introduction of a new heterogeneity test
  - introduction of provisional rules for seed cleaning on small scale machines
  - inclusion of standard methods for conducting electrophoresis tests on peas and ryegrass for varietal purity evaluation.
- b) Presentation of a draft protocol (based on ISO Laboratory Accreditation and Quality Assurance Guidelines) for authorization of laboratories to issue ISTA certificates.
- c) Discussions on the process to complete the decision on the request from FIS to increase maximum seed lot size for herbage seed in bulk to 20 tonnes.
- d) Discussion on the question of differences between AOSA and ISTA Seed Testing Rules.
- e) Discussion on process to deal with falsification of ISTA certificates.
- f) Special presentation by the Accredited Member for the USSR on their seed program.
- g) Discussion on fresh seed question and process to resolve question.

**COMING EVENTS****22nd ISTA Congress**

WHEN Thursday, June 22 to Friday, June 30, 1989  
WHERE University of Edinburgh in Edinburgh, Scotland. Expect traditional Scottish hospitality—chance to wear kilt  
PROGRAM Technical Committee Meetings—Thursday/Friday/Saturday  
Symposium—Monday/Tuesday/Wednesday  
Symposium Themes are: Progress in Seed Testing, Techniques, Progress in Laboratory Management and Progress in Seed Production & Storage  
(Ordinary Meeting—Thursday and Friday)  
Post Congress Tours—Sunday, July 2 to Friday, July 7  
Agriculture—tour of the Highlands  
Forestry—tour of Southern Scotland and England ending in London  
Estimated Costs — Registration . . . . . £ 180-200  
—Room Accommodation -  
    university dorms . . . . . £ 17  
—Hotels . . . . . £ 30 & up  
—Post congress tours . around£ 300

Information — Pre-registration information will be mailed out by July 1988

**OTHER COMING EVENTS**

Forest Tree and Shrub Committee Seminar, August 1-5, Macon, Georgia.

International Seed Testing Symposium on Dormancy Vigour and Storage plus Regional Germination Workshop, July 1990 in Novosibirsk, Siberia, USSR.

Presidents Allan and Paul, that concludes my presentation. Again please accept our best wishes for productive meetings and enjoyable visits with old friends. Do plan on coming to our congress in Edinburgh, Scotland. Just think of the wonderful opportunity it will give you to wear your kilt.