

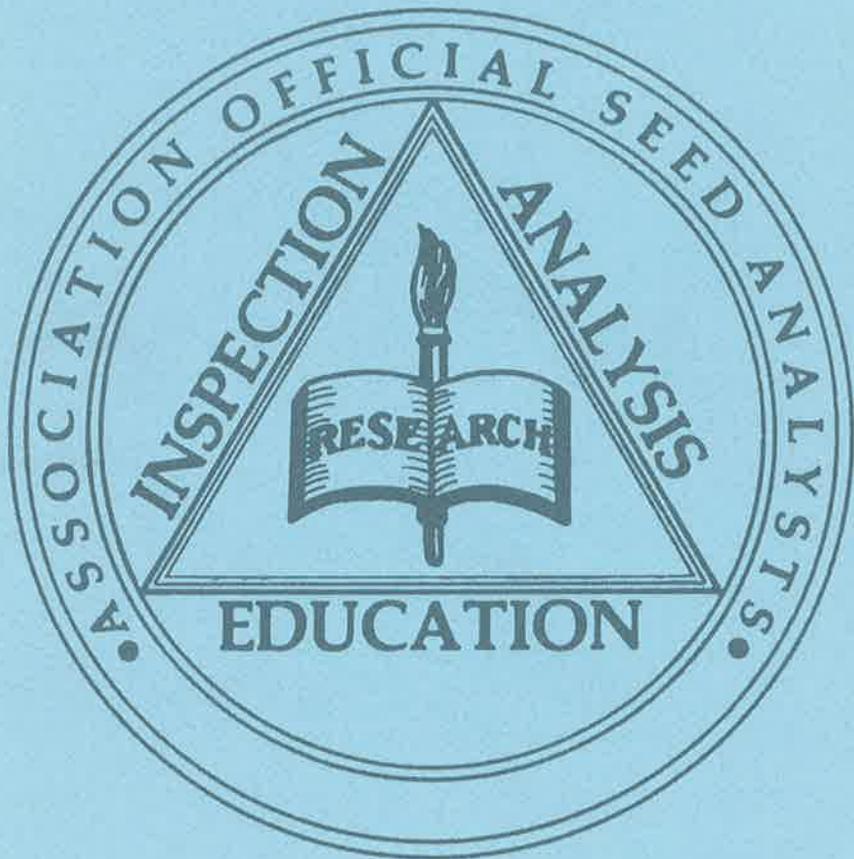
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CONTENTS

Contributed Papers

- 122 Problems In Evaluating Viability of Soybean Seed Infected with *Phomopsis* spp. J.B. Franca Neto and S.H. West
- 136 Effects of *Colletotrichum truncatum* and *Cercospora kikuchii* on Viability and Quality of Soybean Seed. J.B. Franca Neto and S.H. West
- 150 Factors Affecting the Outcome and Usefulness of Seed Heterogeneity Tests. D. Niffenegger, D. Isely and L.E. Everson
- 169 Effect of Seed Size and Density Separation on Thickspike Wheatgrass Dimensions, Rate of Imbibition, and Respiration. H.R. Armstrong and L.E. Wiesner
- 177 Officers and Committees
- 180 Executive Board Minutes
- 188 Minutes of Association Meetings
- 193 Secretary/Treasurer's Report
- 197 Standing Committee Reports
- 197 Editorial Committee
- 198 Legislative Committee
- 203 Liaison Committee
- 204 Membership Committee
- 204 Public Service and Archives Committee
- 205 Referee Committee
- 211 Research Committee
- 219 Rules Committee

227	Seed Standardization Committee
234	Special Committee Reports
234	Affiliates Committee
235	Audit Committee
235	Budget Committee
237	C.A.S.T. Committee
238	Certification of Analysts Committee
243	Constitution Committee
243	Meeting Place Committee
243	Merit Award Committee
244	Necrology Committee
244	Nominations Committee
245	Past Presidents Breakfast
245	Program Committee
245	Resolution Committee
248	Seedling Evaluation Committee
249	Symposium Committee
250	Presidential Address

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.'

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

References. All citations whether to published literature or to unpublished work are to be listed alphabetically by senior authors at the end of the manuscript. Citations to published works should include names of all authors, the year, complete title, publication, volume number, and inclusive pages, as appropriate.

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.

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EXECUTIVE BOARD MINUTES

June 10, 1989

The following were in attendance: James N. Lair, Doug Ashton, Ellen M. Chirco, T. Wayne Still, Steve McGuire, Allen D. Knapp, Loren Wiesner, Wayne R. Guerke, Charles C. Baskin, Buddy Vaughan, Rodger Danielson (visitor), Arnold L. Larsen (visitor).

The meeting was called to order. A motion to accept an amended agenda was made by Wayne Still and seconded by Charles Baskin. Amendments included adding a Committee of Affiliates and a Newsletter Editor Report.

The 1988 minutes were approved with a motion by Loren Wiesner and seconded by Steve McGuire.

Appointments to special committees were made as follows:

1. RESOLUTION: Wayne Guerke and Arnold Larsen
2. AUDITING: Ellen Chirco, Steve Hurst, and James Lair
3. PARLIAMENTARIAN: Dave Svik

The EDITORIAL COMMITTEE REPORT was presented by Loren Wiesner. Five Associate Editors were appointed in February, 1989. Thirty-two papers have been submitted to the Journal. Five of these have been accepted, four rejected, the rest are in review. Three papers were accepted for Vol. 12, #2; the remainder will be in Vol. 13, #1 and #2. Vol. 12, #2 is not printed yet, due to logistical problems. The rules are being printed at the same time from floppy disks, with major revisions required. Rules are now in ASCA format with tables put to the rear of the text. The possibility that rules could be offered in a floppy disk format at some time in the future was discussed.

The SECRETARY/TREASURER REPORT was discussed regarding Vigor Handbook inserts and other mailings. A motion was made for acceptance by James Lair and seconded by Charles Baskin. Motion passed. Following the report, James Lair, Charles Baskin and Steve McGuire were asked to resolve mailing complete issues of the Vigor Handbook and rules.

The LIAISON REPORT was given by Wayne Still. The committee felt that the Association should be represented at trade meetings. C. Baskin stated that such representation should and would continue.

Reports were given by R. Danielson, L. Wiesner and B. Vaughan on activities at the meetings they attended as AOSA representatives. It was recommended by W. Still to establish a policy that AOSA have a designated representative attend ISTA and that representative should be the President if possible. A motion was made by Wayne Still and seconded by Allen Knapp to accept the report. Motion passed.

PUBLIC SERVICE was summarized by James Lair and Loren Wiesner.

The REFEREE REPORT was summarized. Steve McGuire stated Regional Chairman Handbooks are getting updated. A report will be provided to the Archive Chairman. The committee will continue providing a summary of Buzz Session Projects which are decided on after each meeting for areas. A short summary was prepared for each of the past years' AOSA Referee projects. A motion to accept the report was made by Steve McGuire and seconded by Ellen Chirco. Motion passed.

The RESEARCH REPORT was given by Allen Knapp and he summarized sub-committee activities and the goals of each chairman for the next year. There are 14 sub-committees of the Research Committee. He discussed research funding and expects project proposals to be funded this year. Also discussed the noxious weed tolerances and formula changes that may have to be made in the future. A motion to accept was made by A. Knapp and seconded by C. Baskin. Motion passed.

The SEED STANDARDIZATION REPORT was given by R. Danielson, who gave the summary of three sub-committee activities. Teaching and Training held a two-day workshop in Peoria. The Workshop Manual is not ready to use. A motion to accept the report was made by A. Knapp and seconded by L. Wiesner. Motion passed.

The UNIFORM REPORT OF SEED ANALYSIS FORM was discussed. After acceptance, the board discussed and considered the Uniform Report Form for distribution. The main concern of the board was the use of a logo at the top of the form. No other objections were raised by the committee on the report format. The committee recommendation is to recommend to AOSA membership the format without a logo. The board discussed implications if the logo was removed and if states could make use of forms where others were already set in place that utilized a different format and/or logos of states having precedence to appear at the top. L. Wiesner moved for acceptance, with Wayne Still seconding. Motion passed.

LUNCH BREAK was taken at 12:32 p.m.

The meeting was RECONVENED at 1:49 p.m.

The SCST BOARD RECOMMENDATION to the Uniform Report Committee was read by President Buddy Vaughan.

The COMMITTEE OF AFFILIATES meeting agenda and those planning to attend Sunday was read by President Vaughan. Special agenda requests for the affiliates meeting were also received from Karl Knittle. A motion to accept the report was made by Charles Baskin and seconded by Loren Wiesner. Motion passed.

The AOSCA ADVISORY COMMITTEE REPORT was given by L. Wiesner. Varietal Purity Handbook comments had been received. ASTA had also approached the committee with a resolution on establishing an AOSA advisory committee. Loren reported the EC equivalency was extended to June 30, 1990. Also, a meeting in Brussels relating to EC equivalency had been attended by Wiesner and other seed analysts of U.S.A. to discuss problems. Analysis report comments had also been discussed. A motion to accept the report was made by L. Wiesner and seconded by Charles Baskin. Motion passed.

The BUDGET FOR 1990 was distributed by C. Baskin for board review. Changes and additions to the budget were made and action deferred to Tuesday.

A CAST MEETING was attended by Tekrony as the AOSA representatives. Their group had changes in staff (C. Black is now retired) and some of CAST's planned activities had not made progress as a result. Some corporate sponsors had also dropped out. Tekrony had concerns, but felt CAST was still worth AOSA's support via our dues. A motion to accept the report was made by L. Wiesner and seconded by C. Baskin. Motion passed.

The NECROLOGY REPORT was given by M.S. Dhaliwa. On June 6, 1989, Patrick Cloughman died in Summerland, MA at age 100. A motion to accept the report was made by A. Knapp and seconded by J. Lair. Motion passed.

The CERTIFICATION OF ANALYSTS REPORT was given in part by Wayne Still. Eighty-nine exams had been given, with 41 exams passed and certificates issued to Seed Analysts. AOSA now has 172 analysts in 36 states. Further action was deferred until Tuesday night.

The SEED ANALYST LIAISON REPORT to ESCOP was given by Dr. Knapp on research priorities. A motion to accept the report was made by A. Knapp and seconded by C. Baskin. Motion passed.

The MERIT AWARD COMMITTEE report by Charles Baskin stated that the Merit Award recipient was chosen. A motion was made by Baskin to accept the report and was seconded by L. Wiesner. Motion passed.

The PROGRAM COMMITTEE REPORT was given by A. Knapp. A motion for acceptance was made by Dr. Knapp and seconded by E. Chirco. Motion passed.

Arnold Larsen requested time which was granted by President Vaughan to give a PROGRESS REPORT on HANDBOOK #25 revisions. He presented a page draft of the format that would be used. The current book would be 93+ pages and will require further revisions and reviews. Costs at this point were running \$600 to \$1,000 and might require additional money next year.

Danielson then continued with his report on the UNIFORM SEED ANALYSIS REPORT FORM by presenting a revision that had been made to reposition areas of information and add a disclaimer. Wiesner moved and Baskin seconded that the board recommend that AOSA approve (with minor editorial changes) a generic report form and instruction book for use by the seed industry to promote standardization for seed test reporting. Motion passed. Wiesner then moved and Baskin seconded that the Executive Board recommend that if AOSA labs are using the generic report form, those labs identify themselves as members of AOSA. Motion passed.

The NOMENCLATURE REPORT was read by President Vaughan as submitted by C. Gunn. Two major projects were being worked on. A motion for acceptance was made by C. Baskin and the second was made by A. Knapp. Motion passed.

President Vaughan stated a NOMINATION REPORT had been received from T. Turner. A motion for acceptance was made by C. Baskin and seconded by A. Knapp. Motion passed.

A SEEDLING EVALUATION HANDBOOK PROGRESS REPORT was made by Doug Ashton. He had sent out final reviews, gotten estimates on drawing costs, and scheduled a meeting at Peoria for discussions. Correspondence with ISTA and other authors of similar publications had also been made to keep abnormal depictions in all publications consistent. A motion to accept the report was made by D. Ashton, and was seconded by A. Knapp. Motion passed.

The CONSTITUTION REPORT was given by L. Prentice. A survey had been requested in New York to determine if changes to the AOSA Constitution were needed. Committee membership was expanded to eight and a survey form published in the February News Letter. Sixteen responses were received. The survey responses were discussed. Because the News Letter survey response was so low, the Executive Board could not determine the membership's wishes. The report was accepted with recommendations. Wayne Still moved and Steve McGuire seconded that the board request the incoming President to make a direct mailing to members on the question of constitution revisions. Motion passed.

L. Prentice presented the EDITORIAL REPORT on News Letter mailings for 1988. Three regular and two special issues had been printed at a total cost of \$8,262.55. Special issues and high page numbers in one issue were cited as reasons for cost increases. C. Baskin moved to accept the Newsletter Editor's Report. A. Knapp seconded. Motion passed. A motion for acceptance of the Editorial Report was made by C. Baskin and seconded by A. Knapp. Motion passed. Wayne Guerke moved and C. Baskin seconded to pay Barbara Ditmer \$330 for indexing work she had done. Motion passed. This was 55 hours at \$6 per hour.

The RULES REPORT was given by S. Hurst. Fourteen proposals for rule changes had been received for consideration this year. Other actions of the Rules Committee due to nomenclature changes were also reported. W. Still moved to accept and L. Wiesner seconded. Motion passed.

NEW BUSINESS: A letter from the Oregon seed trade on rounding sample weights and other items was reviewed by the Board and referred to the Rules Committee for consideration. C. Baskin moved for acceptance and W. Guerke seconded. Motion passed.

Baskin moved and Guerke seconded that the AOSA SYMPOSIUM as printed in the program be accepted in lieu of a committee report. Motion passed.

OLD BUSINESS: A two-year term for the President was discussed. Continuity and two-year terms for the offices of Vice President, President and Past President were discussed. Also discussed was changing the duties of the Vice President to include serving as program chairman if two-year terms were accepted. It was recommended to poll AOSA Presidents at the President's breakfast for their opinions.

DIRECTION to the RESOLUTION COMMITTEE was given by the Executive Board to draft a resolution on Federal Seeds Branch funding. President Vaughan stated formal federal legislative consideration of the FSA budget was being given to determine cost effective cuts and other considerations.

The NORTHERN SEED ASSOCIATION RESOLUTION was reviewed by the Board on topics of fungicide use, dormancy and other items. Incoming President Baskin was requested to reply to the resolution.

NEW BUSINESS: ASTA's Advisory Committee Resolution was reported on by Vice President Baskin concerning its content and discussions he had with various ASTA personnel now involved with AOSA committee work. Action was postponed to Tuesday in order to hear ASTA's comments on Sunday.

The FRONT RANGE SEED ANALYST SALARY SURVEY request was reviewed. They were seeking AOSA Board approval to conduct a survey of AOSA membership on salaries of Seed Analysts. Chirco moved to accept the report and W. Guerke seconded that the AOSA Board endorse the Front Range Seed Analyst Survey and supply labels to the group. Motion passed.

The meeting RECESSED at 5:55 p.m. for dinner.

The meeting was RECONVENED at 9:13 p.m.

The LEGISLATIVE REPORT was given by C. Abbott. He also discussed the offer by SCST to combine legislative reports with AOSA resulting in one report for both groups. C. Baskin moved for acceptance and S. McGuire seconded. Motion passed. Vaughan questioned if RUSSL changes were recommended or just being reported to AOSA. The chairman stated they were being reported. The report was accepted.

Jim Lair presented information to the Board regarding the situation that had resulted in Illinois from acceptance of a two-year work requirement before taking AOSA accreditation testing. Action was deferred until after the committee meeting.

President Vaughan discussed ASSOCIATE MEMBER DUES and current value of Association publications received by those members. Baskin moved and McGuire seconded to increase Associate Member dues to \$50 per year. Motion passed.

Jim Lair discussed REQUESTS received FOR LABELS. These have been increasing, and he asked for Board direction. Board direction was given to limit label distributions to committee chairmen and investigate alternate methods to more easily make distributions.

COMPLIMENTARY REGISTRATION POLICIES were discussed. The current policy is that no registration fees are charged for Honorary Members, graduate students or speakers. Chirco was asked to prepare a list of who would normally receive complimentary registrations.

Guerke moved and Lair seconded that the Saturday board session adjourn to reconvene Tuesday, 7:00 p.m. The motion was accepted and the meeting adjourned at 10:57 p.m.

AOSA BOARD MEETING

June 13, 1989

The following were in attendance: Doug Ashton, Charles C. Baskin, Ellen M. Chirco, Wayne Guerke, Allen D. Knapp, James N. Lair, Steve McGuire, Larry Nees (visitor), T. Wayne Still, Buddy Vaughan, and Loren Wiesner.

The meeting was called to order. The Saturday Board minutes were read by C. Baskin and amendments made. Still moved and Guerke seconded to accept the Saturday Board minutes as amended. Motion passed.

The MEMBERSHIP COMMITTEE REPORT was read by Larry Nees. Two Associate Members' applications and one Honorary Member application had been received. Still moved and Knapp seconded to accept the report. Motion passed. Baskin moved and Still seconded to accept Tolley and Ferguson as Associate Members and Russ Marx as an Honorary Member. Motion passed.

The MEETING PLACE REPORT was given by Larry Nees. The committee had received invitations from Kentucky for 1991 and Colorado in 1993. Baskin moved and Knapp seconded to accept the report. Motion passed. Baskin moved and Knapp seconded to accept the invitations extended. Motion passed.

The AUDIT REPORT was given by Ellen M. Chirco. The books were found to be in order. Chirco moved and Baskin seconded to accept the report. Motion passed.

The BUDGET COMMITTEE REPORT as revised was given by Baskin. Only two major changes had been made since Saturday. Vigor Handbook income for 1989 had been reduced to \$200 and \$1000 had been added to the Journal for an Editor's assistant. Baskin moved and Still seconded to accept the report. Motion passed.

NEW BUSINESS: After review of the Schwarber/Lair letter from IL, the Analyst Accreditation Committee had met. Information at the committee meeting showed both programs were new and a time period conflict had unintentionally resulted. Because of this the committee recommendation to the board was that three trainee positions occupied be allowed a one time variance to take AOSA accreditation tests. Results they obtained would then be sent to Jim Lair for internal management use. However, analysts involved would not receive certificates of accreditation until they finished 2 years of work experience. Letters verifying the decision would be exchanged between Wayne Still and Jim Lair. Illinois would then revise their programs. Baskin moved and Ashton seconded to accept the recommendation. Motion passed.

The ANALYST ACCREDITATION EXAMS were reported on by T. Wayne Still as creating a filing problem. Still asked for permission to destroy old exam copies and place an example exam in the Archive Committee files. Knapp moved and Chirco seconded to accept the actions indicated. Motion passed. Still then continued by presenting possible changes to AOSA accreditation test requirements. Some additions included: 1) applicants must be a practicing Seed Analyst employed by an AOSA Member Laboratory. 2) A minimum of 24 months experience in an AOSA laboratory or RST supervised laboratory or it's equivalent is required to take AOSA examinations. 3) Effective July 1, 1991 scientific names are required for seed identification part of the purity practical examination. Still moved and Knapp seconded to accept the complete Analyst Accreditation Report and actions indicated. Report and actions accepted.

The RESOLUTION REPORT was given by Wayne Guerke. He reported that a resolution on Federal Seed Act funding and one on thanking Illinois were being prepared. Action was deferred to the open session for action.

Baskin requested board input on a letter draft to ASTA regarding discussions on ASTA's proposal for an advisory committee on AOSA activities. Discussion was made and suggestions made on the content. Still moved and McGuire seconded that C. Baskin respond to ASTA's advisory committee request per the Board discussion and suggestions made. Motion accepted.

AOSCA's ADVISORY COMMITTEE request regarding automatic sampler rules not currently being addressed by AOSA was discussed. Before addressing this problem, the Research Sub-committee structures and functions were reviewed. Knapp proposed reorganization of the Research Committee sub-committees from 14 to 9 and establish working groups under the 9 sub-committees. The board reviewed the nine Research Sub-committees structures proposed and requested Knapp to proceed. The automatic sample problem would be referred to the appropriate sub-committee.

The Tekrony letter was reviewed Sunday by president Vaughan's appointed committee. The committee gave their recommendations and reasonings in response to the letter. McGuire moved and Wiesner seconded that Vigor Testing Handbooks and future inserts be sold for \$25.00 per copy and separate charges be established to provide for only vigor insert purchases and that AOSA Rules for Testing continue at \$12.00 per copy with appropriate update charges established at a price to cover reprint costs and mailing expenses. Recommendation accepted.

The REGISTRATION POLICY of AOSA meetings was recorded in the minutes at the board session by Ellen Chirco. Free registration would be granted to:

1. Honorary Members
2. Greetings speakers (excluding AOSA & SCST)
3. Symposium speakers (excluding AOSA & SCST)
4. Graduate students (letter required from professor)
5. Trade show exhibitors
6. Invited guests

Complimentary banquet meals would include the AOSA President at the SCST banquet, SCST President at the AOSA banquet, affiliate representatives invited to give greetings, invited guests or speakers at the banquets. Still moved and Baskin seconded to accept the complimentary registration information. Motion passed.

1988 RESEARCH FUNDING PROJECTS proposals received along with the process of how to inform those submitting projects were reviewed by Dr. Knapp. Two projects were selected with both the successful and unsuccessful candidates to be informed by mail following the conclusion of the 1989 Peoria, Illinois meeting. A payment schedule was recommended by the Board to be drawn up by STSFRC's chair annually and sent to the Secretary Treasurer to specify grant payments for the selected proposals. Wiesner moved and Knapp seconded that the AOSA Board in 1989-90, fund the two research proposals recommended by the STSFRC Committee. Motion passed.

As a BUSINESS ITEM, the board requested the Secretary Treasurer to investigate tax implications if a \$50,000 base research fund was established for AOSA and what implications changing a research base might have on AOSA's non-profit status. The Secretary Treasurer stated he would ask the present accounting firm AOSA uses to respond to the board and the STSFRC Committee membership with any recommendations they had.

As a BUSINESS ITEM, the possibility of having the Uniform Seed Analysis Form Handbook as a permanent contribution was brought to the Board by Wiesner. The Board recommended that the seed analysis form instructions be printed in a News Letter issue for membership review and comments.

As a BUSINESS ITEM, the process for approving a revised Seedling Evaluation Handbook was discussed by the Board at the request of D. Ashton. It was suggested that if the Seedling Evaluation Handbook was accepted this year, that it not go into effect until completed with illustrations, printed, and distributed. The Board recommended in the case where a set of new 1989 rules was ordered, that Appendix One be printed at a quick copy facility and mailed along with the set of rules at no additional charge. No additional business was brought before the Board.

Baskin moved and McGuire seconded to adjourn the Board session. Board session adjourned at 12:37 a.m., Wednesday morning.

ASSOCIATION MEETING MINUTES
1989 79th Annual Meeting - Peoria, IL
Continental Regency Hotel

The general session was called to order by President Vaughan on 6/15/89 at 10:03 a.m. at the Continental Regency Hotel, Peoria, IL. The roll call was called for the AM Session by Jim Lair, Secretary/Treasurer. Forty of 56 laboratories were in attendance. It was determined that a quorum existed.

The AOSA Executive Board minutes from the June 10th and June 13th Executive sessions were read by Vice President C.C. Baskin. Baskin moved and Still seconded to accept the Executive Board minutes. After the reading, Still moved and Danielson seconded to amend AOSA Executive Board minutes to include acceptance of the SCST Board resolution supporting AOSA Research activities. Motion was accepted to amend the Board minutes. The Board minutes were then voted on. Motion passed.

The Secretary's report was read by Jim Lair. In the report the anticipated newsletter and journal mailings were given. Journal subscriptions were down. Lair moved and Still seconded to accept the secretary report. Motion passed.

The Treasurer's report was then read by Jim Lair. Lair moved and Danielson seconded to accept the treasurer's report. Motion passed.

The Editorial report was read by Loren Wiesner. Reports on the Journal, Newsletter and Handbooks were included. In the reports, it was reported that two associate editors for the Journal were added. Volume 12 (#2) was shown and the current review process explained as the reason for delays in printing. Wiesner then moved and Karrafelt seconded to accept the Editorial report. Motion passed.

The Legislative report was distributed and read by Charles Abbott. Lew Davis commented on changes that had occurred in California. The RUSSL recommendations were also reported. Abbott concluded the report by asking states to submit only changes when reporting. Abbott moved and Debbie Meyer seconded to accept the report. Motion passed.

The Liaison report was read by Wayne Still on the AOSA's representation at various national meetings. Still moved and Steve McGuire seconded to accept the report. Motion passed.

The Membership report was read by Larry Nees for the 1989 applications received. Two associate-member applications for Tolley and Ferguson had been received. One nomination for honorary membership of Russell Marx had also been received. Nees moved and Debbie Meyer seconded to accept the report. Motion passed.

Larry Nees moved and Wayne Still seconded to accept Tolley as an associate member. Motion passed.

Larry Nees moved and Loren Wiesner seconded to accept Ms. Ferguson as an associate member. Motion adopted.

Larry Nees moved and Wayne Still seconded to accept Russell Marx as an honorary member. Motion adopted.

The Public Service/Archives report was read by Jim Lair. Available slide sets had been distributed and were asked to be returned for others to use. Lair moved and Debbie Meyer seconded to accept the report. Motion passed.

The Referee report was made by Steve McGuire. AOSA and SCST projects for each year were being maintained in the archives of AOSA and the SCST Library. All referee projects were now being run as joint projects with a list of projects for the new year made available. McGuire moved and Kathy Willey seconded to accept the report. Motion passed.

The Research committee reports were made by Al Knapp. The fourteen sub-committee reports included the following:

1. Cultivar Purity on progress towards printing a Handbook.
2. Flower Seed on progress with AOSA rule changes.
3. Seed Moisture on adding two members.
4. Rangelass on establishing blowing points.
5. Seed Vigor on procedural revisions.
6. Tree & Shrub on an *Abbies* test procedure.
7. Garden Beans on a germination referee.
8. Tolerances on Noxious Weed & Electrophoresis.
9. Germination/Dormancy on use of GA₃ for grasses.
10. Seed Conditioning on workshop presentations.
11. *Lolium* Testing on recruitment of members.
12. Seed Pathology on an endophyte referee.
13. Tetrazolium on a survey of current Handbook deficiencies.
14. STSFRC on a survey to establish priorities/projects.

Knapp moved and McGuire seconded to accept the Research Committee report. Motion passed. Knapp then discussed the STSFRC policy on the method that would be used to inform project candidates for awards made or not made.

The General Session was then adjourned for lunch at 11:53 a.m. to reconvene at 1:17 p.m. with President Vaughan presiding. Roll call was taken by Jim Lair. Thirty seven member laboratories were present for the afternoon out of 56 for a quorum.

Knapp continued discussion with the Research Committee changes for FY90 in reducing their structure from 14 to 9 subcommittees.

The Rules Committee report was given by Steven Hurst. Fourteen rule proposals were being submitted for insertion in AOSA Rules for Testing. Hurst moved and Debbie Meyer seconded to accept the report. Motion passed. The Rule changes were then read separately for action:

Rule Proposal #1 on peroxidase testing was read. Hurst moved and Arnold Larsen seconded to adopt the Rule as amended. A voice vote was taken but was too close for action. A hand vote was taken with 18 in favor and 12 against. Motion adopted as amended.

Rule Proposal #2 on Oat Fluorescence Testing was read. Hurst moved and Debbie Meyer seconded to adopt the Rule. Motion adopted.

Rule Proposal #3 on Phenol Testing was read. Hurst moved and Young seconded to adopt the Rule. Motion adopted.

Rule Proposal #4 on the deletion of Appendix 2 formula calculations was read. Hurst moved and Bob Karrafelt seconded to adopt the Rule. Motion adopted.

Rule Proposal #5 on the Caryopsis Seed Unit change in description was read. Hurst moved and Debbie Meyer seconded to adopt the Rule. Dhaliwal proposed an amendment to the Rule as read. President Vaughan ruled the motion out of order. The effects on *Lolium* spp. were discussed by the membership. Question was called for. Motion defeated.

Rule Proposal #6 was read for addition to the Rules. Hurst moved and Karrafelt seconded to adopt the Rule. Motion adopted.

Rule Proposal #7 was read for addition to the Rules. Hurst moved and Still seconded to adopt the Rule. Motion adopted.

Rule Proposal #8 was read for addition to the Rules. Hurst moved and Still seconded to adopt the Rule. Motion adopted.

Rule Proposal #9 was read for addition to the Rules. Hurst moved and Karrafelt seconded to adopt the Rule. Motion adopted.

Rule Proposal #10 was read for addition to the Rules. Hurst moved and Debbie Meyer seconded to adopt the Rule. Motion adopted.

Rule Proposal #11 was read for addition to the Rules. Hurst moved and Karrafelt seconded to adopt the Rule. Motion adopted.

Rule Proposal #12 was read for addition to the Rules. Hurst moved and Kathy Willey seconded to adopt the Rule. Motion passed.

Rule Proposal #13 was read for addition to the Rules as amended. Hurst moved and Debbie Meyer seconded to adopt the Rule as amended. Barb Atkins discussed the background and referee research. Comments were made by Dr. Arnold Larsen and other concerning achene size and cleaning out seeds. Question was called. A voice vote was taken but the outcome could not be determined. A hand vote was taken with a tie vote resulting of 11 for and 11 against. Motion defeated.

Rule Proposal #14 was read on the deletion of Appendix 1 with replacement by the Seedling Evaluation Handbook upon use only after completion of printing for distribution. Hurst moved and Still seconded to adopt the rule proposal as amended. Motion adopted as amended.

Discussion was made on the status of appendix 1 until such time as the handbook was completed and sales of new Rules Issues. Steve Hurst was thanked for his contributions as the Rules chairman for AOSA.

The Seed Standardization report was read by Rodger Danielson on the three sub-committees and activities their ten members had done and the two items to consider for action. Danielson moved and Debbie Meyer seconded to accept the report. Motion passed.

Still moved and Lawson seconded to adopt the generic seed analysis report format with minor editorial changes. Action adopted.

Ashton moved and Still seconded that AOSA laboratories using the format shall identify themselves as an AOSA member laboratory. Discussion on use of the word "analyzed" in noxious area of the report format for working weight was made. Discussion on leaving off AOSA logo was made by C.C. Baskin. He stated the AOSA logo was left off to promote use. Question was called for. Motion adopted.

The Audit report was read by Ellen M. Chirco. The books of the secretary treasurer had been found to be in order. Chirco moved and Debbie Meyer seconded to accept the report. Motion passed.

The AOSCA Advisory Committee report was read by Loren Wiesner. Wiesner moved and Jim Effenberger seconded to accept the report. Motion passed.

The ESCOP Liaison report was read by Dr. Knapp. He had sent responses with priorities that needed to be set. Knapp moved and Still seconded to accept the report. Motion passed.

The Budget Report for FY90 was given by C.C. Baskin. Estimates of income and expenses were given for the budget categories. \$3000 less income was expected and additional expenses through regular attendance to the ISTA meeting. Baskin moved and Still seconded to accept the report and adopt the FY90 budget. Motion passed and Action adopted.

The CAST report as presented in the business session minutes was moved as read by Still and seconded by Karrafelt for acceptance. Motion passed.

The Certification of Analysts Report was given by Wayne Still for FY89. Eighty-nine exams had been given and 172 analysts in 36 states were now certified. The Criteria were reviewed for seed analyst certification on the additions and changes that were being made. The criteria and changes included:

1. Applicants must be employed in AOSA member laboratories.
2. 24 months work experience in AOSA laboratories or 24 months in an RST laboratory or it's equivalent is required to take exams.
3. The use of Botanical names starting as of July 1, 1991, will be required.

Still moved to accept the report and adopt the actions. Seconded by Chirco. Report accepted and actions adopted.

The general session was recessed from 2:55 p.m. to 3:13 p.m. for a refreshment break.

The Constitution report was read by Larry Prentice. Prentice moved and Meyer seconded to accept the report. Motion passed.

The Meeting Place report was read by Larry Nees. Invitations had been received and were recommended for acceptance from the following sites:

- 1990 - Annapolis, Maryland
- 1991 - Lexington, Kentucky
- 1992 - OPEN for invitation
- 1993 - Hosted by three organizations in Colorado

Larry Nees moved and Jim Schoen seconded to accept the report and invitations extended. Invitations accepted.

The Merit Award report was read as being awarded to Gail Fenderson at the AOSA banquet. Baskin moved and Knapp seconded to accept the report. Motion passed.

The Necrology report was read by M.S. Dhaliwal on the career and death of Patrick Cloughman at age 100. Dhaliwal moved and Jim Schoen seconded to accept the report. Motion passed. A moment of silence was observed.

The Newsletter report was moved as read by Still and seconded by Doug Ashton. Motion passed.

The Nomenclature report work as reported by Gunn was read. Karrafelt moved and Jim Effenberger seconded to accept the report. Motion passed.

The Program report was read by Dr. Allen Knapp. Knapp moved and Jim Effenberger seconded to accept the program report. Motion passed.

The Resolutions report was read by Wayne Guerke on the Funding of the Federal Seed Act. A second resolution thanking the Illinois Dept. of Agriculture Seed Laboratory staff, the Continental Regency Hotel staff and all others involved with planning the '89 convention was read. Guerke moved and Knapp seconded to accept the report. Motion passed.

Guerke moved and Chirco seconded to adopt the resolutions as read. Resolutions adopted.

The Seedling Evaluation report was read by Doug Ashton. Ashton moved and Jim Schoen seconded to accept the report. Motion passed.

The AOSA Symposium report was read by Dr. Knapp for Joe Burris. Knapp moved and Jim Schoen seconded to accept the report. Motion passed.

President Vaughan called for other committee or subcommittee reports to be brought forward. None were brought up.

As old business—Rodger Danielson moved to adopt annual associate member dues of \$50.00. Dave Svik seconded the motion. Motion adopted.

Lew Davis requested time from the membership. A presentation was made to Jim Lair for his work as secretary treasurer and as work at the 1989 AOSA/SCST meetings. The membership commended the Illinois Department of Agriculture staff members for their work in putting on the meeting.

The Nominations report was made by President Vaughan. Svik moved and Jim Schoen seconded to accept the report and adopt the officers for FY90. Motion accepted and action adopted.

Officers for installation in FY90 included:

Tom Umstadt - Missouri Dept. of Ag. - one year/board
Arnold Larsen - Colorado State Laboratory - two year/board
James Warren - NC Dept. of Agric. - two year/board
Wayne Guerke - Georgia State Seed Laboratory - Vice President
C.C. Baskin - Mississippi Seed Tech - President

The gavels for President and Vice-President were passed to incoming President Baskin and Vice-President Guerke.

President Baskin made announcements on the committee chairmen for FY90. Chairmen of sub-committees were also announced.

President Baskin announced that a proposal to have a survey and materials for two year terms of President and Vice-President would be submitted to the constitution committee.

Special committee appointments for the FY90 year were announced.

Wayne Still moved and Bob Karrafelt seconded to adjourn the AOSA general business session. Motion passed and meeting adjourned at 3:45 p.m. on June 15, 1989 at the Continental Regency Hotel, Peoria, IL.

AOSA SECRETARY/TREASURER REPORT

JUNE 1989

The office of secretary/treasurer has completed a full three year term and is starting the second at Springfield, IL. Any items that a secretary/treasurer is supposed to accomplish are, I feel, set by: (1) membership needs that are expressed (2) the direction given by the board membership and (3) the AOSA's President. Since no legal counsel for AOSA currently exists, everyone must insure we remain within the context of the law. If there are any goals or needs that a secretary/treasurer sets for this office, they revolve around the law and needs these people express. I hope I met the needs any of you expressed in my first term and over this last year. In my last two years, I hope to provide for the needs you express and finish whatever you feel I may need to do.

Correspondence received this year revolved around non-receipt claims for the Journal of Seed Technology, Volume 12 #2. The journal previously had a problem in 1986 when mailing labels were printed once for the entire year. This time the journal editor's office had moved. Since the printer is now in Montana and the editor in Colorado this may be part of the problem. However, combined with a journal subscription rate of \$25.00, 92 journal subscribers chose not to renew in 1989. The lost income potential to AOSA from these and other order cancellations appears in the treasurer's report as a \$7257.70 total loss in 1989. Other outstanding bills total \$4994.35 as of this report date including affiliations. Other AOSA income potentials such as journal page fees have so far not replaced these losses. Mailings anticipated by the secretary for FY90 fiscal year follow with other data for review:

YEAR COVERED IN REPORT	GROUP & AFFILIATION CONTACTED BY AOSA	NEWSLTRS MAILED	JOURNALS MAILED
1988-(89)	ISTA & Complimentary	126(124)	126(124)
1988-(89)	Paid Subscribers	121(112)	191(157)
1988-(89)	AOSA Full Membership	58(55)	58(55)
1988-(89)	AOSA Assoc. Membership	34(35)	34(35)
1988-(89)	AOSA Honorary Members	48(49)	
1988-(89)	SCST (\$20/mbr/yr fee)	176(198)	
TOTALS FOR YEARS 1988-(89)		563(573)	409(371)

The mailings represented above are for the journal and newsletter mailings that take place in a fiscal year. In my first term as secretary/treasurer, these were also printed on request for use by committee chairmen to do mailings from. To save costs to the Association, policy stated that I would print labels once and ask each committee chair to put the data onto their own computer. If income continues to drop, such printings may no longer be possible. However, the data is being translated to ASC format for transfer on disks.

The vigor chairman also expressed questions on mailing vigor inserts separate from the handbooks. Any mailings that this Association makes are subject to U.S. Postal Regulations. An intentional violation of U.S. Postal Regulations can result in Federal prosecution. The specific section applicable

to AOSA mailing appears in Title 18, section 3009, "Mailing of Unordered Merchandise". Unordered merchandise is defined as, "merchandise mailed without the prior expressed request or consent of the recipient." For AOSA orders, this means only written requests or specific calls to my attention are outside the Postal Code definition. If added items not requested are mailed we are shipping unordered merchandise. What can legally be mailed under the definition and Section 3009 follows. In reading this, please be aware that AOSA is not a charitable organization under the terms of our IRS tax status:

"(a) Except for (1) free samples clearly and conspicuously marked as such, and (2) merchandise mailed by a charitable organization soliciting contributions, the mailing of unordered merchandise or of communications prohibited by subsection (c) of this section constitutes an unfair method of competition and an unfair trade practice in violation of section 45 (a) (1) of Title 15." Title 15 is U.S. Tax code and subsection (c) states that no mailer of unordered merchandise shall mail a bill for such merchandise.

In FY90, the following items are recommended from this office for board consideration and/or action:

1. Alternate funds for the reduction in AOSA subscriptions to journals combined with efforts to recruit additional membership. A review of associate member fees.
2. Completion of reprints for AOSA Rules for Testing Seed and finalizing for print of the Seedling Evaluation Handbook. Both items are anticipated to be requested on a continuing basis from AOSA secretary's office.
3. A Research Committee project to receive funding from the AOSA Research Fund. Federal tax limits will not allow the Association to continue accumulating money for AOSA research without a definite goal or project where it is being spent. If goal is set, a cost estimate would be required to meet tax stipulations.

James N. Lair, Secretary/Treasurer

TREASURER'S REPORT
INCOME STATEMENT
ACCOUNTING PERIOD 06-01-88 TO 05-31-89

-----**INCOME**-----

AOSA CDE	DESCRIPTION	DEBIT	CREDIT
010	STARTING ACT BALANCES AS OF 6/1/88		26001.40
020	CANCELLED SALES/ACT ORDERS FOR FY89	7257.70	
100	AOSA DIRECTORY ISSUE SALES		20.00
101	BLOWING PROCEDURE SALES, HDBK #24		146.00
102	BROWSE/FORBES/SHRUB HANDBOOK SALES		75.00
103	CALIBRATION SAMPLE SALES - BLUEGRASS		300.00
104	CALIBRATION SAMPLE SALES - ORCHARDGRS		100.00
105	CLASSIFICATION HANDBOOK SALES		43.00
106	JOURNAL SUBSCRIPTION - ANNUAL SALES		6645.00
107	JOURNAL VOL./ISSUES SALES		223.00
108	MICRO-ASSAY FUNGICIDE BULLETIN SALES		3.00
109	NEWSLETTER SUBSCRIPTION - ANNUAL SALES		3220.00
110	NEWSLETTER VOL./ISSUE SALES		441.00
111	RADIOGRAPHIC TREE SD HANDBOOK SALES		30.00
112	RHIZOBIA GROWTH TEST BULLETIN SALES		1.00
113	RULES FOR TESTING - (binders) SALES		549.00
114	RULES FOR TESTING - (inserts) SALES		4707.00
115	RULES FOR TESTING - (81 body) SALES		2124.00
116	SAND TEST BULLETIN SALES		1.00
117	STANDARDIZED WHEAT PHENOL TEST BULLETIN		8.00
118	TETRAZOLIUM TEST HDBK #29 SALES		426.00
119	VIGOR TEST HANDBOOK SALES		1720.00
120	MISCELLANEOUS SALES INCOME		44.98
121	DUES - AOSA ASSOCIATE MEMBERSHIP		1505.00
122	DUES - AOSA FULL MEMBERSHIP		9150.00
123	DUES - SCST ANNUAL AFFILIATION		3960.00
126	VIGOR TEST - (88 inserts) SALES		480.00
202	FY 89 INTEREST INCOME		1445.68
204	AOSA/SCST NY MTG ADVANCE/PROFIT RETURN		6778.45
400	PREVIOUS FISCAL YEAR INCOME REC'D FY89		1269.00
	TOTAL INCOME	7257.70	71417.01 64159.31

-----**EXPENSES**-----

AOSA CDE	DESCRIPTION	DEBIT	CREDIT
300	BANK HANDLING CHARGES	87.30	
301	COMPUTER TIME CHARGES	897.00	
302	JOURNAL EXPENSE - EDITOR CHARGES	283.00	
303	JOURNAL POSTAGE FEES	609.71	
304	JOURNAL EXPENSE - PRINTING	3755.00	
305	NEWSLETTER EXPENSE - EDITOR CHARGES	166.81	
306	NEWSLETTER EXPENSE - POSTAGE	1168.93	

307	NEWSLETTER EXPENSE - PRINTING	4579.91	
310	PRINTING EXPENSE - PUBLICATIONS	2393.76	
308	SEC./TREAS. PAPER/SUPPLIES EXPENSE	361.20	
309	SEC./TREAS. POSTAGE EXPENSE	1280.97	
312	TAXES - PREPARATION EXPENSE	125.00	
313	TAXES - DONATIONS BY GROUP	3153.22	
314	TAXES - AOSA TRAVEL EXPENSE FOR TRIPS	1924.76	
315	MISCELLANEOUS EXPENSES	435.00	
316	AOSA ANNUAL MEETING SET-UP ADVANCE	1000.00	
003	AOSA FY89 RESEARCH FUND DONATION	3000.00	
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	TOTAL EXPENSES	25221.57	
		32479.27	71417.01
	TOTAL CASH FLOW		38937.74

BALANCE SHEET

ACCOUNTING PERIOD 06-01-88 TO 05-31-89

ASSETS

AOSA CDE	DESCRIPTION	DEBIT	CREDIT
200	LAND OF LINCOLN (RESEARCH CD)		10500.00
201	LAND OF LINCOLN (CHECKING 111-813)		13755.83
202	LAND OF LINCOLN (SAVINGS 12001716)		20187.56
206	L&L-1989 IL MTG (CHECKING ACT)		550.33
207	L&L-1989 IL MTG (SAVINGS 12001856)		2686.21
210	ACCOUNTS RECEIVABLE FOR AOSA, INC.		4994.35
<hr/>			
	CASH ASSETS		52674.28
	ASSETS		52674.28

LIABILITIES

	LIABILITIES		0.00
	RETAINED EARNINGS		52674.28

**REPORTS OF STANDING COMMITTEES
AND SUBCOMMITTEES****EDITORIAL COMMITTEE REPORT**

Journal of Seed Technology - Editor Loren Wiesner

A system for reviewing manuscripts was established involving Associate Editors. Four individuals accepted positions as Associate Editors; Dr.'s Larry Copeland, Don Grabe, Al Knapp and Miller McDonald. During the year Dr. Norman Hopper was added as an Associate Editor.

We have received thirty-two papers during 1988-89. To date, five manuscripts have been accepted, four rejected and the other manuscripts are still in review by Associate Editors or being revised by authors. The number of papers received for review has created a great burden on the Associate Editors and, therefore, another Associate Editor will be added next year.

Volume 12 (1) was sent out and Volume 12 (2) will be mailed soon. Volume 13 (1) which should be at the printer now is being held-up due to lack of papers. I also plan to put the 1988 minutes and reports in this volume and the 1989 minutes in Volume 13 (2). If this is accomplished we will have the current year minutes in the Journal volume with the same date.

Mr. Ed Hardin has agreed to serve as our Historian and will be trying to bring the Association's historical past up to date.

The Rules for Testing Seeds have been completely revised and copies will be sent out soon. The format of the Rules has changed by placing the large tables together in the back of the text. The cost of reprinting the Rules was greatly reduced by revising a copy of a computer disk received from Rodger Danielson of Oregon State Seed Laboratory. This was a major revision as just about every page had a change. Mr. Steve Hurst and his committee should be commended for their efforts in making the corrections, correcting the proofs and preparing the index.

Page charges were established by the Association in 1988. The present page charges are \$20.00 per page for the first ten pages and \$50.00 per page for each additional page or half page. The Association also increased the cost of a Journal subscription to \$25.00.

Science Education - Editor, Arnold Larsen

The brochure entitled "Career Opportunities in Seed Analysis" has been printed and distributed to AOSA and SCST. The two Associations shared the cost of printing copies of the brochure. Copies of the brochure can be obtained from the Secretary-Treasurer of the respective associations.

News Letter - Editor, Larry Prentice

The three regular issues of the News Letter were printed and distributed, along with two special issues and an additional printing of the Cultivar Purity Handbook. Detailed cost breakdowns were submitted to the Executive Board and the Editorial Committee Chairman for approval.

Loren Wiesner, Chairman

LEGISLATIVE COMMITTEE REPORT

The Committee Members are:

Richard Deppen James Warren
 Lee Hart Randy Kocurek
 Charles Abbott, Chrm.

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. To repeal Section 52484, Treated seed regulation.
Hawaii	Proposed 1989	1. Updating of seed species listed or prohibited and primary noxious seed categories; elimination of secondary category and replace with "all other" found in excess of 1% (we're still studying to see if it will be 1% per pound or sample weight, or whether we will use 2 seeds per sample weight); elimination of 2% weed seeds including noxious weed seeds. 2. Change present tolerances by adopting and referring to AOSA standards. Please remove Tom Watanabe's name from your mailing list and use Myron O. Isherwood, Jr.
Idaho	Proposed 7/1/89	1. All weeds in the Noxious Weed Law will be added to the Idaho Pure Seed Law as Prohibited Noxious Weeds, as follows: Buffalobur, Common Crupina, Black Herbane, Purple Lythrum, Perennial Pepperweed, Poison Hemlock, Tansy Ragwort, Musk Thistle, Scotch Thistle, Yellow Toadflax, Dyers Woad. 2. Four restricted noxious weeds will be upgraded to the prohibited noxious weed list, as follows: Wild Carrot, Difuse Knapweed, Spotted Knapweed, Puncturevine. 3. Tolerances for restricted noxious weeds have been increased from 5 to 7 in 50 grams of small seeds; from 5 to 8 seeds in 150 grams of Proso Millet, Sudangrass

and seeds of similar size; from 2 to 4 seeds in 500 grams of small grains, sorghums, vetches, field peas and seeds of similar size.

Illinois	Now*	<ol style="list-style-type: none"> 1. Noxious weeds are to be listed by the number per pound instead of per ounce. 2. Permit fees increased.
Indiana	9/1/88	<ol style="list-style-type: none"> 1. The Indiana Seed Arbitration Law provides for arbitration of disputes relating to agricultural and vegetable seed sold in Indiana. (New Law; not part of Seed Law.) 2. Indiana Seed Arbitration Council was established. 3. Arbitration is available only when the buyer has been notified by inclusion on the seed label of a notice that arbitration is required prior to initiating a civil action against the seller.
Iowa	7/1/88	<ol style="list-style-type: none"> 1. Permit fees increase three-fold.
Louisiana	1988	<ol style="list-style-type: none"> 1. Teaweed, <i>Sida rhombifolia</i> deleted from the noxious weed list.
Maryland	Proposed Spring, 1989	<ol style="list-style-type: none"> 1. Regulations to be adopted dealing with certified seed mixing.
Mississippi	Proposed*	<ol style="list-style-type: none"> 1. Regulation changes reducing the number of noxious weed seeds permitted in agricultural or vegetable seed.
Missouri	2/11/89	<ol style="list-style-type: none"> 1. Serrated Tussock Grass, <i>Nassella trichotoma</i> added to the prohibited noxious weed list.
Montana	Now*	<ol style="list-style-type: none"> 1. The following four restricted noxious weed seeds have had the allowable number of seeds per pound reduced from 9 to 0: Common Crupina, Tansy Ragwort, Yellow Starthistle, Rush Skeletonweed.
Nebraska	Proposed 1/1/90	<ol style="list-style-type: none"> 1. Complete update of law and regulations to correspond with RUSSEL.
New York	Proposed*	<ol style="list-style-type: none"> 1. Change seed treatment labeling. 2. Add provision for hermetically sealed containers. 3. Add seed coating provision.

4. Extend test date period for certain lawn grass seeds.

5. Eliminate fine-textured/coarse-kind grass seed labeling.

- | | | |
|----------------|--------------------|--|
| North Carolina | 1988 | <ol style="list-style-type: none"> 1. Common name for <i>Centaurea cyanus</i> changed from Ragged Robin to Cornflower. 2. Germination test period for vegetable seeds in hermetically sealed containers of one pound or less extended to 24 months. |
| | Proposed
1989 | <ol style="list-style-type: none"> 1. Add <i>Nassella trichotoma</i> to prohibited noxious weed list. |
| North Dakota | 3/1/88 | <ol style="list-style-type: none"> 1. Regulation 74-02-01-04 changed to include definitions of phrases used in specified exemptions to provisions for farmer sales. The phrases defined are: <ol style="list-style-type: none"> a. "Publically advertised for sale." b. "Sells only his own seed." c. "Engaged in the seed business." |
| | Proposed
8/8/89 | <ol style="list-style-type: none"> 1. Add to Section 4-09-10, 1, a., soybeans and edible beans. 2. Add two new subdivisions of Subsection 1 of Section 4-09-14. <ol style="list-style-type: none"> a. "Such seed contains restricted noxious weed seeds in excess of ninety seeds per pound (453.59 grams)." b. "The percentage by weight of all weed seeds in the seed exceeds one percent. 3. Section 4-25-02,6. (Prohibitions) to be changed to read, "6. The kind and variety of seed of wheat, durum, barley, oats, rye, flax, soybeans, and edible beans." 4. Add to prohibited noxious weed list: Musk Thistle, Hemp, Absinth Wormwood, Milkweed and Spotted Knapweed. |
| Ohio | Proposed
7/1/89 | <ol style="list-style-type: none"> 1. Add Serrated Tussock Grass, <i>Nassella trichotoma</i> to prohibited noxious weed list. |
| Oregon | Now* | <ol style="list-style-type: none"> 1. Serrated Tussock Grass added to the prohibited noxious weed list. |
| South Dakota | 7/1/88 | <ol style="list-style-type: none"> 1. Seed Law changed to up-date terminology. 2. Added labeling requirements for flower, tree and shrub seeds. 3. Added arbitration section. |

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|------------|-----------|---|
| | | 4. Required that information on the label shall be determined by tests conducted in an official laboratory or under the supervision of a registered or a certified seed analyst. |
| | 7/1/88 | <ol style="list-style-type: none"> 1. Regulations changed to include on the restricted noxious weed list Spotted Knapweed, Giant Foxtail, Musk Thistle, Plumeless Thistle. 2. Germination standards for vegetable, flower, tree and shrub seeds updated to conform with RUSSL. 3. A TZ test may be used to indicate the potential viability of Green Needlegrass and Western Wheatgrass. 4. Seed of barley, flax, oats, rye, soybeans, triticale and wheat shall be labeled as a kind and variety. 5. "Performance Characteristics" is an added labeling requirement for flower seed. 6. Arbitration standards added. |
| Vermont | Proposed* | 1. Law to be revised to correspond to RUSSL. |
| Washington | Now* | 1. Serrated Tussock Grass added to the Prohibited Noxious Weed list. |
| USDA | 1/1/89 | 1. Delete Section 201.104 (c) Federal Seed Act Regulations; imported alfalfa and red clover seed from Canada no longer needs to be stained. |
| Canada | Now* | <p>There were regulatory amendments in the following areas under the Canadian Seeds Act Regulations:</p> <ol style="list-style-type: none"> 1. Use of variety names in advertising seed (trade memo T-2-120) 2. Sale of seed under a multiplication contract (trade memo T-2-122) 3. General quality standards (trade memo T-2-121) |

A general restructuring of the Seed Regulations will be carried out during this year; expect and should be ready by next July. People wishing to receive copies of the Regulations or copies of the above mentioned trade memoranda should write to:

Mr. W. Hanson
Seed Division
Agriculture Canada K.W. Neatby Bldg.
Ottawa, Ontario,
K1A 0CA
Canada

- | | | |
|-------|-------------------|---|
| RUSSL | Suggested Changes | <ol style="list-style-type: none"> 1. Section 2 (c) (4). Delete last sentence. 2. Section 2 (c) (9). Delete the note. 3. Section 1. Should be reworked. 4. Divide RUSSL into two parts, the "concept" and "specifics". The concept would be the body of the law and the specifics would comprise the rules. This, presumably, would allow the RUSSL to keep pace with state legislation through the yearly adoption of rules. If this plan is accepted, an attorney should be employed to help draft the concept. |
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*No date reported.

Charles Abbott, Chairman

LIAISON COMMITTEE REPORT

AOSA was represented at the annual meetings of the American Seed Trade Association (ASTA), Association of American Seed Control Officials (AASCO) Associations of Official Seed Certifying Agencies (AOSCA), and the National Association of State Departments of Agriculture (NASDA). Items discussed with these affiliate organizations were: AOSCA membership in AOSA, cultivar purity handbook (draft), AOSA seed analysis standardized report form, and establishment of an AOSA advisory committee.

Our president, Buddy Vaughan, represented us at the annual meeting of NASDA and AASCO, where he informed the delegates of his presence, extended greetings from AOSA, and offered his services when needed.

We were represented by Loren Wiesner at two advisory committee meetings of AOSCA. Items discussed pertaining to AOSA were an advisory committee for AOSA; the name, logo, and phrase "for use only by member laboratories" on the AOSA report of seed analysis form; and the cultivar purity handbook.

Rodger Danielson represented the Association at the annual meeting of ASTA. He reported on AOSCA membership in AOSA, progress report of the cultivar purity subcommittee, and the status of the AOSA standardized report form.

Wayne Still, Chairman

REPORT OF AOSA REPRESENTATIVE TO AOSCA ADVISORY COMMITTEE

The AOSCA Advisory Committee held meetings on June 29, 1988, and on February 24, 1989. I attended both meetings and will review some of the details which relate to AOSA.

The **Cultivar Purity Testing Handbook** draft report was discussed by the Advisory Committee. Several committee members expressed concern with the proposed use "to identify varieties". They were also concerned that the proposed **Handbook** could eventually become a "Rule".

There was a discussion concerning the farmers exemption of PVP. The PVP Board is studying a suggestion to amend the Rules and Regulations and define "Such Saved Seed" as used in Section 113 of the PVP Act to quantify the amount of seed that may be saved by the farmer for his planting.

An ASTA resolution to encourage AOSA to establish an Advisory Committee was supported by the AOSCA Advisory Committee.

It was reported that the ESCOP Seed policy sub-committee has prepared the final revisions of the ESCOP Seed Policy.

Dr. Jim Elgin reported that the US certification equivalency with the EC had been extended through June 30, 1990. A protocol has been established to evaluate any significant differences between AOSA and ISTA rules for testing seed. He also stated that a meeting had been called by the EEC in Brussels to identify differences that can be referred to ISTA and AOSA for their consideration. Dr. Elgin plans to attend this meeting and also have several U.S. seed analysts attend.

The AOSA seed analysis report was discussed. The Advisory Committee passed a motion to ask AOSA to remove their name and logo from the heading, and the phrase "for use only by member laboratories" from the

suggested seed analysis form so that all laboratories testing seed under the AOSA Rules could use the format.

The next meeting of the Advisory Committee will be held August 2, 1989, in Oak Brook, Illinois.

Loren Wiesner

MEMBERSHIP COMMITTEE

The Membership Committee received the following applications for *Associate Membership* in the Association:

1. CAROL H. TOLLEY - Title: Assistant Curator
Employer: Cornell University
USDA-ARS Germplasm Resources
NE-9 Regional Plant Introduction Station

Duties: Supervises seed storage for genetic seedbank, containing approximately 70 species and genera with 15,000 accessions of seed. Maintains adequate supplies of seed and monitors germination and viability. Also acts as curator for the national collections of Cucurbita maxima, Apium and Fagopyrum collections.

2. JANET M. FERGUSON - Title: Crop Science Ext. Seed Specialist
Employer: North Carolina State University
Raleigh, NC

Duties: Working with seedsmen to achieve and maintain high quality in crop seeds, working with farmers to obtain maximum stands of high vigor seedlings, working with seed testing laboratories in developing specialized seed vigor tests and interpretation of their results, and working with seed testing, production, and use of seeds for new and alternative crops in North Carolina.

The committee also received the following nomination for *Honorary Membership* in the Association:

1. RUSSELL K. MARX - Wisconsin State Seed Laboratory, retired

Supporting documentation was received for all applicants, and the committee recommends the acceptance of these candidates for membership.

Larry W. Nees, Chairman

PUBLIC SERVICE AND ARCHIVES COMMITTEE

This year the public service committee has had the most activity that I am aware of since I became chairman. The majority of this activity has dealt with requests for slide sets the committee has available. In total there were six requests that were honored and we have continued to receive inquiries throughout the year as to when a slide set is going to be returned.

Those slide sets that are the most popular include:

- SLIDE SET "A" - Sampling Seed - 48 slides - 3 inquiries in FY89
- SLIDE SET "C" - Seed Identification - 75 slides - 5 inquiries in FY89
- SLIDE SET "D" - Seed Testing - 77 slides - 3 inquiries
- SLIDE SET "E" - Seed Harvesting - 38 slides - 3 inquiries
- SLIDE SET "G" - Soybean Seed & Seedlings - 32 slides - 3 inquiries
- SLIDE SET "H" - Flower Seed Anatomy - 35 slides - 3 inquiries
- SLIDE SET "I" - Incidental Seeds in Rangelgrasses - 45 slides - 3 inquiries

In most cases, only two slides sets existed of each set. As such, most of the slides have been out on loan or are still out at this time to laboratories. I would ask those laboratories to start sending them back in so others can use them. We have also began to work to increase the supply of slides. To do so, I have added to the terms for borrowing them in that if you chose to duplicate them for your own use, I ask that 2 duplicates be made and the second returned to the committee to increase the supply available. Those laboratories that have borrowed slides have been very cooperative in doing this chore. I appreciate their cooperation.

The newest slide set that is also receiving the most requests is slide set "J". This slide set is titled "Cultivar Purity" and was donated to the committee for use by Dr. Miller B. McDonald. I personally appreciate his generosity as I am sure most of the people do who are requesting the slides. I am needed this slide set back shortly since at least four different laboratories wish to borrow it for duplication.

In the next year I hope to have enough slide sets available so that a set could be placed permanently in archives or at another location in case a set is accidentally destroyed in shipment or through an accident at a location.

Jim Lair, Chairman

REFEREE COMMITTEE REPORT

The Joint AOSA Referee/SCST Research Committee met on Sunday, June 11, 1989, to prepare referee folders and discuss activities in the year ahead. There is a need to revise the referee chairmen handbook with an emphasis on standardized format for setting up and reporting referees, and application of statistical analysis to results. Beginning with 1987-88, a complete set of AOSA/SCST projects will be maintained in both the AOSA archives and the SCST library.

The AOSA Referee Committee reports were presented on Monday, June 12, 1989. The term of AOSA Region IV (Southwest) Chairman Richard Kochevar expired as of the 1989 meeting. Debbie Meyer of the California Department of Food and Agriculture has agreed to Chair Region IV.

All regions identified projects for 1989-90 at the buzz session. All referees will be conducted as joint AOSA/SCST projects which will enhance the educational value of the work and increase participation. A listing of the proposed projects with their respective contact persons was prepared and made available to meeting participants during the AOSA general session on Thursday, June 15, 1989.

I appreciate the diligent effort of each regional chair as well as all those who participated in the referees.

REGIONAL REFEREE REPORTS:

REGION I - NORTHWEST: SH2 Sweet Corn.

Chairman: Richard Lawson, Idaho State Seed Laboratory.

Four samples representing two seed lots and a treated and untreated sample of each lot were planted for germination by current procedures. The germinations were evaluated at seven days by the AOSA seedling description and a modified seedling description. Percentages for normal, dead and types of abnormal were recorded. Abnormal seedlings by AOSA description were extended for two additional days and re-evaluated as before. The modified description included as normal: 1) leaf extended above one quarter the length of the coleoptile and 2) only one adventitious root instead of two. The objectives were: 1) Quantify the variability among laboratories at seven day and two day extended germinations; 2) Compare variability among laboratories with the current AOSA and a modified seedling description; 3) Describe and quantify the types of abnormal seedlings; and 4) Determine the affect of a seed treatment combination of Captan, Thiram and Imazalil on germination and seedling descriptions.

Eight official and seven commercial laboratories responded. The mean germination by the current description was 76% for seven days and 84% with the two day extension. The variability among laboratories at seven days was 26% and reduced by 50% to 13% with the two day extension. Commercial laboratories had a germination of 80% at seven days and 86% with the two day extension while official laboratories had a germination of 71% at seven days and 83% with the two day extension. Official laboratories showed the largest variability among laboratories by the current description at seven days with the largest increase of 12% germination with the two days extension. The modified description had a mean germination of 87% at seven days and 90% with the two day extension reducing variability among laboratories to only 10% at seven days and 8% with the two day extension.

The current description had the highest percent abnormal of 20% at seven days and 15% with the two day extension. Plumules were 80% of abnormalities at seven days and 53% of abnormalities at the two day extension. Leaf length in the coleoptile was the primary abnormality both in percentage and variability among laboratories with 13% at seven days and 5% after the two day extension by current rules.

The seed treatment increased the mean germination 11%, from 79% to 90%. The current description had an 18% increase with treatment at seven days and 12% with the two day extension while the modified description had an 8% and 7% increase respectively.

Untreated seed had leaf abnormality in the coleoptile of 20% at seven days and 8% with the two day extension. Treated seed had leaf abnormality of 7% at seven days and 2% with the two day extension. The modified description showed much less variability in abnormality type and percentages among untreated and treated seed.

Conclusions: 1) variation in germinations is not within tolerance for most laboratories on SH₂ sweet corn at seven days under the current seedling description. 2) the two day extension drastically reduced the variation among laboratories under the current seedling description. Normal, dead and obvious

abnormals should be removed at the seven days before extending other abnormals for two days. 3) the modified seedling description drastically reduced variation among laboratories at both the seven and extended germination periods. 4) germinations at seven days by the modified description were within tolerance of the extended germinations by the current description in 14 of 15 laboratories. 5) leaf length in the coleoptile was the primary abnormality in percentage and variation among laboratories. 6) seed treatment of Captan, Thiram and Imazalil increased germinations 11%.

REGION II - MIDWEST: Smooth bromegrass and timothy germination and tetrazolium test. Chairman: Tim Gutormson, South Dakota State Seed Laboratory.

The purpose of this referee was to compare germination and tetrazolium tests of two selected grasses as measurements of seed viability and to evaluate the uniformity of results among laboratories. Referee materials were sent to ninety-five laboratories in July of 1988, and thirty-six labs completed the project. Participants were asked to follow AOSA Rules procedures for the standard germination tests of each specie. Suggested tetrazolium testing methods were also supplied. The ISTA tolerance table was used to evaluate results at the 1% and 5% confidence levels for both the germination and TZ tests. Two laboratories were out of tolerance on the timothy germination test. Timothy tetrazolium result indicated that 9 laboratories were out of tolerance at the 5% confidence level. Two laboratories were out of tolerance on the bromegrass germination test, but 10 laboratories were out of tolerance on the TZ test of the bromegrass at the 5% level. It was encouraging to note that for both the timothy and the bromegrass, the mean of the tetrazolium test results was within 1% of the mean of the standard germination results. There appears to be good correlation between standard germination tests and TZ tests for the two grass species tested even though there were more laboratories out of tolerance on the TZ tests of both species.

REGION III - NORTHEAST: Referee #1, Parsley Germination. Chairman: Glenn Freeman, New Jersey Department of Agriculture.

The purpose of the referee was to compare the germination of parsley seeds at temperatures below the 20-30C which is stated in the rules. The participants were given the option of either planting the seeds between blotters which is indicated as a substrate in the rules or on top of blotters which is not specified in the rules for parsley. Thirteen seed lots of parsley were sent to the participating laboratories for the germination analysis at the following temperatures: 15C, 20C, 15-25C, and 20-3C. The participants were to choose the substrate and report the numbers of normal, abnormal and dead seedlings. For those seedlings grown on top of blotters, the 20C temperature provided the best germination results almost every time. The maximum germination results for folded blotters were achieved at either the 20C or 20-30C with the results at both temperatures similar. Because only three of the laboratories opted to do the test with folded blotters, it is difficult to determine if folded blotters are a preferred substrate over on top of blotters. In conclusion, this referee test did not meet the goal of determining an alternate temperature for parsley germination. The results indicate that 20C could be used as a substitute temperature for the 20-30C stated in the rules but more work needs to be done to verify.

REGION III - NORTHEAST: Referee #2, *Poa* Identification.

Chairman: Glenn Freeman, New Jersey Department of Agriculture.

The purpose of this referee was to send an unknown *Poa* sample to participating laboratories and determine if there is uniformity in the identification of *Poa* species which are not commonly encountered. The referee was also intended to be a learning exercise to obtain familiarity with the seed characteristics of *Poa* species.

Packets containing a one gram sample of the unknown were sent out to 34 participating laboratories with keys, illustrations, and reference samples (in gelatin capsules) of seven *Poa* species which would most likely be encountered in seed analysis. The participants were to count out either 1,000 or 400 seeds and report the different species found in the sample and their percentages.

This was a real sample submitted by one of the participating laboratories. There were no right or wrong answers to this referee because the identity of the sample was uncertain. The consensus of the participants was that the sample in question was *Poa glaucantha* (over 90%). There was some disagreement as to the identities of the next predominant species in the sample, most considered *Poa pratensis* to be second (less than 6%) and *Poa compressa* third (less than 3%). *Poa nemoralis* and *Poa palustris* were also reported in the referee.

REGION IV - SOUTHWEST: Blue grama purity. Chairman: Richard Kochevar, New Mexico State Seed Laboratory.

This year's project was a blue grama purity in lieu of the planned identification of weedy *Solanaceae* species. The purpose of the referee was to evaluate the uniform blowing procedure for blue grama. Each laboratory received at least two grams of a blue grama seed and asked to perform a purity examination according to AOSA procedure (with a minor change). They then reported percentage of pure seed. The data was analyzed using a t-test to determine a 95% (Tol.5) confidence interval for the mean. Results of the t-test produced a mean of 87.28% \pm 4.49% or an interval for 82.79% to 91.77%. Only one laboratory out of fifteen participants was out of tolerance. The uniform blowing procedure is still a precise method for determining blue grama purity but due to the nature of chaffy seeds, such as blue grama, resulting in high sampling error and combined with variations in blowers, individual "out of tolerance" results should be expected to occur more often than with non-chaffy seeds.

REGION V - SOUTHERN: Cool Germination of Cotton II.

Chairmen: Roger Osburn, Oklahoma State Seed Lab & Fabian Watts, Golden Peanut Company.

Due to the problems encountered with last year's referee project, the Southern region decided to try the cool germination of cotton once again. As was the case previously, two samples of cotton were mailed to participating laboratories with instructions for two variations of the cool germination test. One test was the current AOSA method found in the Seed Vigor Testing Handbook and the other was the method developed by Delouche, et al., of Mississippi State. The objective of the referee was to try to establish

a procedure which would prove duplicatable among the laboratories conducting cool germinations on cotton. The results achieved this year appear to be more workable than those of last year. The results of the tests utilizing the current AOSA method still very widely; however, the Delouche Method results appear to be more consistent. A comparison was made between the two methods using the established ISTA tolerances and is included. A questionnaire was also sent to the participating laboratories in an attempt to identify any differences in testing that may be contributing to the variations in test results among the laboratories. Since the Delouche Method appears to be more consistent, future work on cool germinations of cotton should probably be limited to this procedure with the work concentrating on more uniformity among the laboratories utilizing it. Many thanks again this year to Delta and Pine Land Company for supplying the seed and to all the participating laboratories.

CANADIAN REGION - Referee #1, Identification of Canadian Noxious Weed Seeds. Chairman: M.S. Dhaliwal, Seed Biology Laboratory, Agriculture Canada, Ottawa.

The purpose of this referee was to introduce seed analysts to the seeds of the 21 new Canadian prohibited noxious weed species and to renew their exposure to the other Canadian noxious weed seeds. One hundred seeds were sent out accompanied by printed descriptions and specimens of the noxious weed seeds. All seeds were sealed in cardboard and plastic coin-holders which were mounted in plastic pages in a binder. This was a round-robin referee sent to 33 laboratories of which 20 have responded. While most laboratories did quite well at identifying the noxious weed seeds, (only five labs had fewer than 90 percent of the noxious weed seeds correct) a number of problem groups were discovered. Species in the genera *Astragalus*, *Cicuta*, *Eurphorbia*, *Solanum*, *Linaria*, and *Silene* need to be reviewed. Many analysts also lack familiarity with dehulled or shrivelled seeds and with some caryopses of grasses.

CANADIAN REGION: Referee #2, Between-lab Variation in the Assessment of Cotyledon Damage in Lettuce. Chairman: D. Ashton, Seed Biology Laboratory, Agriculture Canada, Ottawa.

A referee was conducted to determine if greater uniformity among laboratories is achieved using the 50% rule or the rule which requires seedlings to be classified as abnormal if they show any degree of physiological necrosis. A secondary objective was to observe differences among regions (Canada, Europe, USA) in the assessment of seedlings following both rules. Three lettuce samples exhibiting varying degrees of physiological necrosis of the cotyledons were distributed to 35 laboratories. Laboratories were asked to test 400 seeds following their usual method, and to report the number of seedlings which would be classified as abnormal according to both rules. Variability among laboratories was alarmingly high regardless of which rule was used. The three regions each demonstrated significant among laboratory variation. On the average, European laboratories appeared to be stricter in the application of the 50% rule than North American laboratories. This may in part be accounted for by the overriding statement in the ISTA rules which requires seedlings with critically-located damage

to be classified as abnormal even if it occupies less than 50% of the cotyledonary area. The results of this referee do not support the apparent perception that problems with lettuce seedling evaluation disappeared when the 50% rule was adopted in the 1970's. Tetrazolium tests conducted in Ottawa failed to identify any significant presence of physiological necrosis in the referee samples.

**1989-1990 AOSA Referee - SCST Research
Committee Projects**

PROJECT	CONTACT
<i>Region I - Northwest</i>	
Joint AOSA and SCST - Identification of the new noxious weeds in the Northwest	Dick Lawson Idaho State Seed Laboratory Boise, ID
Tetrazolium test on fine-leaved fescue	Zoe Callahan True Test Labs Junction City, OR
<i>Region II - Midwest</i>	
Joint AOSA and SCST Comparison of sunflower germination methods	Tim Gutormson Seed Testing Lab South Dakota State University Brookings, SD
Comparison of the fast green test with a standard germination and cold test in corn	Perry Bohn Asgrow Seed Co. Oxford, IN
<i>Region III - Northeast</i>	
Joint AOSA and SCST Ammonia test to determine percentage of hard fescue in fine-leaved fescue mixture	Glenn Freeman New Jersey Seed Laboratory Trenton, NJ
Following up on parsley germination exploring constant 20°C as an alternate temperature	
<i>Region IV - Southwest</i>	
Joint AOSA and SCST Beet germination	John Warner Harris Moran Modesto, CA
Winter fat maturity	Paul Baker Utah State Seed Laboratory Salt Lake City, UT

Region V - Southern

Joint AOSA and SCST

Cool germination on cotton part III

Roger Osburn
Oklahoma State Seed Lab.
Oklahoma City, OKCold test of corn naturally
infected. Soil vs. laboratory
prepared inoculumFabian Watts
Agri Tech
Dublin, GA*Canada*Identification of Canada
noxious weedsM.S. Dhaliwal
Seed Biology Laboratory
Agriculture Canada
Ottawa, Canada

Yellow cotyledons in Brassica sp.

Doug Ashton
Agriculture Canada
Ottawa, Canada

Steve McGurie, Chairman

RESEARCH COMMITTEE

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

1. *Cultivar Purity* (Miller McDonald, Jr.)
Preliminary planning of corn isozyme testing referee using starch and polyacrylamide gel electrophoresis has begun. This referee is slated to be conducted in the Fall of 1989. The Progress Report on the Cultivar Purity Testing Handbook continues to be updated by completing those sections in which differentiating traits are exemplified by specific cultivars. In addition to the referee, the major objective for next year is to continue to progress toward the publication of a Cultivar Purity Testing Handbook.
2. *Flower Seed* (Ellen Chirco, and Aleta Meyer)
The major objectives for the coming year are to continue to work on updating the "Rules for Testing Seeds" with regard to flower seed germination and purity procedures.
3. *Moisture Testing* (Don Grabe)
Two new members of the committee are Janet Ferguson and Edgar Cabrera. The committee continues to work toward the development of accurate and uniform seed moisture testing methods by calibrating oven testing methods for various seed types against the Karl Fischer standard reference method.
4. *Rangegrass Analysis* (Tim Gutormson)
Work continues on the development of climax blowing points for switchgrass, indian ricegrass, and reed canarygrass. Sideoats grama samples have been distributed to check general seed blower calibration settings and results should be available in June. Data for developing multiple unit factors for thickspike and streambank wheatgrass have

been collected this year. Also, germination/prechill length combinations have been studied for the germination of big bluestem, little bluestem, and sand bluestem. Preliminary evaluation of the data indicates that germination testing time could be reduced without reducing seed lot viability. Objectives for the coming year are to continue these projects.

5. *Seed Vigor* (Dennis TeKrony)

The committee continued to evaluate vigor tests for three species; wheat, sorghum, and cotton. These studies also related laboratory results to field emergence. Six wheat seed lots were evaluated in 6 laboratories, while 30 sorghum seed lots were compared in three laboratories. Cold test procedures were revised listing rolled towel and tray as primary methods and the shoe box as an alternative method. The controlled deterioration test was evaluated for measuring seed vigor in several vegetable species. The committee continues work toward the standardization of seed vigor tests in the AOSA Vigor Testing Handbook and to develop and evaluate tests to measure various aspects and components of seed vigor for a wide range of crop species.

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

Trials directed toward improving germination prescriptions for *Abies* are being conducted. This year the focus was on one species, *Abies concolor*. Six laboratories are participating this year: Oregon, California, U.S. Forest Service in Starkville, MS., National Tree Seed Laboratory, Ontario National Tree Seed Center, and the Canadian Forestry Service in British Columbia. The experimental protocol includes: two substrates, Kimpak and potting mixture; four temperatures, 15-25, 20, 20-30, and 25 C; and 5 genetic sources. The data summaries will be discussed and next year's projects determined at the annual meeting in Peoria, IL.

7. *Garden Bean Seed Germination* (Patricia Brownfield)

A garden bean seed germination referee involving rounded and misshapen leaves was conducted and difficulties in interpreting these abnormalities noted. The committee plans to continue to study these leaf abnormalities with the objective of achieving better standardization of analyst interpretation.

8. *Tolerances* (Lawrence Copeland)

Evaluation of suggested tolerances for objectionable agricultural species occurring in fine-seeded turf species was continued. Also, the committee is reviewing tolerances for noxious weed examinations as well as for electrophoresis testing for varietal contamination. Objectives for the coming year are to continue the evaluations of tolerances including the development of a proposal to change the formulas for noxious weed seed tolerances and the establishment of minimum sample sizes for electrophoresis testing for varietal purity.

9. *Germination and Dormancy* (Quentin Schultz)

A review of ISTA and AOSA rules for the germination of vegetable seeds was initiated. Also, the value of GA in inducing the germination of certain cool season grasses was studied. The committee plans to continue these projects in the coming year and to submit rules changes for germination procedures of certain cool season grasses and bahiagrass.

10. *Seed Conditioning* (Manjit Misra)

The committee organized and presented the AOSA Symposium at the

Rochester Meetings. The Committee is establishing priorities for the coming year. Its plans include becoming involved with research on conditioning of the seed of tree and lawn and turf species.

11. *Lolium labeling* (Malcom Sarna)
Membership in the committee has been established. Members are, Rodger Danielson, Steve McGuire, and Richard Payne. The committee's first meeting will be in Peoria, IL. In Peoria, the committee hopes to finalize the questions they plan to address and develop a strategy for dealing with these questions in the coming year.
12. *Seed Pathology* (Betsy Randall-Schadel)
Current committee members are Denis McGee, Tom Matsumoto, Steve McGuire, and Mary Smith. A referee was initiated in cooperation with the referee committee to study modifications to the endophyte viability test. This referee compared the value of testing the endophyte viability following 4, 6, and 8 weeks grow-outs. Also, a survey was initiated to obtain information which would hopefully serve in the development of a seed pathology resource listing. Future objectives include, summarization of survey data, evaluate issues such as introduced bacterial endophytes and fungal seed coatings, the development of a seed pathology workshop at the 1990 or 1991 meetings, and, in the long-term, to develop an AOSA sponsored seed pathology procedures reference.
13. *Tetrazolium Evaluation* (Tim Gutormson)
A survey was conducted last year to determine deficiencies in the present TZ testing handbook. The current handbook text was entered into a word processing file to develop a manuscript for review and update. Future objectives are to determine a format for the handbook, select reviewers, and collect information from laboratories on methods and species to add to the handbook.
14. *Seed Testing Standardization Research Funding* (Dennis TeKrony)
The committee surveyed all AOSA and SCST laboratories to determine priorities for research funding for the next five years. Seed germination and dormancy was found to be the highest priority. Research proposals were solicited in April, 1989 to study Seed Germination and Dormancy. Five proposals were received and will be reviewed by the committee at the annual meeting. Probably, 2-3 proposals will be funded for 1989-90. The committee is contacting outside agencies and seed companies to gain additional funding support for future years. The committee will continue to evaluate funding opportunities, review research proposals, and evaluate progress of any projects funded for 1989-90.

A.D. Knapp, Chairman

CULTIVAR PURITY TESTING SUBCOMMITTEE

The AOSA Cultivar Purity Testing Subcommittee established two principal objectives for 1989. The first was to continue development of the Progress Report on the Cultivar Purity Testing Handbook. The second was to critically evaluate reproducibility of electrophoretic testing procedures through the collaborative testing format.

The Progress Report on the Cultivar Purity Testing Handbook was published

in 1988 as a special edition (Vol. 62 [3]) of the AOSA Newsletter and serves as a milestone in the listing of seed testing techniques for cultivar purity analyses. It was published as a "Progress Report" in order that format and procedures and could be evaluated and revised prior to publication as a Handbook. In its present form, there remain many areas still needing completion. Among these are identification of reference cultivars that exhibit distinguishing traits. Another area requiring enhancement is improved photographs depicting differences among cultivars. It also is necessary to continue to add additional tests and new crops to the "Progress Report."

To address these issues, the following actions were taken during the last year.

Dr. Kenneth Evans of the Plant Variety Protection Office (PVPO) was provided a copy of the "Progress Report" and an explanation of the objectives of the proposed AOSA Handbook. It was requested that his Office provide AOSA listings of reference cultivars and cultivar tests on computer record in his office for specific crops. To that end, PVPO has provided examples of tests and reference cultivars for wheat, oats, and soybeans. These have been incorporated into the master computer file for the "Progress Report." Appreciation is extended to Dr. Evans and PVPO for this extraordinary assistance to AOSA.

Seventeen crops are presently listed in the "Progress Report." In order to acquire further information on other discriminating tests and needed review of present tests, breeders familiar with these crops were contacted to acquire this information. Response to this request was excellent. The additional information has been incorporated into the computer file for the "Progress Report."

Among these 17 crops is ryegrass. Mr. Rodger Danielson requested that the Subcommittee contact Mr. Jack Peters, Oregon State Seed Laboratory, to acquire information on the chromosomal count test for diploid and tetraploid ryegrasses. This was done and Mr. Peters responded with excellent written descriptions of test procedures and appropriate photographs which have been incorporated into the revised text for this crop.

Continuing efforts for improvement of the "Progress Report" will be made during the upcoming year. The PVPO will be requested to continue their computer search of cultivar purity tests and reference cultivar standards. Breeders also will be contacted for seed sources of cultivars depicting differentiating traits. These will be used, cultivar purity tests conducted, and photographs taken to illustrate side by side differences among cultivars. The photographs will enhance the usefulness of the proposed Handbook.

The second objective—to conduct a collaborative electrophoretic test—has been initiated. Twelve laboratories have expressed interest in participating in this activity using corn as the crop to be studied. Three test procedures (starch, polyacrylamide, and isoelectric focusing) will be evaluated. Seed samples will be mixed with varying proportions of "off-types" and the ability of the laboratories to consistently detect the contaminating levels will be determined. The assistance of DeKalb-Pfizer Genetics in general and Amy Damon in particular for important assistance in organizing this initial effort is gratefully acknowledged. The information will be compiled and reported at the 1990 AOSA/SCST meetings.

Subcommittee membership was updated to reflect recent retirements and continuing interest in this topic. Others interested in cultivar purity should

contact Miller McDonald. The Subcommittee was reminded of the ISTA Biochemical Tests Symposium to be held from August 12-18, 1990 in Ames, IA. Further information can be acquired from Dr. Alan Knapp at the Seed Science Center.

Miller B. McDonald Jr., Chairman

Seed Vigor Subcommittee

The seed vigor subcommittee met on Monday, June 12 in Peoria, IL with 13 members and 6 visitors in attendance. The objectives of the subcommittee are: 1) to standardize the seed vigor tests in the AOSA Vigor Testing Handbook for us in seed testing laboratories and 2) to develop and evaluate tests to measure various aspects and components of seed vigor in a wide range of crop species.

Old Business

TeKrony advised the committee that sales of new handbooks and revisions had returned \$2,200.00 to AOSA in 1988-89. He also stated that the AOSA Executive Committee had agreed to include all revisions in new handbooks sold at a cost of \$25.00 per copy. This will clarify a previous problem of new handbooks being sold without the revisions.

TeKrony referred to a suggestion made last year that an Advisory Committee be appointed in AOSA with representation from the ASTA, AOSCA, AASCO and other seed organizations to provide advice on seed vigor, cultivar purity and other testing concerns. This Advisory committee would function similar to the committee in AOSCA. It was pointed out that ASTA and other seed related organizations presently have persons on the vigor subcommittee. Likewise, that AOSA had established a Committee of Affiliates to serve in an advisory role. After lengthy discussion Burris moved (Wiesner seconded) that the Vigor subcommittee recommend to the AOSA Executive committee that affiliate organizations could designate a participating member of the vigor subcommittee as the spokesperson for that affiliate organization. The motion passed.

Burris discussed the revised cold test procedure that had been circulated to the subcommittee prior to the meeting. He indicated that based on previous research of this committee the rolled towel and Kimpak procedures would be listed as primary methods, with the shoe box as an alternate method in the revision. He will incorporate the suggestions received into a final revision which will be mailed to the sub-committee prior to the 1990 AOSA meeting.

New Business

1. Wheat seed vigor (L. Wiesner and A. Galbreth).

A referee test was conducted using six soft red winter wheat seedlots. Six laboratories participated using the standard germination, speed of germination and accelerated aging laboratory tests, while field emergence of evaluated at three laboratories. The average results across all seed lots and laboratories are presented in Tables 1 and 2, respectively. Wiesner indicated that only speed of germination was significantly correlated ($r = 0.84$) with field emergence. This was in contrast to the other two years evaluated

when the accelerated-aging test showed the highest correlations with field emergence. Wiesner agreed to summarize the results of this three year study and present them to the vigor subcommittee in 1990.

2. Sorghum seed vigor (C. Baskin, S. Paliwal and C. Delouche).

Evaluations of several vigor tests continued at Mississippi State University using commercial seed lots provided by three seed companies (Asgrow, Cargill and Funk). The laboratory results were related to field emergence under varying soil conditions for three years (1987-89). The cold test results showed the highest correlation coefficients with all field comparisons over three years, although, tetrazolium vigor also was highly correlated (Table 3). The cold test was also conducted at the seed laboratories at the Iowa State University, Funk Seeds International and Asgrow Seed Company. Baskin recommended that sorghum be listed with corn as crops which could be used in the revised cold test procedure (see Old Business).

3. Vegetable Seed Vigor (Gwen Jenanyan)

Controlled deterioration vigor test was evaluated for lettuce and *Brassica* sp. following the procedures outlined by Dr. Alan Taylor, Cornell University. This procedure was similar to that described by Mathews and Powell in the ISTA Vigor Handbook. Evaluations will continue with other laboratories in 1989-90 for lettuce seed.

4. ISTA Seed Vigor (D. TeKrony).

TeKrony participated in referee using six seed lots of soybean. The revised accelerated aging procedure (AOSA, 1988) was included in this referee.

5. What is best procedure for relating laboratory to field results? (TeKrony)

After lengthy discussion it was concluded that correlation and regression analysis were still the best means of relating laboratory to field results. Precautions should be taken to include only those seedlots of acceptable commercial quality. Seed company committee members indicated that vigor tests were used primarily to rank seed lots within a variety or species. It was suggested that seed researchers develop a ranking of 0 to 10 which characterized environmental stress during field emergence studies. This may allow others to relate results across locations and soil types.

6. 1989-90 Research Projects

- a. Vegetable Seed Vigor-Jenanyan, Chairperson
- b. Summarize wheat seed vigor results-Wiesner
- c. ISTA research projects

7. A committee roster follows:

Seed Vigor Committee List 1989

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Robert W. Yaklick, USDA-ARS, Seed Research Laboratory, Bldg. 049, BARC-

TABLE 1. Seed vigor evaluation of six soft red winter wheat seedlots as compared to standard germination and field emergence when averaged over six laboratories.

Seed Lot	Stand. Germination %	Speed Germination Index	Accelerated Aging Germination %	Field Emergence %	Stressed Field Emergence %
1	98bc*	33.9a	88bcd	65a	51
2	96ab	34.6a	22a	71a	61
3	98c	36.4b	92d	87b	82
4	97bc	34.6a	88bcd	81b	76
5	94a	35.1ab	85b	81b	76
6	96ab	36.4b	90cd	83b	77

*Column means followed by letters in common are not significantly different based on Tukeys means separation test at the 0.05 level of probability.

TABLE 2. Comparison of laboratories for accelerated aging percentage germination, accelerated aging percentage moisture, speed of germination and standard germination when averaged over seed lots.

Laboratory Identification	Accelerated Aged		Speed of Germination Index	Standard Germination %
	Germination %	Moisture %		
1	74b*	31.9c	28.2b	93a
2	69a	33.0c	27.6b	97c
3	86c	27.8b	45.7d	98c
4	77b	32.7c	23.9a	98c
5	83c	29.5bc	47.7e	97bc
6	Not Used	23.5a	37.8c	95ab

*Column means followed by letters in common are not significantly different based on Tukeys means separation test at the 0.05 level of probability.

TABLE 3. Correlation co-efficients between laboratory tests and field emergence at Mississippi State University.

Test	Field Emergence				
	Favorable (1987)	Cool-Wet (1987)	Cool-Wet (1988)	Cool-Wet (1989)	Hot-Dry (1987)
	-----R-Values-----				
Soil Cold	.848	.880	.811	.846	.752
Cool Germ	.642	.645	.705	—	.437
AA	.625	.520	.403	—	.583
NH ₄ C1 Soak	.762	.763	.603	—	.694
Std Germ	.825	.751	.703	.501	.677
TZ (Hi. & Med) (Vigor)	.848	.850	.795	—	.729

Dennis Tekrony, Chairman

RULES COMMITTEE

Fourteen 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 peroxidase test for soybean (*Glycine max*) to section 3.2 Identification and Cultivar Determination; (2) the addition of fluorescence test for oats (*Avena sativa*) to section 3.2 Identification and Cultivar Determination; (3) a revision of format for section 3.2b if proposal #1 is adopted; (4) a revision of APPENDIX 2. Conversion of Sample Weights, and the calculation of number of contaminant seeds in a sample; (5) a change of the seed unit in section 2.6b for *Festuca* spp. (excluding *F. rubra*) and *Lolium* spp. from caryopses and single florets to multiple florets; (6) the addition of TB as substratum and 10C as temperature, and a change in Additional Directions for *Layia platyglossa*; (7) the addition of germination prescriptions for *Rudbeckia hirta*; (8) the addition of germination prescriptions for *Ratibida columnifera*; (9) the addition of germination prescriptions for *Monarda citriodora*; (10) the addition of testing procedures for *Cowania mexicana*; (11) the addition of testing procedures for *Cercocarpus ledifolius*; (12) the addition of testing procedures for *Cercocarpus montanus*; (13) the addition of testing procedures for *Chrysothamnus nauseosus*; and (14) the deletion of APPENDIX 1. Seedling Descriptions from the Rules and adoption of the Seedling Evaluation Handbook and reference it in section 4.5b(3).

The Committee assisted the chairman of the Editorial Committee in preparing the reprint of the Rules and consulted with the chairman of the Nomenclature Committee about changes for scientific names and authorities in the Rules.

The Committee received a letter from Rodger Danielson about a possible source of non-uniformity involving the fluorescence test on perennial ryegrass. This matter was referred to the Uniformity Subcommittee for evaluation and final action. Several items directed to the Committee for review last year are still under study.

Twelve proposals were adopted and two proposals were rejected by the AOSA membership at the 1989 annual business meeting in Peoria, Illinois. Original proposals (1-13) with supporting evidence for changes in or additions to the Rules appear in the *AOSA Newsletter* 63(1) : 9-32. The original proposal on the Seedling Evaluation Handbook (14) appears in a special issue of the *AOSA Newsletter*, Volume 63(2). Several of the adopted proposals have been amended from the original version. Please note that eleven of the adopted proposals become official rules on October 1, 1989. Proposal 14 was adopted but with the stipulation that both the revision to section 4.5b(3) of the Rules and the Seedling Evaluation Handbook will not become effective until this handbook is printed in final form along with illustrations and distributed by the Association. Until this happens, APPENDIX 1. Seedlings Descriptions and the current section 4.5b(3) remain in effect.

1. Addition of peroxidase test for soybean (*Glycine max*) to section 3.2 Identification and Cultivar Determination.

ADOPTED PROPOSAL as amended from original—
3.2.b

(2) Peroxidase Test for Soybean (*Glycine max*): Remove and place the dry seed coat from soybean seeds into individual test tubes or suitable containers. Add 10 drops (0.5-1.0 ml) of 0.5 percent guaiacol to each test tube. After waiting 10 minutes add one drop (about 0.1 ml) of 0.1 percent hydrogen peroxide. One minute after adding the hydrogen peroxide, record the seed coat as peroxidase positive (high peroxidase activity) indicated by a reddish-brown solution or peroxidase negative (low peroxidase activity) indicated by a colorless solution in the test tube. Various sample sizes may be used for this test. Test results must include the sample size tested. For tolerance - see section 5.6, Table 12.

Note: Smell of guaiacol is offensive. Perform test under a fume hood.

2. Addition of fluorescence test for oats (*Avena sativa*) to section 3.2 Identification and Cultivar Determination.

ADOPTED PROPOSAL—
3.2.c

Fluorescence Test for Oats (*Avena sativa*): Place at least 400 seeds on a black background under a F15T8-BLB or comparable ultraviolet tube(s) in an area where light from other sources is excluded. Seeds are considered fluorescent if the lemma or palea fluoresce or appear light in color. "Partially fluorescent" seeds shall be considered fluorescent. Seeds are considered nonfluorescent if the lemma and palea do not fluoresce and appear dark in color under the ultraviolet light.

3. Revised format for section 3.2.b in the Rules.

ADOPTED PROPOSAL—
3.2.b. Chemical tests.

(1) Phenol Test for Wheat: The phenol method for testing wheat (*Triticum aestivum* and other *Triticum* spp.) seed for cultivar purity

is outlined in AOSA Handbook No. 28, "A Standardized Phenol Method for Testing Wheat Seed for Varietal Purity."

(As an editorial change, the procedure for doing the phenol test as described in Handbook 28 will appear in section 3.2b(1) when the Rules are revised.)

4. Revision of APPENDIX 2 in the Rules, and the calculation of number of contaminant seeds in a sample.

ADOPTED PROPOSAL—

Change APPENDIX 2. CONVERSION OF SAMPLE WEIGHTS to read:

(A) When converting numbers of seeds found in the working sample to the number of seeds per pound, the following formula shall be used:

$$\frac{453.6 \text{ grams} \times \text{number of seeds found}}{\text{weight of working sample (grams)}} = \text{number of seeds per pound}$$

(B) When converting numbers of seeds found in the working sample to the number of seeds per ounce, the following formula shall be used:

$$\frac{28.35 \text{ grams} \times \text{number of seeds found}}{\text{weight of working sample (grams)}} = \text{number of seeds per ounce}$$

When using the above formulas, use the actual weight of the working sample (four significant figures). The final result shall be rounded to a whole number when reporting seeds per pound and to the first decimal place when reporting seeds per ounce. When rounding off the final result to a whole number, round down if the first decimal place is 4 or less and round up if the first decimal place is 5 or more. When rounding off the final result to the first decimal place, round down if the second decimal place is 4 or less and round up if the second decimal place is 5 or more.

Example 1. In a 50 gram noxious weed seed examination of alfalfa seed with an actual actual working weight of 50.15 grams, 7 dodder seeds were found. For number of seeds per pound (Formula A):

$$\frac{453.6 \text{ grams} \times 7}{50.15 \text{ grams}} = 63.31 \text{ seeds}$$

then
round to the nearest whole number
= 63 seeds per pound

Example 2. In a 2 gram purity examination of white clover, with an actual actual working weight of 2.221 grams, 1 chickweed seed was found. For number of seeds per pound (Formula A):

$$\frac{453.6 \text{ grams} \times 1}{2.221 \text{ grams}} = 204.2 \text{ seeds}$$

then
round to the nearest whole number
= 204 seeds per pound

Example 3. In a 10 gram noxious weed seed examination of Kentucky

bluegrass, with an actual working weight of 10.13 grams, 4 Canada thistle achenes were found. For number of seeds per ounce (Formula B):

$$\frac{28.35 \text{ grams} \times 4}{10.13 \text{ grams}} = 11.19 \text{ seeds}$$

then
round to one decimal place
= 11.2 seeds per ounce

Example 4. In a .25 gram purity examination of bentgrass, with an actual working weight of .2584 grams, 3 windgrass florets were found. For number of seeds per ounce (Formula B):

$$\frac{28.35 \text{ grams} \times 3}{.2584 \text{ grams}} = 329.14 \text{ seeds}$$

then
round to one decimal place
= 329.1 seeds per ounce

5. Change seed unit in section 2.6b. for *Festuca* spp. (excluding *Festuca rubra*) and *Lolium* spp. from caryopses and single florets to multiple florets (as well as caryopses and single florets).

This PROPOSAL was rejected by the membership.

6. Addition of TB as substratum and 10°C as temperature and a change in Additional Directions for tidy-tips daisy in Table 4.

ADOPTED PROPOSAL—

<u>Kind of Seed</u>	<u>Substrata</u>	<u>Temp. °C.</u>	<u>First count days</u>	<u>Final count days</u>	<u>Additional Directions</u>
<i>Layia platyglossa</i> tidy-tips daisy	P,TB	10,15	4	8	Light. New crop seed may require 10°C (dark) for rapid, maximum response.

7. Addition of *Rudbeckia hirta* - black-eyed Susan to the Rules.

ADOPTED PROPOSAL—

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

<u>Kind of Seed</u>	<u>Substrata</u>	<u>Temp. °C.</u>	<u>First count days</u>	<u>Final count days</u>	<u>Additional Directions</u>
<i>Rudbeckia hirta</i> L. black-eyed Susan	TB	20-30	7	14	Light.

8. Addition of *Ratibida columnifera* - Mexican hat, prairie coneflower to the Rules.

ADOPTED PROPOSAL—

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

<u>Kind of Seed</u>	<u>Substrata</u>	<u>Temp. °C.</u>	<u>First count days</u>	<u>Final count days</u>	<u>Additional Directions</u>
<i>Ratibida columnifera</i> (Nuttall) Wooton & Standley Mexican hat, prairie coneflower	TB	15,20	7	14	Light.

9. Addition of *Monarda citriodora* - lemon mint to the Rules.

ADOPTED PROPOSAL—

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

<u>Kind of Seed</u>	<u>Substrata</u>	<u>Temp. °C.</u>	<u>First count days</u>	<u>Final count days</u>	<u>Additional Directions</u>
<i>Monarda citriodora</i> Lagasca lemon mint	TB	15,20, 15-25	7	21	Light.

10. Addition of *Cowania mexicana* - cliffrose to the Rules.

ADOPTED PROPOSAL—

1) Include in Table 1 (Weight for working samples, TREE and SHRUB SEEDS) the following:

<u>Kind of Seed</u>	<u>Min. Wt. for Purity Anal. (g)</u>	<u>Approx. No. Seeds/Gram</u>	<u>Approx. No. Seeds/Oz.</u>
<i>Cowania mexicana</i> D. Don cliffrose	19	130	3650

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

<u>Kind of Seed</u>	<u>Substrata</u>	<u>Temp °C.</u>	<u>Dur.</u>	<u>Add.Dir.</u>
<i>Cowania mexicana</i> cliffrose	B,P	15,10-30	28	Prechill. 30 days at 1-2°C.; or use TZ ^b .

11. Addition of *Cercocarpus ledifolius* - curlleaf mountain-mahogany to the Rules.

ADOPTED PROPOSAL—

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

<u>Kind of Seed</u>	<u>Min. Wt. for Purity Anal. (g)</u>	<u>Approx. No. Seeds/Gram</u>	<u>Approx. No. Seeds/Oz.</u>
<i>Cercocarpus ledifolius</i> Torrey & A. Gray curlleaf mountain-mahogany	25	100	3000

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

<u>Kind of Seed</u>	<u>Substrata</u>	<u>Temp °C.</u>	<u>Dur.</u>	<u>Add.Dir.</u>
<i>Cercocarpus ledifolius</i> mahogany	B,P	15,10-30	28	Prechill. 70 days at 1-2°C.;

12. Addition of *Cercocarpus montanus* - true mountain-mahogany to the Rules.

ADOPTED PROPOSAL—

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

<u>Kind of Seed</u>	<u>Min. Wt. for Purity Anal. (g)</u>	<u>Approx. No. Seeds/Gram</u>	<u>Approx. No. Seeds/Oz.</u>
<i>Cercocarpus montanus</i> Rafinesque true mountain-mahogany	28	90	2500

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

<u>Kind of Seed</u>	<u>Substrata</u>	<u>Temp °C.</u>	<u>Dur.</u>	<u>Add.Dir.</u>
<i>Cercocarpus montanus</i> true mountain-mahogany	B,P	15,10-30	28	Prechill. 60 days at 1-2°C.; or use TZ ^b .

13. Addition of *Chrysothamnus nauseosus* - rubber rabbitbrush to the Rules.

This PROPOSAL as amended at the open meeting was rejected by the membership. (The amendments to this PROPOSAL included (1) a sentence at the end of 2.7f: Refer to section 2.7k for *Chrysothamnus nauseosus*, (2) a new 2.7k: Intact fruits of *Chrysothamnus nauseosus* which contain an embryo that can be detected either by slight pressure or examination over light, and (3) a new 2.10a(12): Intact fruits of *Chrysothamnus nauseosus* which do not contain an embryo. Refer to section 2.7k.)

14. Delete APPENDIX 1. Seedling Descriptions from the AOSA Rules for Testing Seeds and adopt the Seedling Evaluation Handbook and reference it in section 4.5b(3) of the Rules.

ADOPTED PROPOSAL as amended from original (but with the stipulation that both the revision to section 4.5b(3) of the Rules and the Seedling Evaluation Handbook will not become effective until this handbook is printed in final form along with illustrations and distributed by the Association)—

1) Change section 4.5b(3) in the Rules to read: Seedling descriptions for specific kinds and groups are set forth in the Seedling Evaluation Handbook. This entire handbook shall be considered part of the Rules.

2) Delete APPENDIX 1. in its entirety from the AOSA Rules to replace it with a separate Seedling Evaluation Handbook. The following changes to the handbook were adopted as amendments to this proposal:

- page 26. Delete all of section 3
- page 48. Delete the word “thickened” from the last statement under Hypocotyl
- page 50. Change common name for *Desmodium tortuosum* from “hairy indigo” to “beggarweed”
- page 50. Change “Kummerovia” to read “Kummerowia”
- page 63. Under a. General description, Root system, delete from end of paragraph: “(Also see Remarks”
- page 63. Under b. Abnormal seedling description, Root, delete the last line and replace with: “weak primary root with insufficient seminal or adventitious roots”
- page 64. Delete last paragraph under Remarks: “All rice...the 7-leaf stage.”
- page 77. Top of page under Secondary infection, add to end of definition: “or adhering structures (such as the cluster of *Beta*)”
- page 16. Last paragraph of 3.5.1.b, add to end of last sentence: “if at the end of the regular germination period swollen seeds are present or there are seeds which have just started to germinate.”
- page 39. Under Cotyledons for 4.6.1.b, delete statement under “all others” and add: “Cotyledons are not assessed. *Exception:* If both cotyledons are missing and the seedling is generally weak, then it is considered abnormal.”
- page 29. Change “Artemesia” to read “Artemisia”
- page 68. Under Remarks for 4.10.4.c, delete first paragraph: “Preliminary counts...5th day.”
- page 3. First paragraph of 2.1.2, delete last sentence: “In this handbook...be considered.”
- Sections 2,3, and 5. Insert appropriate descriptions of gymnosperm seed and seedling development and structure, as provided by the Tree Seed Committee.
- Section 4. Delete all “Seed unit” descriptions and re-insert “dicotyledonous” or “monocotyledonous” in appropriate locations.

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SEED STANDARDIZATION COMMITTEE REPORT

Committee members:

- Rodger Danielson, Chairman (AOSA), Allen Knapp (AOSA 1991), Jim Effenberger (AOSA 1991), Jim Warren (AOSA 1991), Buddy Vaughan (AOSA 1989), Betty Butler (SCST 1990), Quentin Schultz (SCST 1989), Dick Sayers (ASTA 1990), Gurnia Moore (AASCO 1991), Alan Galbreth (AOSCA 1991)

Two of the three subcommittees were quite active this year. The Teaching and Training subcommittee, chaired by Allen Knapp, reported a two-week Beginning Seed Analyst Short Course at Iowa State University. A manual used for the shortcourse is to be ready for use by next year. In addition, a two-day soybean workshop is scheduled prior to the annual meeting in Peoria. It will cover germination, TZ, seed conditioning, seed quality, vigor tests, and cultivar identification.

The Uniformity subcommittee, chaired by Jim Effenberger, submitted two proposals for Rule changes (the standardization of sample weight conversions and the definition of seed units for certain fescue species and ryegrass). In addition, they worked on updating the weights in Table 1 and on the development of a list of turf-type grasses. A special committee of the Uniformity subcommittee assigned to develop a standardized seed analysis report form has developed a form with an instruction booklet describing its use. Both documents were published in AOSA and SCST Newsletters. The committee will seek AOSA's adoption of the report format at this year's annual meeting.

The Seed Sample Mediation subcommittee, chaired by Jim Warren, was inactive this year, but is in the process of deciding how to best implement the subcommittee's goals.

Rodger Danielson, chairman

**TEACHING AND TRAINING SUBCOMMITTEE
SEED STANDARDIZATION COMMITTEE**

The teaching and training subcommittee has continued its shortcourse responsibilities again this year. The Beginner's Seed Analyst Shortcourse was held at the Seed Laboratory at Iowa State University's Seed Science Center May 1-12, 1989. The short course was at capacity with 24 participants for each of the two weeks. Analysts from all over the U.S. participated in the short course as well as a visiting scientist from China.

Iowa State University is in the process of expanding the manual used for this short course. The goal is to have the new version ready for the next year's workshops.

Oregon State University was in the process of planning the relocation of its facilities and was, therefore, not able to participate in the training functions this year.

A second activity which the subcommittee chairman is coordinating is a soybean workshop scheduled for June 9 and 10, 1989, in Peoria, IL. This two day workshop will cover soybean germination and tetrazolium analysis (Dr. A.D. Knapp), soybean seed conditioning and seed quality (Dr. Manjit Misra), accelerated aging tests and electrical conductivity tests for soybeans (Dr. Dennis TeKrony), and soybean cultivar identification (Dr. Miller McDonald).

Allen D. Knapp, chairman

UNIFORMITY SUBCOMMITTEE,
SEED STANDARDIZATION COMMITTEE

The 1988-1989 Uniformity Subcommittee obtained three excellent new members this year: Randy Bradley of the Nevada State Seed Laboratory, Reno, Nevada; Joe Garvey of the Pennsylvania State Seed Laboratory, Harrisburg, Pennsylvania; and Deborah Meyer of the California State Seed Laboratory, Sacramento, California. The Committee retained Stephen Hurst of the United States Department of Agriculture, Agricultural Marketing Service, Seed Branch, Beltsville, Maryland, and Jim Effenberger, California State Seed Laboratory, was appointed chairperson in June, 1989.

The Committee discussed and worked on four projects this year. Two projects, which entail Association of Official Seed Analysts (AOSA) rule changes, have progressed through the AOSA Rules Committee and are to be voted on at the 1989 annual meeting in Peoria, Illinois.

Randy Bradley is updating Table 1 of the AOSA rules to create uniformity within the weights used for analyzing seed samples. For uniformity and compliance with the AOSA rules, all purity tests should be based on the weight of 2,500 seed units, and 25,000 seed units for the noxious examination.

Joe Garvey is working on a list of turf-type grasses to bring uniformity to their classification. Several states have established separate lists of noxious weeds for turf-type grasses.

Deborah Meyer revised Appendix 2 of the AOSA rules. The project included: identifying the nonuniform factors within the appendix; interpreting surveys sent to laboratories and analysts throughout the United States; researching the mathematics of the appendix; and discussing the changes with certification officials, State and Federal seed enforcement agents, and seed companies. This revision will standardize the computation of sample weight conversions. It was approved by the AOSA Rules Committee and will be voted on in Peoria this year. Please see Attachment A.

Jim Effenberger revised the definitions of the seed units in *Festuca* species (excluding red and creeping red fescue, *F. rubra* subsp. *rubra*, and chewing fescue, *Festuca rubra* subsp. *commutata*), and *Lolium* spp. There appears to be a great deal of nonuniformity in the processing of these multiple units. Many sources of information were analyzed in preparing this proposal, such as, Dan Niffenegger's research paper "Characteristics and Classification of Multiple Units in Chaffy Grasses," Arnold Larsen's research paper "Problems With the New Definition of a Multiple Unit," and H.A. Jensen's research paper "Report of the Purity Committee Working Group on Multiple Florets in Grasses 1980-1983 ISTA." This proposal has also progressed through the AOSA Rules Committee and will be voted on at the annual meeting. If adopted, this change will eliminate the separation and reclassification of these multiple florets. Please see Attachment B.

ATTACHMENT A PROPOSAL

Revision of APPENDIX 2 in the Rules, and the calculation of number of contaminant seeds in a sample.

PRESENT RULE

APPENDIX 2. CONVERSION OF SAMPLE WEIGHTS
Conversion Factors

Sample Weight (grams) <u>Column I</u>	Factor to be used for seed per pound <u>Column II</u>	Factor to be used for seed per ounce <u>Column III</u>
25	18.0	1.14
35	13.0	0.81
50	9.0	0.57
100	4.5	0.29
150	3.0	—
300	1.5	—
500	0.9	—

Directions and examples

1. To convert to a per pound basis the number of seeds found in a sample size listed in Column I, multiply by the number on the same line in Column II.

Example: In a 50-gram examination of alfalfa seed, 12 dodder seeds were found. 12×9 (Column II, line 3) = 108 dodder seeds per pound.

2. To convert to a per ounce basis, the number of seeds found in a sample size listed in Column I, multiply by the number on the same line in Column III.

Example: In a 25-gram sample of bentgrass seed 7 oxeye daisy seeds were found. 7×1.14 (Column III, line 1) = 7.98 or 8 oxeye daisy seeds per ounce.

3. To convert the number of seeds per pound to any sample size shown in Column I, divide the number of seeds (such as that shown on a label) by the number in Column II on the line with the desired sample weight.

Example: Sorghum seed is labeled to show 12 Johnsongrass seeds per pound and the number found in a 300-gram examination is desired. 12 divided by 1.5 (Column II, line 6) = 8 Johnsongrass seeds in 300 grams.

4. To convert the number of seeds per ounce to any sample size shown in Column I, divide the number of seeds (such as that shown on a label) by the number in Column III on the line with the desired sample weight.

Example: White clover seed is labeled to show 8 seeds of curled dock per ounce and the number found in a 35-gram examination is desired. Eight divided by 0.81 (Column III, line 2) = 9.88 or approximately 10 curled dock seeds in 35 grams.

PROPOSED RULE

Change APPENDIX 2. CONVERSION OF SAMPLE WEIGHTS to read:

(A) When converting numbers of seeds found in the working sample to the number of seeds per pound, the following formula shall be used:

$$\frac{453.6 \text{ grams} \times \text{number of seeds found}}{\text{weight of working sample (grams)}} = \text{number of seeds per pound}$$

(B) When converting numbers of seeds found in the working sample to the number of seeds per ounce, the following formula shall be used:

$$\frac{28.35 \text{ grams} \times \text{number of seeds found}}{\text{weight of working sample (grams)}} = \text{number of seeds per ounce}$$

When using the above formulas, use the actual weight of the working sample (four significant figures). The final result shall be rounded to a whole number when reporting seeds per pound and to the first decimal place when reporting seeds per ounce. When rounding off the final result to a whole number, round down if the first decimal place is 4 or less and round up if the first decimal place is 5 or more. When rounding off the final result to the first decimal place, round down if the second decimal place is 4 or less and round up if the second decimal place is 5 or more.

Example 1. In a 50-gram noxious weed seed examination of alfalfa seed with an actual actual working weight of 50.13 grams, 7 dodder seeds were found. For number of seeds per pound (Formula A):

$$\frac{453.6 \text{ grams} \times 7}{50.15 \text{ grams}} = 63.31 \text{ seeds}$$

then
round to the nearest whole number
= 63 seeds per pound

Example 2. In a 2 gram purity examination of white clover, with an actual working weight of 2.221 grams, 1 chickweed seed was found. For number of seeds per pound (Formula A):

$$\frac{453.6 \text{ grams} \times 1}{2.221 \text{ grams}} = 204.2 \text{ seeds}$$

then
round to the nearest whole number
= 204 seeds per pound

Example 3. In a 10 gram noxious weed seed examination of Kentucky bluegrass, with an actual working weight of 10.13 grams, 4 Canada thistle achenes were found. For number of seeds per ounce (Formula B):

$$\frac{28.35 \text{ grams} \times 4}{10.13 \text{ grams}} = 11.19 \text{ seeds}$$

then
round to one decimal place
= 11.2 seeds per ounce

Example 4. In a .25 gram purity examination of bentgrass, with an actual working weight of .2584 grams, 3 windgrass florets were found. For number of seeds per ounce (Formula B):

$$\frac{28.35 \text{ grams} \times 3}{.2584 \text{ grams}} = 329.14 \text{ seeds}$$

then
round to one decimal place
= 329.1 seeds per ounce

SUPPORTING EVIDENCE

The examples currently in APPENDIX 2 are outdated. The minimum working weights used in three of the examples far exceed the minimum working weights currently listed in Table 1. The table does not include many of the working sample weights covered in Table 1, particularly those below 25 grams. In addition the conversion factors used (450 gr/lb and 28.4 gr/oz) are not the actual conversions for grams to pounds or grams to ounces.

The conversion tables for determining rate of occurrence of noxious weed seed issued by the Federal government use the actual conversion factors for grams to pounds (453.59237 gr/lb) and grams to ounces (28.35 gr/oz). The final result is expressed as a whole number. These tables are currently being used by the Federal government in the enforcement of the Federal Seed Act.

One purpose of the Rules For Testing Seeds is to standardize the methods used in seed testing. In speaking with numerous analysts it has become apparent that there is a lack of standardization in the methods used for converting grams to pounds and/or ounces. The conversion factor for grams to pounds varies from 453.59327 to 453.6 to 454 to 450. The conversion factor for grams to ounces varies from 28.35 to 28.4 to 28.

A second problem arises in whether to use the minimum working weight as shown in Table 1 or to use the actual working weight (to four significant figures) for the sample in question. In most cases the actual working weight is greater than the minimum working weight listed in Table 1. If the actual working weight is not used in the equation, the result would be an over-estimation of the number of contaminants per pound or per ounce, except in those cases when the working

weight is exactly the minimum required. If Example 2 (white clover purity) in the proposal were to be calculated using the whole number minimum working weight of 2 grams, the number of chickweed seeds per pound would be 227 rather than the 204 seeds per pound found when using the actual working weight.

Expression of the final answer as a whole number or as a fraction represents a third problem. Most laboratories round off the final answer to the nearest whole number by rounding up if the number following the decimal is 5 or larger and by rounding down if the number is less than 5. The problem of rounding off to the nearest whole number becomes evident in some states where regulations provide for labeling the number of contaminants either per pound or per ounce. If, for example, 7 quackgrass seeds were found in a 500 gram noxious weed seed examination of oat seed, the rate per pound would be 6 per pound (as recommended in the proposal), or the rate per ounce would be 0.4 per ounce (as recommended in the proposal). If the results were rounded to the nearest whole number, then this sample could be labeled 0 quackgrass per ounce.

Rather than develop a lengthy "table" format and attempt to cover all possible working weights and numbers of seeds found, two simple formulas are proposed; one based on number of contaminants found per pound and one based on number of contaminants found per ounce. With this method analysts need not refer to a chart each time a contaminant needs to be reported. The formulas are simple to use, easy to memorize and far more accurate since they incorporate the use of the actual working weight of the sample.

ATTACHMENT B PROPOSAL

Change seed unit in section 2.6 b. for *Festuca* spp. (excluding *Festuca rubra*) and *Lolium* spp. from caryopses and single florets to multiple florets (as well as caryopses and single florets).

PRESENT RULE

2.6 b. (2) Multiple florets and spikelets in tall oatgrass (*Arrhenatherum elatius*), oat (*Avena* spp.), grammas (*Bouteloua* spp.), rhodesgrass (*Chloris gayana*), barley (*Hordeum vulgare*), and bluegrass (*Poa* spp.);

PROPOSED RULE

2.6 b. (2) (a) Multiple florets in fescue (*Festuca* spp. excluding red and creeping red fescue, *Festuca rubra* subsp. *rubra*; and chewing fescue, *Festuca rubra* subsp. *commutata*), and ryegrass (*Lolium* spp.);

2.6 b. (2) (b) Multiple florets and spikelets in tall oatgrass (*Arrhenatherum elatius*), oat (*Avena* spp.), grammas (*Bouteloua* spp.), rhodesgrass (*Chloris gayana*), barley (*Hordeum vulgare*), and bluegrass (*Poa* spp.);

SUPPORTING EVIDENCE

According to the present rules, only caryopses and single florets are considered seed units for *Festuca* spp. (excluding *Festuca rubra* subsp. *rubra*, and *Festuca rubra* subsp. *commutata*), and *Lolium* spp. This ruling makes it mandatory that any attached sterile and fertile florets be removed. Seed units are the structures usually regarded as a seed in planting practices and in commercial channels. This statement in the Rules certainly makes multiple florets of the above mentioned species the seed unit. Last year AOSA moved *Lolium* spp. from the nonchaffy seed purity tolerance section to the chaffy seed section, placing them with other grasses that have multiple structured seed units.

In 1959 Dan Niffenegger at Montana State University could not find a satisfactory modified method for the testing of *Lolium* spp. and *Festuca arundinacea*, although modified methods were found for ten other chaffy grasses.

The 1980-1983 International Seed Testing Association Purity Committee concluded that the percentage of inert matter varies so much in *Lolium* spp. that use of a conversion factor was out of the question. ISTA now considers a sterile floret attached to a fertile floret the seed unit, provided that the sterile floret does not extend to the tip of the fertile floret. Multiple seed units of *Festuca* spp. are left intact and are included in the pure seed fraction. Purity results of the seed lots included in the survey showed only a slight increase in percentage pure seed using the new method. Germination tests of seed lots included in their survey showed no significant difference in the percent normal seedlings for multiple florets versus single florets.

If adopted, this proposal will move the AOSA testing procedures for these kinds in a direction that more closely relates to ISTA testing procedures, and will eliminate the time consuming job of removing attached florets.

REPORT OF SEED ANALYSIS

During this past year, the subcommittee has modified the proposed report form in response to the numerous suggestions received. In addition, a draft of "Instructions for Using the AOSA Seed Analysis Report" was prepared. Both the report form and instruction booklet were published in AOSA and SCST Newsletters and copies sent to AOSCA, AASCO, and ASTA for review.

Both ASTA and AOSCA object to use of the AOSA (or SCST) logo at the top of the report form. ASTA said it insinuates a degree of officialness. AOSCA wants the form to be available to all certification laboratories and, since they are not members of either AOSA or SCST, they would like the logo area left blank for the name of their laboratory.

The Committee unanimously supports AOSA's adoption of the report format. However, we wish AOSA to provide guidance regarding use of logo versus a blank space at the top of the report. We request, therefore, that AOSA adopt the report format and instruction booklet allowing for some small editorial changes in order to accommodate some late suggestions, and further, that AOSA provide guidance regarding use of logos.

REPORTS OF SPECIAL COMMITTEES
AFFILIATES COMMITTEE

Buddy Vaughan, Chairman

The affiliates committee met Sunday morning, June 11, 1989 to discuss the agenda items. Expect for NASDA, all affiliate organizations had representatives present and who ably spoke to issues and concerns. The discussion was frank and constructive.

This committee provides an excellent opportunity for each organization to gain insight into others, and a time to provide significant impact on various topics or issues.

Agenda

Association of Official Seed Analysts (AOSA)
Buddy Vaughan, President

American Seed Trade Association (ASTA)
Don McGillivray, President
Dave Lambert, Assistant to Executive Vice President
for Legislative and Regulatory Affairs
1. Seed analysis report form

Association of American Seed Control Officials (AASCO)
Charles Dale, President
1. Variety labeling
2. Inspection of imported seed
3. Federal Seed Act revision

Association of Official Seed Certifying Agencies (AOSCA)
Foil McLaughlin, Executive Vice President
1. Seed analysis report form

Commercial Seed Analysts of Canada (CSAAC)
Marilyn French, President

International Seed Testing Association (ISTA)
Sandy Ednie, President

National Association of State Department of Agriculture (NASDA)

Society of Commercial Seed Technologists (SCST)
Paul Johnson, President

AOSA Liaison Committee Chairman - Wayne Still

AOSA Vice President - Charles Baskin

Topics submitted by the ASTA Seed Analysts Liaison Committee will be discussed if not covered earlier.

1. Resolution pertaining to an AOSA Advisory Committee.
2. Oregon seedsmen resolution in reference to rule changes.

Buddy Vaughan, Chairman

AUDIT COMMITTEE

One June 11, 1989 the Audit Committee consisting of Ellen M. Chirco, Chairman and Steve Hurst, conducted an audit of the AOSA Treasurer's books. The books were found to be in good order.

The starting balance for 1989-90 will be \$33,943.39.

Ellen Chirco, Chairperson

BUDGET COMMITTEE**Budget for Year 1989-1990**

<u>REVENUE</u>	<u>3 Yr. Avg.</u>	<u>FY 89</u>	<u>89-90 Budget</u>
Starting Balance	15,513	23,216	26,000
Past Due Acc.	1,496	1,692	2,000
Convention Profit	4,742	6,778	2,500
Interest Income	781	1,193	1,000
Misc. Income	319	-0-	300
Starting Available Funds	22,851	32,879	31,800
Member Lab Dues	—	9,150	9,150
Associate Dues	—	1,505	1,505
SCST Affil. Dues	—	3,960	3,960
Membership Income	14,655	14,615	14,615
Newsletter Subscriptions	3,112	3,300	2,680
Journal Subscriptions	5,226	6,520	4,420
Page Charges for Journal	-0-	-0-	4,500
Annual Subscription Income	8,338	9,820	11,600
Rules etc.	5,175	6,881	4,000
Vigor Handbook, etc.	1,372	2,200	1,500
TZ Handbook	434	228	300
Other Publication	270	809	300
Cal. Samples	383	400	350
Handbook Sales Income	7,634	10,518	6,450
Total Income	\$53,478	\$67,832	\$64,465
<u>EXPENSES</u>			
Annual Meeting Allowance	1,000	1,000	1,000
Account Past Due	4,874	6,003	4,000
Bank Fees/Refunds	257	62	500
Annual Research Transfer	1,833	3,000	3,000
Cast Dues/Donations	1,386	3,153	2,500
	9,350	13,218	11,000

Office Operations			
Ins. (3 yr. bond)	-0-	-0-	-0-
Computer Equip	946	758	800
Supplies	290	355	400
Office Postage	830	1,188	1,200
Miscellaneous	317	253	350
	<u>2,383</u>	<u>2,554</u>	<u>2,750</u>
<u>EXPENSES</u>	<u>3 Yr. Avg.</u>	<u>FY 89</u>	<u>89-90 Budget</u>
Publications			
Rules	2,667	2,394	
Printing	-0-	-0-	8,141
Mailing	-0-	-0-	400
Editor's Ass't	-0-	-0-	-0-
			(Vol. 12-2; Vol. 13-1, 13-2)
Journal			
Printing	8,369	3,755	14,500
Mailing	-0-	610	1,800
Editor's Ass't	1,428	-0-	1,000
Newsletter			
Printing	4,914	4,580	5,000
Mailing	1,385	1,169	1,200
Editor's Ass't	-0-	167	200
Handbooks			
Vigor	-0-	-0-	-0-
Seedling Evaluation			
Printing	-0-	-0-	-0-
Editor's Ass't	-0-	-0-	-0-
Calibration Samples	-0-	-0-	-0-
Miscellaneous H B Costs	-0-	-0-	-0-
	<u>18,763</u>	<u>12,675</u>	<u>36,645</u>
Travel	2,653	1,925	—
AOSCA	-0-	-0-	1,000
AASCO	-0-	-0-	1,000
ASTA	-0-	-0-	500
NASDA	-0-	-0-	500
ISTA	-0-	-0-	1,500
	<u>2,653</u>	<u>1,925</u>	<u>4,500</u>
	<u><u>2,653</u></u>	<u><u>1,925</u></u>	<u><u>4,500</u></u>
Total Expenses	\$33,149	\$30,372	\$54,895

(C.A.S.T.)

It has been my pleasure to serve AOSA as Director of CAST in 1989. 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 scientists 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 1988-89 the CAST board met in February with the following action taken:

1. Because of budgetary constraints the summer board meeting in 1990 was cancelled.
2. Task force publications completed the last fiscal year include "Effective Use of Water in Irrigated Agriculture" and "Long-Term Viability of U.S. Agriculture". These are both excellent reviews of topics which are presently important to US Agriculture and can be purchased from CAST headquarters, 137 Lynn Ave., Ames, IA 50010.
3. Task forces to be completed in 1989-90 include: "Ecological Impact of Federal Conservation and Cropland Reduction Programs" and "Economic and Health Issues Associated with Mycotoxins".
4. Two issues of *Science of Food and Agriculture* were published during the fiscal year. The revised publication including laboratory exercises has been well received by science teachers and students. The publication will also be offered to Canadian high school students in 1989-90 as well as U.S. students.
5. New task forces were recommended in the areas of: (a) Quality of U.S. Agricultural Products and (b) Agricultural and Groundwater Quality.

Seed Scientists and technologists are fortunate that AOSA has membership 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:

- 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

If you are not presently an individual member of CAST, I strongly suggest that you too 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 expanding our role in agriculture to an urban public. If you have question regarding CAST contact me or Mr. Bill Marion at CAST headquarters, 137 Lynn Avenue, Ames, Iowa 50010-7120, telephone 515-272-2125.

Dennis M. TeKrony, Chairman

CERTIFICATION OF ANALYSTS COMMITTEE

Seed analyst certification examinations were administered in each of the five regions to a total of 33 candidates during 1988-89.

The Northcentral region, Allen Knapp coordinator, examined 8 candidates - three for purity and germination, one for purity only, and four for germination only; the Northeast region, Richard Deppen coordinator, examined 7 candidates - four for purity and germination, one for purity only, and two for germination only; the Northwest region, Rodger Danielson coordinator, examined 3 candidates - one for purity only, and two for germination only; the Southern region, Mary Smith coordinator, examined 11 candidates - four for purity and germination, three for purity only, and four for germination only; and the Southwest region, Randy Kocurek coordinator, examined 4 candidates - two for purity and germination, one for purity only, and one for germination only.

A total of 89 examinations (written and practical) were administered to the 33 candidates with a pass-fail ratio of 89:5. The results, by region, are:

Region	Purity Examination		Germination Examination	
	Taken	Passed	Taken	Passed
Northcentral	8	7	13	13
Northeast	10	10	12	12
Northwest	2	2	4	4
Southern	14	14	16	13
Southwest	5	4	5	5
	39	37	50	47

Forty-one certificates were presented to 29 successful candidates at the AOSA banquet in recognition of their accomplishments.

We now have in AOSA 172 analysts that are certified in purity, germination, or both, representing 36 states and 2 federal laboratories. A list of Certified Seed Analysts follows this report.

Region coordinators will announce to laboratories in their region dates the examinations are to be offered in 1989-90.

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

1. Applicant must be a practicing seed analyst employed by an AOSA member laboratory.

2. A minimum of 24 months experience in an AOSA laboratory or RST supervised laboratory, or its equivalent, is required to take the examinations.
3. The program, on the part of AOSA, is voluntary.
4. Analysts may be certified in two areas, purity and germination, or in only one area, purity or germination.
5. 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.
6. 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.
7. An analyst not passing an examination, written or practical, may take the exam again after one year.
8. 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.
9. Effective July 1, 1991 scientific names are required in the seed identification part of the purity practical examination.

Committee members:

A. B. Ednie	Randy Kocurek
Rodger Danielson	Mary Smith
Richard Deppen	Wayne Still, Chairman
Allen Knapp	

AOSA Certified Seed Analysts
(as of June 14, 1989)

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	Purity-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
Brubaker, Marilyn	Idaho	Germination
Caldon, Vicky*	Idaho	Purity-Germination
Duehlmeier, Corrie	Idaho	Germination
Greger, Kenneth	Idaho	Purity
Lawson, Richard	Idaho	Purity-Germination
Weber, Sharon K.	Idaho	Purity
Trent, Robert	Idaho	Purity-Germination
Waldram, Amy	Idaho	Germination
Baldwin, Minak	Illinois	Germination
Books, Brenda	Illinois	Germination
Brickey, Jean	Illinois	Purity
Buckles, Brenda	Illinois	Purity-Germination
Cowan, Scott	Illinois	Germination
Faires, Carol	Illinois	Germination
Guimard, Debby	Illinois	Purity-Germination
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, Myrta*	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
Cronin, Barbara	Louisiana	Germination
Fisher, Linda	Louisiana	Germination
Smith, Tammye O.	Louisiana	Purity
Bitzel, David F.	Maryland	Germination

Buschling, Darryl Ann	Maryland	Germination
Capshaw, Lois	Maryland	Purity
Crippen, Lyle	Maryland	Purity
Kahline, Philip	Maryland	Purity
Miller, Jennifer	Maryland	Purity
McGuire, Steve	Michigan	Purity-Germination
Dunn, C. W. (Will)	Minnesota	Purity-Germination
Muggli, Michael	Minnesota	Purity-Germination
Rufledt, Harold	Minnesota	Purity-Germination
Hoskins, David	Missouri	Purity-Germination
Johnston, David	Missouri	Purity-Germination
Umstatt, Tom R.	Missouri	Purity-Germination
Kodejs, Elaine M.	Nebraska	Germination
Koester, Douglas B.	Nebraska	Germination
Pape, Marjorie	Nebraska	Purity-Germination
Svik, David F.	Nebraska	Purity-Germination
Maul, Donna	Neb. Crop Imp.	Purity-Germination
Prentice, Larry*	Neb. 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
Bailey, George R.	North Carolina	Purity-Germination
Hearne, Melanie	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
Osburn, Roger	Oklahoma	Purity-Germination
Watts, Jeanette	Oklahoma	Purity-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
Taylor, Arlene	Pennsylvania	Germination
Foy, J. Robin	South Carolina	Purity-Germination
Sumter, Mary L.	South Carolina	Purity-Germination
Vines, Joseph S., Jr.	South Carolina	Purity-Germination
Wannamaker, David D.	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
Bricker, Michael	USDA - NSSL	Germination
Cecil, Marcela	USDA - NSSL	Purity-Germination
Coil, Janice	USDA - NSSL	Germination
Didericksen, Mike	USDA - NSSL	Purity-Germination
Hall, Jane	USDA - NSSL	Purity-Germination
Keys, Eugene D.	USDA - NSSL	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	Purity-Germination
Freeman, Terry	Utah	Germination
Binns, Stephen J.	Virginia	Purity-Germination
Burwell, Mary E.	Virginia	Purity-Germination
Glenn, F. Berkley, Jr.	Virginia	Germination
Hansen, Beverly F.	Virginia	Purity-Germination
Jackson, Beverly*	Virginia	Purity-Germination
Jones, Susan R.	Virginia	Purity-Germination
Langford, Margaret	Virginia	Purity-Germination
Rashid, Majida	Virginia	Purity-Germination
Smith, Harry	Virginia	Purity-Germination
Selzler, Ruth	Washington	Purity-Germination

Houser, Allan C.
 Thomas, Gary
 Parker, Rita A.

Wisconsin
 Wisconsin
 Wyoming

Purity-Germination
 Purity-Germination
 Purity-Germination

*Former RST

T. Wayne Still, Chairman

CONSTITUTION COMMITTEE

The Constitution Committee was directed by the Executive Board during the 1988 Rochester meeting to survey the membership regarding revising and/or adding to the present membership categories. As requested, a general survey was conducted via the AOSA News Letter. A limited response was received. Therefore, an additional mailing will be made directly to the AOSA member laboratories. No further actions were taken by the committee.

Larry J. Prentice, Chairman

MEETING PLACE COMMITTEE

With next year's 1990 meeting site selected as Annapolis, Maryland and hosted by the staff of the Maryland Department of Agriculture, the committee has been anxiously awaiting to hear of news concerning an enthusiastic host for the 1991 annual meeting. And as this meeting approached it appeared that no news was forthcoming. However, we have received at the beginning of this week an invitation from the state of Kentucky to host the 1991 meeting. Wayne Still of the Kentucky State Seed Laboratory has indicated that the proposed site will be Lexington Kentucky in the "bluegrass" state.

Although 1992 becomes the next open year, the committee has also received an invitation to host a future meeting as specified for 1993 from the state of Colorado. A group of "tri-sponsors" from Colorado have submitted this invitation, consisting of the Colorado State Seed Laboratory, the National Seed Storage Laboratory, and the Front Range Seed Analysts organization. The specific location for the meeting has yet to be determined, but proposed locations include the Denver metropolitan area, Fort Collins, Breckenridge, and Estes Park, the gateway to Rocky Mountain National Park.

The committee acknowledges the willingness and generosity of our benevolent hosts, and recommends acceptance of these invitations for 1991 and 1993, respectively.

Larry W. Nees, Chairman

MERIT AWARD COMMITTEE

The Association of Official Seed Analysts Merit Award Committee selected Gail Fenderson, Oklahoma Department of Agriculture retired to receive the Merit Award for 1989.

Charles C. Baskin, Chairman

NECROLOGY COMMITTEE REPORT 1988-1989

Frederick A. McLaughlin II, of Sunderland, Massachusetts died February 12, 1989. As of 1986, he was the only survivor of the 1911 graduating class from Massachusetts Agricultural College. He was 100. A member of Kappa Sigma at the College, he was also a captain in ROTC and a member of the ROTC championship rifle team. In 1916-1917, he studied at the University of Chicago, and for a short time was a pathologist for the Committee on Public Safety in Boston. He taught botany and other subjects at the College until 1919, when he took charge of the seed laboratory at the campus experimental station. In 1932, he presented a paper entitled "Comparative Laboratory and Field Germination of Onion Seed". He was elected president of the Association of Seed Analysts of the United States and Canada, now known as AOSA. In his 1942 presidential address, he formulated guidelines on scientific paper submissions and stressed laboratory concern and responsibility for:

- a) Shortage of trained analysts and laboratory equipment;
- b) erroneous claims on variety and guarantees, high prices due to shortage of seed and excessive impurities, particularly in carrot and onion seed.

He retired from the lab in 1954 and taught as an associate professor emeritus at the University.

In 1960, he received the James H. Elwell Memorial Award for outstanding work in conservation from the Hampshire County League of Sportsmen's Clubs. In 1968, he was honored by the Worcester County League of Sportsmen's Clubs for his efforts on behalf of Massachusetts sportsmen. For nine years, he served on the Massachusetts Fish and Game Board. An Amherst Town Meeting member for 30 years, he also served briefly on the Conservation Commission. He leaves two sons, George E., 42, and Frederick A. Jr., 43, nine grandchildren, and 13 great-grandchildren. His wife died in 1983.

M.S. Dhaliwal, Chairman

NOMINATION COMMITTEE

The members of the AOSA were asked to nominate persons to fill vacancies in the offices of Vice-President, two Executive Board members for three-year terms, and one Executive Board member for one-year term.

Ten people were nominated for Vice-President, eighteen people were nominated for a three-year term of the Executive Board, and fifteen people were nominated for a one-year term of the Executive Board.

The following people had the most nominations and consented to having their name placed on the ballot:

<u>Vice-president</u>	<u>Executive Three-year Term</u>	<u>Executive Board One-year Term</u>
Tim Gutormson	T. Wayne Still	Tom Umstattd
Wayne Gurke	Roger Osburn	Mary Smith
	James Warren	
	Arnold Larsen	

Forty-one labs cast 145 votes and the winners are:

Wayne Gurke, vice-president, **James Warren** and **Arnold Larsen**, three-year term Executive Board and **Tom Umstattd** one-year term Executive Board.

Terry Turner, Chairman

PAST PRESIDENTS BREAKFAST

The 1989 Past Presidents Breakfast held during the annual convention in Peoria was well attended with 15 presidents participating.

After breakfast, discussion focused on some of the major AOSA activities or issues during the year. Such as, the Seed Analyst Report Form, Research Funding, a call of the establishment of an AOSA Advisory Committee, membership for certification laboratories, and term of office for the president.

The Executive Board requested a poll be taken during the breakfast of the question extending the President's term. The unanimous recommendation was to have the President in office for two or three years — with most favoring a two year term.

Those attending are listed below along with their year of service.

Leroy Everson	1959	Rodger Danielson	1984
Elmo Winstead	1968	Wayne Still	1985
Wendell Ditmer	1970	Ellen Chirco	1986
Bill Rice	1975	Dave Svik	1987
Arnold Larsen	1980	Allen Knapp	1988
Charles Abbott	1981	Buddy Vaughan	1989
Loren Wiesner	1982	Charles Baskin	1990
Gail Fenderson	1983		

PROGRAM COMMITTEE

I would like to thank all of those individuals who made the program for the Peoria meetings a success. The sessions and tours were well attended. A total of 15 research papers were presented, a symposium, "The Seed as an International Commodity" was given, and a workshop on soybean seed quality was held June 9 and 10. The program has been published in the AOSA Newsletter.

A. D. Knapp, Chairman

RESOLUTION

by the

ASSOCIATION OF OFFICIAL SEED ANALYSTS

William R. Vaughan, President

WHEREAS, the 79th Annual Meeting of the Association of Official Seed Analysts was held June 11-15, 1989, in the Continental Regency Hotel at Peoria, Illinois; 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

Dr. Allen Knapp, AOSA Co-Chair
Ms. Charlotte Jennings, SCST Co-Chair

Local Arrangements

Barbara Williams, SCST Co-Chair
Joe Lamb, SCST Co-Chair
Jim Lair, AOSA Co-Chair

Illinois State Seed Laboratory Staff:

Mike Cunningham (Signs)	Mike Simpson
Barbara McGuire (Printing)	Harry Devlin
Maria Voyyer (Printing)	Barb Pettit
Brenda Buckles (Treas.)	Brenda Carstels (Front Desk)
Scott Cowan (AG Tour)	Nellie Tonelle (Front Desk)
Wilma Miller (Spouse Tour)	Clara Stevenson
Minak Baldwin (After Mtg)	Rodger Philmon
Mike Skelton	

Contributors

Hospitality Room

AOSA/SCST Planning Committee
Vaughan Seed Company - Downers Grove, Illinois
Dekalb Pfizer Genetics - Dekalb, Illinois
George J. Ball Company - Chicago, Illinois
Anchor Paper - St. Paul, Minnesota

Breaktime

Asgrow Seed Company - LaFayette, Indiana
Ainsworth Seed Company - Mason City, Illinois
Illinois Seed Dealers Assn. - Urbana, Illinois
Illinois Crop Improvement Assn. - Urbana, Illinois
Illinois Foundations Seeds Inc. - Champaign, Illinois
Sommer Brothers Seed Company - Pekin, Illinois
Trisler Seed Farms - Fairmont, Illinois
Griffith Seed Company - McNabb, Illinois
Growmark - FS, Inc., - Bloomington, Illinois
Shissler Seed Company - Elwood, Illinois

Registration

Peoria Convention Bureau - Peoria, Illinois
Illinois Foundation Seeds - Champaign, Illinois
Asgrow Seed Company - LaFayette, Indiana
Vaughan Seed Company - Downers Grove, Illinois
Custom Farm Seeds - Momence, Illinois
Growmark - FS, Inc., Bloomington, Illinois
Pioneer Hybrids, International - St. Joseph, Illinois
Dekalb Pfizer Genetics, Inc. - Dekalb, Illinois
Illinois Crop Improvement Assn. - Urbana, Illinois
Illinois Department of Agriculture - Print Shop Staff
Illinois Department of Agriculture - PICS Staff
Illinois Department of Agriculture - Division of Marketing
Illinois Department of Agriculture - Press Office Staff
Continental Regency Hotel - Front Desk Staff
State of Nebraska - Fun Run Organization

Bureau of Data Information - Computer Equipment
 Bureau of Plant & Apiary - Audio Visual Equipment
 Photo/Graphic Services Company - Peoria, Illinois

AOSA/SCST Banquet

Dickey John Company - Auburn, Illinois
 Flowertown - Peoria, Illinois
 Funk Seed Company - Bloomington, Illinois
 Golden Harvest - El Paso, Illinois
 Americana Seeds Inc. - Bowen, Illinois
 Continental Regency Hotel - Banquet Staff
 State of Colorado - Door Prizes

Tours

John Deere, Inc. - Quad Cities
 Pioneer Hybrids, International - St. Joseph, Illinois; Cecil Miller,
 Woodhull Plant Manager
 Peoria Coach Company - Peoria, Illinois
 Lincoln Prairie Park Assn. - Peoria, Illinois
 Peoria Boatworks - Peoria, Illinois
 Washington Chamber of Commerce
 Growmark - FS, Inc. - Bloomington, Illinois
 Asgrow Seed Company - LaFayette, Indiana
 Peoria Mall Office - Peoria, Illinois
 Dekalb Pfizer Genetics - Dekalb, Illinois

SCST Reception

Dekalb Pfizer Genetics - Dekalb, Illinois
 Funk Seed International - Bloomington, Illinois
 Growmark, Inc. - Bloomington, Illinois

RESOLUTION

from the

ASSOCIATION OF OFFICIAL SEED ANALYSTS

William R. Vaughan, President

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, seedsmen, and all agricultural interests of this nation; and

WHEREAS, Funding for the continuation of the Federal Seed Act was not included in the FY 90 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 Peoria, Illinois, June 11-15, 1989, 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 Dr. Clayton K. Yuetter, Secretary
 USDA - Jo Ann R. Smith, Marketing & Inspection
 USDA - Administrator, Agricultural Marketing Service
 AASCO - Charles C. Dale
 AOSCA - Foil McLaughlin
 ASTA - William T. Schapaugh
 SCST - Guin Jenanyan
 NASDA - Arthur R. Brown
 Honorable Robert C. Byrd, U.S. Senate
 Honorable Jamie L. Whitten, U.S. House of Representatives

SEEDLING EVALUATION HANDBOOK

At the 1989 meeting of the AOSA/SCST, held in Peoria, Illinois, the AOSA membership voted to adopt the text of the Seedling Evaluation Handbook as published in the AOSA News Letter 63(2), February 1989, with amendments as listed below. This handbook will not become part of the Rules until it is published in its final form (with illustrations) and is distributed to member laboratories. It is anticipated that this will occur in 1991. Until the handbook is printed and distributed, Appendix 1 of the current Rules will remain in effect.

The following amendments to the handbook were adopted in Peoria:

- P. 3. Under 2.1.2, delete last sentence of first paragraph: "In this handbook...considered."
- P. 16. Add to end of last sentence of second paragraph (end of 3.5.1.b): "if at the end of the regular germination period swollen seeds are present or there are seeds which have just started to germinate."
- P. 26. Delete all of section C.
- P. 29. Change "*Artemesia*" to read "*Artemisia*".
- P. 39. Under " - all others", delete cotyledon description and replace with: "cotyledons are not assessed. Exception: If both cotyledons are missing and the seedling is generally weak, then the seedling is considered abnormal."
- P. 48. Bottom of page, last statement under hypocotyl: delete the word "thickened". Statement should read: "malformed, such as markedly shortened or curled"
- P. 50. The common name for *Desmodium tortuosum* should be "beggarweed", not "hairy indigo"
- P. 50. Change "*Kummerovia*" to read "*Kummerowia* spp."
- P. 63. Under a. General description, root system, delete from end of paragraph: "(Also see Remarks)".

- P. 63. Bottom of page, under Root, add to the last line to read: "weak primary root with insufficient seminal or adventitious roots"
- P. 64. Delete last paragraph: "All rice...the 7-leaf stage."
- P. 68. Under Remarks, delete first paragraph: "Preliminary...day."
- P. 77. Top of page, Secondary infection, add to end of definition: "or adhering structures (such as the cluster of *Beta*)"

All descriptions, under part a) General description: Delete "Seed unit:...".

In addition to the above amendments, there will be some editorial changes prior to final printing, including shifting of some comments and addition of references.

Doug Ashton, Chairman

SYMPOSIUM COMMITTEE

Theme: The Seed As An International Commodity

Chair: Dr. J.S. Burris
Seed Science Center
Iowa State University

The symposium was held on June the 13th beginning at 8:00 a.m. The speakers in order of appearance were:

Dr. James Elgin
Deputy Area Director
USDA

Dr. Wilford Bradnock
Agriculture Canada

Dr. Kim Joo
Pioneer Hybred International

Mr. James Effenberger
California State Seed Laboratory

The symposium was well attended and promoted considerable discussion regarding the role of the AOSA in the facilitation of seed movement. The global nature of the seed and the recent renewed interest by the EEC made this a very timely topic. The excellent presentations will be published.

J.S. Burris, Chairman

PRESIDENTIAL ADDRESS

W. R. (Buddy) Vaughan

Keys For Success

"ACT"

Mr. Moderator, Ladies and Gentlemen

The hour has come! I must confess, I have dreaded this time since first being contacted by the nominating committee chairman, advising that I had been nominated for Vice President of this Association, and would I consent to have my name placed on the ballot. My first thought was you will someday have to give a Presidential Address. But, I did and here we are.

I really didn't think about it much until about three months ago when it dawned on me that I should start preparing for this. I would sit down and try to think of something to say, but nothing would come — after going through that process several times over the following weeks with the same results, I decided to review addresses made by previous Presidents. Boy was that a mistake. After reading some of those very fine addresses, that little voice within kept saying you knucklehead, I told you, you couldn't do it.

A thought finally occurred don't try to compete with others but to just talk about something you love. OK, what do I love? My Lord, wife, kids, family, this great Land we are so privileged to be a part of, seed testing, this Association and the wonderful people associated with it.

I then began to think about the next decade and what will seed testing be like. Will there be any changes? How will we seed analysts react? What is AOSA future? etc.

So the theme for my talk is "How will AOSA "ACT" in the 1990's — with the title of "Keys for Success."

I'll try to adhere to the advice of a former 4-H leader, who while instructing his pupils on the fine arts of public speaking, said that the three most important things to remember when speaking was to Stand-up, Speak-up, and Shut-up.

Wow! Mr. Moderator this isn't so bad after all. Since I am standing up and have spoken-up I must be two thirds done already.

But, before shutting-up, I would like us to think of three keys for success which AOSA might employ to maintain a strong organization and provide leadership throughout the 1990's. The three keys have the acronym "ACT", and are - *Adapt, Communicate and Technology*.

AOSA will be confronted with many challenges during the 90's — perhaps more than during any other period in its illustrious history.

As Biotechnology, genetic transformation, tissue culture, and other techniques are developed, standard methods adopted, and practical applications are found and implemented, pressures will be exerted on conventional seed, seed suppliers, and consequently on AOSA. It is up to us as to how AOSA will respond to these challenges or demands. As I see it we have two options; either sit back, do nothing, and risk becoming a stale organization or to look at each one as an opportunity and with study, dedication, and deliberation develop and adopt workable solutions.

How does AOSA adapt? Simply put, we must recognize those changes which have minimal or significant impact, and take decisive action. We must not get caught up in thinking that just because we have done this or that for years that it is the only or best way. We must be open for new

ideas — willing to research them and to adopt new testing procedures when warranted, and assure their implementation.

Really, when one thinks about this adapting notion, it is not new to AOSA. Many examples readily come to mind which illustrate AOSA willingness to confront changes and/or new ideas throughout its history. Certainly we do not have time to review all of those accomplishments; but, as an example, I would like to highlight one. A few years back Ed Hardin, George Spain and others began talking about an idea to certify laboratories. The idea immediately met opposition, but through perseverance, modification, and comprise the process for Certification of Seed Analysts was established. The fact that within a short period of three years 172 seed analysts have been certified and which represents 36 State Laboratories and one Federal Laboratory is certainly a testament to its value and to AOSA willingness to adapt.

An area we should adapt is in our organizational structure. I feel we must extend the Presidents term of office. I join numerous others who during or after serving as President changed their mind on this issue, and who have called for a change. I sincerely believe it is now time for the full membership to be heard on this issue!

The second key is communication. AOSA must become more vocal, and trumpet its own worth and accomplishments. However, for AOSA to be successful in this endeavor we seed analysts and/or seed administrators must declare and demand the respect and appreciation for the most basic work in agriculture, seed analysis, the work we perform. We must convince our superiors of the importance of our work and the need to participate fully in AOSA. We must be willing to look for those areas within our organization to actively participate by serving on committees, as officers, or whatever, and to vigorously support AOSA in its various endeavors. I can attest to the fact that it is very easy to sit on the sidelines and watch someone else carry the load, but I also can attest that it is not nearly as rewarding. I take this opportunity to encourage each of you and particularly the newer members to become actively involved with your Association. If there is a particular committee you wish to participate on simply contact the committee chairman or the president. We will certainly attempt to accommodate every request. I'm confident that for every hour or day you spend on AOSA activities you will be rewarded many times over with opportunities for friendship, satisfaction of accomplishment, and the acknowledgement that the AOSA Leadership role is continuing and moving forward.

Also, AOSA must continue to communicate and cooperate fully with other groups, agencies, etc. We have a good base to build on. As outlined in the Liaison Committee report good lines of communications have been established and your Association has become increasingly more responsive in this respect. Again, we must not become complacent, but aggressively seize every chance to further our commitment for communication and cooperation.

The third key for success in the 90's is Technology. This may be the single most important ingredient to ensure AOSA's future, and to fulfill its objective which is "to improve seed testing in all its branches and to make it more useful to agriculture and society". Since technology generally flows from research and education we should all take pride that AOSA is currently in the process of awarding two research grants which are geared specifically

to seed testing. We need to be sure that new technologies in seed testing are properly focused on AOSA needs, and as new techniques and procedures are developed and adopted, it is imperative that this information be quickly disseminated and put into everyday use by all seed laboratories.

Through research, development, and the willingness of all members to become actively involved with our organizational activities, I am confident that AOSA will "ACT"; thereby continuing, and assuring AOSA's legacy throughout the next decade.

It has been an honor and pleasure to serve as President this year. Although, I've done little, much work has been accomplished through major efforts of committees and committee heads. For this I and AOSA extend a hearty thanks and appreciation for your very fine efforts.

Now I'll shut-up!