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MINUTES OF THE MEETING OF THE S-9
TECHNICAL ADVISORY COMMITTEE ON THE
INTRODUCTION, MULTIPLICATION, AND
EVALUATION OF NEW PLANTS FOR
AGRICULTURAL AND INDUSTRIAL USES
AND THE PRESERVATION OF
VALUABLE GERMPLASM

NATIONAL SEED STORAGE LABORATORY
COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO

~~100, Dec. '93~~
Mailed out Jan. 18, 1994
(by SW)

JUNE 28-29, 1993

SUBMITTED BY
WILLIAM D. BRANCH, SECRETARY
S-9 TECHNICAL ADVISORY COMMITTEE 1993

AGENDA
S-9 Regional Technical Advisory Committee Meeting

June 28-29, 1993

HOST: Colorado State University & National Seed Storage Laboratory

LOCATION: National Seed Storage Laboratory

June 28, 1993

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| 1:00 PM | 1. Call to Order |
| 1:10 PM | 2. Introduction of Attendees |
| 1:20 PM | 3. Official Welcome |
| 1:30 PM | 4. Approval of Minutes - 1992 Meeting |
| 1:40 PM | 5. Approval/Additions to Agenda from 1993 Meeting |
| 1:50 PM | 6. Appointment of Committees
A. Nominations
B. Time & Location of Next Meeting
C. Resolutions |
| 2:05 PM | 7. Review of S-9 Project, 5-Year Revision
A. Dr. Gerald Arkin - View of Regional Projects by Directors of State Experiment Stations - Research Projects vs Research Support Projects
B. Gil Lovell - State designations of S-9 Programs and participants for 1994-1998. |
| 2:30 PM | 8. S-9 Committee Members - Questions, Problems
A. Dr. Jorge Mosjidis - Pollination problems in regeneration of forage legume germplasm collections.
B. Dr. Bill Rhodes - Regeneration of watermelon germplasm collection.
C. Information Brochure |
| 3:00 PM | Coffee Break |
| 3:30 PM | 9. P.I. Station Staff- Brief Reviews of Programs
A. Graves Gillaspie - Virus elimination in cowpeas and screening of watermelons for virus resistance
B. Bob Jarret - Genetics Research
C. Roy Pittman - Wild peanut collection and tissue culture procedures
D. Gil Lovell - Budget Review
E. Steve Kresovich - Views of New Research Leader |

- 4:30 PM 10. Plant Explorations - Gil Lovell
- 4:45 PM 11. Committee Reports and Acceptance
 - A. Nominations
 - B. Time & Location of Next Meeting
 - C. Resolutions
- 5:00 PM 12. Adjournment
- 5:30 PM Barbecue (Lory Student Center)

June 29, 1993

- 8:00 AM 1. S-9 Tour of National Seed Storage Lab
- 9:40 AM Coffee Break - Tour ends

1. CALL TO ORDER

The Regional S-9 Technical Advisory Committee (TAC) meeting was called to order at 1:00 p.m. on June 28, 1993 by chairman Jorge Mosjidis in conjunction with the joint Regional (NC-7, NE-9, W-6, and S-9) TAC meeting at the USDA National Seed Storage Laboratory, Colorado State University, Ft. Collins, CO.

2. INTRODUCTION OF ATTENDEES:

<u>Name</u>	<u>Address</u>	<u>Phone & Fax</u>
Gerald Arkin (Adm. Advisor)	Univ. of Georgia, Assoc. Dir. Georgia Experiment Station 1109 Experiment Street Griffin, GA 30223-1797	404/228-7263 FAX: 404/229-3324
*Bill Branch	University of Georgia Dept. of Crop & Soil Sciences Coastal Plain Exp. Station Tifton, GA 31793-0748	912/386-3561 FAX: 912/386-7293
Mark Bohning	USDA/ARS/NGRL Bldg. 003, BARC-W Beltsville, MD 20705	301/504-6133 FAX: 301/504-5536
Mike Cagley	USDA/ARS/NGRL 11600 Old Pond Dr. Green Dale, MD 20769	301-504-8785 FAX: 301/344-3441
*David Coffey	University of Tennessee Dept. of Plant & Soil Science Knoxville, TN 37901-1071	615/974-8829 FAX: 615/974-7997

*Ruben Velez Colon	University of Puerto Rico Fortuna Agric. Exp. Substation HC 02 Box 7115 Juana Diaz, PR 00795	809/842-9196 837-3905
*Bill Fike	North Carolina State Univ. Crop Science Department Raleigh, NC 27695-7620	919/515-4063
Graves Gillaspie	USDA/ARS/SRPIS Georgia Experiment Station 1109 Experiment Street Griffin, GA 30223-1797	404/228-7207 FAX: 404/229-3323
L. Earl Griffin	Miami, FL	305/254-3639 FAX: 305/238-9330
*Frank Hons	Texas A&M University Dept. of Soil & Crop Science College Station, TX 77843	409/845-4620 FAX: 409/845-0456
Bob Jarret	USDA/ARS/SRPIS Georgia Experiment Station 1109 Experiment Street Griffin, GA 30223-1797	404/228-7254
*Jim Kirby	Oklahoma State University Department of Agronomy Stillwater, OK 74078	405/744-6417
*Don LaBonte	Louisiana State University Department of Horticulture Baton Rouge, LA 70893	504/388-1024 FAX: 504/388-1068
Gil Lovell	USDA/ARS/SRPIS Georgia Experiment Station 1109 Experiment Street Griffin, GA 30223-1797	404/228-7255 FAX: 404/229-3324
*Teddy Morlock	University of Arkansas Dept. of Hort. & Forestry Fayetteville, AR 72701	501/575/2603
Brad Morris	USDA/ARS/SRPIS Georgia Experiment Station 1109 Experiment Street Griffin, GA 30223-1797	404/228-3253 FAX: 404/228-7270
*Jorge Mosjidis	Auburn University Agronomy Department Auburn, AL 36830	205/844-3976 FAX: 205/844-3945

Roy Pittman	USDA/ARS/SRPIS Georgia Experiment Station 1109 Experiment Street Griffin, GA 30223-1797	404/228-3252 FAX: 404/228-7270
*Gordon Prine	University of Florida Agronomy Department Gainesville, FL 32611	904/392-1811 FAX: 904/392-1840
*Bill Rhodes	Clemson University Horticulture Department Clemson, SC 29631	803/656-0410
*Francisco Vazquez	USDA/ARS/TARS P.O. Box 70 Mayaguez, PR 00681	809/831-3435 FAX: 809/832-1025
*Richard Veilleux	VPI & SU Department of Horticulture Blacksburg, VA 24061-0327	703/961-6000

*Members of the S-9 TAC.

3. OFFICIAL WELCOME

Dr. Gerald Arkin, Associate Director of the University of Georgia Agricultural Experiment Stations at the Georgia Station in Griffin welcomed our committee. He encouraged all in attendance of the double opportunity in such joint meetings with the other regional committees. Dr. Arkin pointed out that as our administrative advisor that he was our eyes and ears to the various directors of the different state agricultural experiment stations regarding the southern S-9 region.

4. APPROVAL OF MINUTES

Minutes of the 1992 S-9 TAC meeting held at the University of Georgia Experiment Station in Griffin, Georgia were approved as previously submitted to members by the secretary. This report represents the first on a calendar basis.

5. APPROVAL OF AGENDA

The 1993 agenda for this year's TAC meeting was circulated and approved as presented by the chairman.

6. APPOINTMENT OF COMMITTEES

- A.) Nominations: Jim Kirby - chairman, Gil Lovell, and Francisco Vazquez.
- B.) Next Meeting (Time and Place): Don LaBonte - chairman, Bill Fike, and Teddy Morelock.

- C.) Resolutions: David Coffey - chairman, Ruben Velez Colon, and Bill Rhodes.

7. REVIEW OF THE S-9 REGIONAL PROJECT (1994-1998)

- A.) Dr. Arkin presented a final draft copy of the new five-year S-9 regional project proposal which was circulated among the committee members present. At that time, this document had already been submitted to the Southern Regional Research Committee (SRRC) and returned with revisions to the SRRC. It has since been forwarded to the Committee of Nine for final approval.

Dr. Arkin also pointed out that the directors of the state experiment stations in the southern region have two major concerns: First and foremost is that this particular S-9 project provide service to the research programs of both state and federal scientists in the region. Thus its fundamental mission is service. Secondly, any research conducted by this project needs to be directed towards the service component as a support project.

State agricultural experiment station directors annually decide upon contributing between \$200,000-\$300,000 off the top of regional funds for this particular S-9 project. USDA-ARS also contributes nearly \$1.5 million each year, thus the combined funding for this project is nearly \$2 million. So in times as now of severe budget shortfalls, such critical support of one regional program over another merits continued justification and cooperation.

- B.) Gil Lovell then addressed the several harsh critiques from the first review process. Apparently this project was reviewed as a regional research project rather than a regional support project. However, Dr. Arkin pointed out that the critical comments questioned primarily the regionality aspects of the project, consequently it now has been revised to address both collaboration and service.

8. S-9 COMMITTEE MEMBERS - QUESTIONS AND ANSWERS

- A.) Jorge Mosjidis asked for answers to pollination problems in regeneration of forage legume germplasm collections. One possible answer was to isolate these species inside cages, and begin research studies to discover the number of plants needed, etc.

Gil Lovell mentioned that at the SRPIS, he has a problem choosing which of these forage legumes to concentrate upon as the most important species and place the others into long-term storage. A motion was passed to form a subcommittee to place priorities on those species with the highest potential. Gil Lovell was given the freedom to select the members of this subcommittee. Assurance was also made that of the 3000 PI's (380 species) nothing would be lost when transferred from the active collection at SRPIS to permanent storage at NSSL.

- B.) Bill Rhodes highlighted the problem with regeneration of the watermelon germplasm collection. Apparently, there are 1500 accessions needing increase, thus it would take the next 20 years under the current regeneration plan of only 75 PI's per year. Dr. Rhodes suggested utilizing northwest China as an alternative grow-out site. The environment over there is ideally suited for watermelon production, and he knows of a good cooperator located there that would be very capable and interested in this approach in exchange for seed for his own breeding program. The estimated cost for seed increase in China would be about \$18 versus approximately \$200 in the U.S. However, the cucurbit CAC has since expressed concern over certain disease problems and lack of reciprocal seed availability.

Gil Lovell said that a cucurbit curator and technician has already been pinpointed as a priority staff need as soon as the present federal job-hiring freeze is lifted, but the Chinese option merits at least a pilot project to actually check the feasibility of such an arrangement. The cooperator in China already has 100 PI's from the U.S. for subsequent evaluation if we so desire. A motion was made for this TAC to write the cucurbit CAC to ask that they allow Bill Rhodes to address these various points of difference.

- C.) Gil Lovell presented a USDA/SRPIS information leaflet entitled, 'Seeds of the World'. It was pointed out that copies have been widely distributed to members, visitors, teachers, etc., however these are almost depleted. So, input was asked as to possible changes, if any, needed in the next format. Suggestions were to increase the quantity with minimal changes to the format to stay within budget.

9. BRIEF REVIEWS OF THE USDA/SRPIS PROGRAMS

- A.) - Graves Gillaspie reported on his research efforts to eliminate virus in cowpeas and screening watermelons for virus resistance. He stated that six to seven viruses were found among several cowpea accessions tested in the greenhouse with eight different antisera. However, none of these positive plants exhibited any visual symptoms and some of these viruses are considered exotic in the U.S. Only healthy and negative plants are permitted to reach maturity, and seed from these plants are then sent to the St. Croix for increase. Resistance to watermelon mosaic virus has been found by mechanical inoculation in the greenhouse followed by individual plant selection. Resistant progenies were also tested in field plots with infected spreader rows.
- B.) Bob Jarret presented an overview of his research program. He is responsible for curating the sweet potato germplasm collection. Research activities include 1.) program of systematics, 2.) in vitro maintenance techniques, 3.) genetic characterization program, 4.) virus elimination, and 5.) screening for virus resistance.

- C.) Roy Pittman talked about his job as peanut curator for both wild and cultivated species. He also participates in germplasm collection trips to South America, the country of origin for peanut. His research efforts involve virus elimination through meristem tissue culture. Most recently, he and coworkers have found that old non-germinating seed (15-25 years) could be regenerated by breaking off the cotyledons and tissue culturing only the embryo axis. The potential importance of this procedure appears to be a very exciting aspect for peanut germplasm preservation.
- D.) Gil Lovell reported on the budget proposal for the PI Station as presented to the southern agricultural experiment station directors this year. It represented FY 92, FY 93, and FY 94 from both state and federal sources. Over \$200,000 is annually contributed by SAES, and about \$1.5 million is provided by USDA. Last year UGA assigned some new plot land to the PI Station, and it is now equipped for irrigation and fenced. A budget handout was distributed to all members for review and questions.
- E.) Dr. Steve Kresovich was introduced as the new Research Leader for USDA Southern Regional Plant Introduction Station at Griffin, Georgia. Dr. Kresovich comes from the Plant Genetics Resource Unit at Geneva, New York. He stressed the importance of long-term visions for genetic resource personnel and cooperation with user groups like plant breeders. He feels that there are a lot of opportunities and challenges facing new programs, thus aggressive and progressive actions will be needed and taken to accomplish these changes.

10. PLANT EXPLORATION TRIPS

Gil Lovell reported the following plant exploration trips:

- A.) Trifolium collection in Bulgaria by Drs. Quesenberry and Peterson.
- B.) Mac Stewart with the University of Arkansas recently completed a collection trip to Australia in 1992. Most of his travel was carried out by helicopter into remote areas. Species found included cotton and soybeans.
- C.) Ipomoea collection in New Guinea by Drs. LaBonte and Jarret around November 1993.
- D.) Proposed collections:
 - 1. Arachis in western Brazil near Bolivia.
 - 2. Native clovers in the western U.S.A.
 - 3. Dr. Hoveland to Republic of Georgia.

11. COMMITTEE REPORTS AND ACCEPTANCE

- A.) Nominating Committee nominated David Coffey with the University of Tennessee to be the next secretary. His nomination was seconded and passed by all members present. Bill Branch with the University of Georgia will become the chairman of the 1994 S-9 TAC.
- B.) Time and Place of Next Meeting Committee suggested North Carolina State University in Raleigh as the meeting location during June, 1994.
- C.) The Resolutions Committee made the following resolutions:
 - 1. We express our thanks to the Colorado State University and the National Seed Storage Laboratory for hosting the 1993 joint meetings of NC-7, NE-9, S-9, and W-6 Technical Advisory Committees.
 - 2. We express our thanks to the speakers from USDA-ARS Southern Regional Plant Introduction Station for their interesting presentations.
 - 3. We express our thanks to the research personnel for the June 29, 1993 NSSL tours of their new facilities.

12. ADJOURNMENT

The S-9 Regional TAC meeting was adjourned by chairman Jorge Mosjidis at 5:00 p.m. on June 28, 1993.