D. R. Burns, AD
Raleigh, N.C.

AGRICULTURAL RESEARCH SERVICE
701 LOYOLA AVENUE
P.O. BOX 53326
NEW ORLEANS, LOUISIANA 70153

UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOUTHERN REGION
OFFICE OF DEPUTY ADMINISTRATOR

August 19, 1976

Subject: Winter Nursery

To: Area Directors

Recently a committee of the American Soybean Association's Research Foundation investigated the potential for establishing a soybean winter nursery at Mayaguez or at Belize. As described in the attached copy of Dr. J. E. Halpin's letter dated August 12, 1976, the Winter Nursery Committee has decided on Belize.

You will be interested in the capabilities indicated for the Continuous Crop Improvement Company in Belize, and in the extent of services available.

C R Swanson

Charles R. Swanson
Assistant to Deputy Administrator
Program Planning & Review

Attachment

SOUTHERN AGRICULTURAL EXPERIMENT STATIONS
OFFICE OF THE DIRECTOR-AT-LARGE

104 BARRE HALL
CLEMSON UNIVERSITY
CLEMSON, SOUTH CAROLINA 29631

TELEPHONE 803-656-3143

3 Cooper
2 Kendrick
1 [illegible]

August 12, 1976

MEMORANDUM

TO: Directors, State Agricultural Experiment Stations, Southern Region

FROM: James E. Halpin, Director-at-Large

SUBJECT: Winter Nursery Arrangements

The Winter Nursery Committee formed by the American Soybean Association's Research Foundation approved the arrangements of the development of a winter nursery program for soybeans under the auspices of Continuous Crop Improvement Company, Ltd. of Belize. (Belize is the former British Honduras in Central America). Continuous Crop Improvement Company (CCIC) was organized to meet the needs of U.S. plant breeders and seedmen by providing them with a professional managed winter nursery service in an easily accessible front-free area.

Initially, CCIC plans to service plant breeders (public and private) for three crops: soybeans, corn and sorghum. Other crops will be added upon request following studies of feasibility to provide satisfactory service.

Resident supervisor for the winter nursery program is a plant pathologist (M.S. Arizona) with 8 years of experience in research and plot work.

Services for Soybeans

Both lighted and non-lighted areas will be available. Electricity for lighting will be generated by CCIC's own power plants.

For the 1976-77 winter season the following services can be contracted for:

Maximum single plant production (lighted)
*Crossing (lighted)
Generation advances (non-lighted)
Two generation advances (non-lighted)
1/10 acre plots (planted and harvested)
1 acre plots or larger (planted and harvested)

*Included for each category are all field services (land preparation, planting, fertilizing, irrigation as needed, harvesting, insect control. Crossing (for the 1976 season) will not be provided as a service - scientists can visit their plots and make their own crosses).

CCIC will facilitate scientists wishing to visit the field plots to make crosses, etc. by:

8-16
8 to

a. Providing information on hotel accommodations
b. Meeting airplanes
c. Providing transporation to the field
d. Similar other local arrangements

CCIC is also prepared to cooperate with corn or sorghum winter nursery efforts. Typical field arrangements (as previously mentioned) are provided for:

Corn Plot Work:

Corn - planted - harvested (ear corn)
Corn - growouts - (planted)
Corn - seed production

Sorghum Plot Work:

Sorghum - planted and harvested
Sorghum - growouts (planted)
Sorghum - seed production

CCIC has prepared a provisional list of prices for these services. They include:

Soybeans:

18' (foot) row generation advance - plant and harvest -	$ 1.80*
18' row, 2 generation advance - plant and harvest -	1.80* (each generation)
Hill, 2 feet apart (lighted) - plant and harvest	1.50* each
1/10 acre - plant and harvest -	$ 150.00*
1 acre - planted and harvested -	700.00/A

Note: for small accounts (less than $500.00) add $100.00 extra to cover the special costs involved with this program.

*Rows 28" apart, 18 feet includes cross alley.

Services - Other Crops

Corn:

Plant and harvest ear corn plots -	$ 1,400/A
Growouts and plant -	800/A
Seed production - plant and detassel and harvest -	1,200/A**

*Add $200 for isolation under 3A

Sorghum:

Plant and harvest plots -	$ 1,200/A
Growouts and plants -	350/A
Seed production -	600/A**

** Add $200 for isolation under 3A

CCIC will operate a receiving station in New Orleans to which seed can be forwarded. Each plant breeders' material will be treated confidentially, no pedigree or similar numbers to be included in field maps, etc.

Payment for winter nursery services will be 1/2 upon planting; 1/2 upon return of seed.

Unused seed will be returned, destroyed or handled as per instructions of the breeder.

Plant breeders may arrange to plant their own material if they desire to do so.

GENERAL INFORMATION ON BELIZE

Location:

The country lies 17° North of the Equator, bounded on the South and West by the Republic of Guatemala, on the North by the Yucatan Peninsula of Mexico and on the East by the Caribbean Sea.

Climate:

The climate is semi-tropical because of the moderating influence of the trade winds. Temperature extremes are 105° maximum, 39° minimum. There is no recorded record of frost in the country. Rainfall 100 inches in the Toledo District in the South of the Country, to 45 inches in the North. The heaviest months of rainfall are the second half of May, June, July, August, September, and declining in October, November, December and January. The dry season commences second half of February and usually terminates after mid-May.

Annual rainfall at the Nursery site is 65 to 75 inches.

Belize City:

The principal city is Belize City - population 45,000 people. The country is serviced by three airlines, TACA, TAN and SAHSA. All have first class jet equipment and provide two hour daily service from either New Orleans or Miami. Air freight service to the U. S. enjoys a very favorable position because of the lack of volume on the north bound trip.

Soil - Water - Drainage:

Soil in the area proposed for this project is alluvial clay loam. The parent material is lime stone. pH of the soil is 6.5. Ample water is available

for supplemental irrigation. The land is slightly undulating and well drained. Supplemental irrigation would be provided by a sprinkling system. The project will be engineered to provide gravity, drainage and drain pumps will be installed when needed.

Political Climate and People:

The government is based on the Parlimentary System, with British political institutions and common law. The status is independent self government with the U.K. responsible for diplomatic representation and defense of the Country. The government is small and uncomplicated.

The government welcomes foreign investment. Regulations of imports and exports are straight-forward and relatively uncomplicated. Agricultural regulations are adequate for protection but not oppressive.

The population is 140,000: two thirds of the people live in villages, towns or cities. The area of the country is the size of Massachusetts. There is an absence of population pressures on the lands. Projects oriented to export are favored by the government. The population is integrated. Ethnic backgrounds are African, Spanish, Indian, and Caucasian.

Location of the Winter Nursery:

The property is reached by leaving the Northern highway at Mile Twelve, and driving a mile and a half on our well maintained private road. It is ten minutes drive from the Belize International Airport, and thirty minutes by car from Belize City.

Hotel Accommodation:

A wide range of accommodations is available in Belize City. There are no health hazards in Belize. The water from the tap is potable and the country has been malaria free for years. Food at the hotels and restaurants varies widely. In general, it is comparable to accepted standards experienced in other countries. It is advisable to arrange reservations in advance.

Miscellaneous Facts:

Offical exchange rate $1.00 US = $2.00 Belize.

Proof of U. S. Citizenship is needed to enter Belize. Passport, voters' registration, birth certificate or military discharge are all vaid proof.

GNP 1975 $130 million Belize dollars.

Imports $110 M Belize, Exports $99 M Belize.

Deficit $11 M Belize.

Main Products:

Sugar, fishery, citrus, rice light industry.

Natural Resources:

Forestry, fishery, land, moderate climate.

Literacy:

Ninety-three per cent (93%).

Language:

English (official), Spanish, Creole, Mayan and Carib.

Work Force:

There is a plentiful supply of English speaking workers available in the area. The workers are able to read, write and do elementary mathematics.

Thank you.

JEH/dm
cc: Dr. John Mahlstede (ESCOP)
Regional Directors

September 2, 1976

Mr. Ralph T. Jackson
Executive Vice President
American Soybean Association
Research Foundation
P. O. Box 158
Hudson, Iowa 50643

Dear Ralph:

As promised, I am enclosing the proposed solicitation letter prepared by the Research Advisory Panel. I have inserted in paragraph one the suggested wording to describe the area of work. You will need to fill in the numbers for paragraph 2, reword the paragraph or delete it as you see fit. If you can indicate an approximate number, it provides those preparing proposals some idea of the degree of competition. As far as I know, we are still working under the $10,000.00 per year not to exceed three years and $30,000.00 guideline established earlier by the Foundation.

I have reviewed the list and made the necessary changes. I hope I have noted all the recent changes.

We should note that November 1 is the last date proposals will be received. If you will have your secretary to assign a number and send them to me I will do my best to get them reviewed on schedule.

If you have any questions, please give me a call.

Sincerely yours,

B. E. Caldwell, Head
Crop Science Department

BEC/cr

Enclosure

DRAFT SOLICITATION LETTER

American Soybean Association Research Foundation

Experiment Station Director

Dear

The American Soybean Association Research Foundation is again soliciting proposals for soybean research. The research area chosen for 1976-77 is "Improved Equipment for Soybean Production." We are interested in innovative projects on design and evaluation of tillage, planting, and pesticide application equipment; tillage and planting interactions; and combine loss and damage.

The Association expects to fund between (number) and (number) proposals in amounts of approximately ($(amount) 30,000 over (number) 3 years. It is expected that awards will be made and initial funding provided by (date) March 15, 1977.

Proposals should include a one-page summary giving (1) the name and affiliation of the principal investigators, (2) the title of the project, (3) the proposed duration, (4) brief but specific statement of objectives and procedures, and (5) budget summary in terms of annual totals.

The main body of the proposals should include a justification of the need and usefulness of the study, a state of the art summary, indicating current knowledge or technology relating to the feasibility of the proposal and including previous and current work of the principal investigators related to the proposal. This should be followed by a statement of the objectives, which should be specific enough to measure progress toward them during the period of the grant.

Proposed procedures should be described well enough to enable an informed scientist in the field to understand what is planned and to judge the appropriateness of the proposed procedures to the objectives. The budget details should include the contribution of the investigators' institution and the portion requested from ASARF under the following categories for each year:

Salaries
Wages
Supplies
Travel (brief statement of the kind of travel and need therefore)
Equipment (major items should be identified and justified)
Other costs

The deadline for receipt of proposals is (date) November 1. Proposals should be submitted in ten copies.

Sincerely yours,

DRAFT

SUBJECT: Invitation for Proposals

The American Soybean Association Research Foundation invites proposals for research on soybeans in the general area (brief description of research area).

The Association expects to fund between (number) and (number) proposals in amounts of approximately $(amount) over (number) years. It is expected that awards will be made and initial funding provided by (date).

Proposals should include a one-page summary giving (1) the name and affiliation of the principal investigators, (2) the title of the project, (3) the proposed duration, (4) brief but specific statement of objectives and procedures, and (5) budget summary in terms of annual totals.

The main body of the proposals should include a justification of the need and usefulness of the study, a state of the art summary, indicating current knowledge or technology relating to the feasibility of the proposal and including previous and current work of the principal investigators related to the proposal. This should be followed by a statement of the objectives, which should be specific enough to measure progress toward them during the period of the grant. Proposed procedures should be described well enough to enable an informed scientist in the field to understand what is planned and to judge the appropriateness of the proposed procedures to the objectives. The budget details should include the contribution of the investigators' institution and the portion requested from ASARF under the following categories for each year:

Salaries
Wages
Supplies
Travel (brief statement of the kind of travel and need therefore)
Equipment (major items should be identified and justified)
Other costs

The deadline for receipt of proposals is (date). Proposals should be submitted in ten copies.

Sincerely yours,

Minutes of Special Meeting
American Soybean Association
Research Foundation
Chicago, Illinois
July 21, 1976

President Rose called the ASA Research Foundation Board meeting to order at 9:00 a.m. at the O'Hare Hilton, Chicago, Illinois, July 21, 1976. Those present, in addition to Rose, were introduced: Vice President Frank Ray, Secretary/Treasurer Howard Adler, Harold Kuehn, W. B. Tilson, Hugh Wilson, Don Zaunbrecher, Robert W. Judd and Robert Leffel. Absent were Seymour Johnson and F. C. Laughinghouse. Also present were: Al Bevis, Hal Lewis, Ralph Jackson, Don Dingman, Jim Yancey, Bill Tiberend and Marilyn Smythe.

Members of the ASA Research Foundation Soybean Advisory Panel were introduced: R. W. Judd, Robert Leffel, E. E. Hartwig, W. R. Nave, B. E. Caldwell, W. L. Colville and L. D. Newsom. Absent were R. W. Howell and S. G. Turnipseed.

Promotion board representatives in attendance were:

Tommy Hillman	Arkansas
A. L. Kent	Florida
William Prichard	Georgia
Larry Lewis	Illinois
Art Goeken	Illinois
Willard Latham	Iowa
James Esche	Kentucky
Earl Welborn, Jr.	Kentucky
Don Zaunbrecher	Louisiana
Mike Willette	Minnesota
James Ferguson	Mississippi
Stan Dilda	North Carolina
W. B. Tilson	Texas
M. N. McCann	Virginia

Minutes of previous meeting

Jackson read the minutes of the April 2, 1976 meeting in Memphis. It was moved by Ray, seconded by Adler, to approve the minutes as read. Motion carried.

Financial

Treasurer Adler reviewed the ASA Research Foundation Statement of Cash Receipts and Disbursements for the period October 1, 1975 through June 30, 1976.

Moved by Tilson, seconded by Ray, that the financial statement be accepted as presented. Motion carried.

It was reported that all ASARF commitments for FY76 have been satisfied, and committed funds for ensuing years are as follows:

FY77 $90,800, FY78 $65,392 and FY79 $21,871.

On behalf of the Illinois Soybean Program Operating Board, Larry Lewis presented the ASA Research Foundation a check in the amount of $40,500 in support of research activity.

Winter Nursery

For the benefit of representatives of the promotion boards, ASA Research Consultant Hal Lewis summarized preliminary work which has been done in connection with developing a soybean winter nursery.

He reported that a Pilot Technical Committee conducted a poll of the public and private breeders in the United States which established a definite need.

In May, 1976, an on-site inspection team - Hal Lewis, Charlie Brim and Bob Buker - made a trip to the Dominican Republic, Puerto Rico, Mexico and Belize charged with the responsibility of recommending to the ASA Research Foundation Board, upon their return, the most desirable location to establish this nursery. Their recommendation was the country of Belize (British Honduras) in Central America.

The Pilot Technical Committee accepted this recommendation and recommended that the ASA Research Foundation proceed with the development of the nursery program. It was also recommended that the ASA Research Foundation set up a Steering Committee to develop and monitor rules and regulations concerning operation of the nursery and establish and modify, as needed, a schedule of fees.

Al Bevis, Chairman of the Board of the Continuous Crop Improvement Company, Ltd., in Belize was introduced. He presented a brief resume of his occupational experience, the history of the company, location, climatic conditions, rainfall, etc, in Belize.

Considerable discussion followed.

President Rose called for comments from the promotion board representatives on the soybean winter nursery concept as presented. It was pointed out that the Research Foundation is not soliciting promotion boards for additional funds, only whether or not there is majority approval on allocating funds for this endeavor. Of the twelve promotion boards represented, there were 8 affirmative votes, 2 negative votes and 2 undecided votes.

Moved by Tilson, seconded by Adler, that ASARF initiate the winter nursery program. Called for hand vote - 4 affirmative, 3 negative. Motion carried.

Staff was directed to implement this project.

Supplemental motion made by Tilson, seconded by Adler, that ASARF proceed with the development of the national winter breeding nursery for soybeans via a contractual agreement with Continuous Crop Improvement Company, Ltd. in Belize, in an amount not to exceed $60,000, such amount having been set aside as a reserve at the April meeting. 4-3 vote. Motion carried.

Caldwell suggested Dr. Leffel contact Animal and Plant Health Inspection Service regarding inspection standards, etc.

Advisory Panel report

Caldwell expressed his appreciation to the ASA Research Foundation Board and Advisory Panel members for their support and cooperation.

Addition to April 2, 1976 minutes on Panel operation

It was the intent of the discussion on Panel operation that the Chairman of the Research Advisory Panel be elected from the six rotational members. This was not included in the April 2 minutes and recommendations to the Board.

Review of proposal solicitation schedule

The Panel recommends that the following schedule be followed in solicitation and review of proposals.

September 15 - Announcement of research area mailed to performing agencies.

November 1 - Proposals due from performing agencies to Executive Vice President, ASA Research Foundation.

November 15 - Proposals sent to peer group by chairman of Research Advisory Panel.

January 15 - Reviewed proposals returned to chairman of Advisory Panel by peer group and sent to members of Research Advisory Panel.

February 15 - ASARF Board and RAP meet to select projects to be funded.

March 15 - All proposing institutions be notified on the status of their proposals.

Suggested solicitation letter and evaluation sheets have been developed.

Terminating Proposals

It is recommended that, in exceptional cases, terminating ASARF projects will be considered for additional funding. These requests will be considered by the Advisory Panel upon recommendation of an appointed ASARF research specialist. The priority for additional funding shall be considered concurrently with solicited proposals for that year.

New research area for 1976-77

Considered three areas:

1. Improved soybean production equipment
2. Water use efficiency
3. Cost-benefit levels of pest control

Recommend: Improved Equipment for Soybean Production

Although some progress has been made in recent years to improve soybean harvesting equipment, this and other areas of production equipment research need additional investigation. Therefore, the Panel recommends the area of Improved Equipment for Soybean Production be adopted as the ASARF Board research area for 1976-77. The proposed research should be related to innovative ideas in equipment design, development and use. Suggested project areas are design and evaluation of tillage equipment; planting equipment; tillage and planting interaction; pesticide application equipment, and combines including reduced losses and damage.

Adopted, the Panel has identified individuals to serve on a peer review panel.

The Panel recommends ASARF join with NSPA Crop Improvement Council in encouraging ARS and CSRS to give high priority to research in the area of cost-benefit levels of pest control.

Moved by Wilson, seconded by Ray, to accept the Advisory Panel's report as presented. Motion carried.

Current research projects

Lewis reviewed research projects currently being funded.

Review of project commitments

At the April meeting of the ASA Research Foundation it was moved to fund three research proposals and fund three additional proposals if and when funds were available, to be determined by the Executive Vice President. Jackson recommended one additional proposal be funded.

Moved by Ray, seconded by Zaunbrecher, to fund one additional proposal (rated #4) "Identification and Evaluation of Potentially Beneficial Pesticide Interactions in Soybean Production" - Dr. D. V. Phillips, Dr. James W. Todd, University of Georgia, $30,000 total amount, and to notify Auburn University and Beltsville, Maryland that funds are not available this year to support their proposals. Motion carried.

Production Research Advisory Panel

Jackson reported that Dr. James R. Wilcox and Dr. C. G. McWhorter have agreed to serve three-year terms on the Research Foundation Advisory Panel, replacing retiring members W. R. Nave and Dr. E.E. Hartwig. Letters of appreciation will be written to the outgoing members.

Jackson recommended the establishment of a Research Department with a full time Research Director in the Hudson Office. The support of the promotion boards is solicited in this endeavor. Approval of this new department will be requested at the August meeting of the ASA Research Foundation.

Kuehn reported on the ARPAC meeting which he had attended, and which was a follow up of last year's meeting for determining priorities in research.

President Rose expressed appreciation to the promotion board representatives for their inputs to the meeting and feels it would be productive to have promotion boards represented at one ASARF meeting annually.

Meeting was adjourned at 3:50 p.m.

Suggested revised form
4-8-76 RWJ.

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION

Rating Form for Evaluating Research Proposals

No. _____ Sponsoring Institution _____

Title _____

_____

_____

Score each category from 0 to 10

1. Appropriateness and importance of proposed research to solution of specific areas of inquiry as identified in guidelines _____*

2. Awareness of published literature and current research related to proposed research _____

3. Adequacy of objectives _____

4. Feasibility of attaining objectives during term of grant _____

5. Originality of approach _____

6. Documented qualification of the principal investigator and supporting scientists (research publications, etc.) _____

7. Adequacy of related program support, facilities and equipment _____

8. Justification of budget relative to the objectives and plan of research _____

* Score of 5 or less disqualifies project.

Comments:

Rated by _____ Date _____

University of Illinois at Urbana-Champaign

COLLEGE OF AGRICULTURE · DEPARTMENT OF AGRONOMY · URBANA, ILLINOIS 61801

August 26, 1976

Dr. B. E. Caldwell
Department of Crop Science
North Carolina State University
P.O. Box 5155
Raleigh, North Carolina 27607

Dear Bill:

I have received your memorandum of August 19 enclosing the minutes of the July 21 meeting of the ASA Research Foundation.

The only suggestions I have with respect to the rating form for evaluating proposals and the draft letter are that in the fourth line of the last paragraph of the latter "currentwork" should be two words. And in the fourth line from the end of that paragraph "judge" is misspelled.

Sincerely yours,

R. W. Howell, Head
Department of Agronomy

RWH:ch

NATIONAL SOYBEAN CROP IMPROVEMENT COUNCIL
211 SOUTH RACE STREET • URBANA, ILLINOIS 61801 • PHONE 217-367-0412

MEMO-LETTER®

TO Zeke Caldwell

DATE 8-26-76

SUBJECT Comments on Caldwell letter of 8-19-76

Dear Zeke;

No comment. all is well. Proceed.

The visit to N.C. state: Caldwell home, department personnel, Elkan, Dilday farm, seafood lunch, Lost Colony farm was enjoyable, impressive and educational. Again — thanks.

NSPA approved my budget this week. Will issue invitation for post-docs (5 to be funded) thru Exp. Dir. of my Advisory Bd members.

See you.

— Zeb —

In BJ Caldwell

American Soybean Association Research Foundation
P.O. Box 158/Hudson, Iowa 50643 U.S.A/Phone 319-988-3295/Telex 465637

July 30, 1976

TO: ASA Research Foundation Board Members

FROM: Ralph T. Jackson

Enclosed is a copy of the Research Foundation minutes of the recent meeting held in Chicago. Please look these over carefully for any additions or corrections.

The contract between ASARF and the Continuous Crop Improvement Company has been completed and the Steering Committee has been selected and will meet in Kansas City. We feel this is a major step in the right direction.

Ralph T Jackson

RTJ/ms
Enc.

B J Caldwell

B

American Soybean Association Research Foundation
P.O. Box 158/Hudson, Iowa 50643 U.S.A/Phone 319-988-3295/Telex 465637

August 2, 1976

TO: ASA Research Foundation

FROM: Ralph T. Jackson

RE: MEETING AUGUST 7, 1976

President Nick Rose has asked that I officially notify you of the next meeting of the Research Foundation to be held in Kansas City on Saturday, August 7, at the Crown Center Hotel. The meeting will begin at 4:30 p.m. in the Mayors Room (5th floor) and should adjourn by 5:30 p.m. or 6:00 p.m.

Enclosed are suggested agenda items.

Look forward to seeing you in Kansas City.

Ralph T. Jackson

RTJ/ms
Enc.

SUGGESTED AGENDA ITEMS

American Soybean Association
Research Foundation
Crown Center Hotel, Kansas City, Mo.
Mayors Room, August 7, 1976, 4:30-5:30 p.m.

1. Call to order, opening remarks. President Rose
2. Minutes of previous meeting. Ralph Jackson
3. Priority area of research for FY77, update on funding and financial statement. Ralph Jackson
4. Budget request on establishing ASA Research Department. Ralph Jackson
5. Support of Iowa State seminar. Ralph Jackson
6. Other business.
7. Adjourn.

University of Illinois at Urbana-Champaign

COLLEGE OF AGRICULTURE · DEPARTMENT OF AGRONOMY · URBANA, ILLINOIS 61801

April 15, 1976

TO: B. E. Caldwell
W. L. Colville

In accordance with the assignment which was given to me at the meeting in Memphis, I have prepared drafts of letters to be sent as invitations for proposals for the ASARF and a letter to be sent to reviewers of ASARF proposals.

Bob Judd has reviewed these drafts and his suggestions have been incorporated. If they seem approximately suitable, please make whatever further changes are necessary and refer them to the Board or to Ralph Jackson as may be appropriate. If you think they need major overhaul, please send them back a and I'll work on them some more.

R. W. Howell, Head
Department of Agronomy

RWH:ch
Enclosure

D R A F T

TO: Reviewers of ASARF Proposals

Enclosed are proposals which have been submitted to the American Soybean Association Research Foundation for funding under the Foundation's current program. Also enclosed is a rating form for your use in evaluating each proposal.

Please note that a rating of 5 or less on Item 1 will disqualify the project regardless of the score on subsequent items. We hope you will consider each proposal very carefully to determine whether it is appropriate to the general area specified by ASARF. A copy of the letter inviting proposals is attached. The area of interest is described therein.

Please note also the space provided for your comments. Your comments on the merits of the proposals supplementing the numerical evaluation are extremely valuable to the ASARF Board in making final decisions. Frequently comments by reviewers help Board members to understand why certain items were rated high or low. This can be especially helpful in those cases where there are differences among reviewers on various aspects of proposals. We urge you, therefore, to make such comments as you think will be helpful.

We appreicate your willingness to assist the ASARF Board by reviewing these projects. We realize that this is a time-consuming task. Nevertheless, we request that you do it as promptly as possible. If you will not be able to complete the review of the proposal by (date), it is requested that you notify me immediately and return the proposals promptly so that they can be referred to another reviewer.

Sincerely yours,

File Copy

NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

SCHOOL OF AGRICULTURE AND LIFE SCIENCES

DEPARTMENT OF CROP SCIENCE
BOX 5155 ZIP 27607

May 5, 1976

MEMORANDUM TO: E. E. Hartwig
L. D. Newsom
R. W. Judd
W. R. Nave
R. W. Howell
W. L. Colville

FROM: B. E. Caldwell B.E. Caldwell

SUBJECT: Possible Panel Meeting July 21, Chicago Hilton Airport Inn

By the time you receive this memorandum you should have received a notice from Ralph Jackson inviting the Panel to participate in the Research Foundation Board meeting July 21 at the Hilton Airport Inn in Chicago. Their meeting is scheduled for 9:00 a.m. to 4:30 p.m.

The purpose of the Board meeting is to:

1) Review a report from Hal Lewis on the on-site inspection trip to investigate the feasibility of establishing a winter nursery. Drs. Brim and Buker will accompany Hal on this trip.

2) To discuss the possibility of a full time staff director in the ASA office to deal with ASARF activities.

Since it is almost impossible to schedule a meeting of the Board at the annual meeting, I suggested to Ralph that the panel meet at this time. Our schedule would be as follows:

Memorandum
Research Advisory Panel
May 5, 1976

9:00 a.m. - 11:00 a.m.	Panel meeting to discuss the research area for proposal solicitation in 1976-77. Review solicitation letter and evaluation procedures for 1976-77.
11:00 a.m. - 12:00 N	Panel available for individual State promotion Board Chairman discussions.
1:00 p.m. - 4:00 p.m.	Join ASA Research Foundation as resource persons and present Panel recommendations of research area for 1976-77.

An alternative would be to arrive late afternoon of July 20 and meet that night. We could then meet with the Board for their entire meeting. This would allow us to hear the winter nursery report and discussion. We would finish in time to return home the evening of July 21.

Would you please let me know your availability for the meeting and an indication on which alternative you would prefer.

BEC/cr

cc: Ralph T. Jackson

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION
Schedule of Committed Funds
as of July 1, 1976

CONTRACT WITH	CONTRACT AMOUNT	PAYMENTS MADE DATE	PAYMENTS MADE AMOUNT	FY 77 PAYMENTS DUE 10/76	1/77	4/77	7/77	FY 78 PAYMENTS DUE 10/77	1/78	4/78	7/78	FY 79 PAYMENTS DUE 10/78	1/79	4/79
74-ASARF-102-3	30,000	6-14-73	10,000											
University of Illinois	original	10-9-74	5,000											
(Harvesting Equipment)	10,000	5-30-75	5,000											
	extension	10-1-75	5,000	2,500	2,500	2,500	2,500*							
		4-20-76	2,500											
75-ASARF-207-3		6/30/76	2,500											
University of Illinois														
(Energy Requirements)	30,000	4-1-75	6,700	2,912	2,912	2,912	2,912	2,912	2,912	2,916*				
		6/30/76	2,912											
75-ASARF-208-3														
University of Wisconsin														
(Effect of Temperature)	30,000	3-5-75	10,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500*				
		6/30/76	2,500											
75-ASARF-209-3														
Auburn University														
(Root Restriction)	30,000	3-1-75	10,000	2,500	2,500	2,500	2,500	2,500	2,500*					
		4-20-76	2,500											
75-ASARF-210-3		6/30/76	2,500											
Louisiana State Univ.														
(Insect Pests)	30,000	5-30-75	10,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500*				
		6/30/76	2,500											
75-ASARF-211-3														
Purdue University														
(Root Growth)	30,000	6-30-75	10,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500*				
		6/30/76	2,500											
76-ASARF-312-3														
Clemson University														
(Pesticides -Ecosystem)	29,249	6/30/76	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,437	2,442*
76-ASARF-313-3														
University of Arkansas														
(Effects of Fungicides)	28,214	6/30/76	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,353*
76-ASARF-314-3														
N.C. State University														
(Pesticide Interactions)	30,000	6/30/76	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500*
	277,463		99,400	22,700	22,700	22,700	22,700	20,200	20,200	17,704	7,288	7,288	7,288	7,295
FY Totals:					90,800				65,392				21,871	

L. J. Cardwell

American Soybean Association Research Foundation
P.O. Box 158/Hudson, Iowa 50643 U.S.A./Phone 319-988-3295/Telex 465637

July 13, 1976

TO: ASA Research Foundation Board

FROM: Ralph T. Jackson

We are enclosing, for your information, special reports submitted by the winter nursery on-site location team. As this will be one of the main agenda items to be covered at the July 21 meeting in Chicago, we urge you to look these over carefully.

Ralph T Jackson

RTJ/ms
Enc.

SUMMARY REPORT OF A SURVEY FOR A
SOYBEAN WINTER NURSERY SITE
H. L. LEWIS

I. Survey Team:

Dr. C. A. Brim, USDA, Soybean Breeder representing public soybean breeders.
Dr. R. J. Buker, FFR, Soybean Breeder representing ASTA and private soybean breeders.
Dr. H. L. Lewis, ASARF Research Consultant.

The above listed individuals were appointed by Ralph Jackson, Chairman of the Pilot Technical Committee for a National Soybean Winter Nursery to review four tropical to sub-tropical sites for their suitability for the location of a soybean winter nursery.

II. Nursery Sites:

Sites reviewed were as follows:

1. Mexico, Iguala cotton winter nursery.
2. Belize, Continuous Crop Improvement Co., Ltd. Mr. Al Bevis, Chief Executive Officer.
3. Dominican Republic.
4. Puerto Rico, USDA Experiment Station and Puerto Rico Agricultural Experiment Station, PRAES.

III. Evaluation Criteria:

The following criteria were selected as critical to the success of a winter nursery program.

1. Management: Proper management of a winter nursery program is the single most important factor. Local management must include administrative and operational personnel. On-site personnel with technical ability to manage the special requirements of identification and handling of non-standard materials is essential.

2. Seed Movement: Rapid, unhindered, movement of experimental seed both in and out of a given location is extremely important. Timeliness of planting and harvesting is to no avail if quarantine restrictions or bureaucratic red tape inordinately delays shipment. Transportation facilities play an important role in this factor.

3. Field Help: A ready supply of literate field help is essential to facilitate planting, harvesting and processing of experimental materials.

4. Land: Availability of land at reasonable costs and the ability to expand acreage is of basic importance but should not be a limiting factor if other criteria are

inadequate. Associated with this factor but not essential to the nursery, is the availability of sufficient land for individual organizations to carry on seed increase programs in the same area.

5. Equipment: A set of basic production equipment is needed in addition to the specialized tools for planting and harvesting small lots of experimental materials. Irrigation facilities are required and supplemental lighting is essential along with suitable drying, storage and processing facilities.

IV. Location Summaries:

1. Mexico: The cotton winter nursery at Iguala, Mexico provides an excellent example of a time-tried, workable winter nursery program used jointly by both private and public breeders on a fee basis.

   It is possible that a joint management program could be developed with the cotton nursery. The cotton program is relocating this year which makes the timing good for such an approach. There appears to be some hesitancy on the part of the cotton program to enter into a joint operation. This is understandable since the relationship of the cotton nursery with Mexican officials has been informal and subject to temperamental whims of Mexican officials. Thus bringing up the addition of soybeans to the program may complicate the program too much. In addition, movement of cottonseed in and out of Mexico has always had its problems with Mexican import-export regulations.

2. Belize: Mr. Al Bevis, President, Continuous Crop Improvement Co., Ltd., offers a package program for a soybean winter nursery in Belize. This organization would provide all personnel and facilities for the program. Approximately 200 acres of excellent land is available for winter nursery programs. This facility is located about 7 miles from the International Airport. Irrigation and handling and processing facilities are available. Supplemental lights would have to be installed.

   Belize offers a good situation for rapid movement of seed in and out of the country. Government officials are very much interested in having the program in Belize. There do not appear to be any export-import restrictions. Air transportation to the U.S. is adequate--about a 2 hour flight from New Orleans, LA.

   Technical personnel appear to be available in Mr. John Link, M.S. in Plant Pathology, University of Arizona. Administrative personnel are Mr. Bevis, his son and Mr. Lyle Reeser, an Agricultural Engineer.

A ready supply of English speaking, literate field help is said to be available.

Mr. Bevis operates a 5000 acre rice farm and thus has the basic production equipment available.

3. Dominican Republic: No on-site management capability currently exists in the Dominican Republic. If the Ag. Alumni Group of Indiana were to offer a package program in conjunction with their corn nursery, this could be productive. A small soybean nursery was observed here but management is temporary and adventitious.

Seed movement in and out of this country is highly controlled and by permit only. Seed permits, import-export, are required and must be obtained through bureaucratic channels.

Land seems to be available and can be purchased by foreign nationals with governmental permission.

Field help would be spanish speaking and it is questionable if it would be literate.

Transportation facilities appear to be adequate.

4. Puerto Rico: USDA and others are currently operating winter nursery programs in Puerto Rico. Management and technical expertise could be readily available through existing USDA capability. Dr. Frank Martin, Location Leader of the USDA facility appears interested in the program. Commitment of USDA land and facilities would be a policy decision to be made at the ARS level. If such a commitment were made by USDA this would be an excellent site.

The Puerto Rico Agricultural Experiment Station (PRAES) offers an alternative management agency. PRAES has no existing management expertise available for such a program. Dr. Perez expressed an interest in the program but had no concrete proposals to make.

Movement of seed in and out of Puerto Rico would be ideal since no change in government is involved. Transportation is excellent but expensive.

Land availability in Puerto Rico is a distinct problem due to high population pressures but this provides a ready supply of labor. Field help is expensive.

V. Climate:

All of these sites offer a suitable winter climate for soybean production. Supplemental lighting would be needed for maximum seed production and supplemental irrigation is a must.

VI. Overall Summary:

The American Soybean Association Research Foundation has appropriated funds adequate to get a winter nursery program underway. ASARF has no full time permanent research staff. Thus, as a managing agency, it is not feasible for ASARF to place a professional employee on-site at a winter nursery facility. This requires a program to be initiated this year to be structured so as to have its own management both technical and administrative.

Based on the above analysis of possible sites the following ranking of winter nursery locations is recommended.

1. Belize
2. Puerto Rico (USDA)
3. Mexico
4. Dominican Republic

Report of a Survey for a Soybean Winter Nursery Site

C. A. Brim

Frost-free environments of tropical and sub-tropical areas are highly suitable for winter nurseries. These areas in general are characterized by short days and high day-and night-time temperatures. Rainfall varies considerably. The short days encountered during the months October through April are both an advantage and a disadvantage for a soybean winter nursery. Soybeans grown in short days flower in 26-30 days. This reaction provides the opportunity for rapid generation turnover and can result in satisfactory yields for most plant breeding and seed increase purposes. The short day reaction, however, leads to reduced yields of single plants. (High single-plant yields in the "off-season" are a characteristic but more limited requirement of most plant breeding programs.) Supplemental lights are used to attain maximum seed production.

Two elements which are basic to a successful winter nursery program are continuity and minimum risk. The nursery must provide continuous service. With a predictable service the subscriber can structure his breeding program to maximize progress with his own facilities in the U.S. Disruption of the planned flow of material in a breeding program is intolerable and potential subscribers will soon seek alternatives to a discontinuous service. Although some risk is unavoidable, the program must have the tools necessary to minimize hazards of production.

It must also be recognized that timing of planting and harvesting for most of the material is critical. Planting cannot be delayed much later than the first week in December and seed must be returned to the U.S. in time for usual planting dates (May 15-30). Thus, labor and equipment must be available and mobilized at critical stages for top efficiency. Seed arriving in the United States in mid-June or later, with few exceptions, is of reduced or of no value to most programs.

The potential sites for a soybean winter nursery in terms of climatic factors are innumerable in tropical and sub-tropical areas. However, if we assume that suitable soils, supplemental lighting and irrigation water are available, then factors other than climate become the major criteria for site selection. The factors judged basic to a successful program are listed below:

1) management, i.e., on-site personnel with the technical ability to manage all aspects of soybean production; and to manage the special requirements of identification and handling of those materials which cannot be fully standardized. Lack of on-site managerial skills will lead to certain failure.

2) equipment, aside from the basic equipment needed for production, the specialized tools for planting and harvesting must be available. Irrigation and supplemental lighting systems, plant and seed driers, and suitable storage and work areas are essential.

3) seed movement, rapid movement of seed both in and out of the site is essential. Timeliness of planting and harvesting is to no avail if quarantine restrictions or inadequate transportation facilities dely seed movement inordinately. [Even though quarantine restrictions may be lacking, it is my opinion that special precautions such as fumigation, etc., be taken. The risk of introducting new pests or diseases must be acknowledged and dealt with.]

4) land, the ability to expand the acreage involved is desirable but should not be an essential element if other factors are limiting.

Of the sites visited, Belize and Puerto Rico have the most promise as soybean winter nursery sites.

Puerto Rico offers several major advantages: 1) the island is a commonwealth associated with the U.S.; 2) a great deal of knowledge has been enmassed on soybean production for both winter and summer conditions; 3) there is a large pool of technical and managerial manpower available; and 4) seed movement is largely unimpeded. All of these points reduce the risks involved; proven managerial skills and knowledge of the crop are certainly essential elements to a successful program. How to mobilize these advantages may be a problem. Land is a short commodity in Puerto Rico. The primary issue is whether a working arrangement can be established with the Puerto Rico Agricultural Experiment Station or other agencies on the Island.

Belize in my view has one big advantage, that is, an energetic prime mover in Mr. Al Bevis. We would be remiss, however, if we do not recognize some of the possible shortcomings. These comments should not be taken as any reflection on Mr. Bevis or his associates. First, there is very little experience available on soybean production in the country. Second, the question of stability of the proposed organization and the possible fate of the corporation in circumstances other than those that now exist. These points are conjectural. Nevertheless, when compared to the PRAES, for example, there are certainly more risks involved.

I recommend that in the time available, the Research Foundation make further inquiries with Dr. Perez, Director of Research, Puerto Rico Agricultural Experiment Station as to their interest in the nursery. This may be an unworkable solution but it should be tried.

AN EVALUATION
OF FOUR WINTER SOYBEAN
NURSERY SITES

By Dr. Robert J. Buker

May 28, 1976

From May 16 to May 26, 1976, we visited four potential sites for a winter soybean nursery. The travel arrangements and, in particular, the local hosts, made this a very pleasant, though hurried, trip. The soils and climate of all four areas appear quite similar, and all but the Mexican locations have been used to grow winter soybean nurseries.

I have ranked these locations for nine criteria. I have also ranked the criteria as to their relative importance, using the survey developed by Fehr and Buker as a guideline. Under each of the criteria, I have ranked the four locations on their relative importance by setting the best location equal to the relative importance of that criteria. For example, the total round trip air fare to visit the sites from the closer of either New Orleans or Atlanta, Georgia, are quite similar but the highway mileage to Iguala is longer than the other locations; consequently, Mexico received the poorest relative score. A small range is used in rating this criteria, for the differences are not large.

Freight rates from San Juan to Miami are $19 per hundred. The freight rates from Belize to New Orleans are much more favorable, being $6 per hundred. I haven't checked the rates out of Mexico and the Dominican Republic, but I expect them to be intermediate between these figures.

Field laborers in Belize are better educated than those in Mexico or the Dominican Republic, and most speak English. The cost of comparable field help in Puerto Rico will be four times higher than Belize. We were told that there are no import restrictions on soybeans coming into Belize and there are no restrictions on importing soybeans into the United States, but even soybeans coming out of Puerto Rico must be inspected before they enter the U.S. Permits will have to be obtained in Mexico and the Dominican Republic for all shipments.

Farmland is available in Belize for less than $500 an acre. We were told that farmland in the Dominican Republic sells for $1,000 per acre and in Puerto Rico can range from $3,000 to $10,000 per acre. There are no restrictions on owning land in Puerto Rico. Permits to own land are easy to obtain in Belize or the Dominican Republic, whereas it is very difficult for U.S. nationals or corporations to own land in Mexico.

Local management is of the most concern to prospective users of this nursery, and we found only one location where a contractor, Al Bevis, was willing to assume this responsibility.

At Iguala, Mexico, we could share the overhead of the ongoing cotton program, but there may be some reluctance to do this as it could upset the present cotton program and its working relationship with the Mexican Government. We learned that half of the Christmas presents given out by

U.S. Agricultural Attache go to support the winter cotton nursery. Where corn, wheat and hay acreage in the U.S. is a hundred times larger than cotton, it is easy to see the concentration of effort going into this program.

In the Dominican Republic, a complete organization would have to be started. There is no U.S. program to increase in scope other than Purdue Ag Alumni and they have indicated they do not wish to consider this until they have had three to five years more experience in the Dominican Republic. We saw a small nursery of northern-type soybeans being grown for Asgrow, Inc., which looked very satisfactory.

Al Bevis is organizing a corporation called "Continuous Crop Improvement Co., Ltd." He has arranged to lease 200 acres of cleared farmland located seven miles from the International Airport in Belize. This lease also includes an option to purchase the land and a one-year rental on a 30' x 50' building. Water for sprinkler irrigation is available. He has developed lists of equipment necessary for the operation of a winter nursery, including sprinkler irrigation system and plant dryers. In 1976, they would be able to grow single plant rod row and larger increases. Breeders would have to do their own crossing in 1976 but this service would be added later. Some lights would be available in 1976.

John Link, 37, was introduced to Dr. Brim and Dr. Buker by Al Bevis. Mr. Bevis plans to hire Mr. Link as operations manager of this program. Link's parents farm in Belize; he attended St. John's High School in Belize City and attended the University of Arizona from 1963 until 1967. His B.S. was in general agriculture and his M.S. under George B. Gries is in plant pathology. Since 1967, he has worked on Extension and Research for the Belize Government. In January, 1976, he was given the responsibility of setting up a system of Seed Certification in Belize. He lives northeast of Belize City near Boom and does not want to relocate to Central Farm where his Government job is being moved.

Opportunities for larger increase are available in Belize and, if these could not be accommodated on the 200 acres of leased land, they would probably be subcontracted to Mennonite farmers operating near San Ignacio. Bevis indicated that his fee schedule will resemble Purdue Ag Alumni's corn winter nursery in Florida. They charge about $1,400 per acre for all operations except planting, pollinating, and harvesting. Bevis would also plan to offer planting and harvesting services. David Antoine George in Puerto Rico is charging $1,500 for soybean land but will not plant or harvest. The cotton program in Iguala charges $18,000 per acre, but provides planting, harvesting and hand-pollination which is a much more

expensive service. Dr. Frank Martin of the Mayaguez USDA Station indicated their costs on winter soybean nurseries were about $6,000 per acre, but thought these could be trimmed to $3,000 per acre by use of fewer professionals and more hourly labor.

While in Belize, we visited Dr. Jerry Cal, who is interested in developing soybeans as a commercial crop in Belize. He assures us that the Government would do everything possible to make a winter increase nursery successful, as they see it would be helpful to them in establishing soybeans as a commercial crop.

Puerto Rico is the second most attractive location visited, in that more U.S. breeders have had experience growing soybeans here than any other location in Central America. Land for this work could be found on the experiment station at Lajas. The Director of the experiment station points out that he is short of both men and equipment, and for such a program to be successful, both men and equipment would have to be provided. Organization of management, accounting, equipment and field labor has yet to be undertaken. Field labor and land costs will be higher in Puerto Rico than any other location we visited.

It is difficult to speculate on the life of a winter soybean program once it is underway at each of these four locations. Mexico has a history of driving out foreign agricultural operations but the cotton program has a good history. Belize has a history of stability, but Guatemala threatens to march on Belize. The Dominican Republic is growing rapidly but this is a young government. Puerto Rico would appear to be the most stable but while we were there some small riots took place supporting independence from the United States. Population pressure will make land costly in Puerto Rico, which will limit the growth of such a program.

Therefore, I recommend the American Soybean Association Research Foundation negotiate a contract with Continuous Crop Improvement Co., Ltd., directed by Al Bevis. Bevis indicates that he would have no objection to including on his letterhead recognition that this work is, in part, supported by the ASA Research Foundation, and he also expressed no reluctance to enter into a contractual arrangement with the ASA which could extend for longer than the ten years he originally proposed.

1973 POPULATION DENSITY

PER SQUARE MILE

Belize	15
Dominican Republic	232
Puerto Rico	818
Mexico	70
United States	57

BELIZE INTERNATIONAL AIRPORT

	1971		
	Average Monthly Maximum Temp. °F	Average Monthly Minimum Temp. °F	Average Monthly Humidity
January	82	68	83%
February	83	69	75%
March	84	69	73%
April	85	71	77%
May	89	73	69%
June	87	76	80%
July	86	75	79%
August	87	75	77%
September	88	76	78%
October	86	73	78%
November	84	71	90%
December	83	72	81%

BELIZE CITY

RAINFALL PER MONTH

January	4-5 inches
February	2-3 inches
March	1-2 inches
April	2-3 inches
May	3-4 inches
June	7-8 inches
July	6-7 inches
August	7-8 inches
September	9-10 inches
October	9-10 inches
November	7-8 inches
December	4-5 inches

	Relative Importance	Mexico	Belize	Dominican Republic	Puerto Rico
Local Management administrative and operational	100	60	100	30	60
Total round trip cost to visit	80	60	80	70	70
Cost and quality of field help	80	40	80	50	20
Import and export restrictions	70	30	50	20	70
Soils, climate, insects, disease, irrigation for soybeans	70	50	60	60	70
Air freight rates	50	30	50	30	20
Equipment repair	20	0	20	0	10
Lowest farm land cost	20	10	20	10	0
Opportunities for large increases	20	0	20	10	0
	510	280	480	280	320

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION, INC.
Contributions Received

DATE	NAME	PROMOTION BOARDS	AGRIBUSINESS
6/12/72	Iowa Soybean Association	$ 12,000.00	
8/18/72	Monsanto Company		$ 10,000.00
11/8/72	South Carolina Soybean Board	3,000.00	
3/13/73	BASF Wyandotte		5,000.00
3/15/73	Elanco Products		5,000.00
4/10/73	Iowa Soybean Promotion Board	18,000.00	
4/26/73	Indiana Farm Bureau Coop Ass'n		2,000.00
6/ 6/73	American Soybean Association	25,000.00	
6/12/73	South Carolina Soybean Board	2,000.00	
6/14/73	Ford Foundation		2,000.00
7/10/73	Taiwan Vegetable Oil Mfg. Ass'n		2,000.00
8/13/73	Texas Soybean Producers Ass'n	500.00	
	CIBA - Geigy Corporation		1,500.00
8/27/73	Virginia Soybean Association	600.00	
9/10/73	Mississippi Soybean Promotion Board	10,000.00	
11/21/73	German Oil Millers Ass'n		5,000.00
1/ 3/74	North Carolina Soybean Producers	5,000.00	
1/17/74	Massey Ferguson, Inc.		200.00
1/18/74	BASF Wyandotte		5,000.00
2/1/74	Crown Iron Works		100.00
2/ 7/74	Iowa Soybean Promotion Board	30,000.00	
2/19/74	Cook Industries		5,000.00
2/25/74	Ferrall-Ross, Inc.		50.00
3/27/74	Elanco Products		5,000.00
	Monsanto Company		10,000.00
5/20/74	Arkansas Soybean Promotion Board	12,000.00	
5/28/74	American Soybean Association	25,000.00	
5/31/74	Minnesota Soybean Research & Promotion	20,000.00	
5/31/74	Virginia Soybean Association	667.67	
6/10/74	Japan Oilseed Crushers		4,000.00
7/23/74	Texas Soybean Producers Ass'n	500.00	
10/10/74	South Carolina Soybean Producers Board	5,000.00	
11/11/74	Mississippi Soybean Promotion Board	12,750.00	
2/28/75	American Soybean Association	25,000.00	
3/20/75	Arkansas Soybean Promotion Board	12,000.00	
3/31/75	North Carolina Soybean Producers	5,000.00	
4/22/75	Virginia Soybean Association	666.67	
5/27/75	Minnesota Soybean Research & Pro. Bd.	20,000.00	
8/12/75	Illinois Soybean Operating Board	42,000.00	
8/12/75	Anderson Foundation		5,000.00
9/16/75	Mississippi Soybean Promotion Board	12,000.00	
9/30/75	Iowa Soybean Promotion Board	35,000.00	
9/30/75	Elanco Products Co.		5,000.00
10/19/75	South Carolina Soybean Promotion Board	5,000.00	
3/3/76	Texas Soybean Producers Board	500.00	
4/2/76	Minnesota Research & Promotion Board	20,000.00	
4/2/76	Arkansas Soybean Promotion Board	23,500.00	
4/14/76	North Carolina Soybean Producers	7,100.00	
5/7/76	Iowa Soybean Promotion Board	35,000.00	
6/4/76	John Deere Company		10,000.00
		$424,784.34	$81,850.00
			$506,634.34

June 14, 1976

MEMORANDUM TO: Research Advisory Panel

R. W. Howell
R. W. Judd
L. D. Newsom
W. R. Nave
W. L. Colville
E. E. Hartwig

FROM: B. E. Caldwell

SUBJECT: ASA Research Advisory Panel

Of those of you that have responded, we have a unanimous recommendation that we meet the evening of July 20. We would plan to complete our work that evening and be free to meet with the Board and State Representatives on July 21. Therefore, I suggest you schedule your arrival in time to begin at 7:00 p.m. July 20.

We have two items to cover:

a. Discussion of draft letter and procedure for soliciting and evaluating proposals prepared by Bob Howell.

b. Selecting a research area for recommendation to the Board for 1977. Tentative areas are listed in our Memphis meeting report.

If you cannot attend and have questions or comments on either item, please send me your thoughts. We especially need your suggestion and evaluation on the research areas. If you have other topics that should be added, send them to me.

BEC/cr

June 14, 1976

Mr. Ralph T. Jackson
American Soybean Association
Research Foundation
P. O. Box 158
Hudson, Iowa 50643

Dear Ralph:

By general concensus the Research Advisory Panel plans to meet the evening of July 20, 1976. This will allow us to attend the entire session to the Foundation. Our panel is very interested in hearing Hal Lewis' report on the winter nursery.

Would you please make arrangement with the hotel for a meeting room the evening of July 20 (7:00 p.m. - 9:00 p.m.).

Sincerely yours,

Billy E. Caldwell, Head
Department of Crop Science

BEC/cr

American Soybean Association Research Foundation
P.O. Box 158/Hudson, Iowa 50643 U.S.A/Phone 319-988-3295/Telex 465537

May 3, 1976

TO: ASA RESEARCH FOUNDATION
SOYBEAN ADVISORY PANEL

FROM: Ralph T. Jackson

The notice has gone out regarding the next meeting of the ASA Research Foundation Board to be held in Chicago on Wednesday, July 21, at the O'Hare Hilton Inn across the street from the terminal.

We are asking the soybean research advisory panel to meet with the Board for a portion of the meeting and be prepared to report on your recommendations for soybean research priority areas for fiscal year 77 (October 1-September 30). Also, at this meeting we are asking the chairmen or a designated representative from each of the 15 checkoff state promotion boards to be present.

In discussing this with Bill Caldwell, he suggested that panel members be available to lend advice as needed to checkoff state chairmen on some particular soybean research area. Dr. Caldwell will be writing you with more details.

In the meantime, I am sending a return card for hotel reservations should you need to come in the evening before.

We will be holding a separate meeting room for the Advisory Panel to meet on the morning of the 21st. The same meeting room could be reserved, if needed, for the evening before. Bill Caldwell is to notify me of your needs.

Looking forward to seeing you in Chicago.

Ralph T. Jackson

RTJ/ms
Att.

The University of Georgia College of Agriculture

Agronomy Division

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DEPARTMENT OF AGRONOMY
ATHENS, GEORGIA 30602

ROOM 3111
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(404) 542-2461

May 11, 1976

MEMO TO: B. E. Caldwell

FROM: William L. Colville, Head & Division Chairman

SUBJECT: Possible Panel Meeting July 21, Chicago Hilton Airport Inn

I have already scheduled my time of arrival for July 20. I believe an evening meeting that would enable us to meet with the Board throughout their meeting would be highly beneficial. I believe we must be alert to all their "desires".

It appears that the foundation was only able to fund three projects and did not carry on into the next groupping. Do you have any of the details?

SOYA—Serves The World

To: Dr. Hal Lewis, Dr. Robert Buker, Dr. Charles Brim

From: Ralph T. Jackson

Date: May 5, 1976

Reference No.:

Subject: ON-SITE INSPECTION - SOYBEAN WINTER NURSERY

Copy To:

Enclosed is the travel schedule and other arrangements for your forthcoming trip. All airline reservations have been comfirmed and ASA will be mailing you a ticket soon. Please note the following:

On arrival in Mexico City, Gil Harrison, ASA representative, will meet you at the airport and go directly to Tasco. Gil will be handling hotel reservations in Tasco and Mexico City for Monday night.

For arrival in Belize City, Bob Buker has handled, through Al Bevis, the necessary arrangements for hotel and transportation while in Belize.

For arrival in Manague, Nicaragua, hotel reservations have been confirmed at Inter-Continental.

For arrival in Santo Domingo, hotel and transportation arrangements are being handled by Ag Attache John Jacobs.

For arrival and stay in Puerto Rico, arrangements for hotel and transportation are to be handled by Charles Brim.

Also, note items on the second page you will need, such as passport, smallpox vaccination certificate, etc. Tourist cards for Mexico and other places can be obtained through American Airlines in Dallas.

We hope you have a most successful mission.

Sincerely,

Ralph Jackson

RTJ/ms

Att.

INTINERARY

FOR

DR. ROBERT BUKER - HAL LEWIS - DR. CHARLES BRIM

May 16, 1976 (Sunday)	Depart	Memphis, Tenn.	9:00 a.m.	AA 495	Lewis
	Arrive	Dallas, TX	10:16 a.m.		
	Depart	Indianapolis, Ind.	8:25 a.m.	AA 487	Buker
	Arrive	Dallas, TX	10:22 a.m.		
	Depart	Raleigh, N.C.	7:35 a.m.	EA 81	Brim
	Arrive	Atlanta	8:50 a.m.		
	Depart	Atlanta, GA	9:31 a.m.	EA 387	Brim
	Arrive	Dallas, TX	10:30 a.m.		
	Depart	Dallas, TX	11:30 a.m.	AA 93	ALL
	Arrive	Mexico City, Mex.	12:47 p.m.		

Will be met at the airport by Gil Harrison. Mr. Harrison is handling Hotel reservation in TASCO. Monday night return to Mexico City, Hotel reservation at Hotel Bristol.

May 18, 1976 (Tuesday)	Depart	Mexico City, Mex.	1:40 p.m.	TA 211	ALL
	Arrive	San Salvador	4:10 p.m.		
	Depart	San Salvador	4:40 p.m.	TA 110	ALL
	Arrive	Belize City	5:30 p.m.		

Al Bevis will handle Hotel reservation in Belize City.

May 22, 1976 (Saturday)	Depart	Belize City	3:55 p.m.	TA 311	ALL
	Arrive	Manague, Nic.	5:50 p.m.		

Hotel reservation has been confirmed at Inter-Continental for three singles.

May 23, 1976 (Sunday)	Depart	Manague, Nic.	11:40 a.m.	IB 970	ALL
	Arrive	Santo Domingo	4:35 p.m.		

Hotel reservation at San Geronimo handled by John Jacobs.

May 26, 1976 (Wednesday)	Depart	Santo Domingo	1:40 p.m.	EA 737	ALL
	Arrive	San Juan	2:24 p.m.		

Hotel and transportation arrangements to be handled by Charles Brim.

INTINERARY

DR. ROBERT BUKER - HAL LEWIS - DR. C.BRIM

May 28, 1976 (Friday)	Depart	San Juan	3:55 p.m.	EA 328	ALL
	Arrive	Miami	6:13 p.m.		
	Depart	Miami	8:07 p.m.	EA 712	ALL
	Arrive	Atlanta	9:44 p.m.		
	Depart	Atlanta	10:30 p.m.	EA 662	Lewis
	Arrive	Memphis	10:29 p.m.		
	Depart	Atlanta	10:45 p.m.	EA 794	Brim
	Arrive	Raleigh	11:43 p.m.		
May 29, 1976 (Saturday)	Depart	Atlanta	12:30 a.m.	EA 462	Buker
	Arrive	Indianapolis	12:47 a.m.		

ALL AIR LINE RESERVATIONS CONFIRMED.

Passport and Tourist Card Information

MEXICO - Tourist Card - can be obtained at American Airline in Dallas.
BELIZE - Passport required for identification.
DOMINICAN REPUBLIC - Tourist Card - can be obtained at Iberia Airline in Manague.
NICARAGUA - Passport - Maybe a tourist card.
Puerto Rico - Passport required for identification.

MUST HAVE WITH YOU VACCINATION CERTIFICATE FOR SMALL POX.

AGRICULTURAL ATTACHES

MEXICO
Richard S. Welton
American Embassy
Paseo de la Reforma 305
Colonia Cuauhtemoc
Mexico City, D.F., Mexico

GUATEMALA
Francis H. Jack
American Embassy
Avenida La Reforma 7-01
8 Zona 10
Guatemala City, Guatemala
This Attache also has Belize

DOMINICAN REPUBLIC
John D. Jacobs
American Embassy
Calle Cesar Nicolas Pensen
and Calle Leopoldo Navarro
Santo Domingo, Dominican Republic

No Attache or Economic Commerical Officer for San Juan.

FROM **Robert W. Judd** 5-11-76

Dear Zeke,

I'm available for your suggested July 21 mtg for ASARF Panel.

Believe the premeeting evening might provide several advantages for the Panel to convene.

Interesting agenda!

— Zeb —

NATIONAL SOYBEAN CROP IMPROVEMENT COUNCIL
211 SOUTH RACE ST., URBANA, ILL. 61801
TELEPHONE 217-367-0412

University of Illinois at Urbana-Champaign

COLLEGE OF AGRICULTURE · DEPARTMENT OF AGRONOMY · URBANA, ILLINOIS 61801

May 13, 1976

Dr. B. E. Caldwell
Department of Crop Science
North Carolina State University
Box 5155
Raleigh, North Carolina 27607

Dear Bill:

This will acknowledge your letter of May 5 concerning the proposed meeting of the Research Advisory Panel in Chicago on July 21.

Unfortunately that date conflicts with another event to which I am already committed - a week at Myrtle Beach. I have written to Ralph Jackson explaining that I will be unable to attend.

I am sorry that I cannot attend, because I think these meetings of the panel, in conjunction with ASARF Board meetings, are essential if the panel is to be effective. However, I am confident that you and other panel members who are in attendance will more than adequately reflect my attitudes to the extent that they deserve. I will be seeing you at Bob Judd's meeting in St. Louis a few days prior to the panel meeting and if I have any ideas that I think should be considered, I can pass them along to you at that time if not before.

I would like to make the following comments at this time on the items in your letter of May 5:

I would look forward to the report from the committee which has been making an inspection of possible sites for the winter nursery. I am glad that Drs. Brim and Buker were included in this committee, as I think both of them have some very special qualifications with respect to winter nurseries. Incidentally, I was in Puerto Rico a few days ago and while there visited with Frank Martin of the Federal Station (now called the Mayaguez Institute for Tropical Agriculture - MITA). I learned that the ARS, still profiting from your leadership, has made more progress than I realized in providing winter nursery facilities to experiment station scientists, as well as ARS staff. Roger Boerma of Georgia and Jim Maxwell of Clemson are each using the federal winter nursery facilities at Isabela. In fact, I saw Roger there during my visit as he had come down to harvest his material. I was very pleased to know of that development, as well as to see the excellent lighting facilities that have been developed on the federal station at Isabela. A reason for commenting on this here is that I think that it has some applicability to the ASA plan to establish nursery facilities. There are no doubt

limits to what can be done at Puerto Rico, but it is not insignificant that quite a few ARS people now have winter nurseries in Puerto Rico, Walt Fehr does also and INTSOY has a sizeable operation. As the ASA gets geared up, it should be realized that the winter nursery situation is no longer a vaccuum, but that people are moving forward to activate their own winter nurseries.

The question of a full-time staff director for ASARF activities is one for the board to consider and I do not see that the panel has very much to contribute. I believe Ralph Jackson is overloaded and that some major staff assistance for him would be useful. If they could get a Bob Judd, it should be all to the good.

Since I'll not be attending the July 21 meeting, the following comment may be out of order. However, I think it would be worthwhile to come in late the day before in order to have the evening for panel discussions with less pressure than if everything must be condensed on the morning of the 21st.

Sincerely yours,

R. W. Howell, Head
Department of Agronomy

RWH:ch

NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

SCHOOL OF AGRICULTURE AND LIFE SCIENCES

DEPARTMENT OF CROP SCIENCE
BOX 5155 ZIP 27607

April 27, 1976

MEMORANDUM TO: W. L. Colville
E. E. Hartwig
R. W. Judd
R. W. Howell
W. R. Nave
L. D. Newsom
S. G. Turnipseed

FROM: B. E. Caldwell B E Caldwell

SUBJECT: Research Advisory Panel and ASA Research Fouundation Board Minutes.

I enclose for your information the Minutes of the Panel and Board meetings. You will note that the Board adopted our recommendations. The discussion on Patent Policy did not go as we had hoped. However, we had very little opportunity for making any suggestions.

I will let you know when the next meeting will be. Ralph is considering a July meeting of the Board. If this occurs we might want to meet then to determine priority areas for next year.

BEC/cr

Enclosure - 2

~~Winter Nursery Committee~~
Board set aside $60,000 as funds to be used as a revolving account to get the ~~the~~ Nursery underway.

- Approval of the SAP report. The first three will be funded now & ~~the remainder of~~ 4-6 if funds become available. ~~the~~ The board changed the rankings of 5 & 6, primarily because the USDA/ARS could be started at anytime, and ~~the Alabama~~ project needs to start now because its a field problem. An ~~an~~ 1 year $10,000 extension was granted to ~~Ralph~~ the University of Illinois equipment project.

- The board also agreed that for any terminating projects, a new proposal must be submitted & compete with the ~~the~~ project solicited for that year. These renewals would not be encouraged or given priorities of the area of work for that year.

- The Proposed patent policy and directors responses were review. Hal Lewis will re-draft the policy for further consideration at the ~~the~~ July meeting.

NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH
SCHOOL OF AGRICULTURE AND LIFE SCIENCES

DEPARTMENT OF CROP SCIENCE
BOX 5155 ZIP 27607

April 27, 1976

MEMORANDUM TO: W. L. Colville
E. E. Hartwig
R. W. Judd
R. W. Howell
W. R. Nave
L. D. Newsom
S. G. Turnipseed

FROM: B. E. Caldwell B E Caldwell

SUBJECT: Research Advisory Panel and ASA Research Fouundation Board Minutes.

I enclose for your information the Minutes of the Panel and Board meetings. You will note that the Board adopted our recommendations. The discussion on Patent Policy did not go as we had hoped. However, we had very little opportunity for making any suggestions.

I will let you know when the next meeting will be. Ralph is considering a July meeting of the Board. If this occurs we might want to meet then to determine priority areas for next year.

BEC/cr

Enclosure - 2

RESEARCH ADVISORY PANEL REPORT
T O
RESEARCH FOUNDATION

APRIL 2, 1976

The Research Advisory Panel to the ASA Research Foundation met March 31 and April 1, 1976. Members present were B. E. Caldwell, W. L. Colville, R. W. Howell, R. W. Judd, and W. R. Nave. The Panel is operating according to the guidlines developed in Memphis on April 10, 1975 and approved by the ASARF Board on August 9, 1975.

ORGANIZATIONAL STRUCTURE

The Panel developed an organizational structure as directed by the Board to implement the rotation of members. The Panel recommends Board concurrance of the following action:

(1) The Advisory Panel will consist of 8 members. Six will be on a rotational basis and 2 will be permanent. The six rotational members will serve 3-year terms. The two permanent members will be the Program Staff Scientist for Oilseeds, ARS, and the Managing Director, National Soybean Crop Improvement Council.

(2) Newly selected members will begin their term of service when new officers of ASARF begin their duties. This is normally during the ASA annual meeting. Incoming Panel members will be invited to attend as non-voting members of the Panel meetings held in conjunction with the ASA annual meeting.

(3) A rotational member cannot succeed himself. He must be off the Panel for at least one year.

Using these guidlines, the current rotational members, B. E. Caldwell, W. L. Colville, E. E. Hartwig, R. W. Howell, W. R. Nave and S. G. Turnipseed drew for terms of 0, 1, and 2 years. R. W. Judd drew for absent members. Based on the results, Hartwig and Nave will complete their term at the 1976 ASA annual meetings. Caldwell and Howell will complete their term at the 1977 annual meeting; and Turnipseed and Colville will serve until the 1978 annual meeting. The two new members will be selected for three year terms to begin at the end of the 1976 annual meetings.

B. E. Caldwell was selected as Chairman and R. W. Howell as Vice-Chairman for the coming year. The panel recommends that Dr. Chester G. McWhorter, ARS weed scientist, Stoneville, Mississippi, and Dr. James R. Wilcox, geneticist-plant breeder ARS and Purdue University be requested to serve a 3-year term on the Panel. Their term will begin at the end of the 1976 annual meeting.

The Panel discussed expenses relating to the activities fo the Panel. The Panel recommends that ASARF: (1) pay lodging and subsistance expenses of the Panel's rotational members; (2) when necessary, pay travel expenses; and (3) pay meeting expenses such as meeting room rental, copying etc.

PROPOSAL REVIEW

Thirty-two proposals in the research area pest-pesticide interactions were received by ASA headquarters. The proposals were transmitted to the chairman of the Panel who sent them for evaluation to a peer group consisting of Dr. E. E. Hartwig, agronomist and Chairman, Dr. K. L. Athow, pathologist, Dr. L. D. Newsome, entomologist and Dr. C. G. McWhorter, weed scientist.

The Panel members reviewed the ratings and comments of the peer group, and discussed each of the 32 proposals. Based on these discussions the Panel recommends the following proposals for funding listed in order of priority.

1. ASARF3-19, Clemson University "Impact of Pesticides on Fungal Pathogen in the Soybean Ecosystem" - $29,249.

2. ASARF3-29, University of Arkansas. "Effects of Fungicides and Insecticides on Lepidopterous Pests and their Associated Fungi and Selected Predators in Soybeans". $28,214.

3. ASARF3-12, N. C. State University, "Investigations on the Effects of Various Soybean Pesticide Interactions: Interaction Between Pesticides, Reaction of Non-Target Organisms and Soybean Plant Responses". $30,000.

4. ASARF3-17 University of Georgia. "Identification and Evaluation of Potentially Beneficial Pesticide Interacions in Soybean Production $30,000.

5. ASARF3-13 ARS/USDA, Beltsville, Md. "Relation of Herbicides and Environmental Stress in Soybean Production". $29,250.

6. ASARF3-27, Auburn University. "The Effect of Pestcide Combinations and Their Interactions on Yields and Non-Target Pests of Soybean Varieties". $30,000

7, 8, and 9 The Panel considers the next three acceptable, but a lower priority than those ranked 1-6.

ASARF3-5 Iowa State University. "Herbicide Seebed Tillage Interactions". $30,000.

ASARF3-14 Michigan State University. " Pesticide Interactions in Soybeans" $30,000

ASARF3-6 USDA/ARS Beltsville, Md. "Effects of Herbicide - Fungicide Interactions on Phytophthora and Pythium Root Rot, Damping-off and Stem Blight of Soybeans". $30,000

The Panel also reviewed the request from the University of Illinois to continue for one year at $10,000 the project "Improved Equipment for Soybean Harvesting". The Panel recommends the Board give favorable consideration to funding the extension as requested.

Exploration

RESEARCH AREAS FOR 1977

In preparing for the research area of emphasis for next year, the panel discussed the current status of soybean research, and reviewed the draft recommendations of the Soybean Production workgroup of the National Soybean Research Coordination Committee. Among the topics being considered for proposal invitation next year are:

1) Improved soybean production equipment

2) Water use efficienty

3) Cost-benefit levels of pest control

These topics will be circulated among Panel members (old and new) for review and discussions. At the Annual meeting in August the Panel plans to select and submit an area or areas of research for consideration of the Board.

The Panel is preparing a revised proposal solicitation letter for ASARF and a revised evaluation sheet with guidelines for use by the peer reviewers. These changes will be recommended for proposal solicitation and evaluation.

Minutes of Meeting
American Soybean Association
Research Foundation
April 2, 1976
Memphis, Tennessee

President Nick Rose called the ASA Research Foundation Board meeting to order at 9:00 a.m. at the Hilton Inn, Memphis Airport, Memphis, Tennessee. Those present in addition to President Rose were: Frank Ray, Vice President, Howard Adler, Secretary/Treasurer, Harold Kuehn, F. C. Laughinghouse, W. B. Tilson, Hugh Wilson, Donald Zaunbrecher, Robert W. Judd, B. E. Caldwell, Dr. Hal Lewis and Ralph Jackson. Also present were: Dr. W. L. Colville, W. R. Nave and Donald D. Dingman. Absent was Seymour Johnson.

Minutes

Jackson read the minutes of the January 28, 1976 meeting in Chicago. It was moved by Ray, seconded by Tilson, to approve the minutes of the January 28, 1976 meeting as read, and the minutes of the December 2, 1975 meeting as mailed. Motion carried.

Combine Manufacturers Visits

Rose reported on meetings with Massey-Ferguson officials in Des Moines and John Deere officials in Moline, both of which were beneficial, having a dual purpose (1) incorporating the air-jet header into their production line, and (2) soliciting their financial support to the ASA Research Foundation.

On April 14 Ralph Nave, Nick Rose, Dick Elijah and Hal Lewis will meet with officials of Sperry New Holland, New Holland, Pennsylvania. It is anticipated there will be a similar meeting with officials of International Harvester in the near future. Hal Lewis will follow up.

Winter Nursery

Hal Lewis, Bob Buker and Charlie Brim are planning an on-site inspection trip to Mexico, Belize, Dominican Republic and Puerto Rico in mid-April in order to be in a position to recommend to the ASA Research Foundation and the Winter Nursery Pilot Committee some priorities of site locations and other related items.

Motion by Ray, seconded by Kuehn, that ASARF pay the expenses of Hal Lewis for this on-site inspection tour. Motion carried.

Discussion followed on the financing of a soybean winter nursery.

Motion made by Ray, seconded by Adler, to set aside a reserve in the amount of $60,000 toward funding a winter soybean nursery program pending report of the on-site inspection tour, results of which will be made available at the next meeting of the Foundation Board. Called for hand vote - 4 in favor, 2 against, 1 abstaining. Motion carried.

Financial

Treasurer Adler reviewed the Statement of Cash Receipts and Disbursements for the period October 1, 1975 through March 26, 1976. Moved by Kuehn, seconded

by Tilson, that the financial statement be accepted as presented. Motion carried.

Review of Old Projects

Jackson reviewed the Schedule of Committed Funds as of March 26, 1976. Discussion followed on the feasibility of ASARF making payment of these funds on a quarterly basis rather than an annual basis. Motion by Rose, seconded by Laughinghouse, that ASA staff initiate a plan for making payment of committed funds quarterly. Motion carried.

Considerable discussion was held on Lowell Hill's project "Soybean Quality and Export Markets" and sources of funding. It was agreed that ASA should seek better coordination between Hill, ARS, FAS and others in determining our stand on participation of funding of this project.

Moved by Adler, seconded by Tilson, to give ASA staff authority to implement payment at such time as all factions, ARS, FAS, ASARF and others are completely coordinated as to objectives, funding, etc. Motion carried.

Caldwell reviewed the request from the University of Illinois to continue for one year at $10,000 the project "Improved Equipment for Soybean Harvesting."

It was moved by Kuehn, seconded by Laughinghouse, that the Research Foundation grant a one year continuation in support of this project in the amount of $10,000. Motion carried.

A request to continue Reid Palmer's project "The Application of Cytogenetics to a Soybean Improvement Program," Iowa State University, which has terminated, was reviewed. Following discussion it was moved by Ray, seconded by Zaunbrecher, that staff reply to Mr. Palmer's letter confirming that the project is terminated, that the subject was discussed at the ASARF Board meeting, and that his request for extension has been denied, but that his director will be notified at our next project invitational period. Motion carried.

New Projects

President Rose requested Dr. B. E. Caldwell to report on the results of the solicitation of research proposals in the area of pesticide interactions from the land grant colleges in the soybean producing states. Caldwell reported that 25 colleges had responded with 32 research proposals and these proposals had been evaluated and rated by the special technical consultant committee and the following were the top nine rated proposals:

Impact of Pesticides on Fungal Pathogens in the Soybean Ecosystem - G. R. Carner, C. W. Blackmon, Clemson University

Effects of Fungicides and Insecticides on Lepidopterous Pests and Their Associated Entomopathogenic Fungi and Selected Predators in Soybeans - W. C. Yearian, S. Y. Young, University of Arkansas.

Investigations on the Effects of Various Soybean Pesticide Interactions: Interactions Between Pesticides, Reactions of Non-Target Organisms, and Soybean Plant Responses - J. R. Bradley, Jr., F. T. Corbin, J. W. Van Duyn, Donald Schmitt, North Carolina State University.

Identification and Evaluation of Potentially Beneficial Pesticide Interactions in Soybean Production - Dr. D. V. Phillips, Dr. James W. Todd, University of Georgia.

Relation of Herbicides and Environmental Stress in Soybean Production - Dr. J. B. St. John, M. N. Christiansen, J. L. Hilton, W. A. Gentner, ARS/USDA, Beltsville, Md.

The Effect of Pesticide Combinations and Their Interactions on Yields and Non-Target Pests of Soybean Varieties - Paul A. Backman, Auburn University.

Herbicide-Seedbed Tillage Interactions - David W. Staniforth, Donald Erbach, Joseph Burris, Iowa State University.

Pesticide Interactions in Soybeans - Donald Penner, Michigan State University.

Effects of Herbicide-Fungicide Interactions on Phytophthora and Pythium Root Rot, Damping-Off and Stem Blight of Soybeans - Dr. Jack Lewis, USDA/ARS Beltsville, Md.

It was moved by Zaumbrecher, seconded by Laughinghouse, to fund the following three proposals for the next three-year period, funding to commence July 1:

Impact of Pesticides on Fungal Pathogens in the Soybean Ecosystem - G. R. Carner, C. W. Blackmon, Clemson University
$29,249 Total Amount Period July 1976 - June 1979

Effects of Fungicides and Insecticides on Lepidopterous Pests and Their Associated Entomopathogenic Fungi and Selected Predators in Soybeans - W. C. Yearian, S. Y. Young, University of Arkansas
$28,214 Total Amount Period July 1976 - June 1979

Investigations on the Effects of Various Soybean Pesticide Interactions: Interactions Between Pesticides, Reactions of Non-Target Organisms, and Soybean Plant Responses - J. R. Bradley, Jr., F. T. Corbin, J. W. Van Duyn, Donald Schmitt, North Carolina State University
$30,000 Total Amount Period July 1976 - June 1979

and to approve the following three proposals for funding if and when funds are available for the specified time, to be determined by the Executive Vice President:

Identification and Evaluation of Potentially Beneficial Pesticide Interactions in Soybean Production - Dr. D. V. Phillips, Dr. James W. Todd, University of Georgia
$30,000 Total Amount Period July 1976 - June 1979

The Effect of Pesticide Combinations and Their Interactions on Yields and Non-Target Pests of Soybean Varieties - Paul A. Backman, Auburn University
$30,000 Total Amount Period July 1976 - June 1979

Relation of Herbicides and Environmental Stress in Soybean Production - Dr. J. B. St. John, M. N. Christiansen, J. L. Hilton, W. A. Gentner, ARS/USDA Beltsville, Md.
$29,250 Total Amount Period July 1976 - June 1979

Motion carried.

Research Advisory Panel Composition

Caldwell reported that, as directed by the Board, the Research Advisory Panel had developed an organizational structure to implement the rotation of members as follows:

1. The Advisory Panel will consist of 8 members. Six will be on a rotational basis and 2 will be permanent. The six rotational members will serve 3-year terms. The two permanent members will be the Program Staff Scientist for Oilseeds, ARS, and the Managing Director, National Soybean Crop Improvement Council.

2. Newly selected members will begin their term of service when new officers of ASARF begin their duties. This is normally during the ASA annual meeting. Incoming Panel members will be invited to attend, as non-voting members of the Panel, meetings held in conjunction with the ASA annual meeting.

3. A rotational member cannot succeed himself. He must be off the Panel for at least one year.

It was moved by Zaumbrecher, seconded by Wilson, to approve the organizational structure of the Advisory Panel as recommended. Motion carried.

Under these guidelines, the current rotational members, B. E. Caldwell, W. L. Colville, E. E. Hartwig, R. W. Howell, W. R. Nave and S. G. Turnipseed drew for terms of 0, 1, and 2 years. R. W. Judd drew for absent members. Based on the results, Hartwig and Nave will complete their term at the 1976 ASA annual meeting. Caldwell and Howell will complete their term at the 1977 annual meeting. Turnipseed and Colville will serve until the 1978 annual meeting. The two new members will be selected for three year terms to begin at the end of the 1976 annual meeting.

B. E. Caldwell was selected as Chairman and R. W. Howell as Vice Chairman for the coming year. The Panel recommended that Dr. Chester G. McWhorter, ARS weed scientist, Stoneville, Mississippi, and Dr. James R. Wilcox, geneticist plant breeder, ARS and Purdue University be requested to each serve a 3-year term on the Panel. Their term would begin at the end of the 1976 annual meeting.

Motion by Laughinghouse, seconded by Kuehn, that the Executive Vice President write letters to Dr. Chester McWhorter and Dr. James R. Wilcox inviting them to serve a three-year term on the ASA Research Foundation Soybean Advisory Panel; also, a letter of appreciation to the two out-going members, namely Dr. E. E. Hartwig and W. R. Nave, and further concur in the personnel terms as they were presented. Motion carried.

Motion by Ray, seconded by Kuehn, that ASARF (1) pay lodging and subsistence expenses of the Panel's rotational members, (2) when necessary, pay travel expenses, and (3) pay meeting expenses such as meeting room rental, copying, etc. Motion carried.

Research Area for 1977

In preparing for the research area of emphasis for next year, the Panel discussed the current status of soybean research and reviewed the draft recommendations of the Soybean Production workgroup of the National Soybean Research Coordination Committee. Among the topics being considered for proposal invitation next year are:

1. Improved soybean production equipment
2. Water use efficiency
3. Cost-benefit levels of pest control

These topics will be circulated among Panel members (old and new) for review and discussions. At the Annual Meeting in August the Panel plans to select and submit an area or areas of research for consideration of the Board.

The Panel is preparing a revised proposal solicitation letter for ASARF and a revised evaluation sheet with guidelines for use by the peer reviewers. These changes will be recommended for proposal solicitation and evaluation.

Patent Policy

Hal Lewis discussed at length the Proposed Patent Policy and responses which had been received from various experimental station directors and universities. Of those to whom this proposed patent policy had been sent, approximately 60% responded, with the majority of responses from the southern region.

The following changes in wording, and additions, were recommended:

Paragraph A. No change

Paragraph B. 1. No change

Paragraph B. 2. ... shall be joint decisions of Cooperator and Sponsor insofar as they do not conflict with established institutional policies of the Cooperator.

Paragraph B. 3. ... seed variety or discovery insofar as this does not conflict with established institutional policies of the Cooperator.

Paragraph B. 4. Sponsor will, in appropriate cases, assist ...

Paragraph B. 5. ... for the conduct of research described under this agreement. Sponsor may, in special cases, provide funds to help defray cost of obtaining patent and plant variety protection certificates.

Paragraph B. 6. Strike the last two sentences and add the following: Any revenue accruing to Cooperators from licensing or royalties will be used to fund soybean research and, as a courtesy to Sponsor of the original research, the Cooperator will keep Sponsor advised of soybean research financed in whole or in part by these proceeds.

Paragraph C. No change.

Paragraph D. No change.

Motion made by Laughinghouse, seconded by Wilson, that ASARF adopt provisions of the Proposed Patent Policy as amended, subject to clearing with a competent patent attorney. Motion carried.

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Jackson reported that the target date for the Production and Marketing Conference is either the second or third week in February, 1977, with headquarters at Stouffer's Riverfront Towers, St. Louis, Missouri.

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Utilization Research Advisory Panel

After discussion, it was moved by Kuehn, seconded by Zaunbrecher, directing staff to develop concepts of Utilization Research Advisory Panel as expediciously as possible. Motion carried.

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Jackson reported that ASA is hopeful of setting up a Research Division with a full time Research Director in the Hudson Office.

- - - - - - - - - - - - - - -

Kuehn discussed at length the exploratory study of Brazil Soybean Marketing by Broadbent (University of Illinois) and graduate student. Motion by Ray, seconded by Zaunbrecher, directing staff to reply to Broadbent's letter indicating that the subject had been discussed at the ASARF Board meeting, and request had been denied; however, his Director will be notified at our next project invitational period. Motion carried.

It was moved by Lewis, seconded by Rose, that the meeting be adjourned. Meeting adjourned at 4:40 p.m.

Minutes of Meeting
American Soybean Association
Research Foundation
Chicago, Illinois
January 28, 1976

President Nick Rose called the ASA Research Foundation Board meeting to order at 9:00 a.m. at the O'Hare Hilton Hotel, Chicago, Illinois. Those present in addition to President Rose were: Howard Adler, Don Zaunbrecher, F. C. Laughinghouse, Hugh Wilson, Hal Lewis and Ralph Jackson. Also present were Dick Elijah, Felix Witt and Ellsworth Stewart from the ASA Research Committee. At the invitation of the Foundation, Dr. Lowell Hill, Economist with the University of Illinois, and Gus Nicholas, ARS, Beltsville, Maryland, were present for a portion of the meeting.

Minutes

Jackson read the minutes of the December 2, 1975 meeting and they were approved as read.

- - - - - - - - - - -

Adler and Jackson reviewed the financial status of ASARF bringing it up to current date.

Dr. Hill presented a proposal to the Board concerning determination of loss of quality of soybeans during handling and shipment in export channels.

Jackson reviewed past activities of ASA in attempting to implement a national task force to study and evaluate improved quality standards for soybeans.

Motion made by Laughinghouse, seconded by Wilson, and amended by Zaunbrecher, to fund Dr. Lowell Hill's project at the $10,000 level with the possibility of going to $15,000 provided the minimum level of work will include one diverter sampler at one soybean plant and that data generated through this work will be correlated with quality as it leaves the farm. Adler seconded the amended motion. Motion carried.

Gus Nicholas, ARS/USDA, made a brief presentation of the relationship of his program with Dr. Hill's.

Jackson reviewed the meeting which ASA Research Committee had with Assistant Secretary of Agriculture, Bob Long. A copy of a follow-up letter concerning important points covered in the meeting was circulated and discussed.

Elijah discussed a possible patent problem which the Iowa Soybean Promotion Board expected to arise with Iowa State University. Lewis reviewed patent policy considerations and problems which might be expected to develop from patent policy statements.

Moved by Adler, seconded by Laughinghouse, that ASARF should establish a policy concerning patents. Motion carried.

Moved by Zaunbrecher, seconded by Wilson, that patent provision language developed by Lewis be presented to USDA and land grant college directors

Minutes of Meeting
ASA Research Foundation
Chicago, Illinois
January 28, 1976

(Experiment Stations) via Roy Lovvorn of CSRS, USDA and Jim Halpin, Southern Experiment Station Director at Large, and George Browning, North Central Experiment Station Director at Large, for review and comments. The patent policy will be taken up at the April 2 meeting of the Research Foundation after comments from directors of experiment stations and concerned USDA personnel have had a chance to respond. Motion carried.

The winter nursery program was reviewed by Lewis and Jackson.

A Production and Marketing Conference for soybeans was discussed. Plans are for the first conference to be held in St. Louis in February, 1977.

Jackson reported that several states are not participating in the ½¢ per acre ASARF program. It was recommended that appropriate Research Foundation Board member should contact the promotion board chairman in the concerned states. Once this contact has been satisfactorily made, then staff could be invited to explain the ASARF program to concerned promotion boards.

President Rose announced that the next meeting of the Research Foundation Board would be held on April 2, 1976 in Memphis, Tennessee, at the Hilton Inn, Memphis Airport.

Meeting was adjourned.

B

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NATIONAL PROGRAM STAFF
Plant and Entomological Sciences Staff
Beltsville, Maryland 20705

July 13, 1976

Subject: American Soybean Association Research Advisory Panel Meeting, July 20-21

To: B. E. Caldwell, Chairman
Department Crop Science
North Carolina State University

You advised me yesterday by telephone of plans of Panel to meet at 4:00 to 5:00 pm, lobby of Chicago O'Hare Hilton Inn, July 20, prior to ASA Board meeting of July 21.

This is to advise you that I plan to arrive at O'Hare at about 5:00 pm. We have an all day session at BARC with Monsanto on soybean research, but I hope to get away by mid-afternoon and thus to O'Hare by 5:00 pm.

Thank you.

Robert C. Leffel
Staff Scientist
Oilseeds

B. F. Caldwell

- Check on Possibility of Panel Travel
- Brim's - need info
- Payment
- TRAVEL Schedule

SOYA—Serves The World

April 26, 1976

TO: ASA Research Foundation

FROM: Ralph T. Jackson

SPECIAL MEETING JULY 21, 1976

ASA Research Foundation President Nick Rose has asked that you be officially notified of a special meeting of the Foundation Board to be held in Chicago on July 21 at the Hilton Airport Inn directly across from O'Hare terminal. We will plan to begin promptly at 9:00 a.m. and should complete our business by 4:30 p.m.

Major items to be discussed are:

1. Winter nursery. We will receive a report from Hal Lewis on the on-site inspection trip as discussed in Memphis.

2. Future status of a full time research staff director in the Hudson Office with cost supported by ASARF.

We will be requesting that the checkoff state promotion board chairmen meet with us at this time in order to get them fully appraised of the Foundation's activities as well as have them hear, first hand, plans for establishing a winter soybean nursery.

A block of rooms are being held for those who plan to arrive the night before and a reservation card is enclosed for you to mail directly to the hotel.

Please mark this date on your calendar now. Additional details will be sent later.

RTJ/ms
Att.

B. J. Caldwell

SOYA—Serves The World

April 22, 1976

TO: RESEARCH FOUNDATION BOARD

FROM: Ralph T. Jackson

Enclosed are the minutes of the ASA Research Foundation meeting on April 2. Please look these over carefully and if you have any additions or corrections, please let me know.

In addition, we are enclosing the minutes of the special meeting in Chicago on patent policy which were read and approved in Memphis.

Ralph Jackson

RTJ/ms
cc: Wallace Butler
ASA Department Heads
Field Staff
Bill Kling

319-988-3296

American Soybean Association/P.O. Box 158/Hudson, Iowa 50643 U.S.A./Phone 319-988-3296/Telex 465637
Offices In Tokyo, Taipei, Brussels, Hamburg, Mexico City, Vienna

American Soybean Association Research Advisory Committee

Mr. R. W. Judd
National Soybean Crop Improvement Council
211 South Race Street
Urbana, Illinois 61801

Dr. L. D. Newsom Head
Department of Entomology
Louisiana State University
Baton Rouge, Louisiana 70803

Dr. S. G. Turnipseed
Edisto Experiment Station
P. O. Box 247
Blackville, S.C. 29817

Dr. R. W. Howell, Head
Department of Agronomy
University of Illinois
Urbana, Illinois 61801

Mr. W. R. Nave
Department of Agricultural Engineering
University of Illinois
Urbana, Illinois 61801

Dr. W. L. Colville, Head
Department of Agronomy
University of Georgia
Athens, George 30601

Mr. E. E. Hartwig
Department of Agronomy
Mississippi State University
Delta Branch Experiment Station
Stoneville, Mississippi 38776

cc: Mr. Ralph T. Jackson
Executive Vice President
American Soybean Association Research Foundation
P. O. Box 158
Hudson, Iowa 50643

The University of Georgia College of Agriculture

Agronomy Division

Our Profession Feeds The World

DEPARTMENT OF AGRONOMY
ATHENS, GEORGIA 30602

April 8, 1976

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MILLER PLANT SCIENCES BUILDING
(404) 542-2461

TO: R. W. Howell
B. A. Caldwell

Thanks Bob, for the information relative to a patent policy. I believe the ASA attempt of setting up a patent policy approaches ridiculousness! It would seem they are trying to be overly protective of things that are not there in the first place. We at this University can live with "policy" as long as they are subjective to some compromise. I have enclosed a copy of our overall patent policy. I hope it will be of some help. Thanks.

Bill

William L. Colville, Head &
Division Chairman

ll

ANNOUNCEMENT 576-C

B

University of Illinois
Department of Agronomy

Announcement

Job Title: Assistant Agronomist

Duties: Conduct research and supervise research being done with student hourly help in soil chemistry laboratories on soil testing, soil and fertilizer nitrogen, and other soil fertility projects. Involvement in supporting greenhouse and field work will be required.

Training: M.S. in soil science with considerable training in chemistry and other laboratory sciences and experience in soil analysis.

Salary: Commensurate with training and experience.

Starting Date: July 21, 1976

Duration: Indefinite - subject to availability of funds.

Application: Applications will be accepted until July 1, 1976. Applications received after July 1, 1976 will be considered only if no well-qualified candidate has applied before that date. Applicants should send their curriculum vitae, copies of transcripts, thesis summaries, and three letters of reference to:

Dr. R. W. Howell, Head
Department of Agronomy
University of Illinois
Urbana, Illinois 61801
217/333-3420

Please cite announcement number when replying.

The University of Illinois is an affirmative action - equal opportunity employer and encourages applications from members of minority groups and women.

April, 1976

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION

Research Projects Currently Being Funded

FISCAL YEAR FUNDED	NUMBER	PROPOSAL TITLE & INVESTIGATOR
1974	74-ASARF-102-3	Improved Equipment for Soybean Harvesting - Ralph Nave - University of Illinois Develop and evaluate improved equipment and techniques for harvesting soybeans with reduced field loss and damage. (Proposal supported at $10,000 annually for 3 years for total of $30,000.)
1976	74-ASARF-102-3	One year extension in amount $10,000.
1975	75-ASARF-207-3	Interrelationship Between Energy Requirements of Plant Roots and the Maintenance of Water Balance in Soybean Plant Communities - Johnson, Boast, Peters - University of Illinois The distribution of plant food between roots and tops of soybeans directly affects seed yields. In order to know how to modify patterns of food distribution to improve yields, we must first understand how it is done. This project will define the food distribution system and develop approaches to modify the system to give improved seed yields. (Proposal supported for 3 years total of $30,000.)
1975	75-ASARF-208-3	Investigations of the Effect of Temperature on Soybean Root Growth and the Physiological Processes Related Thereto - Schrader and Pendleton - University of Wisconsin The University of Wisconsin BIOTRON, a computer programmed plant growth facility, will be utilized to determine how soybean root growth and development are influenced by temperature and day length. Results from this project will provide improved information about double-cropping and optimum planting dates. (Proposal supported for 3 years total of $30,000.)
1975	75-ASARF-209-3	Alleviation of Soybean Root Restriction in Soils with Compacted Pans by the Use of a Deep-Rooted, Vigorous Grass - Rogers, Thurlow, and Elkins - Auburn University The most frequent barrier to high soybean yields is lack of adequate moisture in the critical pod filling period. This project will study factors which restrict soybean root development and develop practical techniques to allow roots to utilize subsoil moisture during critical growth stages. (Proposal supported for 3 years total of $30,000.)

April, 1976

FISCAL YEAR FUNDED	NUMBER	PROPOSAL TITLE & INVESTIGATOR
1975	75-ASARF-210-3	The Economic Importance of Root and Nodule Infesting Insect Pests of Soybeans - L. D. Newsom, Louisiana State University Much work has been done on above-ground insect populations but little is known about root feeding insects. This project will develop practical methods for assessing field populations of soybean root and nodule feeding insects and establish guidelines for correlating population levels to crop damage. (Proposal supported for 3 years total of $30,000.)
1975	75-ASARF-211-3	Relation of Soybean Root Growth Rates and Root Morphology to P and K Uptake Rates, Shoot Growth Rate and Soybean Yield - Barber - Purdue University It is reasonable to think that good soybean yields require good root growth and development . This project will characterize root development in high yielding fields. The influence of soil texture and P and K absorbed by roots and other plant parts. (Proposal supported for 3 years total of $30,000.)
1976	76-ASARF-312-3	Impact of Pesticides on Fungal Pathogens in the Soybean Ecosystem - G. R. Carner, C. W. Blackmon - Clemson Univ. To determine the effects of benomyl and other fungicides on fungal pathogens that attack soybean foliage, on plant growth and maturity, and on yield and quality of seed harvested; to determine the effects of fungicides, insecticides, and fungicide-insecticide combinations on fungal pathogens of insects and on populations of lepidopterous pests in soybeans; to determine if the advantages gained by controlling the soybean plant pathogens are sufficient to offset any insect problems which may arise from the adverse effects of pesticides on the insect pathogens. (Proposal supported for 3 years total of $29,249.)
1976	76-ASARF-313-3	Effects of Fungicides and Insecticides on Lepidopterous Pests and Their Associated Entomopathogenic Fungi and Selected Predators in Soybeans - W. C. Yearian, S. Y. Young, University of Arkansas To determine the effects of several fungicides and/or fungicide-insecticide combinations on lepidopterous soybean pests, entomopathogenic fungus epizootics, and arthropod predators as they relate to pest population levels on soybeans. (Proposal supported for 3 years total of $28,214.)

April, 1976

FISCAL YEAR FUNDED	NUMBER	PROPOSAL TITLE & INVESTIGATOR
1976	76-ASARF-314-3	Investigations on the Effects of Various Soybean Pesticide Interactions: Interactions Between Pesticides, Reactions of Non-Target Organisms, and Soybean Plant Responses - J. R. Bradley, Jr., F. T. Corbin, D. P. Schmitt, J. W. Van Duyn, North Carolina State University

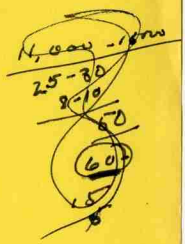
To determine he extent and significance of interactions between selected herbicides and insecticide-nematicides; to determine the growth regulating effects in terms of phenological development and yield, of herbicides and insecticide-nematicides on the soybean plant; to determine the interactions between insecticide-nematicides and herbicides on beneficial insects and soil borne nematodes in the soybean ecosystem. (Proposal supported for 3 years total of $30,000.)

SUGGESTED AGENDA

ASA RESEARCH FOUNDATION

O'Hare Hilton, Chicago
Wednesday, July 21, 1976

1. Call to order and opening remarks - Nick Rose
2. Minutes of previous meeting - Ralph Jackson
3. Nine-month financial statement review
4. Report on winter nursery exploratory trip and recommendations - (Discussion of budget requirements) - Hal Lewis
5. Report on current research projects - Hal Lewis
6. Review of project commitments - possibility of start-up on additional projects for FY76
7. Review with promotion board chairmen services rendered by ASARF and promotion board needs from ASARF
8. Budget requests FY77 (setting up Research Department to service ASARF and promotion boards)
9. Report on Production Research Advisory Panel selection (New members Wilcox and McWhorter agreed to serve replacing Nave and Hartwig)
10. Report from Production Research Advisory Panel priority research FY77 - B. E. Caldwell
11. Other business
12. Adjourn



The ASA Research Advisory Panel recommends that the Research Foundation Board request proposals for 1977 on

Improved equipment for soybean production.

Although some progress has been made in recent years to improve soybean harvesting equipment, ~~many~~ other areas of production equipment research need investigating

Tillage and planter interactions

Planting ~~Seed~~ equipment design

~~Pesticide~~ application

Improved ~~Spray~~ pesticide application equipment and controls

Improved equipment for soybean production to include

1. Tillage equipment
2. Planting equipment
3. Tillage and planter interactions
4. Pesticide application equipment
5. ~~Improved Harvesting and threshing~~ combines including reduced loss and damage

~~ESCHE~~

Remin of minutes from April 2 minutes by Caldwell.

~~I. Ho meeting~~ ~~Feb~~

It was the intent that the Chairman of the Research Advisory Panel be elected from the 6 rotational members. This was not mentioned in the April 2 minutes

also dimmed the need in recent years for the need of the advisory panel since more funds are managed by the Research Foundation.

Two meetings per year are normally scheduled. one in January or Feb. to evaluate proposals which ~~have~~ result from the areas of research ~~that~~ determined by the Board the previous ~~July~~ or August. ~~Dec~~

The other meeting is held ~~three~~ prior to the Annual meeting to make recommendations of areas of research. of the Advisory Board at the meeting on July 21 the Advisory Panel will be available for advising members of the State Promotion Boards

II

Suggest original recommended schedule of April 10, 1975.

April, ~~1975~~ – Research Advisory Panel identifies areas of opportunity

August – ASA Annual meeting Panel reports and Board's decision on number of projects

Sept – Announcement of Research areas mailed to performing agencies

Nov 1 – Proposals due from performing agencies

Nov. 15 – Proposal sent to Peer Group by Chairman of Research Advisory Panel

Jan 15 – Proposal returned to Chairman by Peer Group and sent to Research Advisory Panel

Feb. ~~[illegible]~~ 15 – ASARF Board and RAP meet to select projects to be funded

Prior to March 15 all proposing institutions to be notified

~~April~~ – ~~Research Advisory Panel meet to identify areas of opportunity for next year.~~

Upon the recommendation of ~~the~~ an appointed ASA ~~research specialists~~ research specialists the advisory panel will review any existing project for additional funding.

in exceptional cases

It is recommended that terminating ASA projects will be considered for ~~extension~~ additional funding. There ~~requests for extension~~ will be considered by the advisory panel upon recommendation of ~~the~~ an appointed ASA research specialists.

~~The extension~~

The priority for the additional funding shall be ~~sought~~ considered concurrently ~~with~~ with solicited proposals for that year.

Decisions of Research Areas

The three areas discussed on April 2 were discussed in more detail.

1. Water use efficiency was considered the lowest priority of the 3 listed

2. Improved soybean production equipment discussed. New equipment designs should be encouraged rather than production systems.

3. Cost - benefit levels of pest control are areas of great concern but may have some hope of funding through ~~the~~ ARS
Levels of weeds ~~[illegible]~~ diseases and insects allowed.
Pest control interactions and problems.
Mycotoxin use is of concern.

Judd made + Hasting seconded proposal on improved equip.

Judd will ~~work to~~ encourage ARS funding of cost-benefit levels of pest control.

AMERICAN SOYBEAN ASSOCIATION
RESEARCH FOUNDATION

Potential Contributions

	POTENTIAL ½ cent/ACRE CONTRIBUTIONS	CONTRIBUTED JULY 1, 1974 to SEPTEMBER 30, 1975	CONTRIBUTED OCTOBER 1, 1975 to JUNE 30, 1976
Arkansas	$ 23,500	$12,000	$23,500
Alabama	6,550		
Florida	1,475		
Georgia	6,300		
Illinois	41,100	42,000	
Iowa	34,850	35,000	35,000
Kentucky	6,000		
Louisiana	9,100		
Minnesota	17,850	20,000	20,000
Mississippi	15,600	24,750	
Nebraska	6,150		
North Carolina	7,100	5,000	7,100
South Carolina	6,900	5,000	5,000
Texas	1,850	500	500
Virginia	2,165	666	
TOTALS	$186,490	$144,916	$ 91,100

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6 ALBERT STREET — WISCHENKA BUILDING
BELIZE CITY, BELIZE, C.A.

July 5, 1976

Mr. Albert Bevis
Continuous Crop Improvement Co. Ltd.
P. O. Box 503
Belize City

Dear Mr. Bevis:

As a result of our conversation of earlier today, I can now offer, on behalf of TACA International Airlines, S.A. the following specific commodity rate on plant seeds, between Belize International Airport and Moisant Airport in New Orleans:

Specific Commodity Rate - 7¢ US per pound
Specific Commodity Item - 1439
Minimum Weight per Shipment - 1100 lbs

I have applied to TACA for a reduction in the minimum weights but until this authority is received, we must be guided by 1100 lbs minimum.

Please let me know if we can be of any further assistance to you.

Yours sincerely,

B. G. T. S. LTD.

John M. Searle
Managing Director

(Your Travel is our Business)

JUL 8 1975

Memphis folder

American Soybean Association Research Foundation
P.O. Box 158/Hudson, Iowa 50643 U.S.A/Phone 319-988-3295/Telex 465637

July 3, 1975

AMERICAN SOYBEAN ASSOCIATION
RESEARCH FOUNDATION BOARD

President Harold Kuehn has asked that we notify you that the ASA Research Foundation Board will meet in Memphis on Saturday, August 9, at 3:30 p.m. We will send suggested agenda items at a later date. If you have items you would like covered, please let me know as quickly as possible.

Earlier this year, the officers of the Research Foundation Board had a special meeting with our Research Advisory Panel (Blue Ribbon Committee) and I am enclosing the minutes of that meeting. Harold and I felt this was an excellent meeting and included in the minutes are recommendations for your consideration.

As you know, the ASA Research Foundation Board is elected annually by the ASA Board and the newly elected Research Foundation Board meeting will be scheduled as a breakfast meeting on Wednesday, August 13.

Looking forward to a good meeting in Memphis.

RTJ:sr

Enclosures

cc: Hal Lewis

Blue Ribbon Panel Recommendations to ASA Research Foundation

Background

The Blue Ribbon Panel (BRP) appreciates the opportunity to serve as an advisory group to the ASA Research Foundation. We feel that the Foundation will contribute significantly in research support and leadership in the future. Therefore, the actions of the Foundation should be carefully considered in terms of both short and long range impact. The BRP recognizes and supports the concept that the decisions of the Foundation should be made by the growers who serve on the Board. To carry out its responsibilities the BRP met in Memphis, Tennessee, on April 10, 1975. A copy of the minutes of the meeting is attached. The Panel's recommendations to the Foundation are in two areas: (1) Role of the Blue Ribbon Panel as advisors to the Foundation, and (2) Areas of research for support by the Foundation.

Recommendations

1. That the name Blue Ribbon Panel be changed to Research Advisory Panel (RAP) to more clearly reflect its function.

2. That the Panel meet with the ASA Research Foundation once each year to review status of current programs; suggest areas for future funding; and present the Panel's evaluation of proposals solicited by the Foundation.

3. That ASA pay Panel members expenses to the Board meeting if the Panel member does not have funds available. If the Panel or members of the Panel travel at the request of a State Promotion Board, that Board should be prepared to pay travel expenses.

4. That the Joint Panel-Board meeting be scheduled at times other than the ASA Annual meeting to provide sufficient time for in-depth discussions. A tentative schedule for 75-76 is proposed:

   April, 1975 -- Research Advisory Panel identifies areas of opportunity.

   August, 1975-- ASA Annual meeting - Panel reports and Board's decision on number of projects.

   September, 1975 -- Announcement of research areas mailed to performing agencies.

   November 1, 1975 -- Proposals due from performing agencies.

   November 15, 1975 -- Proposal sent to Peer Group by Chairman, Research Advisory Panel. A RAP member to serve as Peer Group Chairman.

January 15, 1976 -- Proposal returned to Chairman by Peer Group and sent to Research Advisory Panel.

February 15, 1976 -- ASARF Board and RAP meet to select projects to be funded.

April, 1976 -- Research Advisory Panel meet to identify areas of opportunity for next year (this meeting will be combined with February meeting if feasible).

5. That consultant reports and project reports be made available for Panel review and comment.

6. That the RAP will serve as a resource to ASARF for work sessions of State Promotion Representatives, to be assembled by ASA or ASARF. The purpose would be to discuss research needs, current research and research management.

7. That RAP or members of RAP would be available to State Promotion Boards on an ad hoc basis to discuss research priorities and management.

8. That the Foundation reconsider its policy of no indirect cost. The Panel recommends this policy be modified as follows: -- The policy of ASARF is to pay only direct cost of research, however, the Foundation will negotiate a minimum or token amount of indirect cost in special cases.

Areas of Opportunity for Research Support

9. That the Foundation consider the area of pesticide interactions for funding (see minutes of this and other area discussions for details). The suggested Peer Group is:

Edgar E. Hartwig, ARS, Stoneville, (Chairman)
Bob Riley, CSRS, Washington
Kirk Athow, Purdue University
Jag M. Joshi, University of Maryland, Eastern Shore
C. G. McWhorter, ARS, Stoneville
L. D. Newsom, Louisiana State University, Baton Rouge
L. M. Wax, ARS, Urbana, Ill.

10. That the Foundation give priority attention to the development of a winter nursery facility. If necessary, the Foundation provide some support for the initial establishment and operation.

11. That in general, projects funded by ASARF be funded not to exceed $15,000 per year and 3 years.

The RAP suggests Foundation consideration and adoption of these recommendations.

Respectively submitted for BRP.

B. E. Caldwell
Chairman
Blue Ribbon Panel

Minutes of ASARF Board and Blue Ribbon Committee Meeting.
Sheraton Airport Hotel, Memphis, TN. 10 April, 1975

Members Present:

ASARF	Blue Ribbon Committee
Harold Kuehn	Billy Caldwell
Jim Esche	Bill Colville
Ralph Jackson	Bob Howell
Hal Lewis	Sam Turnipseed
	Ralph Nave
	Bob Judd

Billy Caldwell, Chairman of Blue Ribbon Committee, and Ralph Jackson, Executive Vice President, ASARF, presided.

Ralph Jackson stated that the Blue Ribbon Committee will be a continuing operation. ASARF is interested in longer range programs. Funds not to be allocated or projects funded according to source. Funds received by the Foundation are to be allocated to research centers most capable to carry out the research.

Purpose of meeting:

1. Identify priority areas for ASARF.
2. Identify areas of opportunity for State Promotion Boards.

Bob Judd reviewed soybean research planning activities. National Soybean Research Coordinating Committee will continue to function. Dich Aldrich will continue as Chairman of NSRCC for another term. Broadus Brown will be recommended as Chairman elect of NSRCC. NSRCC plans were outlined as follows:

1. New Research Needs document will be generated.
2. Three work groups will be reconstituted.
3. Areas of research opportunity will be identified.
4. Value of existing priorities will be evaluated.
5. Broad aspects of the effects of technology on agriculture will be considered.
6. The study will be completed in 1976.
7. Methods of improving communications will be sought.
8. NSRCC will probably continue.

Bob Howell reviewed the status of the World Soybean Conference. Vice President Rockefeller has been invited as Keynote speaker to the conference. Gov. Walker of Ill. will speak at banquet.

Ralph Jackson suggested that dates of various soybean meetings be published in Soybean Digest to facilitate scheduling of meetings by soybean groups. The following meeting dates were named.

ARPAC Working Conference on Research to Meet World Food Needs, July 9-11, Kansas City, Mo.
American Soybean Association, August 10-13, Memphis, TN.
World Soybean Research Conference, August 3-8, Urbana, Ill. Proceedings of World Soybean Conference will be published.
Rhizobium Conference, August 10-14, Raleigh, NC
National Soybean Processors Association, August 17-19, Kansas City, Mo. and National Soybean Crop Improvement Council's Advisory Board annual meeting, Kansas City, Mo.
American Society of Agronomy, August 24-29, Knoxville, TN.

International Maize Genetics Symposium, September 7-12, 1975, Urbana, Ill.
Association of Official Seed Certifying Agencies, October 19-27, Savannah, Ga.
Agricultural Research Institute, October 14-16, Wash. D. C.
National Industry State Agricultural Research Council, October 16-17, Wash. D. C.
ASA Soy Protein Conference, November 9-11, Mexico City.
American Seed Trade Association and Corn and Soybean Conferences, December 9-12, Chicago, Ill.
Entomological Society of America, Nov. 30-Dec. 4, New Orleans, La.
World Food Conference, June 27-July 1, 1976, Ames, Iowa.

Blue Ribbon Panel members will receive copies of Hal Lewis's summary reports of research projects prepared for ASARF Board.

The following policy for payment of indirect costs of research was recommended by the Blue Ribbon Panel for consideration by ASARF Board. "The policy of the ASARF is to pay only direct costs of research, however, the Foundation will negotiate a minimum or token amount of indirect costs in special cases." This recommendation was moved by Bob Howell and seconded by and amended by Sam Turnipseed, and passed unanimously by the Blue Ribbon Panel.

Blue Ribbon Panel also recommended that letters of refusal of projects submitted should not include comments of evaluation. Such letters should state that project is not selected for funding. All copies of proposals should be returned to submitting agency and specifically stated to be released by ASARF.

The following calendar for proposal development, review and approval was recommended by Blue Ribbon Panel.

April, 75 -- Blue Ribbon Panel identifies areas of opportunity.
August, 75 -- ASA annual meeting, Board decides on number of projects
September, 75 -- Announcement of research areas mailed to performing agencies.
November 1, 75 -- Proposals due from performing agencies.
November 15, 75 -- Proposals sent to peer panels by Blue Ribbon Panel.
January 15, 76 -- Proposals returned to Blue Ribbon Panel by peer panels.
February 15, 76 -- ASARF Board and Blue Ribbon Panel meet to select projects to be funded.
April, 1976 -- Blue Ribbon Panel meets to identify areas of opportunity.

DISCUSSION OF RESEARCH OPPORTUNITIES.

I. Plant Protection, Sam Turnipseed. (Written document attached)

1. Interactions of pesticides, need more information on insecticides, herbicides and fungicides (especially Benlate) interactions.
2. Multiple pest resistance.

II. Physiology and Nutrition, Bob Howell.

1. See written outline as prepared by Bob Howell.

III. Production and Soils, Bill Colville.

1. Systems research, Interdisciplinary and Regional.

2. Implementation of existing technology at producer level--primarily extension.

3. Double cropping.
   a. Increased double cropping.
   b. Varieties for double cropping.

4. Develop cultural practices as they relate to specific problems.

5. New lands--pine lands being converted to soybeans.

6. Soils, pH and trace element toxicity.

7. Winter nurseries (Billy Caldwell is studying this problem. A winter nursey committee, which he chairs, will have a report on July 1, 1975.)

IV. Germplasm and Breeding, Edgar Hartwig, not present, written recommendation attached.

1. Germplasm exploration.

2. Multiple pest resistance.

V. Engineering Including Handling and Storage, Ralph Nave.

1. More effort on improved cutting devices.

2. Improved planting equipment and analysis of,
   a. row width
   b. depth control
   c. spacing accuracy
   d. seed damage
   e. improved seed quality

3. Damage analysis and evaluation.
   a. transportation from elevator to overseas market
   b. field to elevator (Illinois)

4. Effect of tillage systems.
   a. rotation systems, long term project, 6-8 years. similar project at Missouri.

5. Farm drying and storage.

6. Need, especially at Illinois, for more extension effort on production systems.
   a. Engineering research to date has been limited to harvesting, pesticide application and incorporation-small amount on tillage systems and Missouri project on production systems.

SELECTION OF KEY PROJECT AREAS FOR PRESENTATION TO ASARF.

1. Pesticide interactions-Winter nursery. If satisfactory arrangements are made by public agencies, winter nurseries will not be recommended. This should be resolved before the Aug., 75 meeting of ASARF.

2. Interdisciplinary production effeciency research.

Discussion of project administrative details. Recommendations by Bob Howell, and others.

Three years is typically a good length for projects.
Level of funding about 15,000 dollars per year is about right, should be corrected for inflation if and when necessary.
$10,000 enough for Graduate student
$15,000 enough for Post Doctoral

Need a procedural form for project evaluation, present system looks acceptable.

Pesticde Interactions, Winter Nursery, Total Systems Research including crops other than soybeans are research areas recommended by Bob Howell.

Bob Judd recommended Management Systems as a productive area of investigation.

A production marketing conference for soybeans is needed.

ASARF letter of announcement should specify new, innovative, unique and emergent research approaches.

Sam Turnipseed will submit Peer Group Names for Pesticide Interactions area. ASARF Board will be notified of Peer Panel members.

SOYBEAN PHYSIOLOGY AND NUTRITION

Suggested Areas of Emphasis for ASARF

1. Control mechanisms regulating distribution of storage materials between vegetative structures and seed.
   a. Hormones
   b. Photosynthesis, C/N ratios, etc.
   c. Translocation
   d. Synthesis and re-synthesis
   e. Morphological
2. Nitrogen fixation, uptake, and metabolism, including
   a. Rhizobium - soybean genotype relationships
   b. How to change soil populations of Rhizobium
   c. Reduction of soil nitrate (NR in Rhizobium?)
   d. Amino acid and protein synthesis
3. Water relations
   a. Stress and excess
   b. Metabolic effects such as photosynthesis, translocation
4. Improved product quality
   a. Less linolenic acid
   b. Higher methionine and possibly other amino acid changes
5. Reproductive physiology
   a. Pod abortion
   b. Techniques for producing hybrids
   c. Evidence for hybrid vigor with respect to yield

NOTE: Categories are not all-inclusive or mutually exclusive. ASARF policy should define only very broad areas and encourage good basic proposals; categories cited are for illustrative purposes only and should not be specified in invitations for proposals; ASARF should rarely, if ever, concern itself with local problems, for which state or Hatch funds should be used.

RWH:Jk
4/8/75

Protection of Soybeans from Pests

Sam G. Turnipseed
April 7, 1975

Numerous problems face soybean growers in protecting their crops from weed, disease, nematode, and insect pests. Certain problems in the area of crop protection exist throughout our production areas, but they are more severe in southern states. For this reason funding should be concentrated at institutions in this region, if expertise is available. Basic research concepts that are developed, however, should have broad nation-wide application.

It is becoming increasingly evident that a major problem area that is receiving virtually no meaningful research is "the interaction of pesticides, particularly on non-target pests and their natural enemies." At our recent S-74 meetings in Baton Rouge, we entomologists were privileged to have present scientists representing plant pathology, nematology, breeding and weed science. Numerous pesticide-related questions were asked and nobody had adequate answers. For example, what effect will the broad use of Benlate (a fungicide) have on epizootics of entomogenous fungi that constitute the primary mortality factor in populations of lepidopterous pests of soybean? The answers? One researcher from South Carolina says "we have laboratory data that show that Benomyl severely restricts germination of spores of Entomophthora gammae (an entomopathogen that invariably wipes out high populations of the soybean looper which feeds on foliage at critical growth stages)." Another from Louisiana says, "we have similar data with similar results against Nomuraea (Spicaria) rileyi (which often terminates developing populations of the green cloverworm, the soybean looper, the corn earworm, and the velvetbean

caterpillar). But nobody knows how epizootics in the field might be affected by this pesticide. As a matter of fact, plant pathologists can't demonstrate which plant pathogens are controlled. So, if two applications of Benlate increase yields two bushels per acre and two or three applications of insecticides are required to correct this created imbalance, what has been accomplished? We need these answers through carefully-planned research.

Answers are also needed on the effects of certain nematocides on populations of beneficial insects and on plant growth. Do they only control nematodes or is plant growth stimulated, are soil insects controlled, and are insect-problems created by destruction of natural enemies? Interaction of certain tank mixes of pesticides, of soil applied herbicides and systemic insecticides, of foliar applied herbicides-fungicides-insecticides need investigation. If you apply Benlate during bloom for fungi, why not include 2,4-DB for cocklebur problems and a little insecticide for insect protection?

Another area that needs as much attention as possible is "development of cultivars with multiple pest resistance and determination of the impact of resistant germ plasm in pest management systems." Dr. Hartwig can mention the progress in breeding and development of cultivars with resistance to certain insects, to the major plant diseases, and to certain nematodes. Dr. Sullivan is beginning studies at our station to determine effects of resistant germ plasm (PI 229358 - insect resistance) on populations of minor phytophagous species, and on predators, parasites and insect pathogen development.

I feel that the two above-described areas need priority attention

and represent a good beginning for our discussion of protection. I do not feel that projects should be solicited in the general area of pest (weed, disease, insect, nematode) management, without being more specific. We should consider giving impetus to multi-disciplinary and multi-institutional projects.

ASARF Board Meeting, Memphis, Tennessee, April 10, 1975

Research Areas of Opportunity and Problems, Germplasm and Breeding

E. E. Hartwig, Stoneville, Mississippi

At present we have approximately 3,000 soybean strains in the germplasm collection which have been evaluated for one or more characters. Within the past 2 years nearly 1,000 additional strains, both cultivated and wild, have been obtained. Of the 3,000 strains nearly two-thirds are maintained at Urbana and the remainer are maintained at Stoneville.

The primary use of the germplasm collection has been as a reserve from which to search for resistance when new problems arise, or for specific characteristics when we wish to modify varieties now in production. Contrary to many publicity stories you may have read, considerable progress has been made in improving the productivity of present-day varieties over introduced material. At Stoneville, very few of the strains in the germplasm collection will yield as much as 60 percent as well as the best varieties now available of similar maturity.

The problems encountered in utilizing germplasm strains in the breeding program can be illustrated from some recent studies using PI 95960 as a source of soybean mosaic virus resistance in our breeding program. We would rate PI 95960 as one of the more productive breeding lines, and in addition it is resistant to phytophthora rot. The other parent in this study was a phytophthora rot resistant strain closely related to Lee. Although we started with a rather large F_2 population, the 25 best advanced F_5 lines, which were selected for resistance to shattering, bacterial pustule, and SMV, produced an average yield only 75 percent of that for the adapted parent. From this and other studies, we have concluded that a modified backcrossing program must be

utilized to recover yield when germplasm strains are being utilized as sources of pest resistance.

However, when transferring pest resistant characters and recombining types with different combinations of pest resistance, higher yielding types can be obtained. For example, the variety Forrest was selected to combine resistance for cyst and root knot nematode. We also gained resistance to reniform nematodes. In the absence of any of these nematodes, Forrest has averaged 8-10 percent higher in yield than Dare, which was the highest yielding variety of this maturtiy.

Sources of resistance have been identified for several pest problems and utilized in the breeding program. These include:

Bacteria	Fungus	Virus	Nematode	Insects
Bacterial pustule	Target spot	Soybean mosaic	Cyst	Leaf feeding
Wildfire	Frogeye	Peanut mottle	Root knot	
Bacterial blight	Downy mildew	Cowpea chlorotic mottle	*a. M. incognita* *b. M. arenari* *c. M. javonica*	
	Phytophthora rot			
	Rust		Reniform	

Rust and yellow mosaic virus have not been recognized in the western hemisphere, but by identifying resistance and assisting with breeding programs to develop productive resistant types, we are in a better position to attack the problem should it become a problem in the U.S.

Relatively few sources of resistance are available for most of the pest problems. However, for phytophthora rot nearly 40 percent of the strains in the Southern collection are resistant to at least race 1 and several are resistant to at least 4 races. As we develop resistant soybean varieties, we must recognize the possibilities of variants which may attack resistant varieties. We now recognize at least 6 races of the disease-inciting organism for phytophthora rot. Fortunately we have genotypes available which give resistance to

all races. However, with the recognition of additional races the challenges to the breeder are increased.

We recognize 4 races of the soybean cyst nematode. We have 3 species of root knot nematode which attack soybeans -- *Meloidogyne incognita, M. arenaria,* and *M. javonica.* Races of *M. incognita* are recognized. Testing of breeding lines must be broad enough to evaluate against the various variants.

A broader range of germplasm from central and south China should give us additional sources of resistance to pest problems. We could also increase the likelihood of finding types more tolerant to aluminum.

The collection of wild soybeans obtained from Japan and Korea by Dr. Bernard in 1972 gave no indication of resistance to race 4 of the soybean cyst nematode, but approximately 35 percent appeared to be resistant to race 1 of phytophthora rot. We have utilized one of the wild types in our breeding program as a source of genes contributing impermeable seed coats and also for higher protein content. These strains have been highly productive. Thus, it is possible to satisfactorily utilize wild types as parents without too much difficulty.

All breeding programs must have long range objectives. When we deal with strains from the germplasm collection which are low in productivity and shatter badly, it is even more essential that the breeder be supported adequately over a period of years to realize his objectives.

U.S.A.R.F. - April 2, 1976

1. Minutes Read & Approved

2. Equip. Mfg Contacts on Combines & Air-jet Header.

3. Winter Nursery -
   - Pilot tech committee formed
   - meeting & extent Study from public & private interest.
   - Questionaire sent.
     Yes there is need & need related to cost.
   - Now trying to establish on-site visit program.
   - Move & send on-site visit.

4. Finicial Report: 140K available

5. Old projects.
   - Lo Hill Project - Gus Nicholas

6.

Possible July Date
Fund 3 - 2nd ?
Probably July 1 next meeting for Areas in 1977.

Al Jackson

Memo to: Science Advisory Panel

Subject: ASARF Board Mtg.
April 2, 1976

First, I want to express my & the ABARF Board ~~for~~ appreciation for your assistance in rating and evaluating the proposals. ~~for those~~ Our meeting in Memphis March 31 & April was very productive & I believe the Panel as a part of ASARF ~~is~~ has proven its value. I enclose a copy of our report to the board which was approved by the Board. Our next meeting will probably be in early July instead of at the Annual meetings in August. The Board needs to meet at that time to receive the report the winter nursery committee and act on several other matters. I give you a specific date & location as soon a possible.

~~I~~ Bob Judd, Ralph Nave & ~~I~~ Bill Colville & I attended most of the Board Meeting. You will receive a copy of the minutes so I will not attempt to summarize ~~them~~ the meeting in detail. The highlight were:

- Approval ~~of a~~ ~~from~~ Hal Lewis, Charlie Brim ~~winter nursery~~ to to travel to several potential winter nursery locations ~~and the other~~. The

~~Thanks~~

I also enclose for your information current financial sheets for the Foundation. As you will note, ~~if~~ ~~the~~ with the allocations made at the meeting all the anticipated income will be utilized.

Again I appreciate your assistance and will keep you posted on the next meeting.

BJL

University of Illinois at Urbana-Champaign

COLLEGE OF AGRICULTURE · DEPARTMENT OF AGRONOMY · URBANA, ILLINOIS 61801

April 5, 1976

TO: B. A. Caldwell ✓
W. L. Colville

Upon my return, I found a copy of a letter from Dean G. A. Russell of our Graduate College to Associate Director B. A. Jones summarizing the Patent Policy which is expected to be adopted in the near future.

This may regarded as either a modification or a clarification of pre-existing policy. However, I seen nothing here to indicate that the University plans to share decisions about patenting discoveries or ownership of patent that may be derived from "small projects.".

I would be interested in having any material that you may have concerning the patent policies of your institutions.

Bdh

R. W. Howell, Head
Department of Agronomy

RWH:ch
Enclosure

University of Illinois at Urbana-Champaign

The Graduate College
330 Administration Building

March 29, 1976

Professor B. A. Jones, Associate Director
Agriculture Experiment Station
109 Mumford Hall

Dear Ben:

Confirming your telephone conversation with Mr. Pence regarding patent policy, the soon-to-be-adopted policy with respect to preferential treatment of industrial sponsors is summarized as follows:

(1) For small projects, if at the time of discovery, it appears in the public interest to do so, the University will negotiate in good faith with a sponsor for an exclusive license on any patent resulting from sponsored work. If, at the time of a discovery, a non-exclusive license seems more appropriate for the public good, the organization sponsoring the research will be given "favored nation" treatment for a non-exclusive license. This could, of course, mean a license with a royalty rate less than that for a non-sponsor.

(2) For projects of $100,000 or more, the University Patent Committee will recommend to the Trustees that arrangements more favorable to the sponsor be considered. This, of course, leaves open any type of negotiations whereby the University can in good faith protect the public interest but also protect the interest of the sponsoring organization.

I hope this will be of assistance in your response to the commodity organization's letter.

Sincerely,

George A. Russell

George A. Russell
Vice Chancellor for Research and
Dean, The Graduate College

GAR/ls

Dr. B. G. Collins

To: ASA Research Foundation Board
From: Ralph T. Jackson
Date: March 23, 1976

Reference No:

Subject: RESEARCH FOUNDATION MEETING, APRIL 2, MEMPHIS, TENNESSEE

Copy to:

SOYA—Serves The World

This is to remind you of the Research Foundation meeting which Nick Rose has called for April 2 at the Hilton Inn, Memphis airport to begin promptly at 9:00 a.m. We will have some suggested agenda items which will be distributed at the beginning of the meeting.

In the meantime, we are enclosing, for your information, the proposed Research Foundation patent policy as discussed at our Chicago meeting.

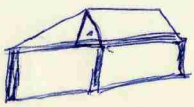
Ralph Jackson

RTJ/ms
Enc.

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION
Memphis Meeting, Airport Hilton
2 April, 1976.

Tentative Agenda:

1. Review of minutes of Chicago meeting.
2. Combine manufacturers visits, Air-Jet Header Project.
3. Winter Nursery.
4. Patent Policy.
5. Financial Report.
6. Review of Old Projects, including Lowell Hill Project.
   a. Harvesting efficiency project, Ralph Nave.
   b. Cytogenetics project, Reid Palmer.
7. New Projects.
8. Research Advisory Panel Composition.
9. Research Area for 1977.
10. Utilization Research Advisory Panel--Status Report.



Research Advisory Panel Report to ASA Research Foundation, April 2, 1976

8½ x 11
single space
12 copies

Robt Judd for #46

The Research Advisory Panel to the ASA Research Foundation met March 31 and April 1, 1976. Members present were R.E. Caldwell, W.L. Colville, R.W. Howell, R.W. Judd, and W.R. Nave. The Panel is operating according to the guidelines developed in Memphis on April 10, 1975 and approved by the ASARF Board on August 9, 1975.

ORGANIZATIONAL STRUCTURE

The Panel developed an organizational structure as directed by the Board to implement the rotation of members. The Panel recommends Board concurrance of the following action:

1) The Advisory Panel will consist of 8 members, six will be on a rotational basis and 2 will be permanent.

The six rotational members will serve 3-year term. The two permanent members will be the Program Staff Scientist for Oilseeds, ARS, and the Managing Director, National Soybean Crop Improvement Council. ~~ASPA.~~

2) Newly selected members will begin their term of service ~~at the same time~~ when new officers of ASARF begin their duties. This is normally during the ASA annual meeting. Incoming Panel members will be invited to attend as non-voting ~~members~~ members of the Panel meetings ~~held~~ held in ~~conjunction~~ conjunction with the ASA Annual meeting.

3) A rotational member ~~is not eligible~~ cannot succeed himself. He must be off the Panel for at least one year. ~~for a second term without at least one year off the panel.~~

~~Members for~~

¶ Using these guidelines, the current rotational members, ~~drew~~ B.E. Caldwell, W.L. Colville, E.E. Hartwig, R.W. Howell, ~~E E Hartwig, S G Turnipseed, R W Howell, L E Caldwell, W R Nave, W L Colville~~ W.R. Nave and S.G. Turnipseed drew for terms of 0, 1, ~~2~~ 2 years. (R.W. Judd drew for absent members.) Based on the results, Hartwig & Nave will complete their term (at the 1976 ASA annual meetings) ~~August, 1976~~. Caldwell & Howell will complete their term at the 1977 ~~August~~ annual meeting; and Turnipseed and Colville will serve until the 1978 annual meeting. ~~August, 1978~~. The two new members will be selected for three year terms, to begin at the end of the 1976 annual meeting. ~~to~~

¶ L.E. Caldwell ~~was~~ was selected as Chairman & R.W. Howell as Vice Chairman for the coming year. The

panel recommends that Dr Chester G. McWhorter, ~~weed Scientist~~ ARS Weed Scientist, ~~and~~ Stoneville, Mississippi, and Dr James L. Wilcox, Geneticist - Plant Breeder ARS ~~and~~ Purdue University be requested to serve a 3-year term on the Panel ~~beginning August 1976 or so 1976.~~ Their term will begin at the end of the 1976 Annual meeting.

The Panel discussed expenses relating to the activities of the Panel. The Panel ~~committee~~ recommends that ASARF: (1) pay lodging & subsistance expenses of the Panel's rotational members; ~~of the panel; and where~~ (2) when necessary, pay travel expenses; ~~Also, ASARF would~~ and (3) pay meeting expenses such as meeting room rental, copying etc.

PROPOSAL REVIEW

Thirty-two proposals in the research area pest-pesticide interactions were received by ASA headquarters. The proposals were transmitted to the chairman of the Panel who sent them to for evaluation

PROPOSAL REVIEW

~~The research area was~~ pest-pesticide interaction and ~~Thirty-two~~ thirty-two proposals were received by ASA headquarters. ~~was~~ transmitted to the Chairman of the Panel. The proposals were sent ~~These were assigned to~~ a peer group consisting of Dr E.E. Hartwig, Agronomist Agreement and Chairman, Dr K.L. Athow, Pathologist Dr L.D. Newsome, Entomologist and Dr C.G. McWhorter, weed Scientist ~~for evaluation~~. ~~Of~~ ~~After the~~ The Panel members received the ratings and comments of the peer group, and discussed each of the 32 proposals. Based ~~On~~ on these discussions the Panel recommends the following proposals for funding listed in order of priority. ~~The proposal are listed in priority order.~~

~~1. ASARF-19, Clemson University, $29,249~~

1. ASARF3-19, Clemson University. "Impact of Pesticides on Fungal Pathogen in the Soybean Ecosystem". $29,249.

2. ASARF3-29, ~~Univ~~ University of Arkansas. "Effects of Fungicides and Insecticides on Lepidopterous Pests and their Associated Fungi + Selected Predators in Soybeans". $28,214.

3. ASARF3-12, N.C. State University, "Investigations on the Effects of Various Soybean Pesticide Interactions: Interaction Between Pesticides, Reaction of Non-Target Organisms & and Soybean Plant Response". $30,000.

4. ASARF3-17, University of Georgia "Indentification and Evaluation of Potentially Beneficial Pesticide Interactions in Soybean Production". $30,000.

5. ASARF3-13, ARS/USDA, Beltsville, Md. "Relation of Herbicides and Environmental Stress in Soybean Production". $29,250.

6. ASARF3-27, Auburn University, "The Effect of Pesticide Combinations and their interactions on Yields and Non-target Pests of Soybean Varieties. $30,000.

7,8+9. The panel considers the next three acceptable, ~~but~~ but a lower priority than those ranked 1-6.

2 spaces → (~~2 spaces~~)

ASARF3-5. Iowa State University - "Herbicide-Seedbed Tillage Interactions" $30,000.

2 sp →

ASARF3-14 Michigan State University. "Pesticide Interactions in Soybeans" $30,000.

ASARF3-6 USDA/ARS, Beltsville, Md "Effects of Herbicide - Fungicide Interactions on <u>Phytophthora</u> and <u>Pythium</u> Root Rot, Damping-Off and Stem Blight of Soybeans. $30,000.

¶ The ~~p~~Panel also reviewed the request from the University of Illinois to continue for one year at $10,000 the project "Improved Equipment for Soybean Harvesting". The ~~p~~Panel recommends the ~~Board~~ Board give favorable consideration to funding ~~this~~ the extension as requested. ~~and the funds requested.~~

Research Areas for 1977

~~To begin preparation for next year's research area,~~

~~The~~ In preparing for the research area of emphasis for next year, the panel discussed the ~~current~~ current status of soybean research, and reviewed the draft recommendations of the Soybean Production Workgroup of the National Soybean Research Coordination Committee. Among the topics being considered for ~~project~~ proposal invitation next year are:

1) Improved soybean production equipment
2) Water use efficiency
3) Cost-benefits levels of pest control

These topics will be ~~discuss~~ circulated among panel member (old + new) for review ~~&~~ and discussions. At the Annual meeting in August the Panel plans to select ~~&~~ and ~~submit~~ submit an ~~a topic~~ Area or areas of ~~topic~~ Research for consideration by the Board.

The Panel is preparing a revised proposal solicitation letter for ASARF and a revised evaluation sheet with guidelines for use by the peer reviewers. These changes will be recommended for proposal solicitation and evaluation.

Don
Dingman
Marylin

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION
Contracts
Schedule of Committed Funds
as of March 26, 1976

CONTRACT WITH	TOTAL CONTRACT AMOUNT	PAYMENTS MADE DATE	PAYMENTS MADE AMOUNT	FY76 PAYMENTS DUE DATE	FY76 PAYMENTS DUE AMOUNT	FY77 PAYMENTS DUE DATE	FY77 PAYMENTS DUE AMOUNT	FY78 PAYMENTS DUE DATE	FY78 PAYMENTS DUE AMOUNT
72-ASARF-001-4		9/1/72	$12,000						
Iowa State University		7/24/73	12,321						
(Cytogenetics)	$ 48,963	10/9/74	12,321						
		10/1/75	12,321*						
74-ASARF-101-3		1/10/74	11,772						
NC State University		5/30/75	13,794						
(Glycine Max)	39,388	1/10/76	13,822*						
74-ASARF-102-3		6/14/73	10,000						
University of Illinois		10/9/74	5,000						
(Harvesting Equipment)	30,000	5/30/75	5,000	4/9/76	5,000*				
		10/1/75	5,000						
74-ASARF-103-3									
Iowa State University		1/10/74	14,910						
(Leaf Photosynthesis)	41,190	5/30/75	13,140						
		1/10/76	13,140*						
74-ASARF-104-3		1/10/74	14,904						
University of Illinois		5/30/75	14,929						
(Regulating Yields)	44,756	1/10/76	14,923*						
74-ASARF-105-3		2/15/74	15,000						
University of Minnesota		5/30/75	15,000						
(Nitrogen Nutrition)	45,000	2/15/76	15,000*						
74-ASARF-106-2		1/25/74	7,230						
University of Missouri		10/9/74	7,228						
(Carbon-14)	21,686	8/6/75	7,228*						
75-ASARF-207-3									
University of Illinois									
(Energy Requirements)	30,000	4/1/75	6,700	7/1/76	11,300	7/1/77	12,000*		

* indicates final payment

ASA Research Foundation - Schedule of Committed Funds
PAGE 2

CONTRACT WITH	TOTAL CONTRACT AMOUNT	PAYMENTS MADE DATE	PAYMENTS MADE AMOUNT	FY76 PAYMENTS DUE DATE	FY76 PAYMENTS DUE AMOUNT	FY77 PAYMENTS DUE DATE	FY77 PAYMENTS DUE AMOUNT	FY78 PAYMENTS DUE DATE	FY78 PAYMENTS DUE AMOUNT
75-ASARF-208-3 University of Wisconsin (Effect of Temperature)	$ 30,000	3/5/75	$10,000	7/1/76	$10,000	7/1/77	$10,000*		
75-ASARF-209-3 Auburn University (Root Restriction)	30,000	3/1/75	10,000	5/1/76	10,000	5/1/77	10,000*		
75-ASARF-210-3 Louisiana State Univ. (Insect Pests)	30,000	5/30/75	10,000	6/1/76	10,000	6/1/77	10,000*		
75-ASARF-211-3 Purdue University (Root Growth)	30,000	6/30/75	10,000	7/1/76	10,000	7/1/77	10,000*		
Totals	$420,983		$312,683		$56,300		$52,000		

SUMMARY

FY76	56,300
FY77	52,000
FY78	-0-
TOTAL COMMITTED	$108,300

*indicates final payment

ASA RESEARCH FOUNDATION

	Contributed 7/1/74-9/30/75	Contributed 10/1/75-3/16/76	Potential ½ cent/Acre Contributions
Arkansas	$ 12,000.00		$ 23,500.00
Alabama			6,550.00
Florida			1,475.00
Georgia			6,300.00
Illinois	42,000.00		41,100.00
Iowa	35,000.00		34,850.00
Kentucky			6,000.00
Louisiana			9,100.00
Minnesota	20,000.00		17,850.00
Mississippi	24,750.00		15,600.00
Nebraska			6,150.00
North Carolina	5,000.00		7,100.00
South Carolina	5,000.00	5,000.00	6,900.00
Texas	500.00	500.00	1,850.00
Virginia	666.67		2,165.00
TOTALS	$144,916.67	$ 5,500.00	$186,490.00

Worked on an anticipated $140,000 for project support. next year.

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION
FY76 PESTICIDE INTERACTIONS

Date Rec.	Temp. No.	College	Amount	Proposal Title & Investigator
10/25	ASARF3-1	University of Nebraska	$30,000	Pesticide Interactions in the Production of Close Drilled Soybeans - Dr. Orvin C. Burnside; correspondence from Francis L. Schmehl, Lincoln, Neb
10/25	ASARF3-2	University of Minnesota	28,753	Interactions Between the Time of Day and Control of Soybean Weeds with Herbicides - Willard L. Koukkari; correspondence from A. R. Potami, St.Paul, Minn. 55114
10/29	ASARF3-4	University of Minnesota	29,850	Biochemical Mechanisms of Triazine-Phosphorus Interactions in Soils - Russell S. Adams, Jr.
10/29	ASARF3-5	Iowa State University	30,000	Herbicide-Seedbed Tillage Interactions - David W. Staniforth, Donald Erbach, Joseph Burris - Correspondence from J. P. Mahlstede
10/29	ASARF3-6	ARS/USDA	30,000	Effects of Herbicide-Fungicide Interactions on Phytophthora and Pythium Root Rot, Damping-Off and Stem Blight of Soybeans - Dr. Jack Lewis
10/29	ASARF3-7	University of Missouri	30,000	Yield Enhancement of Soybean Through the Integrated Control of Major Pathogen Groups via Coordinated Pesticide Applications - Charles Baldwin correspondence R. J. Aldrich
10/29	ASARF3-8	University of Missouri	30,000	Development of Postemergence Chemical Application Practices for Soybean Production - David Johnson, Maurice Gebhardt, John Holstun, Jr. - corres. R. J. Aldrich
10/29	ASARF3-9	Kansas State University	30,000	Effects of Herbicide: Insecticide: Fungicide Interactions on Soybean Development and Yield - Nickell, Russ, Schwenk, Wilde - correspondence from Floyd Smith
10/29	ASARF3-10	Texas A&M	30,000	Evaluation of Potential Soybean Yield Response to Pesticide Interactions Under Minimal Weed, Disease and Insect Regimes - Jim Schrib, John Abernathy
10/29	ASARF3-11	University of Florida	30,000	Pesticide Interactions in Soybeans - Dr. V. G. Perry Dr. L. H. Purdy, Dr. C. Y. Ward, W. H. Chapman Dr. H. A. Peacock - corres. from John Sites
10/29	ASARF3-12	North Carolina State Univ.	30,000	Investigations on the Effects of Various Soybean Pesticide Interactions: Interactions Between Pesticides, Reactions of Non-Target Organisms, and Soybean Plant Responses - J. R. Bradley, Jr., F. T. Corbin,, J. W. Van Duyn, Donald Schmitt corres. from J. C. Williamson, Jr.
10/29	ASARF3-13	ARS/USDA	29,250	Relation of Herbicides and Environmental Stress in Soybean Production - Dr. J. B. St. John, M. N. Christiansen, J. L. Hilton, W. A. Gentner

10/29	ASARF3-14	Michigan State University	30,000	Pesticide Interactions in Soybean - Donald Penner
10/29	ASARF3-15	Arkansas State University	25,930	Guidelines for Use of Benlate on Soybeans - Leo Duclos, G. A. Berger, J. A. Hurchison
10/29	ASARF3-16	Iowa State University	30,000	Reduction of Soybean Mosiac Virus Transmission Through Integrated Pest Management - John Hi ll, Larry Pedigo
10/29	ASARF3-17	University of Georgia	30,000	Identification and Evaluation of Potentially Beneficial Pesticide Interactions in Soybean Production - Dr. D. V. Phillips, Dr. James W. Todd
10/29	ASARF3-18	Murray State University	24,607	Evaluation of Soybean Genotypes for Tolerance to Selected Pre-Emergence Herbicides - Durwood Beatty corres. from James Thompson
10/29	ASARF3-19	Clemson Univ.	29,249	Impact of Pesticides on Fungal Pathogens in the Soybean Ecosystem - G. R. Carner, C. W. Blackmon corres. from W. C. Godley
10/29	ASARF3-20	University of Ill. at Urbana-Champaign	28,920	Evaluation of Herbicidal Effects Upon Nitrogen Fixation and Seed Yields in Soybeans - M. A. Cole, F. W. Slife - corres. from Jack Kamerer
10/29	ASARF3-21	University of Georgia	30,000	An Integrated Pest Management Program with Intensive Cropping Sequences - Clyde C. Dowler - corres. from William Flatt
10/29	ASARF3-22	University of Tennessee	30,000	Simultaneous Seeding of Soybeans with Fertilizer and Herbicides by Fertilizer Distributors - J. A. Mullin corres. John A. Eqing

Project Ratings

Project No.	State	Hartwig	Athow	McWhorter	Newsom	$\bar{x}$	NAW
1	Nebraska	--	63	52	60		
2	Minnesota	--	--	--	60		
3	Tuskeegee	--	55	--	--		
4	Minnesota	--	--	--	--		
5	Iowa	66	57	55	--		59.3
6	ARS	34	64	--	50		
7	Missouri	45	--	46	60		
8	Missouri	--	--	54	65		
9	Kansas	38	--	--	--		
10	Texas	46	--	51	--		
11	Florida	67	51	55	--		
12	N.C. State	70	55	52	60	59.25	59.0
13	ARS	53	56	58	50	54.25	55.6
14	Michigan	53	62	54	56	56.25	56.2
15	Ark. State	--	--	--	64		
16	Iowa State	--	65	--	55		
17	Georgia	58	55	50	--		
18	Murray State	44	--	54	--		
19	Clemson	64	61	55	60	60.0	60.1
20	Illinois	--	63	--	70		
21	Georgia	48	--	--	--		
22	Tennessee	--	--	--	--		
23	Minnesota	--	--	--	50		
24	Purdue	--	--	--	--		
25	Kentucky	--	--	55	--		
26	Wisconsin	--[1]	56	--	--		
27	Auburn	60[1]	60	49	--		56.3
28	Delaware	--	--	--	45		
29	Arkansas	66	61	55	65	61.75	60.6
30	Arkansas	--	--	--	--		
31	Arkansas	--	60	--	--		
32	Louisiana	--	46	--	--		

[1] with modification 70.

17

Project Ranking

Project No.	State	Hartwig	Athow	McWhorter	Newsom		
1	Nebraska	--	3	10	5		6.0
2	Minnesota	--	--	--	5		
3	Tuskeegee	--	13	--	--		
4	Minnesota	--	--	--	--		
5	Iowa	3	10	2	--		5.0
6	ARS	15	2	--	12		9.6
7	Missouri	12	--	15	5		10.6
8	Missouri	--	--	7	2		
9	Kansas	14	--	--	--		
10	Texas	11	--	12	--		
11	Florida	2	--	2	--		
12	N. C. State	1	13	10	5	7.2	
13	ARS	8	11	1	12	8.0	
14	Michigan	9	5	7	10	7.7	
15	Ark. State	--	--	--	4		
16	Iowa State	--	1	--	11		
17	Georgia	7	13	13	--		11
18	Murray State	13	--	7	--		
19	Clemson	5	6	2	5	4.5	
20	Illinois	--	3	--	1		
21	Georgia	10	--	--	--		
22	Tennessee	--	--	--	--		
23	Minnesota	--	--	--	12		
24	Purdue	--	--	--	--		
25	Kentucky	--	--	2	--		
26	Wisconsin	--	11	--	--		
27	Auburn	6	8	14	--		9.3
28	Delaware	--	--	--	15		
29	Arkansas	3	6	2	2	3.2	5.7
30	Arkansas	--	--	--	--		
31	Arkansas	--	8	--	--		
32	Louisiana	--	--	--	--		

March 19, 1976

MEMORANDUM TO: American Soybean Association Research Advisory Committee

R. W. Judd
L. D. Newsom
E. E. Hartwig
R. W. Howell
W. R. Nave
W. L. Colville

FROM : Billy E. Caldwell

SUBJECT : Panel Meeting March 31, 1976

This is to confirm our meeting beginning at 1:00 p.m. on March 31. We will spend the afternoon and as much of April 1 as we need. Hopefully, we can complete our work by noon.

The tentative agenda will include the following:

1. Proposal review and selection.

2. Organizational structure of the Panel.

3. Patent Policy of the Foundation.

4. Develop plans for next year.

I enclose a list of all proposals submitted, numerical ratings of the projects, ranking of the numerical ranks, and copies of the top ten proposals.

All of the proposals were sent to the reviewers. They were asked to review all the proposals and give a numerical rating to the top 15. As you can see by this procedure, not all reviewers rated the same proposals. To obtain the top 10, I selected those that at least three reviewers rated in the top 15. I will bring the others with me if you want to discuss ones not included.

A block of rooms have been reserved for us at the Hilton Inn. If any of you have difficulty obtaining travel funds, please let me know.

Enclosures

cc: Mr. Ralph Jackson
Mr. Hal Lewis

BEC/cr

L. F. Caldwell

SOYA—Serves The World

To: Research Foundation Board

From: Ralph T. Jackson

Date: March 18, 1976

Reference No.:

Subject:

Copy To:

Enclosed is a copy of a proposed extension to the cooperative research project with Ralph Nave at the University of Illinois on Improved Equipment for Soybean Harvesting.

This project should be discussed at the ASA Research Foundation meeting in Memphis on April 2. The project proposal is for your advanced study. It is for a one year extension for the period 7/1/76 to 6/30/77, the amount requested being $10,000.

Ralph Jackson

RTJ/ms
Enc.

American Soybean Association/P.O. Box 158/Hudson, Iowa 50643 U.S.A./Phone 319-988-3296/Telex 465637
Offices in Tokyo, Taipei, Brussels, Hamburg, Mexico City, Vienna

PROPOSED EXTENSION TO THE COOPERATIVE RESEARCH PROJECT

with

The American Soybean Association

IMPROVED EQUIPMENT FOR SOYBEAN HARVESTING

Submitted March 1976

by

W. Ralph Nave, Agr. Eng., USDA, ARS
Roger R. Yoerger, Professor
Dean L. Hoag, Associate Professor
Marvin R. Paulsen, Research Associate

Agricultural Engineering Department
University of Illinois
Urbana, Illinois 61801

Project Continuation Justification: With the cooperative effort of the U. S. Department of Agriculture, Agricultural Research Service, the Illinois Agricultural Experiment Station and the American Soybean Association, equipment capable of reducing soybean harvesting losses to 3% has been developed. The farm equipment industry is now responding with some improved equipment for soybean harvesting. Further comparisons of commercial headers with the experimental air-jet header need to be made before the air-jet header concept will be accepted by the farm equipment industry.

Recent interest in improved soybean seed quality and grading standards has created the need for research on techniques for evaluating soybean seed damage. Preliminary work has been started but this effort should be greatly expanded.

Research should be continued on improved cutting devices for soybean headers. Basic information on impact cutting and modified guards for standard sickle bars has been obtained. Additional work is needed to further perfect these ideas.

Research Accomplishments: In addition to the 6 items mentioned in the original proposal (attached), the following accomplishments have resulted in the past 3 years.

1. Design and testing of the air-jet header. A header equipped with air jets and a floating cutterbar will reduce harvesting loss to 3% or less regardless of harvest moisture, (References 10, 11, 12, and 13).

2. Basic information on soybean shatter associated with impact forces has been obtained. The results have led to increased effort to modify present cutterbars, (Reference 14).

3. Preliminary research on impact cutting and modified guards for conventional cutterbars has been partially completed. Additional laboratory and field studies are needed to evaluate the impact of new cutting devices, (Reference 15).

Project Plans:

Objective - The same basic objectives as the original project should be continued. To provide improved equipment and techniques for reducing soybean harvesting loss and damage which occurs on the farm.

Procedure -

1. Compare a commercial row crop header and the latest commercial flex-bar with the experimental air-jet header. The resulting data will be most helpful to the soybean producer. The data will also help establish trends in future soybean header design. This phase of the project should be completed in 1 year.

2. With the addition of a research associate to the University of Illinois staff more effort can be placed on soybean seed quality. Some cooperative work with the Department of Agricultural Economics has been initiated. An investigation of the effects of harvesting and on farm handling of soybeans is required to isolate the initial sources of structural weakness and bean damage. The duration of this phase of the project cannot be established at this time.

3. Research to improve soybean cutting devices will be continued as graduate student and supporting technical staff become available. Another U. S. Department of Agriculture Agricultural Engineer will be available in 1976 to concentrate some effort on this project.

Proposed Budget: A budget of $10,000 per year is required to assist in support of the project and would provide for one-quarter time professional staff, one graduate student and materials and supplies for fabrication of laboratory and field equipment. The project would be part of the research program of the Illinois Agricultural Experiment, Dr. Glenn W. Salisbury, Director and be carried out by personnel of the Agricultural Engineering Department, Dr. Frank B. Lanham, Head.

Present Funding:

Federal	State
(2) 1/4 time Agricultural Engineers	(2) 1/4 time Agricultural Engineers
1/2 time Laboratory Mechanic	1/2 time Fieldman
1/4 time Secretary	Part time student help
Laboratory Equipment	Laboratory and Field Equipment
$30,000	$20,000

Additional References:

10. Reducing soybean cutterbar losses with low-pressure air jets, J. J. Wait, W. R. Nave, and B. J. Butler. Transactions of ASAE, Vol. 17, No. 5, pp. 817-820, 1974.

11. Effect of plant population and row width on soybean yield and harvesting loss, W. R. Nave and R. L. Cooper. Transactions of ASAE, Vol. 17, No. 5, pp. 801-804, 1974.

12. Research investigates an air jet header, W. R. Nave and R. R. Yoerger. Soybean Digest, August, 1974.

13. Use of air-jet guards to reduce soybean harvesting losses, W. R. Nave and R. R. Yoerger. Transactions of ASAE, Vol. 18, No. 4, pp. 626-629, 1975.

14. Properties related to soybean shatter, D. L. Hoag. Transactions of ASAE, Vol. 15, No. 3, pp. 494-497, 1972.

15. Relationship of sickle and guard spacing and sickle frequency to soybean shatter loss, W. R. Nave and D. L. Hoag. Transactions of ASAE, Vol. 18, No. 4, pp 630-632, and 637, 1975.

ORIGINAL PROJECT
FUNDED JULY 197

A COOPERATIVE RESEARCH PROJECT PROPOSAL

to

The American Soybean Association

IMPROVED EQUIPMENT FOR SOYBEAN HARVESTING

by

W. Ralph Nave, Assistant Professor
and USDA Cooperator
R. R. Yoerger, Professor
D. L. Hoag, Assistant Professor

Agricultural Engineering Department
University of Illinois
Urbana, Illinois 61801

Project Justification: Currently, 30 states grow 45 million acres of soybeans which produce over one billion bushels annually. Almost 30 percent of these are exported, making soybeans the most valuable agricultural export in the United States. Though they occupy this position of importance, soybeans are planted, harvested and handled with equipment designed for other crops, oftentimes resulting in excessive field loss and damage. Both harvest loss and damage is highly variable and is effected by plant variety, moisture content, combine setting and type of handling mechanisms. Field loss is generally in the range of 8 to 10 percent of total yield and damage to soybeans from harvesting and handling ranges up to 30 percent. Although broken, split and otherwise damaged soybeans may be used for oil, they result in a darker, lower quality oil. Further, such damaged beans are unsuited for seed beans or for use in certain foods such as Japanese food uses which utilize 10 to 12 percent of our total soybean production. Little work has been done to investigate the modes of failure during shattering of soybeans or to investigate what criteria could be used in machine design to prevent or reduce shatter.

Research Accomplishments: Research conducted at the University of Illinois in 1927 showed that total harvest loss was 11.7 percent of the crop yield. Similar information was obtained from a survey conducted in Ohio between 1957 and 1960. In the Ohio study, losses varied from 8.8 percent to 19.3 percent with gathering loss accounting for 80 percent of the total field loss. As much as 60 percent of the total field loss is due to shattering. During the past three years experiments have been conducted to determine the physical properties of soybeans which are related to their shattering. Experiments have also been conducted through a cooperative project between the U. S. Department of Agriculture and the University of Illinois to determine the effect of weeds, soybean population, cultivation and header configuration on soybean harvesting loss. High speed photography has been used as a tool in isolating the causes of header loss. The loss contributed by the various header components of the combine has been determined from field experiments. Preliminary work was conducted in 1972 to establish the need for studies involved with reducing soybean damage during harvesting and handling.

Accomplishments of the cooperative research project between the U. S. Department of Agriculture and the Agricultural Engineering Department at the University of Illinois during the past five years are documented in the references listed at the end of the proposal. The results indicate:

1. Weeds cause a reduction in soybean yield; however, they do not cause significant combine losses if care is used at harvest. Ground speed must be reduced when harvesting weedy soybeans unless the weeds are desiccated before harvest begins.

2. In most cases yield is not significantly effected by population and row spacing. However, higher populations can cause excessive header loss due to lodging. Heavy cultivation may reduce lodging but usually increases harvest loss since plant material will be cut and lost between the ridged rows.

3. Reduced harvest loss was obtained by using a floating cutterbar attachment as compared to a standard header. An experimental air conveyor header provided additional reductions in harvest loss; however, the reduction did not appear great enough to merit further development of the unit. A laboratory study has shown that an air assist with the floating cutterbar will provide significant reductions in harvest loss.

4. When the amount of harvest loss contributed by the cutterbar, reel and auger was determined under field conditions - the average cutterbar loss for three varieties of soybeans was 80 percent compared to 15 percent for the auger and 5 percent for the reel.

5. Reel speed study showed no significant difference in header loss with a reel index ranging from 1.2 to 1.7. Shatter loss was somewhat lower with the reel tines set 8 inches above the cutterbar rather than 3 inches.

6. A survey of 35 combines operating in four areas of the soybean producing states indicated harvest losses ranging from 3.5 to 12.7 percent. The most critical factor observed in reducing harvest loss was the need to obtain a low stubble height. Combine adjustments are also important to obtain low threshing and separating losses.

The above work has been the result of the cooperative effort of one full time USDA Agricultural Engineer, three part time University of Illinois Agricultural Engineers, several graduate students over a four year period, a number of undergraduate students in a senior design class, and the cooperation of several Agronomists in the USDA Regional Soybean Laboratory and in the Agronomy Department at the University of Illinois.

Project Plans:

Objective - To develop and evaluate improved equipment and techniques for harvesting soybeans with reduced field loss and damage.

Procedure -

1. Develop a prototype combine header incorporating the latest developments in the use of air jets. Nozzles located 4½ inches ahead of the cutterbar have been evaluated on a 5-foot wide header in the laboratory. Header loss was reduced by about 50 percent when "harvesting" at 11 percent moisture. Since harvest loss averages 8-10 percent of the yield, this improved header will save the average producer 4-5 percent of his crop. With present production this savings could amount to $175 million dollars annually. Our laboratory studies must be verified under field conditions before industry would consider offering an air assist soybean header for sale.

2. Evaluate the shatter loss associated with impact loading on individual plants. Impact forces result from the action of the reel, cutterbar and auger on the soybean plant. About 65 percent

of the harvest loss is a result of shatter when using conventional combines. Our research has shown that shatter loss is dependent upon variety, harvest moisture, equipment performance and operator skill. Additional information is needed for the plant breeder to evaluate the shatter resistance of experimental varieties. The design engineer and producer would also profit from this information.

3. Explore the feasibility of different cutting devices. When cutting at a height of 3½ inches, present cutterbars are responsible for about 80 percent of the harvest loss. A floating cutterbar attachment will reduce stubble height to about 2½ inches and losses by 20 to 25 percent of the normal field loss. Modification of the present cutterbar, a continuous cutting device or some form of impact cutter are possible areas to investigate.

Desired Starting Date: Some of the present staff effort can be applied to the proposed project immediately; however, the progress of the project will depend somewhat upon the availability of graduate student and supporting technical staff.

Expected Duration: To provide adequate graduate student support and other professional staff the proposed project should be planned for 3 years.

Proposed Budget: A budget of $10,000 per year is required to assist in support of the project and would provide for one-quarter time professional staff, one graduate student and materials and supplies for fabrication of laboratory and field equipment. The project would be part of the research program of the Illinois Agricultural Experiment, Dr. Glenn W. Salisbury, Director and be carried out by personnel of the Agricultural Engineering Department, Dr. Frank B. Lanham, Head.

Present Funding:

Federal	State
1 full time Agricultural Engineer	1/4 time Agricultural Engineer
1 full time laboratory mechanic	1/2 time Fieldman
1/3 time Secretary	Part time student help
1/2 time Graduate Student	Farm Equipment - including tractor, combine and related equipment
Laboratory Equipment	
$60,000	$20,000

References:

1. Can the combine be altered to halt soybean harvesting losses, W. R. Nave and R. R. Yoerger. Crops and Soils, Vol. 23, No. 9, 1971.

2. Harvesting soybeans with fewer losses, W. R. Nave and R. R. Yoerger. Illinois Research, Vol. 13, No. 3, 1971.

3. Effect of weeds on soybean yield and harvesting efficiency, W. R. Nave and L. M. Wax. Weed Science, Vol. 19, No. 5, September, 1971.

4. Combine headers for soybeans, W. R. Nave, D. E. Tate and B. J. Butler. Transactions of ASAE, Vol. 15, No. 4, pp. 632-635, 1972.

5. Ways to improve soybean harvest, W. R. Nave. Soybean News, Vol. 24, No. 1, October, 1972.

6. Air-conveyor header for soybeans, D. E. Tate and W. R. Nave. ASAE Paper 71-607 scheduled for publication in the ASAE Transactions in 1973.

7. Combine header component losses in soybeans, W. E. Dunn, W. R. Nave and B. J. Butler. ASAE Paper 72-623 submitted for publication in the ASAE Transactions in 1973.

8. Reducing soybean header losses with air, J. C. Tunnell, W. R. Nave and R. R. Yoerger. ASAE Paper 72-626 submitted for publication in the ASAE Transactions in 1973.

9. Soybean harvesting, W. R. Nave, D. E. Tate, J. L. Butler and R. R. Yoerger. Scheduled for publication by USDA, ARS-NCR in 1973.

WRN:dc

FROM **Robert W. Judd**

3-17-76

Some old stuff
but put together
so very well!

Light reading for your
instant pleasure.

To Zeke
from Ted

NATIONAL SOYBEAN CROP IMPROVEMENT COUNCIL
211 SOUTH RACE ST., URBANA, ILL. 61801
TELEPHONE 217-367-0412

Statement of:

The National Soybean Crop Improvement Council and the National Soybean Processors Association

Presented by:

Robert W. Judd, Managing Director of the NSCIC,
211 South Race St., Urbana, IL 61801

Presented to:

The House of Representatives Agriculture and Related Agencies Subcommittee on Appropriations

March 24, 1976

SUMMARY

WE RECOMMEND:

Soybean Research Appropriations

a. Fiscal 1976----------$7,274,000
b. Fiscal 1977 budget estimate proposed----------$7,375,000
c. Fiscal 1977 budget, recommended additions:

(1) Add 20 scientist positions in soybean production research $1,600,000

(2) Reinstate the reduction in research on industrial soybean oil use $ 152,700

$1,752,700

Total adjusted budget--------$9,127,700

We Support:

Budget Request from Federal Sources (CSRS) in Support of Research Programs in Agriculture, Forestry and Home Economics for fiscal 1977.

a. Fiscal 1976----------$114,460,000
b. Fiscal 1977 budget estimate proposed---------$122,508,000
c. Requested for CSRS for fiscal 1977 and supported by the National Soybean Crop Improvement Council and the National Soybean Processors Association:

Additional-----$38,130,840
Total adjusted budget-----$160,638,840

Mr. Chairman and Members of the Subcommittee:

Soybean yields are too low.

New production information is not available for significant yield improvement.

Soybean yield progress is predicated on scientific research.

The number of scientists now engaged in soybean research is inadequate to overcome the yield limiting factors faced by farmers.

An increasing rate of soybean yield improvement will benefit our consumers and our balance of trade as well as our farmers.

Soybean Yields Are Too Low

The record high U.S. average soybean yield achieved in 1975 was only 1 bushel per acre higher than the 1969 yield---a 4 percent gain in 6 years. The record 1975 yield of 28.4 bushels per acre was just 12 percent higher than the 1961 yield! Soybean yield increased only 11 percent from the period 1961 through 1965 compared to the average for 1971 through 1975. A 1.1% annual rate of improvement is too low.

Acreage of soybeans will decline this year because yields are too low to make the crop competitive enough with corn in the Midwest and cotton in the South.

Soybeans have taken up the slack in acreage withheld from other crops for many years. A great industry has been developed with the soybean. From production on 50+ million acres of cropland in 30 states, the processed oil and protein products are found in every home in this country. But the future is in jeopardy.

The incentive to produce food in this country is based on profitable returns to the farming enterprise. Soybean production must be profitable or the 50 million acres of cropland now in soybeans will be planted to other crops. Such a shift in production would create an imbalance in the supply-demand situation for other crops. Profitable soybean production is essential to the economic health of all U.S. agriculture. That means soybean yield improvement must be accelerated immediately.

New Production Information Is Scarce

The limited number of scientists working on soybean production research have had to concentrate primarily on defense. The team has been too small to launch an effective offense to expand the genetic potential of the germplasm and improve the environment.

Our scientists have had to work on the protection phase of research. It has been a rear-guard defensive action against weeds, diseases,

insects, shattering and water stress. Scientists are doing a good job. But added strength is needed to solve the problem of increasing yields. Holding our own does not provide information necessary to improve yields. No one can tell the 45 bushel per acre producer how to definitely improve his yield. We just don't have an adequate knowledge of the plants'growth and reproductive processes.

Farmers thirst for more production information. The technology pool provides only a trickle, enough to sustain life but too little to provide vigor. Protecting present yields does not permit winning in this world-wide battle of food production. We need to expand our participation in world markets. We have been challenged in that arena and today we are losing.

Soybean Yield Progress Depends On Research

The United States has excelled in food and fibre production because our unique agricultural research system has been goal oriented. Scientists have not conducted research primarily for the sake of accumulating knowledge alone. They have searched to improve the efficiency of production of useable commodities. Their efforts have been productive oriented. As a result we have been privileged to provide our people with the highest quality food in abundance at an enviable low percentage of disposable income. Research has enabled us to effectively utilize our resources of good land and climate through our industrious farmers.

Our investment of resources is subject to the foresight of those who allocate funds. During the development of the soybean industry in this country, we have neglected to properly nourish the soybean research program. As a result, yields have stagnated and the crop is no longer strongly competitive for acreage. Added research investment can cure this situation. Essential new knowledge can only be discovered and developed by research scientists.

The Number of Soybean Scientists Is Inadequate

The 20 specific research positions we request to be added are identified at the conclusion of this statement.

The Agricultural Research Service has less than 45 scientists working on soybean production research. That's less than 1 for every million acres of the harvested crop. At least 20 more are needed in the U.S.D.A.

The problem our scientists face is two-fold: (1) identify the plant processes or environmental conditions which limit yields, and (2) modify those processes and/or environments to achieve positive yield responses. Only as that new knowledge becomes available can we expand the genetic potential of the soybean.

A.R.S. scientists who need to be added include agricultural engineers, agronomists, biochemists, biophysicists, breeders, entomologists,geneticists, microbiologists, nematologists, pathologists,

plant nutritionists, physiologists, systems specialists, and weed scientists. All must be added to the scientific investigations teams to improve soybean yields more rapidly.

We request an increase of $1,600,000 in the budget for 20 new positions in production research. The less than adequate net increase for soybeans contained in the present budget does not even meet the rise in costs. An added investment by Congress of 3½ cents per acre of soybeans will purchase the increase in scientific manpower and support we request. The total ARS investment in soybean production, marketing, and utilization research we propose is .0013 of the 1975 farm value of the soybean crop.

The 4 percent increase provided in the proposed fiscal 1977 budget is not defensible when the interests of consumers and producers are considered. It should be higher so we won't further weaken our greatest asset which the world envies--our ability to produce food. Because a 4 percent increase does not keep up with inflation, it is really a reduction in research effort to more efficiently provide food.

The 4 percent increase for ARS is a far cry from the 11 percent for R&D in the federal section. Therefore, food research is assigned a much lower priority than space, energy, defense, medicine, etc. Tell that to the consumers when food prices rise unreasonably in the future. The present policy of funding will encourage that event.

We support the request for $38,130,840 added funds through the Cooperative State Research Service to provide more support for agricultural research. Federal funds available to states provides fewer scientists and supporting funds than were available in 1966. Critical vacancies exist in every State Agricultural Experiment Station due to insufficient operating funds. The Executive budget allows for a 7 percent increase in funding for fiscal 1977. The $38 million additional funds requested by State Agricultural Experiment Stations, Colleges of 1890 and Tuskegee, and the Association of State Colleges and Universities' Forestry Research Organization will help close the gap we have experienced for 10 years in agricultural research. The $38 million increase represents 17 cents per person for future food "insurance".

We heartily endorse the concept of the Centers of Excellence for Photosynthesis, Nitrogen Fixation, Tissue Culture, Plant Nutrition, and Plant Stress which are included in the budget proposal for ARS you are considering. Emphasis on those areas of plant production is vital to the progress we desire in efficiency of food production. The establishment of the Centers will provide for effective coordination of programs and leadership.

Soybean Yield Improvement Will Benefit All of Us

Soybean production research was recognized as the highest priority commodity need by the 167 delegates at the Working Conference

on Research to Meet U.S. and World Food Needs last summer. We believe Congress will recognize the validity of what those representatives from consumer groups, farmers, industry, and research scientists expressed after due deliberation. Soybean production research was the greatest commodity need in the 70 research areas and subareas the group evaluated in the management of resources to provide food category.

The importance of soybeans has attracted the attention of everyone. Adequate funding of soybean research to improve yields is a logical investment because:

1. Protein from soybeans is the most economical source of this essential element in human diets.

2. Soybean protein is vitally important in the efficient production of meat, milk and eggs.

3. Soybean oil is the world's most economical and plentiful vegetable oil.

4. Soybeans and products are a major contributor to our favorable balance of trade.

5. Soybeans are the largest cash crop of the American farmer.

Everyone in this country will benefit from a more adequate investment in soybean production research to improve yields at a faster rate. It's a best buy from consumer to producer.

Reinstate Soybean Oil Research

We request the reduction in research on industrial soybean oil use, which is contained in the present budget proposal, be disallowed. More, not less, research is needed to expand the demand for soybean oil. Competition with palm oil is growing more ominous. Soybeans supply less percentage of oil per acre than any other oilseed crop. But soybean protein cannot carry the entire cost of the seed to be processed. Therefore we must expand the opportunity to use soybean oil. Do not decrease research in this area.

20 Positions Requested For ARS

1. Agricultural engineering -- 1 scientist.

   One engineer to develop improved methods for farm handling and storage of soybeans.

2. Breeding and genetics -- 2 scientists.

   One breeder to select superior nitrogen-fixing bacteria more compatible with soybean strains.

   One breeder-genetist to develop varieties with improved protein and oil.

3. Pest management -- 6 scientists.

   One agronomist to develop a pest management system.

   Two entomologists to develop economical pest control systems with minimum use of conventional insecticides.

   One nematologist and one pathologist to determine nematode-disease associations.

   One pathologist to study general disease problems.

4. Plant nutrition -- 3 scientists.

   One biochemist to study nutrient uptake and utilization.

   One biophysicist to study energy exchange relationships within the plant.

   One microbiologist to study nitrogen nutrition.

5. Physiology -- 4 scientists.

   One biochemist to investigate protein synthesis which will lead to improved varieties.

   Three physiologists to study water utilization, mechanisms of disease reaction, and the interaction of agricultural chemicals with diseases.

6. Production systems -- 4 scientists.

   Two agronomists to develop a superior overall system of production.

   One biochemist to identify superior translocation systems.

   One biophysicist to develop a production system for excessive water conditions.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
Soybean Production Research
Delta Branch Experiment Station
Stoneville, Miss. 38776

March 10, 1976

Dr. B. E. Caldwell
Crop Science Department
N.C. State University
Raleigh, North Carolina 27607

Dear Bill:

I am enclosing a summary sheet giving the rankings and ratings for the various projects and am enclosing the rating sheets for the four of us that rated the projects. I made the assumption that if we each rated the top 15 projects that there would be good chance that we would be in agreement to the extent that we would have included the top ten. This was not a valid assumption. It is hard for me to understand why Dr. Newsom did not rate the Florida project No. 11 or the Auburn project No. 27 and yet he rated the Delaware project which deals with pollination by honey bees. It is hard for me to understand why some of the folks rated some of the projects as high as they did, but I guess they had some reason for doing so. I have made a few comments with regard to projects that others rated and I did not giving brief justification for my not rating these projects. If it was desired to have a rating for any of these, I would be satisfied to assign them a 25 for my score.

Although I had asked to have the evaluations by February 20, I just received the ratings from Dr. Newsom yesterday. We plan to be leaving Friday noon for the Republic of South Africa.

Sincerely,

Ed Hgn

Edgar E. Hartwig
Research Agronomist

Comments on projects not rated by Hartwig but rate by others:

3-1 Nebraska - I did not consider this project as really measuring pesticide interactions.

3-16 Iowa - A simple problem appears to be made rather complex. Good sources of resistance to SMV are available and inheritance is fairly simple.

3-20 Illinois - The problem, if it did exist, would be difficult to study on the high nitrogen soils of Illinois. As herbicides were first evaluated they were compared with the nonherbicide treated checks. The successful herbicides gave adequate weed control and seed yields equal to that of the nonherbicide treated weed-free checks. Consequently, nitrogen fixation could not have been inhibited.

3-8 Missouri - This project is primarily designed for problems other than those to be considered this year.

3-31 Arkansas - Did not conisder this project had much practical value.

3-32 Louisiana - No evidence of yield enhancement from growth regulators has been shown in field plots.

3-3 - Consider little potential for usable data.

3-15 - The logic is good. I am not as impressed with the quantity of benlate being used as is implied. I question the organizational ability to conduct the study.

✓ 3-23 Minnesota - Am not impressed with the problem.

3-28 Delaware - Soybean flowers are naturally pollinated before the flower opens; therefore, there is no reason to anticipate an influence or effect from heavy bee visitation.

3-2 Minnesota - Considerable work has been conducted on this subject.

3-25 Kentucky - Only objective (c) is related to objective for project.

3-26 Wisconsin - May have some merit, question potential for success.

APPENDIX IIIA

PEER PANEL SCORING FORM

STATE AND IDENTIFICATION NUMBER: _____

PROJECT TITLE: _____

_____

A. Relevance of Proposal to Guidelines (check one item)

(1) ☐ Within Guidelines (forward for Peer Evaluation)

(2) ☐ Some minor deviation(s) from Guidelines (forward for Peer Evaluation with notation)

(3) ☐ Does not conform to guidelines (return proposal to originating institution)

B. Scientific Criteria	Score* 1-10 (Low to High)	Comments
(4) Overall scientific and technological quality of proposal		
(5) Research competence of the principal investigator(s), research team and support personnel		
(6) Adequacy of facilities, equipment, and related program support		
(7) Justification of support requested in relation to objectives and procedures		
(8) Feasibility of attaining objectives during life of proposed research		
(9) Awareness of published literature & current research related to proposed research		
Sub-Total		
C. Impacts Criteria		
(10) Relevance and importance of proposed research to solution of specific areas of inquiry (identified in guidelines)		
(11) Estimate of expected benefits		
Total		

D. Extended Comments: use back of page

* A score of 0 indicates that proposal does not contain information on which to base a judgment and negotiation with institution may be indicated.

NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

SCHOOL OF AGRICULTURE AND LIFE SCIENCES

DEPARTMENT OF CROP SCIENCE
Box 5155 ZIP 27607

March 9, 1976

MEMORANDUM TO: American Soybean Association Research Advisory Committee

R. W. Judd
L. D. Newsom
E. E. Hartwig
R. W. Howell
W. R. Nave
W. L. Colville

FROM : Billy E. Caldwell BEC

SUBJECT : Meeting Scheduled for March 31, 1976

I hope all of you are still planning to attend our Advisory Panel in Memphis. Hopefully, Edgar will have the proposals reviewed in time for you to consider prior to the meeting.

In addition to the proposal review, we will need to consider restructuring the panel as directed by the Foundation Board. We now have seven members. However, my membership on the committee is as a representative of the National Program Staff and Bob Judd as a processor representative. I propose that we consider a six scientist panel on a rotational basis, the NPS representative and Soybean Processors representatives be permanent members. If this is acceptable we could establish a three-year rotational scheme with two members being elected each year. The Chairman to be elected by the Panel at the spring meeting. Assuming this is acceptable we will need to add another discipline (possibly a pathologist), draw straws for terms, recommend replacements, and elect a new Chairman at our April meeting. So please begin to gather your thoughts.

An item that disturbs me is the draft "Proposed Patent Policy" mailed to Experiment Stations by Dr. Hal Lewis, Consultant, to the ASA Research Foundation. I enclose a copy for your information. I think the proposed policy is overly restrictive and will severely affect the effectiveness of the Foundation. I think it will close-off the work with USDA scientists since by law they must grant public patents. Secondly, I am not aware of many experiment stations that will sign an agreement that has these types of restrictions.

Since a response is requested, I am hopeful we will get an opportunity to discuss it at our meeting. The copy I have was not mailed to me. I obtained it from our Experiment Station.

I look forward to the meeting and an opportunity to visit with you at Memphis.

BEC/cr

Enclosure

SOUTHERN AGRICULTURAL EXPERIMENT STATIONS
OFFICE OF THE DIRECTOR-AT-LARGE

104 BARRE HALL
CLEMSON UNIVERSITY
CLEMSON, SOUTH CAROLINA 29631

TELEPHONE 803-656-3143

February 24, 1976

MEMORANDUM

TO: Directors, Agricultural Experiment Stations, Southern Region

FROM: James E. Halpin, Director-at-Large, Southern Region

As discussed with you at our recent meeting (February 17-18), I am forwarding the Proposed Patent Policy of the American Soybean Association Research Foundation. This policy is of concern now to selected states in the Southern and North Central region but of potential concern to other states in the future.

Hal Lewis, Consultant with the American Soybean Association provided copies to George Browning and me for distribution to each station director. He requests that you review this proposed policy and provide him with your comments, especially any problems you see and suggested changes you might have. He needs your comments before March 29th.

Please check these over and provide Hal with your comments with copies to George Browning and me. Hal's address:

Dr. H. L. Lewis
P. O. Box 177
Dell, Arkansas 72426

Many thanks.

JEH/dm
cc: Dr. H. L. Lewis
Dr. G. M. Browning
enclosure

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION
PROPOSED PATENT POLICY

A. The basic policy of Sponsor (American Soybean Association Research Foundation), and the purpose of these Patent Provisions, is to insure that the results of sponsored research are applied in a manner which best serves the interest of the producers of soybeans and the public, while also protecting the interests of Cooperator and the inventor or inventors. To secure these ends, Cooperator may, in appropriate cases, seek to secure patents or certificates of plant variety protection, or to negotiate licensing or royalty arrangements, especially when such arrangements can provide an incentive for wider use or explotiation of any invention, new seed variety or discovery made under sponsored research.

B. In furtherance of this purpose and policy, the following provisions are mutually agreed to:

1. Any invention, new seed variety or other discovery which results from work performed by Cooperator under this agreement shall be promptly made known to Sponsor in writing.
2. Any decisions made as to whether or not to seek to secure patents or certificates of plant variety protection, or to negotiate licensing or royalty arrangements, and the terms thereof, shall be joint decisions of Cooperator and Sponsor.
3. Sponsor and Cooperator agree to hold jointly any and all rights they may have or may assert to such invention, seed variety or discovery.

(ASARF Proposed Patent Policy, Continued)

4. Sponsor will assist Cooperator in the preparation and prosecution of applications for patents or plant variety protection certificates.

5. The application for Letters Patent or Certificates of Plant Variety Protection shall be made at the expense of Cooperator and through attorneys named by them, and all expenses, including staff time, and travel for or in connection with the preparation, filing, prosecution, assignment and recording, are payable by Cooperator. All such expenses incurred by Cooperator under this section shall be paid from funds other than those provided by Sponsor for the conduct of research described under this agreement.

6. Sponsor is a non-profit organization and any revenues accruing to it from such licensing or royalties will be used for further research or market development programs beneficial to the producers of soybeans and to the public. Net revenues shall be divided between Sponsor and Cooperator in proportion to the declared and verified contribution which each party makes to the research during the period of this agreement. Any revenues accruing to Cooperator from such licensing or royalties will be used for further soybean research approved in advance by Sponsor. Cooperator assumes responsibility for obligations to inventors and others employed by Cooperator or its agents.

(ASARP Proposed Patent Policy)

C. Cooperator shall observe the usual and reasonable precautions to maintain research records which can be referred to for the purpose of establishing priority of inventorship. Such precautions on the part of a research worker include the recording and disclosure to a knowledgeable co-worker of research findings which may be of patentable significance and having the co-worker witness the record. Although, ideally, the witness should also have observed the experimental work, the Cooperator need not cause to be performed any unnecessary experiments in the presence of otherwise unnecessary observers for the sole purpose of establishing a good record.

D. Exceptions or other conditions mutually agreed to concerning patents or plant variety protection certificates are (if none, write "none"):

B

To: ASA Research Foundation Board
From: Ralph T. Jackson
Date: February 26, 1976

Reference No:
Subject: APRIL MEETING
Copy To:

SOYA—Serves The World

Nick Rose has asked me to notify you officially of the ASA Research Foundation meeting to be held in Memphis, Tennessee on April 2 at the Airport Hilton Hotel. The meeting will begin at 9:00 a.m. in Room 153.

The Research Advisory Panel will be meeting with the Research Foundation Board at the opening session. Suggested agenda items will be mailed to you at a later date.

Hotel reservations have been made in your name for arrival on April 1. Please notify this office if you do not plan to get in on the evening of the 1st. On arrival at the Memphis airport you should contact the Hilton Hotel as they furnish a courtesy car.

We look forward to seeing you in Memphis.

Ralph Jackson

RTJ/ms

UNIVERSITY OF MISSOURI-COLUMBIA

College of Agriculture

Agricultural Experiment Station

2-44 Agriculture Building
Columbia, Missouri 65201
Telephone (314) 882-6044

NSRCC file B

February 24, 1976

D. L. Anderson
W. L. Colville
H. J. Dutton
R. W. Howell

Gentlemen:

One of the specific charges to the National Soybean Research Coordinating Committee by the National Agricultural Planning Committee when it asked us to update the 1973 report was to examine the need for better integration among the Production, Marketing, and Utilization phases. In its meeting on April 9, the NSRCC identified two broad options for meeting this charge: (1) include a fourth section which focuses on joint concerns of the three Work Groups; and (2) include in each of the three Work Group statements a cross reference to pertinent parts in the other two.

It was further agreed that you three should help decide how best to do this. In view of the delay in obtaining all of your Work Group reports, it likely is not feasible for the three of you to get together to determine what counsel you wish to provide NSRCC. However, may I suggest that you discuss this by phone with a view to reaching a consensus to be shared with me by March 12.

I am asking Dale Anderson to be the one who initiates the phone contact with Colville, Dutton, and Howell. Dale, if you have any questions on this, please give me a call so that we can get the effort on stream in time to meet the March 12 deadline.

Sincerely,

R. J. Aldrich
Chairman, NSRCC

RJA:mll

cc: T. S. Ronningen
Members, NSRCC

UNIVERSITY OF MISSOURI-COLUMBIA

College of Agriculture

Agricultural Experiment Station

2-44 Agriculture Building
Columbia, Missouri 65201
Telephone (314) 882-6044

NSRCcopies B

February 24, 1976

Dr. Thomas S. Ronningen
Cooperative State Research Service
U. S. Department of Agriculture
Room 412A Administration Bldg.
Washington, D. C. 20250

Dear Tom:

Enclosed are copies of the updated reports for each of the Soybean Research Work Groups. The report from the Production Work Group was identified by Bill Colville as being a first draft. However, in view of our time schedule, it seems best that you begin work with this draft in preparing the revised NSRCC report.

If my memory and notes serve me correctly, it was agreed during our April 9 meeting in Memphis, Tom, that you would prepare the report. I know you have many other things to do but hope preparing the NSRCC report can be given a fairly high priority. We are already way behind the schedule set for ourselves last April. If at all possible, I would like to have your draft by March 26.

You will recall that we agreed during our meeting last April that some attempt should be made to improve the interrelationships between the Production, Marketing, and Utilization parts in our report. I believe two options were identified: (1) include a fourth section which focuses on joint concerns of the three Work Groups; and (2) include in each of the three Work Group statements a cross reference to pertinent parts in the other two.

I have written the three Work Group Chairmen asking them to address these two options and reach a consensus by phone of how they think this can best be handled. I am asking them to shoot for March 12 as a date for reaching such a consensus so this should give you sufficient time to incorporate their thinking into the draft you will be preparing.

If you have any questions about the assignment or the time table, please call me immediately. The machinery is being put in motion to obtain an input from the Work Group Chairmen as well as set a date for a full meeting of the Committee--both would be affected by your being able to carry out the preparation of the report on schedule.

Sincerely,

Dick

R. J. Aldrich
Chairman, NSRCC

RJA:mll

Enclosures

cc: Dr. D. L. Anderson
Dr. W. L. Colville
Dr. H. J. Dutton
Dr. R. W. Howell
Members, National Soybean Research Coordinating Committee

Dr. B. F. Caldwell

D

SOYA—Serves The World

January 26, 1976

Mr. Robert W. Long
Assistant Secretary for
Conservation, Research and Education
USDA
Washington, D. C. 20250

Dear Secretary Long:

The American Soybean Association appreciates the time and considerations which you and your staff extended during our visit with you on the 13th of January. Since a large number of subjects were covered in our meeting, I wish to review these for you.

We feel that considerable effort needs to be extended to more adequately define the cost of losing soybeans from the farm to the mill. During the past three or four years, these costs seem to have escalated drastically. Materials handling science and engineering have developed the technology to greatly improve handling, storage and transportation of both agricultural and industrial products. This technology could, undoubtedly, be applied to soybeans so as to improve the efficiency of moving soybeans from farm to market and to refine our interface with the market.

The cost of producing soybeans has also undergone a significant increase during the past few years. All indications point to a continuation of this trend. As you know, most of this increase in production cost has been associated with the devastating rise in the price of petroleum products. Our fuels, fertilizers and pesticides are derived either directly from petrochemicals or large quantities of petrochemicals are consumed in their production. As a result of this problem, it seems mandatory that production research be directed toward reducing our exposure to petrochemical base materials to the very minimum level.

Increased soybean yields have been slow to emerge and have not yet approached a satisfactory level. Farmers recognize that the single most important factor determining soybean yields is the weather. Existing scientific data indicates that approximately 70% of the year-to-year variation in soybean yields is accounted for by year-to-year variations in weather. While we do not believe that we have the technology to control weather, we do believe that a great deal could be done to minimize the influence of weather on yields. We suggest that production research needs to be oriented in this direction as an over-all guiding principle. In other words, we need varieties, cultural systems and land management guidelines which allow us to minimize our exposure to yield variations due to weather. It is significant to note that 70% of the variations in yields only lacks 30% being all of it, and soybean yields probably vary more from year to year than other crops.

Recent market developments have suggested to us that we need to re-examine our posture toward utilization research. As we discussed, there are tremendous potential markets for soybean protein products. Problems with flavor, color, stability, flatus factors, and waste disposal seem to be among the most important in preventing soybean protein from moving rapidly into food products. Basic research to adequately define the physical-chemical perimeters required for the production of acceptable soybean protein products is needed.

Drs. Hammonds and Call, of Cornell University, did an excellent job of identifying protein food markets for protein products in the late 1960's. We propose that this important work needs to be updated with emphasis on soybeans.

Many of the problems which limit soybean protein and oil utilization may have genetic solutions. However, communications between food technologists and soybean breeders do not appear to be adequate to pinpoint exactly what needs to be done. Improvement in this area appears to be needed.

The American Soybean Association is made up of 24 state associations. Of these 24 state associations, 15 currently have checkoff programs. At this time about $1.5 million per year of farmers' money is going into soybean research. This is nearly 1/5 of the size of the Federal budget for soybean research.

The major part of the farmer finance soybean research effort is administered at the individual state level. This means that the program needs as much central coordination as possible. For this reason we are urging you to establish a national program staff specialist exclusively for soybeans. We recognize that you cannot have a national staff specialist for each commodity, but we argue that soybeans is not just any commodity. The tremendous size of the crop (50 some odd billion acres) and its great importance to the economic well being of the U. S. demands more attention than most commodities. Thus, we feel that you have more than adequate justification for a national program staff specialist exclusively for soybeans.

The need for coordination and better communications in soybean research has stimulated us to sponsor a national soybean production and marketing conference. We invite your cooperation in this undertaking and appreciate your ready willingness to help. We plan to hold the first conference early in 1977. We would appreciate your naming both a research and an extension representative from your staff to serve on a program development committee for this cause.

We will be quite interested in your evaluation and response to the proposal by Dr. Lowell Hill of the University of Illinois. If we can supply either you or Dr. Pallansch additional information concerning this work, please call on us.

Thank you for your attention and consideration.

Sincerely,

Ralph T. Jackson

RTJ/ms
cc: Nick Rose, Hal Lewis
Richard Elijah, Bill Kling, Sheldon Hauck

B J Caldwell
For file in your office

B

To: ASA Research Foundation Board, Research Committee
From: Ralph T. Jackson
Date: January 19, 1976

Reference No:
Subject:
Copy To:

SOYA—Serves The World

A special joint meeting of the ASA Research Committee and the Research Foundation Board is being called by Dick Elijah and Nick Rose for Wednesday, January 28 at the Hilton International Inn in Chicago. The Hilton Inn is directly across from O'Hare terminal.

The meeting will begin promptly at 9:00 a.m. in the Otto Lilienthal Room and should adjourn no later than 4:00 p.m. on the same day.

The main purpose of this special meeting is to consider and develop policy on patent rights on any patentable items that may come as a result of research projects sponsored by the Foundation and ASA.

In addition, Mr. Elijah, Mr. Rose, Hal Lewis and I will be reporting on our meeting with Assistant Secretary Long and his associates in Washington on research priorities. It was felt by all concerned that the meeting was necessary at this time and to be held in advance of the already scheduled April meeting in Memphis.

We are reserving a block of rooms for your arrival on Tuesday, night, January 27, so please advise if you will be needing a room.

Ralph Jackson

RTJ/ms

319-988-3296

American Soybean Association/P.O. Box 158/Hudson, Iowa 50643 U.S.A./Phone 319-988-3296/Telex 465637
Offices In Tokyo, Taipei, Brussels, Hamburg, Mexico City, Vienna

To: ASA Research Foundation Board

From: Ralph T. Jackson

Date: January 15, 1976

Reference No:

Subject:

Copy To:

SOYA—Serves The World

We are enclosing a copy of the Compendium of Soybean Diseases which has just been completed. As you will recall, the Research Foundation participated in developing this compendium.

Additional copies can be obtained for $6.00 each.

Ralph T. Jackson

RTJ/ms
Enc.

AMERICAN SOYBEAN ASSOCIATION RESEARCH FOUNDATION
FY76 PESTICIDE INTERACTIONS

Date Rec.	Temp. No.	College	Amount	Proposal Title & Investigator
11/25	ASARF3-1 4	University of Nebraska	$30,000	Pesticide Interactions in the Production of Close Drilled Soybeans - Dr. Orvin C. Burnside; correspondence from Francis L. Schmehl, Lincoln,Neb
11/25	ASARF3-2 4	University of Minnesota	28,753	Interactions Between the Time of Day and Control of Soybean Weeds with Herbicides - Willard L. Koukkari; correspondence from A. R. Potami, St.Paul, Minn. 55114
11/29	ASARF3-3 4	Tuskegee Institute	29,685	Response of Different Varieties of Soybeans to Newer Systemic Insecticides - R. S. Saini
11/29	ASARF3-4 3	University of Minnesota	29,850	Biochemical Mechanisms of Triazine-Ph sphorus Interactions in Soils - Russell S. Adams, Jr.
11/29	ASARF3-5 4	Iowa State University	30,000	Herbicide-Seedbed Tillage Interactions - David W. Staniforth, Donald Erbach, Joseph Burris - Correspondence from J. P. Mahlstede
11/29	ASARF3-6 4	ARS/USDA	30,000	Effects of Herbicide-Fungicide Interactions on Phytophthora and Pythium Root Rot, Damping-Off and Stem Blight of Soybeans - Dr. Jack Lewis
11/29	ASARF3-7 4	University of Missouri	30,000	Yield Enhancement of Soybean Through the Integrated Control of Major Pathogen Groups via Coordinated Pesticide Applications - Charles Baldwin correspondence R. J. Aldrich
11/29	ASARF3-8 4	University of Missouri	30,000	Development of Postemergence Chemical Application Practices for Soybean Production - David Johnson, Maurice Gebhardt, John Holstun, Jr. - corres. R. J. Aldrich
11/29	ASARF3-9 4	Kansas State University	30,000	Effects of Herbicide: Insecticide: Fungicide Interactions on Soybean Development and Yield - Nickell, Russ, Schwenk, Wilde - correspondence from Floyd Smith
11/29	ASARF3-10 4	Texas A&M	30,000	Evaluation of Potential Soybean Yield Response to Pesticide Interactions Under Minimal Weed, Disease and Insect Regimes - Jim Schrib, John Abernathy
11/29	ASARF3-11 4	University of Florida	30,000	Pesticide Interactions in Soybeans - Dr. V. G. Perry, Dr. L. H. Purdy, Dr. C. Y. Ward, W. H. Chapman Dr. H. A. Peacock - corres. from John Sites
11/29	ASARF3-12 4	North Carolina State Univ.	30,000	Investigations on the Effects of Various Soybean Pesticide Interactions: Interactions Between Pesticides, Reactions of Non-Target Organisms, and Soybean Plant Responses - J. R. Bradley, Jr., F. T. Corbin,, J. W. Van Duyn, Donald Schmitt corres. from J. C. Williamson, Jr.
11/29	ASARF3-13 4	ARS/USDA	29,250	Relation of Herbicides and Environmental Stress in Soybean Production - Dr. J. B. St. John, M. N. Christiansen, J. L. Hilton, W. A. Gentner

11/29	ASARF3-14 4	Michigan State University	30,000	Pesticide Interactions in Soybean - Donald Penner
11/29	ASARF3-15 2	Arkansas State University	25,930	Guidelines for Use of Benlate on Soybeans - Leo Duclos, G. A. Berger, J. A. Hurchison
11/29	ASARF3-16 4	Iowa State University	30,000	Reduction of Soybean Mosiac Virus Transmission Through Integrated Pest Management - John Hi ll, Larry Pedigo
11/29	ASARF3-17 4	University of Georgia	30,000	Identification and Evaluation of Potentially Beneficial Pesticide Interactions in Soybean Production - Dr. D. V. Phillips, Dr. James W. Todd
11/29	ASARF3-18 4	Murray State University	24,607	Evaluation of Soybean Genotypes for Tolerance to Selected Pre-Emergence Herbicides - Durwood Beatty corres. from James Thompson
11/29	ASARF3-19 4	Clemson Univ.	29,249	Impact of Pesticides on Fungal Pathogens in the Soybean Ecosystem - G. R. Carner, C. W. Blackmon corres. from W. C. Godley
11/29	ASARF3-20 4	University of Ill. at Urbana-Champaign	28,920	Evaluation of Herbicidal Effects Upon Nitrogen Fixation and Seed Yields in Soybeans - M. A. Cole, F. W. Slife - corres. from Jack Kamerer
11/29	ASARF3-21 4	University of Georgia	30,000	An Integrated Pest Management Program with Intensive Cropping Sequences - Clyde C. Dowler - corres. from William Flatt
11/29	ASARF3-22 4	University of Tennessee	30,000	Simultaneous Seeding of Soybeans with Fertilizer and Herbicides by Fertilizer Distributors - J. A. Mullin corres. John A. Eqing
11/30	ASARF3-23 4	University of Minnesota	29,030	Effect of Pesticides on the Elimination of Pathogens From Soybean Seedstocks - Dr. Clyde M. Christensen & Dr. Bill W. Kennedy - corres. from F. Aloysius Wood
12/1	ASARF3-24 4	Purdue Univ.	30,000	A Study to Determine if There is a Relationship Between Soybean Growth Rate and Yield of Several Commonly Grown Soybean Varieties as a Result of the Application of Furadan^{R}, 2,3-Dihydro-2, 2-Dimethyl - 7 Benzofuranyl - Methylcarbamate, a Systemic Insecticide - C. Richard Edwards & J. O. Sillings - corres. B. J. Liska
12/1	ASARF3-25 4	University of Kentucky	30,000	A Search for Economically Optimal Pesticide Combinations for Achieving Maximum Soybean Yields - Dr. Robert M. Hayes, Cr. C. E. Rieck, Dr. Kenneth V. Yeargan - corres. C. Oran Little
12/1	ASARF3-26 4	University of Wisconsin	14,373	Use of Additives to Minimize Crop Injury Produced by Pre-emergence-Applied Soybean Herbicides - Robert Gordon Harvey
12/1	ASARF3-27 4	Auburn Univ.	30,000	The Effect of Pesticide Combinations and Their Interactions on Yields and Non-target Pests of Soybean Varieties - Paul A. Backman

12/1	ASARF3-28 5	University of Delaware	29,946	Insecticide Influences on Insect Pollinators Related to Soybean Yield and Protein Content - Charles A. Mason, Frank J. Murphey, Dale F. Bray, corres. William J. Benton
12/1	ASARF3-29 4	Univ of Ark. Ag Exp. Sta.	28,214	Effects of Fungicides and Insecticides on Lepidopterous Pests and their Associated Entomopathogenic Fungi and Selected Predators in Soybeans - W. C. Yearian, S. Y. Young - c orres. L. O. Warren
12/1	ASARF3-30 4	Univ.of Ark.	28,900	Photosynthetic and Ultrastructural Consequences of Fungicide and Synthetic Plant Growth Regulator Treatment of Soybean Leaf Tissue - Dr. C. A. Stutte, Dr. J. T. Cothren, A. R. Blem - corres. L. O. Warren
12/1	ASARF3-31 4	Univ. of Arkansas	30,000	Effects of Herbicide Carryover in Soils on the Sleectivity of Soybean Herbicides - R. E. Talbert, corres. L. O. Warren