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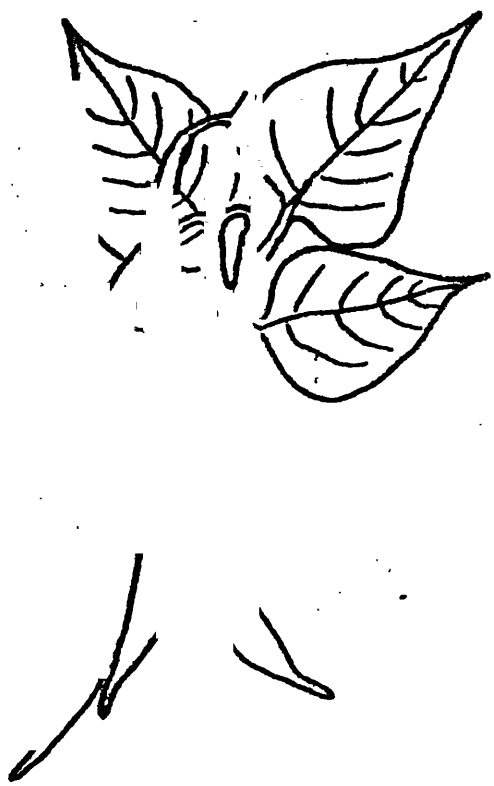
BIC 10

ANNUAL REPORT OF THE

1967

BEAN IMPROVEMENT COOPERATIVE



A Voluntary and Informal Organization
to Effect the Exchange of Information and Materials

REPORT

of the

BEAN IMPROVEMENT COOPERATIVE

No. 10 March 1967

Please address correspondence to W. A. Frazier, Vegetable Crops Section, Department of Horticulture, Oregon State University, Corvallis Oregon.

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Note: None of the information contained in the Research Notes of this Report may be used in publications without the consent of the respective authors. Please correspond with the authors concerned.

Tenth Annual Report of the Bean Improvement Cooperative

This report marks the close of the tenth year of the Bean Improvement Cooperative.

Membership has slowly expanded, but there remains much to be done in increasing the membership and in offering service to all individuals associated, in various ways, with improvement of beans.

The biennial meeting is scheduled for early November (probably November 7) 1967 in Milwaukee, Wisconsin. All members will receive program details a few weeks prior to that meeting--and all members are invited to attend. If you have suggestions relative to the program--subject matter, speakers--please contact Dr. W. H. Gabelman, University of Wisconsin, Madison, Wisconsin, who is Chairman of the Program Committee.

Please note the loose page in the front of this report--a ballot to be filled out by each member. Send to Dr. S. Honma, Chairman of the Germ Plasm Committee, Michigan State University, East Lansing, Michigan.

Do you have suggestions relative to any phase of BIC? Additional Committees? Changes in the report? Suggestions relative to increasing communication between bean breeders, pathologists, entomologists, physiologists, other scientists working with beans--one of the world's major food crops? Send to the Chairman or any member of the Coordinating Committee. M. E. Anderson, John D. Atkin, L. L. Dean, W. H. Pierce, L. A. Polzak, W. J. Zaumeyer. W. A. Frazier, Oregon State University, Corvallis, Oregon, Chairman of Coordinating Committee.

Germ Plasm Committee Report

Your chairman is most grateful to Dr. D. Coyne for taking over the duties of the committee during his absence.

To date, your chairman did not receive any word from Dr. H. Lamprecht as mentioned in the last report.

No new gene was reported during the course of the year.

Again, the committee requests that if any member comes across new genes they should report to any member of the committee.

D. P. Coyne
F. L. Smith
D. H. Wallace
S. H. Yarnell
S. Homma, Chairman, Michigan State University, East Lansing, Michigan

Response of Field Beans to Fusarium Root Rot and Nitrogen Fertilization

D. W. Burke and C. E. Nelson
Irrigation Experiment Station, Prosser, Washington

Response to root rot

A mosaic and root rot-resistant Red Mexican bean selection, OR-5 (from Red Mexican UI-35 x P.I. 203958), had the least root rot and the highest yield among 12 varieties tested on Fusarium-infested land. Pinto UI-114 and Sutter Pink had moderate root rot and yielded nearly comparably with the Fusarium-resistant selection. Bigbend yielded comparatively well in spite of severe root rot. One of the lowest yielders was Red Mexican UI-36.

On non-infested soil, however, the highest yielder among the same 12 varieties was Red Mexican UI-36, followed by Pinto UI-114, Pinto UI-111, Red Mexican Bigbend, and OR-5.

Preliminary studies indicate that root rot-sensitive early-maturing varieties such as Red Mexican UI-36, Coulee, and Columbia Pinto have larger top:root ratios than Pinto UI-114 and Bigbend, which are more tolerant to root rot.

Response to nitrogen (side-dressed NH_4NO_3)

In the non-infested field N level-variety interactions were noted. Bigbend showed no significant yield response to nitrogen applications. The Fusarium-resistant selection, OR-5, responded only at the highest rate, 278 lb/a, and Pinto UI-114 up to 118 lb/a of N. These three varieties were the highest yielders where no fertilizer N was applied in both fields (residual NO_3-N level was 38-47 lb/a). Red Mexican UI-36, Sutter Pink, Pinto 111,

STOCKS FOR EXCHANGE AND OFFERS OF TESTING OF CERTAIN BREEDING LINES

(Material in BIC 9 is repeated here. No additions were made.)

Frazier, W. A. Oregon State Univ. Corvallis, Oregon	Bush beans derived from backcross to Blue Lake. Habits fair; sensitive to high temperatures; lines 949 and 2065, tolerant to halo blight. Bush beans derived from flat pod Romano pole. Limited seed.
Hagedorn, D. J. Univ. of Wisconsin Madison, Wisconsin	PI 150414 tolerance to races 1 and 2 of Pseudomonas phaseolicola.
Meader, E. M. Univ. of New Hampshire Durham, New Hampshire	Stocks for exchange: Bulked seed of selected F5 stringless productive plants from P. vulgaris (N. H. white-seed snap bean breeding line) x P. coccineus (Hammond's Dwarf Scarlet Runner). For some details through second generation see Report No. 6 (1963) BIC page 22: "Fragrant Bean Flowers"--Meader and Hung. Colored seeds of varying sizes with a few white ones and all from bush or determinate healthy plants.
Silbernagel, M. J. ARS, USDA Prosser, Washington	Various early generation (F4, 5, 6) green-podded, white-seeded bush snap beans. These hybrids are homozygous for white seed, resistance to the curly top virus, and the type and NY-15 strains of common bean mosaic virus.
Silbernagel, M. J. (see above)	Disease Resistance Testing: To a limited extent, anyone wishing to take advantage of the excellent natural exposure to curly top (and other virus diseases) at Prosser, is welcome to submit 10 to 20 entries (15' per row) in our curly top trials. To save space, please include only test materials as I will include adequate susceptible controls. Identity will be kept strictly confidential. Reports to the submitting agency will include only stand counts and disease notes on the lines submitted, and a few appropriate control varieties. Disease readings will be taken 2 or 3 times during the season. Detailed horticultural and agronomic evaluations and/or selection work shall be up to the individual or company submitting the materials. As threshing facilities are limited, seed cannot be harvested except on special request. Please submit entries pre-treated and packaged for planting (enough for a 15-foot row per entry). Planting deadline--June 1. Please let me know by May 16 if you plan to test any lines.

STOCKS DESIRED

(Requests of BIC 9 are repeated, with some additions.)

Frazier, W. A. Oregon State Univ. Corvallis, Oregon	Stocks tolerant to low temperatures during germination and growth. Stocks of wax beans which turn waxy in early stage of pod growth. Stocks carrying combined resistance to several diseases.
Hagedorn, D. J. Univ. of Wisconsin Madison, Wisconsin	Nebraska Gr. No. #1 sel. 27; OSU 949 and 2065; Cal. Pac. 77; N203; N4-1; 47-16-12.
Honma, S. Michigan State Univ. East Lansing, Michigan	Bean line that is homozygous for silver (s) or white (y) pod color.
Pryke, P. I. 8 Zanda Ave. Nunevwading, Australia	Lines which could have value in the production of a cold tolerant, early bean. Lines with resistance to one or both of the following diseases: halo blight, fusarium root rot.
Sistrunk, W. A. Univ. of Arkansas Fayetteville, Arkansas	Stocks resistant to root rot organisms.
Ward, Susan E. Union International Ltd 25 West Smithfield London, England	Phaseolus vulgaris lines tolerant of cool summer conditions.
Zaumeyer, W. J. ARS, USDA Beltsville, Maryland	Any black-seeded, mosaic-resistant lines (pole or bush) regardless of generation for selection studies in Venezuela, S. A.

LIST OF MEMBERS

Names of members are maintained in this list for two years, even though dues have not been paid. Annual reports are sent to members only when current dues are paid.

Adams M. Curtice-Burns, Inc., P. O. Box 670, Rochester 2, New York.

Adams, M. W. Michigan State University, Dept. of Crop Science, East Lansing, Michigan.

Agenbroad, O. Green Giant Co., Dayton, Washington.

Allard, R. W. Agronomy Dept., University of California, Davis, California

Anderson, Axel L. RPDES - USDA, Washington, D. C. 20250

Anderson, M. E. Rogers Bros. Seed Co., Box 2188, Twin Falls, Idaho

Argyle, B. C. Northrup-King & Co., Box 231, Albany, Oregon

Asgrow Seed Co. P. O. Box 6, Milpitas, California

Asgrow Seed Co. Filer, Idaho

Athow, Kirk L. Purdue Contract, USAID, ARDO, APO New York 09676

Atkin, John D. Corneli Seed Co., Hollister, California

Attia, M.S. c/o FAO-NERO, P. O. Box 2223, Garden City, Cairo, U.A.R.

Baggett, J. R. Oregon State University, Dept. of Horticulture, Corvallis, Oregon 97331

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Blackhurst, H. T. Dept. of Horticulture, A. & M. College, College Station, Texas

Bowkamp, John. Horticulture Department, Michigan State University, East Lansing, Michigan 48823

Brown, Chester B. Co. Morrill, Nebraska

Burke, Douglas W. Irrigation Expt. Station, Prosser, Washington

Burkholder, I. G. Horticulture Expt. Station, Vineland Station, Ontario, Canada

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Burpee, W. Atlee, III. Hunting Park Ave. at 85th St., Philadelphia, Pa.

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Clark, G. H. Experimental Farm, Harrow, Ontario, Canada

Colville, Robert B. California Packing Corp., P. O. Box 89, Rochelle, Illinois 61068

Corneli Seed Co. 101 Chateau Avenue, St. Louis, Missouri

Counter, Ben F. Fort Lupton Canning Co., Fort Lupton, Colorado

Dermot P. Coyne. Department of Horticulture, University of Nebraska, Lincoln 3, Nebraska

Crites-Moscow Growers, Inc. Moscow, Idaho

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Ensign, Ron. University of Idaho, Agricultural Expt. Station, Moscow, Idaho

Enzie, W. D. Birdseye Division, General Foods, 162 South Main St., Albion, New York.

Fish, Peter. Ben Fish & Son, 17 Anacapa St., Santa Barbara, California

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Gebroiders Sluis Zaadteelt En Zaadhandel, Enkhuizen, Holland

Goth, Robert W. USDA Agr. Research Service, Beltsville, Maryland 20705

Green Giant Co. Dayton, Washington 99328

Green Giant Co. Attention: J. G. Martland, Agr. Research Department, Le Sueur, Minnesota

Grier, N. Metasol Products, 200 Wagaraw Road, Hawthorne, New Jersey

Grogan, R. G. University of California, Department Plant Pathology, Davis, California

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McCabe, John. Ferry-Morse Seed Co., P.O. Box 100, Mountain View, Calif.

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Zink, Ernesto M. Inst. Agron. Sao Paulo, Gaixa Postal 28, Campinas, Brazil

Zwann, A. R. & Sons, Inc. c/o R. J. Zwann, Voorburg - The Hague, Holland

Zwann, John A. P. O. Box 1, New Britain, Pennsylvania 18901

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