REPORT OF THE

BEAN IMPROVEMENT COOPERATIVE

No. 15

March 1972

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                        I. L. Jorgensen
                        T. P. Kiely
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                        (ex officio)
                        D. P. Coyne, Chairman

Please address correspondence about BIC membership and BIC annual reports to; Dermot Coyne, Department of Horticulture and Forestry, University of Nebraska, Lincoln, Nebraska 68503

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.
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OBITUARY

Dr. John Jacob Natti - September 5, 1912 - April 9, 1971

John Jacob Natti, Professor of Plant Pathology at New York State Agricultural Experiment Station, Cornell University, Geneva, died of a sudden coronary arrest on April 9, 1971.

He was born in Gloucester, Massachusetts, the son of Finnish immigrants. After completing his elementary and secondary schooling in Gloucester, he entered Essex County Agricultural School from which he graduated in 1935 at the depth of the Great Depression. Unable to continue his education because of finances, he then operated a market garden and poultry farm for five years. From this source he acquired sufficient funds by 1940 to enter the University of Massachusetts, which awarded him in 1944 the B.S. degree in Agronomy and Chemistry. Following graduation, he accepted a position with the United States Rubber Co. as Assistant Chemist in the Agricultural Chemicals Division, where his duties comprised the development and testing of chemicals as candidate fungicides for control of plant diseases. During this period he became interested in plant disease pathogens and determined to devote his career to their study and control. In 1946, he entered graduate school at Cornell University, which awarded him the Ph.D. in plant pathology in 1951. He immediately accepted an appointment as Assistant Professor at New York State Agricultural Experiment Station, Geneva, where he was promoted to Associate Professor in 1954 and to Professor in 1960.

His research at Geneva dealt with a wide spectrum of fungus and bacterial diseases of vegetables and resulted in 62 publications. Long before many of the dangers of pollution were realized, he strove to achieve disease control whenever feasible by identifying and selecting individual plants with resistance to disease. After stabilizing this property by intensive breeding and selection, he released materials to commercial seedsmen for development of new and improved varieties. Many cabbage, broccoli, and snap bean varieties currently grown in New York are descended from Professor Natti's selection.

His interests were wide and varied. He played an active role in church affairs, variously serving as teacher and superintendent of Sunday school, deacon, and elder of First Presbyterian Church. He devoted much time to the Boy Scouts and Little League. He was a talented landscape painter, a keen and skillful bridge player, and an excellent conversationalist with a dry, subdued humor. He is survived by his widow, Lora Patricia, and three children, John Martin, Thomas Alexander, and Elizabeth Anne.

W. T. Schroeder
A. J. Braun
R. M. Gilmer

*****
Dr. Ollie Brücher

On January 7, 1972, Dr. Werner Jaffe informed us of the death of Dr. Ollie Brücher, Escuela de Biología, Facultad de Ciencias, Universidad Central de Venezuela, Caracas, Venezuela, who perished in an automobile accident.

***

Dr. C. W. Hungerford

Dr. C. W. Hungerford, distinguished plant pathologist, plant-breeder and administrator, University of Idaho, died in November, 1971. Dr. Hungerford was the recipient of a Bean Improvement Cooperative Meritorious Award in November 1971 in recognition of outstanding scientific accomplishment relating to bean (Phaseolus) improvement. A biography of Dr. Hungerford prepared by Dr. L. L. Dean, University of Idaho is included in this report (see section on BIC meritorious service awards).

***

Dr. W. T. Schroeder

We have just been informed about the sudden death of Dr. W. T. Schroeder, Professor, Department of Plant Pathology, New York State Agricultural Experiment Station, Geneva, New York.
MERITORIOUS SERVICE AWARDS

Meritorious service awards were presented by The Bean Improvement Cooperative to W. H. Burkholder, Cornell University; H. S. Gentry, USDA; C. W. Hungerford (deceased), University of Idaho; M. C. Parker (Gallatin Valley Seed Co.); F. L. Smith, University of California, Davis; R. E. Wester, USDA; J. J. Natti (deceased) Cornell University, Geneva; J. R. Douglass (deceased), USDA; and H. Lamprecht (deceased), Plant Breeding Institution Wei Bull Sholm, Landskrona, Sweden. These awards were presented to these men in recognition of outstanding scientific accomplishments relating to bean (Phaseolus) improvement at the awards luncheon held during the biennial meeting of Bean Improvement Cooperative in the Sheraton-Schroeder Hotel, Milwaukee, Wisconsin, on November 9, 1971.

The biography of each recipient of an award is included in this report. The awards committee and the BIC coordinating committee are grateful to those who prepared the biographies. The name of the person who prepared the biography appears at the end of the biography.

Awards Committee - 1971. D. W. Burke (Chairman), J. R. Baggett, C. G. Briggs, L. L. Dean, and D. H. Wallace. We are grateful for the outstanding service performed by this committee.

Program Chairman - 1971. The arrangements for the enjoyable awards luncheon were made by F. A. Bliss, University of Wisconsin. Publicity arrangements were handled ably by D. W. Burke, U.S.A. in cooperation with F. A. Bliss.

*****

Walter H. Burkholder

Dr. Walter Hagemeyer Burkholder, Professor Emeritus, Cornell University, retired in 1959 after a scientific career spanning 42 years. A native of Crawfordsville, Indiana, he received the A.B. degree in 1913 from Wabash College. He earned his Ph.D. at Cornell University in 1917 and joined Cornell's Department of Plant Pathology.

He became interested in diseases of beans during his graduate studies and maintained that interest throughout his professional career. Through extensive research, he added greatly to basic knowledge concerning the pathogens of beans. He was the first to recognize, in 1916, dry root rot of beans, caused by Fusarium solani f. phaseoli. He artificially inoculated an acre of land with this organism and grew on it many generations of beans, thus developing a site that continues to be heavily infested with Fusarium and useful for root rot studies, especially breeding and selecting for root rot resistance. He first identified, in 1923,
the gamma race of *Colletotrichum lindemuthianum*, the causal organism of bean anthracnose. He also developed the anthracnose resistant variety Perry Marrow which is still commercially grown in New York State, and is frequently requested by scientists throughout the world for differentiating anthracnose races. He was also first, in 1926, to describe *Pseudomonas phaseolicola*, the causal organism of halo blight of beans. He developed a halo blight resistant red kidney bean, although it was not used commercially.

Because of his knowledge of bean diseases and environmental conditions favoring these diseases, Dr. Burkholder was instrumental in the development of certified bean seed programs. This resulted in most bean seed production being moved to the arid West, where the environment did not favor the diseases. In New York State, he annually inspected hundreds of acres of beans for certification.

Dr. Burkholder's interest in the bacterial blights of bean led to extension and intensifications of work on bacterial diseases of plants. He became the world authority in this area. He was responsible for the identification and description of many species of phytopathogenic bacteria and upon request freely gave invaluable advice to others on the preparation of specific descriptions. Because of his authoritative knowledge of phytopathogenic species, he was for many years editor of the phytopathogenic bacteria section of Bergey's Manual of Determinative Bacteriology, the definitive work on bacterial nomenclature. Over the years Burkholder built up an extensive collection of phytopathogenic bacteria -- the largest of its kind in the world. Most of this collection was turned over to the American Type Culture Collection in Washington, D.C. where its usefulness to scientists throughout the world continues.

Prepared by D. H. Wallace,
Cornell University.

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James R. Douglass

J. R. Douglass was born in Asbury, South Carolina on 8 November 1894, and passed away in Twin Falls, Idaho on 27 July 1970, at the age of 75. He was a dedicated and very able entomologist. He completed work for his B.S. degree at Clemsen College in South Carolina in 1918, military to 1920, and for his M.S. at Kansas State College at Manhattan, Kansas in 1923. He also did graduate work at Cornell in 1922, and at Ohio State University from 1930 to 1932.

He was married in 1920, and is survived by his wife, Esther and their three children, two daughters, Jane and Bobby Jean, and a son, James.
He began his professional career with the Bureau of Entomology, U.S. Dept. of Agriculture, in 1923, when he went to Estancia, New Mexico to establish a special laboratory for study of the Mexican bean beetle. His contributions to the knowledge of the biology, life history, and control of that insect in Southwestern United States were outstanding, and he was recognized as an authority on the Mexican bean beetle and its control.

J. R. was in charge of the USDA Bureau of Entomology laboratory at Twin Falls, Idaho from 1934 until 1957. While there he did much of the basic work on insect pests of beans and sugar beets, particularly the western bean cutworm, beet leaf hopper, spider mites, root maggots, web worm, and others. He possessed a great ability for developing new techniques for solving insect problems. He was instrumental in controlling the beet leaf hopper by replacing its host plants with perennial grasses. His professional career in Twin Falls was one of unselfish devotion to his work, and to the agricultural interests of the entire area.

Bob was a man who loved to work, and work hard, when he felt the challenge of an unsolved problem, and to relax and enjoy himself when the job was done, or when he was away from duty. Outing and hunting companions, as well as those who knew him socially, always enjoyed his ready wit, good humor, and seemingly inexhaustible supply of jokes and stories. He was a long-time member of the Kiwanis Club of Twin Falls. A man of sincere loyalties and deep convictions, with a dedicated interest in his community and its betterment; he will assuredly be missed by many.

Prepared by Cal Lamborn,
Gallatin Valley Seed Company,
Idaho.

*****

Howard S. Gentry

Dr. Howard Scott Gentry served the U.S. Department of Agriculture, Agriculture Research Service for more than 20 years as a professional plant explorer. Few individuals could become as competent in this field as Dr. Gentry due to his natural curiosity and zeal for biological assignments. Born and raised on a farm in Southern California, it followed naturally that his adventurous trail would lead to similar environments in Mexico. He spent ten years there as a biological explorer mostly concerned with botany and paleontology.

After becoming a full time staff member of the New Crops Research Branch, ARS in 1950, he conducted 18 explorations covering portions of Afghanistan, Ethiopia, Greece, India, Italy, Pakistan, Turkey, South Africa, Mexico, and other Latin American countries. It was his work in Latin America for which he should be remembered by the Bean Improvement Cooperative. The urgent
need for germ plasm to combat diseases and other pests of the common bean resulted in three trips:  (1) 1965 to El Salvador, Honduras and Nicaragua, (2) 1966-67 to Mexico and (3) 1967 again to Mexico. The last trip was most significant for locating wild relatives as progenitors of the common bean. Dr. Gentry's treatise on "Origin of the Common Bean" appearing in the January-March 1969 issue of Economic Botany is a classic example of his ability to portray to the layman and professional alike the history of one of the world's most important economic crops.

During his career, Dr. Gentry published numerous scientific papers of similar nature and contributed 12,000 accessions to the germplasm banks for U.S. plant breeders. Of these approximately 2,500 were beans. Perhaps his most notable recognition was in receiving the Frank N. Meyer Memorial Medal in 1966 from the American Genetic Association for his distinguished contributions in plant introduction.

In addition to Dr. Gentry's qualifications for plant collecting, he exhibits those most desirable personal traits of kindness and warmth in his associations with all mankind. It seems only fitting that our Bean Cooperative should extend the Meritorious Service Award to an individual who has contributed so much to our research objectives of bean improvement.

Prepared by Howard L. Hyland,
USDA.

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Charles W. Hungerford

C. W. Hungerford was a unique individual of broad interests and wide accomplishments in divergent fields. He was a pioneer among those who elected to use disease resistance as a means of controlling bean diseases. Although his abilities soon led him into heavy administrative responsibilities, he always retained his strong interest in utilizing to the fullest the opportunity to make practical use of the disease resistances available in beans. His farsightedness in an early establishment of a bean improvement program in which virus resistance was a dominant objective, and his continued support, direction, and encouragement for many years, significantly contributed to the widespread development of beans resistant to bean common mosaic, and to curly top. He instituted or supervised research on many other diseases of beans.

In 1919 Dr. Hungerford came to the University of Idaho as Plant Pathologist and department Head. He retained this position until 1955 but additionally assumed responsibilities as Vice Director of the Agricultural Experiment Station (1927-1947); was Assistant Dean of the College (1927-1931); and was Dean of the Graduate School (1931-1951).

Dr. Hungerford was an ardent fly fishing enthusiast, Iris
breeder, gardener, and wood-craftsman. He has influenced the lives and professional careers of numerous former students who have further contributed to bean improvement of world wide significance. The "UI" series of disease resistant dry-edible beans—Great Northern, Pinto, Red Mexican, and Small Flat White—that have contributed so greatly to increased world food supplies can be directly attributed to the farsighted approach engineered by him at a time when the present U.S. bean industry was still in its infancy. His early encouragement of breeding curly top resistant snap beans will assure future expansion of bean production in the arid West. The influence of C.W.'s pioneering interest in beans has helped to establish a firm foundation to assure the continued success of the bean industry.

Prepared by L. L. Dean,
University of Idaho.

*****

Herbert A. K. Lamprecht

Herbert Anton Karl Lamprecht was born, the son of a banker, in the small border town of Mureck, Austria, on November 3, 1889. He died August 18, 1969, at the age of 80.

Despite an early interest in biology, he was moved by practical considerations to study organic chemistry in which he was awarded the doctor's degree in 1917.

In 1921 he joined the vegetable department of the Institute of Garden Trials in Alnarp, Sweden, and studied botany and genetics at the University of Lund. After becoming a citizen of Sweden, he was head of the Vegetable Department at Alnarp. He conducted biochemical investigations concerning the interrelationship of day-length, assimilation, and yield of certain vegetables and became interested in genetics of peas and beans.

In 1932 Dr. Lamprecht moved to Weibullsholm as head of the Plant Breeding Institute—a position he held until semi-retirement in 1957. Despite attempts by well-meaning colleagues to discourage him (on the grounds that peas and beans were already too thoroughly investigated), he began to study the genetics of these plants by means of crosses and progeny analyses.

Lamprecht's genetical investigations focused primarily on a genetic analysis of Pisum. However, he also worked extensively on Phaseolus genetics and published at least 36 papers on the subject between 1932 and 1961. During his genetical studies at Alnarp he found a spontaneous hybrid between Phaseolus vulgaris and Ph. coccineus. This observation led him to make thousands of artificial crosses between these two Phaseolus-species, and eventually he achieved success. On the basis of these results he postulated the existence of two kinds of genes, inter- and intra-specific. The inter-specific genes were thought to act as
barriers between real species. In 1940 he was awarded a doctor's degree at the University of Lund for a dissertation on the species-barrier between *Phaseolus vulgaris* and *Ph. coccineus*.

As scientist and breeder Herbert Lamprecht received many honors and tributes. They include a professorship in 1959, an honorary doctorate from the University in Graz, the "Ehrenzeichen fur Wissenschaft und Kunst" from Austria in 1963, and others.

As plant breeder and head of the Plant Breeding Institute his policy was to afford his collaborators the greatest possible freedom. He had a deep interest in theory but at the same time he had a clear view of the main lines of development of practical breeding. Under his leadership the Institution has grown and enjoys a reputation for its scientific accomplishments as well as for its many successful varieties.

Preparation: "largely taken from a biography prepared by Stig Blixt for PNL Vol. 2, 1970".

John J. Natti

Dr. John Jacob Natti, Professor of Plant Pathology at New York State Agricultural Experiment Station, Cornell University, Geneva, died of a sudden coronary arrest on April 9, 1971. Dr. Natti's biography appears in the obituary section of the report.

Melbourne C. Parker

Dr. Melbourne C. Parker, Research Director of the Gallatin Valley Seed Company, Twin Falls, Idaho, is one of today's most eminent and successful snap bean breeders. His success as a pea breeder is equally as impressive.

He received his B.S. degree from the Montana Agricultural College in 1930 and his M.S. and Ph.D. degrees in Genetics and Plant Pathology from the University of Wisconsin in 1931 and 1933 respectively. During this period he was also an agent of the U. S. D. A. and worked on bean disease investigations during the summer of 1931 at Greeley, Colorado.

His doctorate thesis dealt with the inheritance of resistance to common bean mosaic virus in beans. He also investigated the inheritance of a leaf variegation and a "yellow spot" character resembling a virus disease in bean.

Although he officially joined the Gallatin Valley Seed Company at Bozeman, Montana, after his graduation in 1933 as their pea breeder, he actually started working for the firm at the age of 14
roguing peas during the summer months, so his association with the seed industry has been a long one.

Gallatin Valley Seed Company started their bean program in 1948 with Dr. Parker in charge, but he did not become actively involved in the breeding phases of this crop until 1957 when he transferred from Bozeman to Twin Falls, Idaho. He also continued his pea breeding activities there.

Dr. Parker has been extremely successful in developing a number of outstanding disease-resistant snap bean varieties in the 14 years of his bean breeding career. With his knowledge of plant pathology, he has stressed disease resistance in his breeding studies. He was the first to develop a mosaic-resistant cream colored Tendercrop type known as Gallatin 50 which has been very popular among canners and freezers. Since 1961 when it was first released to processors, almost 15 million pounds of seed of it has been sold. Other outstanding varieties he has developed include Early Gallatin, Galaxy, Galena, Galgreen, Valgreen, Valgold, Valiant, and Encore. It is evident from this that in less than 15 years he has contributed much to the development of the snap bean industry throughout the world.

Dr. Parker is a keen observer and an enthusiastic, inspiring and dedicated investigator. In spite of his success as a leader in his field, he is modest, very cooperative and considerate of his friends and associates of which he has many. The Bean Improvement Cooperative is proud to recognize his services to the bean industries with this Meritorious Award.

Prepared by W. J. Zaumeyer, USDA.

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Francis L. Smith

The Bean Improvement Cooperative is proud to present its special award for meritorious service to the bean industry to Dr. Francis L. Smith. Dr. Smith's outstanding career as a bean breeder is exemplified by the fact that he is the developer of all of the major varieties of common dry beans and cowpeas now being grown in the state of California and of several additional varieties which comprise considerable bean acreage in other states.

Dr. Smith received a B.S. degree from the University of Arizona, an M.S. from Kansas State College and a Ph.D. from the University of California. He was appointed Junior Agronomist at the University of California in 1933. In 1968 he retired as Professor of Agronomy and Agronomist in the Experiment Station of the University of California.

During the early part of Dr. Smith's career he worked on both
corn and beans. From 1950 until his retirement he concentrated on bean varietal development, studies of bean cultural practices and on bean genetics. His concerted efforts resulted in improved quality and yield of dry beans, establishment of cultural guidelines for farmers and in an elaboration of basic knowledge of bean genetics. He published 40 technical papers on beans and corn.

A major part of Dr. Smith's distinguished career has been devoted to service at the University of California at Davis and in the City of Davis. On the campus he was highly regarded by his students as a teacher, and as a conscientious proponent of educational aids to needy students. He served for many years as Chairman of the Educational Aid Committee and has maintained his interest in this committee since his retirement. During his professional tenure, he also acted as a faculty advisor and member of the Board of Directors of Theta Xi Fraternity and as Secretary of Phi Kappa Phi.

The City of Davis continues to depend on his advice and experience as a member of the Davis Improvement Association, as President of the Rotary Club and member of the local Democratic Club. His generous service and unfailing good nature have endeared him to all of his associates.

In both professional and civic endeavors, Dr. Smith has gathered about him a host of loyal friends who rely on his kindly counsel and generous heart. It is a singular honor for the Bean Improvement Cooperative to count him among its distinguished contributors and to recognize his service with this award.

Prepared by Carl Tucker,
University of California,
Davis.

*****

Robert E. Wester

Robert E. (Bob) Wester, Horticulturist, U. S. Department of Agriculture is recognized as the outstanding lima bean breeder in the United States. During his 44 years as an investigator his contributions to the processing and seed industry have been very impressive. Whenever disease or related problems of lima beans arise, Mr. Wester's advice is sought.

He was graduated from George Washington University, Washington, D.C., in 1937 with a M.S. degree. He later did additional graduate work at the University of Maryland. He started his research career in the Department in 1927 as an agronomist in the Office of Cereal Investigations and was stationed at Arlington Farm, Virginia, for 4 years. He transferred to the Division of Cotton and Other Fiber Plants in Greenville, Texas, and remained there until 1936. He returned to Beltsville, Maryland, as a Horticulturist in the then Office of Horticultural Crops and
Diseases when he started his lima bean breeding.

During Mr. Wester's 35 years as a lima bean breeder, he has developed and released 8 varieties of both the Fordhook and baby lima types. The two most popular varieties grown in the East where many lima beans are processed are his introductions - Fordhook 242 and Thaxter, the latter being resistant to the common strain of the downy mildew fungus. He has devoted much of his time to developing varieties resistant to this fungus which in some years causes heavy losses to the crop. In addition, he has developed varieties possessing resistance to nematodes, anthracnose, and heat.

Included among the varieties he has developed are Fordhook 242, Early Market Bush, Peerless, Triumph, Nemagreen, Thaxter, Dover, and Green Seeded Fordhook 861. The last three varieties resist the downy mildew fungus. A new green-seeded baby type which resists two strains of downy mildew will be released this winter and an advanced green-seeded Fordhook which also resists two strains will be released in 1972. In addition, Mr. Wester has a line in the developmental stages which resists three strains of the fungus.

Mr. Wester has received many awards and honors in recognition for his services to the lima bean industry. He has received All American Awards for 5 of his releases, a Citation of Merit Award in recognition of his outstanding achievements in lima bean breeding from the University of Delaware, a plaque from the Mid-Atlantic Food Processors Association for his outstanding lima bean breeding research which resulted in the saving of millions of dollars to the industry, and the coveted Superior Service Award of the U. S. Department of Agriculture.

Prepared by W. J. Zaumeyer,
USDA.
NEW BIG AWARDS POLICY

Proposed Policies and Procedures on BIG Awards and Recognitions

The Awards Committee

Comprised of four BIG members, 2 remaining from the previous committee, one as Chairman, and 2 new members, all appointed each biennium by the Chairman of the Coordinating Committee.

Awardees

(1) To be nominated by the membership at large. Nominations should be received any time up to 6 months before the next BIG meeting. Should include supporting resume of the nominee's accomplishments and other information on status, etc.

(2) Usually, awards would be made to no more than two nominees, unless to a team of more than two, at any one biennial meeting, for an outstanding single accomplishment, or sustained high performance over a period of years. Age or approaching retirement should not influence such choices (except that the older most worthy candidates in any one biennium should receive the awards).

Recognition of Retirees

So that every member would have the opportunity of being recognized and appreciated for his contributions to plant improvement, a brief biography (400 words or less) prepared by a close associate or friend would be published, with approval of the retiree, in the first BIG Report after his retirement. The membership at large, through the awards committee, would be responsible for submitting nominations and/or biographies for recognition of retirees.

For the Deceased

Members for whom biographies were not already published in the BIG Report before death, would be so recognized posthumously, with a copy of the biography and letter of appreciation being mailed to the nearest of kin. Similarly, copies of BIG biographies and letters of appreciation should be mailed to the families of deceased for whom biographies were published while they were living.

Responsibility

The awards committee would be responsible for implementation of all phases of the above awards program in cooperation with the BIG Coordinating Committee and current BIG Program Chairmen. Time and methods of presentation would be decided by each new awards committee.
Awards

A certificate would be presented, perhaps along with some other token, according to the discretion of the committee.

Publicity

News releases would be appropriate.

Approval of policy: This policy was adopted by the members attending the BIC business meeting on November 9, 1971, in the Sheraton-Schroeder Hotel, Milwaukee, Wisconsin.

NOTE OF APPRECIATION

The BIC Coordinating Committee on behalf of the membership is grateful for the excellent service of the committee who developed this awards policy; D. W. Burke (Chairman), J. R. Baggett, C. G. Briggs, L. L. Dean, and D. H. Wallace. Credit must go to all members of the committee but particular appreciation must be extended to the Chairman D. W. Burke.

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New BIC Awards Committee for the 1973 Meeting

L. L. Dean (Chairman)
D. W. Burke
W. J. Zaumeyer

A fourth committee member will be selected in the near future from members in the seed or processing industries.

Note: BIC members who wish to nominate persons to receive awards should send nominations to any of the committee members (see BIC awards policy in this report). If BIC members wish to nominate members of the present BIC Awards Committee it is suggested that nominations be sent to Dermot Coyne, Chairman of the BIC Coordinating Committee or to any member of this committee.

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REPORT OF THE BEAN GERM PLASM COMMITTEE

Dr. Leslie Dean requested permission to use the symbol Pc for persistent green pod color.

Attention is called to BIC members to submit gene symbols to the Chairman for approval so that duplication can be avoided.

L. H. Camacho
S. Dana
L. W. Hudson

D. H. Wallace
M. H. Dickson, Chairman
Meetings

Next Biennial BIC Meeting:

Mike Dickson, Department of Vegetable Crops, New York State Agricultural Experiment Station, Geneva, Program Chairman for the next meeting.

The BIC members attending the November 1971 meeting in Milwaukee agreed to hold the next meeting in Rochester, New York in 1973. The meeting will be during the week of November 5-9, unless this conflicts with other meetings, in which case it will be held the following week. Those attending the 1971 meeting felt one day was too short and with the demise of the W96 a part of a day on bacterial diseases would be worthwhile. The Dry Bean Research Conference will be held in conjunction with the BIC, adding a third day for those interested in both programs. It is hoped one day can be spent on mutual problems of interest, such as root rots, bacterial disease and seed quality. Any suggestions and recommendations concerning the program should be sent to the Program Chairman, Mike Dickson or other members of the Program Committee: Fred Bliss, John Curme, John Deakin, George Emery, and John Kelly.

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Personnel Change

Dr. William L. Hollis. Appointed Science Coordinator with the National Agricultural Chemicals Association.

The following information was obtained in the NCA information letter, December 11, 1971.

"Dr. William L. Hollis, associate director of NCA's Agriculture Division, has been appointed Science Coordinator for the National Agricultural Chemicals Association, effective January 1.

Dr. Hollis will work with industry and government scientists on matters involving agricultural chemicals and will serve as liaison between the NACA and scientific groups and industries having interest and responsibility in food production and quality, human health and environmental matters.

Dr. Hollis came to NCA in 1966 from a professorship at the University of Maryland."

Note of Appreciation

All of us send our best wishes to Bill in his new position. The BIC Coordinating Committee are grateful to Bill Hollis for the excellent service he has given this organization over many long years. He was actively involved in developing BIC programs in cooperation with program chairmen and in selecting and arranging
meeting places. He was a great link between research personnel in industry and in the public areas. He always actively participated in the BIC meetings and was always contributing useful ideas. He was always cordial and friendly and we will miss him at our meetings. I am sure he will always be glad to hear from BIC members. His address will be 1155 - 15th St., N.W., Suite 514, Washington, D.C. 2005, phone 202/296-1585.
SERVICES, FACILITIES AND PERSONNEL

SNAP BEAN VARIETY PERFORMANCE TRIALS

M. J. Silbernagel
USDA, ARS, PSR, Irrigated Agriculture Research
and Extension Center, Prosser, Washington

Performance trials of new curly top virus resistant snap bean
varieties and advanced breeding lines are conducted annually at
Prosser, Washington, to estimate yield, maturity, sieve size
distribution, seed and fiber levels, and general canned and frozen
product quality. About 12 to 16 lines from state, federal, and
private plant breeders are compared in a replicated, mechanically
harvested, spring planting.

Mimeographed results are generally available by late
December. Copies of the 1971 trial reports are available on req-
uest.

Anyone interested in entering varieties in this trial please
contact author by mid April. About 7-8 pounds of seed are
required.

*****

PEA GROWING RESEARCH ORGANISATION LTD

A. J. Gane
Director of Research
The Research Station, Great North Road
Thornhaugh, Peterborough, England

1. PGRO is concerned with all aspects of (pea and) bean produc-
tion, and for the assessment of new varieties, pesticides and
techniques of harvesting. Any BIC members visiting England
are cordially invited to visit the station at any time.
Membership currently extends to 16 countries overseas, and
details will be sent on request.

just been published; supplies are dwindling rapidly, but at
the time of writing a few copies remain. Price £2.00 per
copy.

Volume II - Beans, is in the course of preparation and it is
hoped to publish in about a year's time. If you would like
further details in due course, please write now to PGRO,
Research Station, Thornhaugh, Peterborough, England. As in
the case of Vol.1, this will be a limited edition, and the
majority of copies will be sold in advance.
3. A list of 156 publications prepared by members of the PGRO during the period 1966 to 1971, and also an earlier list may be obtained by writing to A. J. Gane.

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TAYLOR MOUNTAIN ENTERPRISES
P.O. Box 187, Allenspark
Colorado, U.S.A. 80510

Bruce Pollock has recently announced the establishment of a new seed quality consulting service. He is prepared to assist seedmen, breeders, and research workers in evaluating problem seed lots, anticipating seed quality problems in new varieties, modifying cleaning plant methods to improve quality, solving dormancy problems, reviewing and evaluating scientific literature, and developing new methods for precision planting. Because of his extensive experience with bean seed quality, he can most quickly provide service on this crop.

However, he is also anxious to develop work on lettuce using the new test for seed quality which he has recently published (Hort. Science 6:444-445, 1971). In addition, he has prepared reviews on germination conditions and on seed and seedling vigor which will soon be published (in: "Viability of Seeds", P. F. Wareing and E. H. Roberts, eds. and "Seed Biology", T. T. Kozlowski, ed.). From the extensive literature reviews which these articles required, he has ideas for methods applicable to a number of other crops and is eager to apply these ideas to practical problems.

The new consulting service, carried on as Taylor Mountain Enterprises, is permanently located in Allenspark, Colorado (Box 187, Zip 80510). The temporary address is 614 Stover Street, Fort Collins, Colorado 80521.

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PROTEIN RESEARCH

Professor D. Boulter
Department of Botany, University of Durham
Science Laboratories, South Road
Durham, England

BRIEF DETAILS OF EXISTING PERSONNEL AND FACILITIES

Personnel

Prof. Boulter (Head of Dept.); Dr. A. Yarwood, Dr. M. Richardson (Lecturers); Dr. M. Evans, Dr. R. Brown (Post-doctoral
Chemists); Mr. E. Derbyshire, Mr. J. Liddell (Senior Research Fellows); 2 experimental officers, and 5 technicians.

These are members of the Protein Group at Durham and, although already engaged on projects, would be available to give advice and help with specialist techniques.

Program

Professor Boulter also wrote that they are, "also attempting to develop a suitable screening method for methionine, which could be used in plant breeding programmes of legumes, and are also interested in the proteins of the developing seed of Soya, Phaseolus and Vigna, with special regard to toxic proteins. We are co-operating with the International Institute of Tropical Agriculture, Ibadan, Nigeria, and the Cambridge University grain improvement programme."

Facilities

Cold-room suite for protein purification one pound scale includes Broadbent Continuous Centrifuge, large-scale blenders, columns, etc.

EM Laboratory - AEI EM6B, LKB ultratomes and freeze-etcher, etc.

Protein structure laboratory - Technicon amino acid auto-analysers, with automatic loading, integrators, auto-titrator, high-voltage electrophoresis, polyamide sheet chromatography.

Biochemical laboratory - Analytical and preparative ultracentrifuges (5), automatic kinetic, and uv spectrophotometers, gas-chromatography, proportional and scintillation radio-active counters, automatic uv-monitored protein separation columns, isofocusing and preparative acrylamide gel apparatus.

Publications: Professor Boulter provided an extensive list of publications prepared by the group during 1971-1970. This list has not been published separately. The publications are listed in the bibliography section dealing with physiology, culture and quality.
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. W. Department of Crop and Soil Sciences, Michigan State University, East Lansing, Michigan 48823

Adams, M. President Curtice-Burns, Inc., 315 Alexander Street, P.O. Box 681, Rochester, New York 14607


Alvarez, Luna, Eduardo Director Technico, Kmoz Carreter A Navolato, Apartado 229, Simientes Mexicanas, S. A., Culiacan, S. A., Sinaloa, Mexico

Anderson, Axel L. Department of Botany and Plant Pathology, Michigan State University, East Lansing, Michigan 48823

Anderson, M. E. Rogers Bros. Seed Co., P.O. Box 104, Twin Falls, Idaho 83301

Andeweg, J. M. Breeding Station, Royal Sluis, 31, Afweg, Wageningen, Holland

Asmer Seeds Ltd., Attention: Dr. Holland, P.O. Box No. 33, 33 Moor Street, Ormskirk, Lawcs, England

Atkin, John D. Research Department, Asgrow Seed Co., P.O. Box 1235, Twin Falls, Idaho 83301

Aylesworth, J. W. Canada Department of Agriculture, Research Station, Harrow, Ontario, Canada

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

Ballantyne, Barbara Biological and Chemical Research Institute, Biology Branch, Department of Agriculture, Private Bag No. 10, Rydalmere, New South Wales. 2116 Australia

Barrios, Ing. Agr. Alfredo, Centro de Investigaciones Agronomicas, Seccion De Fitotecnia, Maracay, Edo, Aragua, Venezuela

Bartz, H. M. Mitchell, Nebraska 69357

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Bliss, F. A.  
Department of Horticulture, University of Wisconsin, Madison, Wisconsin 53715

Boulter, Donald  
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Boucard, Gerard  
Societe Anonyme Darbouco, 87, Rue Du Quai, P.O. Box 4, Port - Au - Prince, Haiti

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Botany Department, University of London King's College, School of Biological Sciences, 68 Half Moon Lane, London, S.E. 24., England

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Briggs, Carroll G.  
Asgrow Seed Co., P.O. Box 6, Milpitas, California 95035

Brotherton, Harley  
W. Brotherton Seed Co., Inc., Post Office Box 906, Moses Lake, Washington, USA. 98837

Brooks, Jim  
Razor Back Farms, Inc., Springdale, Arkansas 72764

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CIAT, Apt. Aereo 67-13, Cali, Colombia, South America

Burke, Douglas W.  
USDA, ARS, Crops Research Division, Irrigated Agriculture Research and Extension Center, Prosser, Washington 99350

Burpee, W. Atlee III  
Vice President, W. Atlee Burpee Co., Hunting Park Ave. at 18th St., Philadelphia, Pa. 19132

Camacho, Luis H.  
Head, Grain Legumes Program, Instituto Colombiano, Agropecuario, Centro Nacional de Investigaciones Agropecuarias, Palmira, Colombia, South America

Caillard and Quris, 35 a 41 Rue Dupetit Thouars B.P. 195, 49-Angers, France

Campbell, John A.  
Truck Crops Experiment Station, Crystal Springs, Mississippi 39059

Campbell's Soups, Ltd., Kings Lynn, Norfolk, England


Carlin, K.  
The Golden Circle Cannery, Earnshaw Road, Northgate, Brisbane, Queensland, Australia
Cassidy, J. C. The Agricultural Institute, Horticulture and Forestry Division, Kinsealy, Malahide Road, Dublin 5, Ireland

Chester B. Brown Co., Morrill, Nebraska 69358

Chung, Jai H. Crop Research Division, DSIR, Christchurch, New Zealand

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

Colville, Robert B. Del Monte Corporation, P.O. Box 89, Rochelle, Illinois 61068

Corneli Seed Company, 101 Chateau Avenue, St. Louis, Missouri 63105

Counter, Ben F. Fort Lupton Canning Co., Fort Lupton, Colorado 80621

Cosgriff, P. W. Pict Limited, Box 46, P.O., Mt. Waverley, Vic. 3149 Australia

Coyne, Dermot P. University of Nebraska, Department of Horticulture & Forestry, Lincoln, Nebraska 68503

Crites-Moscow Growers, Inc., Moscow, Idaho 83843

Crnko, Jose, INTA - EEA. La Consuta, Casilla Correo 8, La Consulta, Mendoza, Argentina


Curme, John H. Agricultural Research Department, Green Giant Co., Le Sueur, Minnesota 56058

Czech, Richard, 212 Audley Dr., Sun Prairie, Wisconsin 53590

Dana, S. Dept. of Genetics and Plant Breeding, Faculty of Agriculture, Univ. of Kalyani, P.O. Mohanpur, Nadia, West Bengal, India

Danish Government, Institute of Seed Pathology for Developing Countries, Attention: Vibe Lund, 78, Ryvangsalle Hellerup, Copenhagen, Denmark

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Davison, Arlen D. Western Washington Research & Extension Center, Puyallup, Washington 98371

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Department of Science Services, Dept. of Agriculture, Rydalmere, New South Wales, 2116 Australia Attention: Librarian, Department of Agriculture

Dickens, L. E.  Dept. of Plant Pathology, Colorado State University, Fort Collins, Colorado 80521

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Director, Botany Division, D.S.I.R., Private Bag, Christchurch, New Zealand

Dolan, D. D.  Room 220 Sturtevant Hall, Plant Introduction Station, New York Agricultural Experiment Station, Geneva, New York 14456

Dongo, Segundo L.  Departamento de Fitopatologia, Estacion Experimental Agricola de La Molina, Apartado 2791, Lima, Peru

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Duarte, R. A.  Centro Nal Invest. Agr., Tulio Ospina, Medellin, Colombia, South America

Echandi, Eddie  Co-leader National Bean Program, North Carolina State University Mission, U. S. Embassy, USAID, Lima, Peru

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Emery, G. C.  Ferry-Morse Seed Co., San Juan Bautista, California 95045

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Ensign, Ronald  University of Idaho, Agricultural Experiment Station, Moscow, Idaho 83844
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Farlow, P. J., . Dept. of Primary Industries, Redlands
Horticultural Research Station, Delancey Street, Ormiston,
Queensland.  4163 Australia

Fenton, Allen, . Green Giant Company, Watsonville, California
95076

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agropecuaria do Norte (Ipean), Caixa Postal 48, Belém, Pará, Brasil

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of Delaware, Newark, Delaware 19711

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Frazier, W. A., . Department of Horticulture, Oregon State
University, Corvallis, Oregon 97331

Frozo Food Company Pty. Ltd., Attention: G. C. Grantham, Cr.
Cherry Lane and Maria St., Brooklyn, Victoria Australia

Gabelman, W. H., . Horticulture Department, University of
Wisconsin, Madison, Wisconsin 53715

Gámez, Rodrigo, . Departamento de Fitopatología, Universidad
de Costa Rica, Ciudad Universitaria, Costa Rica

General Foods Corporation, Attention: M. W. Miller, 'Birds Eye
Division, County House Road - RFD #3, Albion, N.Y. 14411

Gautier, J. P. and Fils, Graines Gautier, 13- Eyragues, France

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Lilongwe, Malawi, Africa

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Gordon Edgell Pty. Ltd., Head Office Agriculture, P.O. Box 56,
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Green Giant Company, Attention: J. G. Martland, Agricultural
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Hraba, A. R., FMC Corporation, Niagara Chemical Division, P.O. Box 601, Yakima, Washington 98901

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Hudson, Leland W., USDA, ARS, Rm. #59, Johnson Hall, Pullman, Washington, 99164
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Hung, Lih, Department of Horticulture, College of Agriculture, National Taiwan University, Taipei, Taiwan, Republic of China

Ibrahim, Aly Mohamed, 102 Plant Industry Bldg., Department of Horticulture & Forestry, University of Nebraska, Lincoln, Nebraska 68503

Idaho Bean Commission, State House, Room 206, Boise, Idaho 83702

Institute of Agronomy, Caixa postal 28, Campinas, Est. S. Paulo, Brazil, South America

Institute v. d. Verdeling, Van Tuinbouwgewassen, Dr. S. L. Mansholtlaan 15 Wageningen, Netherlands

Inter-American Institute of Agricultural Sciences, Library and Documentation Service, Turrialba, Costa Rica.

Intermountain Bean Co., Inc., Box #805, Twin Falls, Idaho 83301

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Jorgensen, I. L., Northrup-King Co., 1500 Jackson St., NE., Minneapolis, Minnesota 55413

Jorgensen, M. Blangstrup, Danish State Exp. Hort. Station, Spangsbjerg Kirkevej 41, Esbjerg, Denmark

Joseph Harris Co., Inc., Moreton Farm, Rochester, New York 14624

Kaplan, L., Department of Biology, University of Massachusetts, 100 Arlington Street, Boston, Massachusetts 02116

Kaiser, Walter J., Federal Experiment Station, P.O. Box 70, Mayaguez, Puerto Rico 00708

Kemp, G. A., Canada Department of Agriculture, Research Station, Lethbridge, Alberta, Canada

Kidar, N., Faculty of Agriculture, P.O. Box 12, Rehovot, Israel

Kiely, T. P., Charter Seed Company, Box 191, Twin Falls, Idaho 83301

Kelly, J. F., Pioneer Research, Campbell Institute for Agricultural Research, Riverton, New Jersey 08077

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Kolar, John J., Bean Research Laboratory, Box #67, University of Idaho, Twin Falls, Idaho 83301

Kovachick, W., Unilever Research Laboratory, Colowrth/Welwyn, Colowrth House, Sharnbrook, Bedford, England

Kristensen, M., Danish State Experimental Horticulture Station, Spangsbjerg Kirkevej 41, DK - 6700, Esbjerg, Denmark

Kurzenhauser, J. W., 905 John Adams Parkway, Idaho Falls, Idaho 83401

Kyle, Jack H., Garden City Branch Station, Kansas State University Garden City, Kansas 67846

Lamborn, Calvin R., Gallatin Valley Seed Co., Box #167, Twin Falls, Idaho 83301

Lawyer, L. O., Del Monte Corporation, 850 Thornton Street, San Leandro, California 94577

Leakey, Colin L. A., Makerere University College, P.O. Box 7062, Kampala, Uganda

Librarian, Agricultural Experiment Station, P.O. Box "H", Rio Piedras, Puerto Rico 00928

Library Order Division, University of Guelph, Guelph, Ontario, Canada

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Balance on hand as of March 15, 1971  $618.89

Income during period from dues and sale of back issues of report  309.00

Interest (3/10/71 - 12/31/71)  16.20

Expenses

Cost of framing 9 BIC Award Certificates  $29.25
200 - 8½ x 14 programs - BIC meeting  34.65
Charge for printed checks  2.40

BIC Report - 1972

300 Front and back covers  $15.19
230 Kraft envelopes (10 x 13)  5.75
30 Reams 8½ x 11, white A.B. Dick Vellum  29.10
5 qr. Rochester stencils  13.45
Typing - 147 pages at $0.75 page  111.00
Numbering pages - 2 hrs. at $2.15 per hr.  4.30
Typing labels - 6 hrs. at $2.15 per hr.  12.90
Collating, stapling, and stuffing envelopes - 24 hrs. at $2.15 per hr.  51.60

Total cost of BIC Report  $243.29

Total Expenses  309.59

Net balance available as of March 18, 1972  $635.10

BIC Contingency Fund  $277.60

Interest (12/30/70 - 12/31/71)  12.64

Total amount in Contingency Fund  290.24

Grand Total available - March 18, 1972  $925.34

1/ Some additional are not included in this financial statement and these will be listed in 1973. The bills had not arrived. Items involved are postage, duplicating, and additional paper.