ANNUAL REPORT OF THE

BEAN IMPROVEMENT

COOPERATIVE

A VOLUNTARY AND INFORMAL ORGANIZATION
TO EFFECT THE EXCHANGE OF INFORMATION AND MATERIALS

VOLUME 43
2000
The XXXXIII
Report of the
BEAN IMPROVEMENT COOPERATIVE

No. 43

March 2000

[ ISSN 0084-7747 ]

Coordinating Committee

Steve Antonius
Jim Kelly (President)
Phil Miklas
Soon Jai Park
Howard F. Schwartz (Ex officio)
Bert Vandenberg

Jim Beaver
George Kotch
Jim Myers
Ron Riley
Shree P. Singh

Please address correspondence about BIC membership and BIC annual reports to:

Dr. James D. Kelly, BIC President
Tele: 517-355-0205 // FAX: 517-353-3955 // Email: kellyj@pilot.msu.edu
Department of Crop & Soil Sciences
Michigan State University
East Lansing, MI 48824
U. S. A.

Note: It will be assumed that interested individuals may freely cite (including author credit) any report or note in this BIC report, unless the author indicates to the contrary. As a professional courtesy, individuals citing BIC notes should notify the authors of his or her intentions. The BIC Coordinating Committee approved this statement on November 5, 1975.
# TABLE OF CONTENTS

| XXXXIII Annual Report of the Bean Improvement Cooperative | i |
| BIC Committee Membership - 1957 to 2000 | i |
| 1999 BIC Meritorious Service and Achievement Award Recipients | ii |
| Coordination of Genes and Gene Symbol Nomenclature | v |
| Genetics Committee Report | v |
| 2001 Meeting | vi |
| Cultivar Information Request | vi |
| Announcement | vi |

## 1999 BIC PROCEEDINGS-Papers

Pyramiding rust and viral resistance genes using traditional and marker techniques in common bean  
J.R. Stavely ................................................. 1

Patterns of response to zinc deficiency in dry bean of different market classes  
D. Westermann and S.P. Singh ................................. 5

Selecting zinc-efficient navy bean genotypes  
J. Moraghan and K. Grafton ................................ 7

‘Marsh Spot’ in cranberry bean seed  
J. Moraghan and K. Grafton ................................ 9

### Bean improvement for low fertility soils in Africa: the BILFA II


### Surveys for bean common mosaic necrosis virus in East Africa

J.R. Myers, G.A. Mink, and R. Mabagala ............................ 13

### Morphological features of the seed coat surface of shiny and opaque black been seed

M.A. Brick, G. Gul, and H.F. Schwartz ............................... 15

### Inheritance of the Anasazi pattern of partly colored seedcoats in common bean

M.J. Bassett, K. Hartel and P. McClean ............................... 16

### Progress in developing tannin-free dry *phaseolus* beans.

C.L.A. Leakey ................................................. 18

### Barriers to interspecific hybridization in crosses between *Phaseolus coccineus* L. (G35172) and *Phaseolus vulgaris* L.

F.H. Ferwerda and M. J. Bassett ................................ 21

### Re-thinking the population structure of common bean

F.J. Ibarra-Perez, B. Ehdaiie, and J.G. Waines .............................. 23

### Outcrossing in Mexican wild and domesticated populations of common bean

P. Gepts, A. González, R. Papa, J. Acosta, A. Wong, and A. Delgado Salinas .................. 25

### Detection of genetic loci for resistance to potato leafhopper 
(*Empeasaca fabae*) in the common bean 
(*Phaseolus vulgaris*)

J. Murray, A. Wylde, K.P. Pauls, T. Michaels, and A. Schaaftma .................. 27

### Mapping simple sequence repeat markers into a molecular linkage map of common bean 
(*Phaseolus vulgaris* L.)


### Biological control of bean rust using bacterial agents

G.Y. Yuen, J.R. Steadman, D.T. Lindgren, D. Schaaf, and C. Jochum .................. 31

### Efficacy of *Bacillus subtilis* and two *Rhizobium* strains for the management of bean root rot in Minnesota

C. Estévez De Jensen, R. Meromuck, and J.A. Percich .................. 33

### New fungicide evaluations for bean rust of snap bean

Robert T. McMillan, Jr ................................................. 35

### Enhanced bacterial disease management strategy

H.F. Schwartz and K.L. Otto ........................................... 37
Marker-assisted breeding for pyramided resistance to common bacterial blight in common bean
Breeding for root rot resistance in common bean (Phaseolus vulgaris L.)
S. J. Park and T. Rupert ........................................ 41
Heritability of web blight resistance in common bean
J.C. Takegami and J. Beaver ..................................... 43
Should we consider General Public License for bean germplasm?
T.E. Michaels ....................................................... 45

1999 BIC PROCEEDINGS-Posters

Breeding white seeded bean cultivars for improving quality
A.B. Monteagudo, A.P. Rodiño, I. Montero, M. Santalla, and A.M. Ron ....................... 47
Environmental and genotypic effects on yield, physico-chemical, and sensory characteristics in dry beans
C. Asensio, M.A. Sanz, and M.C. Asensio ................................ 49
Improving Food Quality in Dry Edible Bean
George L. Hosfield .............................................. 52
Response of common bean cultivars to granular inoculant in dryland production systems
T. Nleya, F. Walley, and A. VandenBerg ............................................. 54
Physiological response of black bean to residue management
L.D. Shaw and S.J. Shirtliffe .................................... 56
Impact of weed density and pod rot (Rhizoctonia solani) on lima bean
S.S. Sankula, M.J. VanGessel, and K.L. Everts ....................................... 58
Genetic mapping of agronomic traits in common bean (Phaseolus vulgaris L.)
B. Tar'an, T.E. Michaels, and K.P. Pauls ............................................ 60
Molecular marker-based cluster analysis as a selection aid in common bean breeding
A.D. Beattie, K.P. Pauls, and T.E. Michaels ............................................. 62
Heterotic parametrization of agronomic traits in common bean
M.A.A. Barelli, M.C. Gonçalves-Vidigal, A.T. do Amaral Jr., P.S. Vidigal Filho, C. Thomazella,
and F. Rimoldi ......................................................... 64
Relative freezing resistance in the genus Phaseolus
P.M. Balasubramanian, A. VandenBerg, P.J. Hucl, and L.V. Gusta ......................... 66
Transferring heat tolerance and indeterminancy from indeterminate Jamaica red (PI 163122) to
kidney bean
P.N. Miklas, R. Hannan, J.R. Smith, J.S. Beaver, R. Riley, and S. Antonius .................. 68
Winter survival of kidney bean root rot pathogens in various crop residues.
C. Estévez de Jensen, J.A. Percich, R. Meronuck, and R. Winberg ......................... 70
DNA variation and virulence among isolates causing web blight on common beans
Effect of root medium, plant growth stage, and time of year on relation of greenhouse to field
reactions of white bean to white mold.
A. Madariaga and R. Hall ............................................ 74
Field and straw test reactions to white mold in a RIL population (A 55/G 122)
P.N. Miklas, R. Delorme, W.C. Johnson, and P. Gepts ........................................... 76
Breeding rust resistant dry beans for South Africa: a tribute to Dr. J.R. Stavely
M.M. Liebenberg and A.J. Liebenberg .................................................. 78
Characterization of bean rust (Uromyces appendiculatus) isolates from Southern Africa
M.M. Liebenberg and A.J. Liebenberg .................................................. 80
Identification of Colletotrichum lindemuthianum races in Phaseolus vulgaris L.
C. Thomazella, M.C. Gonçalves-Vidigal, J.B. Vida, P.S. Vidigal Filho, and F. Rimoldi .... 82
Use of RAPD and AFLP analyses to tag the Co-l gene conditioning resistance to bean anthracnose
M. Melotto, V. Vallejo, H. Awale, and James Kelly ........................................ 84
An European network for bean improvement: PHASELIEU
A.M. de Ron .......................................................... 86
Evaluation of two recombinant inbred populations of kidney bean
M.C. Posa, G.L. Hosfield, J.D. Kelly, and K.F. Grafton ..................... 88
Biocontrol of apothecial production of Sclerotinia sclerotiorum in pulse and oilseed crops
H.C. Huang and R.S. Erickson ........................................ 90
Fusarium Wilt Variability in Dry Bean and Sugarbeet
Erin Wickliffe, K. Otto, H.F. Schwartz, M.A. Brick, B. Ogg, P. Byrne, A. Fall, L. Panella,
and A. Hill .................................................................. 92
The reaction of nineteen diverse bean (Phaseolus vulgaris L.) genotypes to soybean cyst nematode race 2
J. R. Smith .................................................................. 94
Characterization of a mutant conferring a novel plant habit in common bean
N. Guner and J.R. Myers .................................................. 96
A comparison of no till and conventional tillage systems on twelve white bean varieties
Chris Gillard ............................................................... 98

2000 RESEARCH PAPERS

Mini-Review: A brief review of the genetics of partly colored seed coats in common bean
M.J. Bassett and P. McClean .............................................. 99
Quality characteristic of the seed of dry bean (Phaseolus vulgaris L.) cultivars grown in Poland
L. Boros and A. Wawer ...................................................... 102
Water uptake and its relationship to pigment leaching in black beans (Phaseolus vulgaris L.)
S.M. Bushey, G.L. Hosfield, and C.W. Beninger .......................... 104
Identification of RAPD markers associated to cooking quality in common bean (Phaseolus vulgaris L.)
C. Jacinto-Hernandez, S. Azpiro-Rivero, H. Hernandez-Sanchez, J. Acosta-Gallegos, and
I. Bernal-Lugo .............................................................. 106
Genetic analysis in flat pod cultivars of green beans
M.J. Folgado, C. Bernal, and G. Palomares ................................ 108
50 years of the cooperative dry bean nursery
S.P. Singh .................................................................. 110
The national Phaseolus (dry bean) collection in Bulgaria
T. Stoilova .................................................................. 112
Tropical and subtropical germplasm with promise for establishing new market classes of dry bean for
North America
P.N. Miklas, M.A. Brick, H.F. Schwartz, and S.P. Singh ................ 114
Parent components selection using the simplex-method
D.D. Genchev ................................................................ 116
Mapping of QTL for seed size and shape traits in common bean
S.O. Park, D.P. Coyne, G. Jung, P.W. Skroch, J.R. Steadman, and E. Arnaud-Santana .............. 118
The effect of nitrogen fertilizer on the yield of dry beans in Saskatchewan
S. Shirtliffe and J. Painchaud .............................................. 120
Effect of intercrops and herbicides on snap bean production
C.A. Mullins and R.A. Straw ............................................. 122
Performance of half runner type bean cultivars and breeding lines, 1999
C.A. Mullins, R.A. Straw, J.R. Stavely, and J. Wyatt .......................... 124
Imbibitional chilling injury: varietal differences
A.G. Taylor and J. Kwiatkowski ........................................ 126
Seed quality affects stand establishment and yield in early snap bean plantings
A. G. Taylor, S. Reimers and E. M. Chirco .............................. 128
Yield and its components in bean (Phaseolus vulgaris L.) genotypes as a function of population density
J. Huerta Diaz, A. Flores Reyes, J.A. Escalante E., and F.J. Camarillo Castillo ...................... 130
Optimization of the capacity of center pivot irrigation systems based on the dry bean model CROPGRO
A.B. Heinemann and G. Hoogenboom .......................................................... 132
Bean production in the lowland tropic with sub-irrigation
H. Aidar, M. Thung, J. Kluthcouski, I.P. de Oliveira, and J. L. D. Cabrera ........ 134
The performance of four cultivars and the effect of fertilization on beans grown under sub-irrigation in the
lowland tropics
Effect of row spacing and land preparation methods on yield of eight advanced bean lines
and G.E.S. Carneiro .................................................. 138
Evaluation of Large Seeded Bean in Brazil
M. Thung, H. Aidar, I.P. de Oliveira, J.Kluthcouski, J.L.D. Cabrera, and G.E.S. Carneiro .. 140
The effect of magnesium sulfate fertilizer on common bean (Phaseolus vulgaris L.) production in
Brazilian Savannah
I.P. de Oliveira, J. Kluthcouski, M. Thung, H. Aidar and D.S.M. dos Santos ........ 142
Bean production as affected by mixtures and placement of fertilizers
I.P. de Oliveira, J. Kluthcouski, H. Aidar, M. Thung, T. Cobucci, R.S.M. Santos and J.G. da Silva ... 144
Weed control in bean (Phaseolus vulgaris L.) with sunflower (Helianthus annuus L.) products
A. Pérez Mayorquin, M.T. Rodriguez and J.A. Escalante ............................. 146
Effect of different land preparations on soil microorganism population and seed treatments with fungicides
on bean production in no till farming
Bean production and white mould incidence under no-till system
H.Aidar, M. Thung, I.P. de Oliveira, J. Kluthcouski, G.E.S. Carneiro, J.G. da Silva, and
M.J. Del Peloso ........................................................................... 150
Relationships in the field between measures of white mold on white bean following natural infection and
inoculation by the straw method
R. Hall, L.G. Phillips, D. Mooij, and A. Madariaga-N ................................. 152
Pathosystem parameters associated with severe white mold of white bean
R. Hall and C.N. Mwiindilila ........................................................................ 154
New methods for production, recovery, delivery and storage of ascospores of Sclerotinia sclerotiorum and
other fungal propagules
M.G. Boosalis, J.R. Steadman, K. Powers and B. Higgins .............................. 156
Random amplified polymorphic DNA (RAPD) distinguishes three species of Sclerotinia but not pathogenic
variability in S. sclerotiorum isolates from diverse host and geographic origin.
Screening common bean breeding lines and germplasm for resistance to Sclerotinia sclerotiorum
R. Redden and J. Tatnell .......................................................................... 160
Mapping of QTL for partial physiological resistance to white mold in common bean
S.O. Park, D.P. Coyne, J.R Steadman, and P.W. Skroch ............................... 162
Mapping of QTL for partial field resistance to white mold, plant architecture and plant height in common bean
S.O. Park, D.P. Coyne, J.R Steadman, and P.W. Skroch ............................... 164
Quantitative method to screen for resistance to bean common mosaic
C.A. Strausbaugh, J.R. Myers, R.L. Forster, and P.E. McClean .................... 166
NL-3 (K) - a more virulent strain of NL-3 and its interaction with bc-3
Reaction to Fusarium wilt among commercial cultivars of dry bean
J.B. Ogg, M.A. Brick, H.F. Schwartz, and K. Otto..................................... 170
Identification of root rots resistant bean genotypes from a core collection grown in Central Mexico.
R. Navarrete-Mayo, J. Navarrete-Mayo, E. Trejo-Albarrán, J.M. Prudencio-Sains, and
J.A. Acosta-Gallegos .................................................................. 172
Evaluation of new fungicides the control of alternaria leaf spot on pole bean
R.T. McMillan, Jr .................................................................................. 174
Methodology for screening bean germplasm for charcoal rot resistance
R. Echavez-Badel, M. Alameda, and J.S. Beaver .......................................................... 176
Screening of bean breeding lines for resistance to charcoal rot (*Macrophomina phaseolina*)
R. Redden, A. Cruickshank and J. Tatnell .......................................................... 178
Pathogenic variability in *Phaeoisariopsis griseola* from Brasil
A. Sartorato ........................................................................................................ 180
An unusual outbreak of anthracnose in the lowlands of Veracruz, Mexico
E. López-Salinas, J.A. Acosta-Gallegos, H.E. Awale, and J.D. Kelly .............. 182
Anthracnose races present on both wild and cultivated *Phaseolus vulgaris* in Mexico
J. D. Kelly ........................................................................................................ 184
Evaluation of fungicides for control of rust of edible bean cultivars, 1999
C.A. Mullins, R.A. Straw, N.B. Shamiyeh, and R. Folium ......................... 186
Study of peroxidase isozyme activities and isozyme pattern on susceptible bean genotypes naturally infected with *Pseudomonas syringae* pv. *savastanola*
I. Velich, S. Lakatos, A. Végvári, É. Stefanovits-Bányai, and É. Sárdi ........ 188
Evaluation of common beans *Phaseolus vulgaris* L. for agronomic traits and resistance to bacterial diseases
T. Stoilova and I. Kiryakov ........................................................................... 190
Optimization of the conditions for treating seeds of common bean (*Phaseolus vulgaris* L.) with chemical mutagens
D. Svetleva and B. Bojinov ........................................................................ 192
Natural outcrossing rates of bean cultivars (*Phaseolus vulgaris* L.)
M. Regina Royer, M.C. Gonçalves-Vidigal, C.A. Scapim, P.S. Vidigal Filho, and E. Miglioranza 194
Use of RAPD molecular markers for genetic variability studies in common bean
A.L. Alzate-Marín, M.R. Costa, A. Sartorato, E.G. de Barros, and M.A. Moreira 196
Genetic distance of improved cultivars and, landraces of common beans (*Phaseolus vulgaris* L.) from Brazil and wild beans from Mesoamerican and Andean regions
H.T. da Silva, P.A. Arraes Pereira, and C.R. Lopes ........................................ 198
Morphological characterization of wild accessions of common bean (*Phaseolus vulgaris* L.)
H.T. da Silva, P.A. Arraes Pereira, and C.R. Lopes ........................................ 200
Sampling strategy to set up a core collection of the wild Lima beans in the central valley of Costa Rica
J.P. Baudoin, M. Ouédraogo, and A. Maquet ................................................... 202
Breaking dormancy of wild common bean (*Phaseolus vulgaris* L.) with high temperatures
C.B. Peña-Valdivia, R. García N, J.R. Aguirre R, and C.L. Trejo ................ 204
Succeeded plant regeneration from very immature embryos of *Phaseolus vulgaris*
P. Geerts, G. Mergeai, and J-P. Baudoin .......................................................... 206
Development of a BAC library in common bean genotype BAT93
J. Kami and P. Gepts .................................................................................... 208
The ultraviolet radiation effect in leaf area and plant height of *Phaseolus vulgaris* L.
L. del Mar Ruiz Posadas and G. Espejel Montaño ........................................... 210
Mild water stress affects differentially root growth of two cultivars of *Phaseolus vulgaris* L.
C. Trejo, R.J. García Nava, C.B. Peña-Valdivia, and L. del Mar Ruiz Posadas 212
Yield and phenology stability of neutral and photoperiod sensitive bean cultivars in the highlands of Mexico
J.A. Acosta-Gallegos, R. Rosales-Serna, G. Esquivel-Esquivel, and J.W. White 214
Soil water availability: its effect on the root anatomy and several physiological parameters of the shoot of *Phaseolus vulgaris* L.
J. Kohashi-Shibata, P. Yañez-Jiménez, A. Garcia- Esteva, A. Ontiveros-Cortés, and R. Ramírez-Viscaio .......................................................... 216
Influence of rapid soil drying on the stomatal conductance of three bean (*Phaseolus vulgaris* L.) varieties under the split-root system.
J.F. Aguirre-Medina, J. Kohashi-Shibata, C.L. Trejo and J.A. Acosta-Gallegos .......................................................... 218
Adoption of new bean cultivars for rainfed conditions in Zacatecas, Mexico
E. Acosta-Díaz, J.A. Acosta-Gallegos, I. Cuellar-Robles, J. D. Kelly, and R. Berstein 220
Notice of naming and release of Jaguar, new mid season, upright, disease resistance black bean cultivar for Michigan and the Great Lakes Region
J.D. Kelly, G.L. Hosfield, and M. Uebersax ................................................................. 222
Release of ‘Shiny Crow’, a new black bean variety
Notice of naming and release of Arthur, a new navy bean for the Northern Great Plains
K.F. Grafton, J.R. Venette, and K.C. Chang ................................................................. 225

SUBJECT MATTER INDEX ................................................................. 227

MEMBERSHIP DIRECTORY ........................................................... 228

FINANCIAL STATEMENT .............................................................. 241
The Bean Improvement Cooperative enjoyed an invigorating meeting at the 1999 Biennial Meeting in Calgary Alberta in view of the Canadian Rockies. The 1999 BIC meeting in Calgary had 121 registered participants. In addition to the 4 presentations at the National Dry Bean Symposium, there were 35 poster presentations and 27 oral presentations. More than 95 people attended the tour to Klempnauer Seeds at Vauxhall, Agricore Bow Island bean plant and the Agriculture and Agri-Food Canada Research Centre at Lethbridge.

The meeting received welcome and generous support from the following organizations: Saskatchewan Pulse Growers, Harris Moran Seeds, Agricore, National Dry Bean Council, Philom Bios, Klempnauer Seeds Ltd., Liphatech, Canadian Grain Commission, Alberta Pulse Growers Commission, Spectrum Specialty Seeds Ltd. and Manitoba Pulse Growers Association. As participants, we all appreciated the time and effort of our local hosts, H. Henning Muendel and Bert Vandenberg, in addition to the sponsorship from the pulse industry colleagues in the Canadian Prairies.

The coordinating committee and the BIC at large were pleased to recognize the following outstanding paper and poster presentations at the 1999 Annual Meeting:


Outstanding Poster: ‘Relative Freezing Resistance in the Genus Phaseolus’ presented by Parthiba M. Balasubramanian - University of Saskatchewan, Bert Vandenberg, advisor.

As President of the BIC, I would like to thank Shree Singh for his years of dedicated service as the internationist serving on the BIC Coordinating Committee. We will be adding a European member to the committee in 2000 to better reflect our membership. A web page is being developed for the BIC to provide better service for both members and non-members. The address will be www.css.msu.edu/bic so feel free to bookmark and access the site for information after April 2000. The BIC plans to publish annually, short review articles on a topic of current interest to members. The mini-reviews will be limited to five (5) pages and are designed to be more expansive, and address a topic of current interest in bean improvement that would not appear in a traditional referred journal. Given the interest in seed coat color genes, Mark Bassett agreed to write the first mini-review ‘A brief review of the genetics of partly colored seed coats in common bean’ for this issue. Contributions for future years are solicited from BIC members.

Dr. James D. Kelly
BIC President

BIC COMMITTEE MEMBERSHIP - 1957 to 2000

Coordinating Committee (approximate year of appointment):

1957  Dean, Enzie, Frazier* (BIC Coordinator/President), McCabe, Zaumeyer
1960  Anderson, Atkin, Dean, Enzie, Frazier, McCabe, Zaumeyer
1962  Anderson, Atkin, Dean, Frazier, Pierce, Polzak, Zaumeyer
1968  Anderson, Coyne, Dean, Jorgensen, Polzak, Zaumeyer
1971  Briggs, Coyne, Dean, Jorgensen, Polzak, Zaumeyer
1972  Burke, Coyne, Dean, Jorgensen, Kiely, Polzak, Zaumeyer
1974  Ballantyne, Bravo, Burke, Coyne, Dickson, Emery, Evans, Kiely, Saettler, Zaumeyer
1977  Ballantyne, Bliss, Coyne, Dickson, Emery, Evans, Graham, Meiners, Morris, Saettler, Zaumeyer
1978  Atkin, Ballantyne, Bliss, Coyne, Dickson, Graham, Meiners, Morris, Saettler, Sprague
1979  Atkin, Bliss, Dickson, Graham, Hagedorn, Meiners, Morris, Sprague, Wallace
1980  Atkin, Bliss, Dickson, Hagedorn, Morris, Sprague, Steadman, Temple, Wallace
1982  Atkin, Coyne, Dickson, Hagedorn, Sprague, Steadman, Temple, Wallace, Wyatt
1983  Coyne, Dickson, Hagedorn, Saettler, Silbernagel, Steadman, Temple, Wallace, Wyatt
1985  Coyne, Dickson, Mok, Saettler, Silbernagel, Steadman, Temple, Wallace, Wyatt
1986  Coyne, Dickson, Mok, Saettler, Schoonhoven, Schwartz, Silbernagel, Steadman, Wallace
Dr. James R. Baggett was born at Boise, Idaho, on April 24, 1928, and grew up in the irrigated farming areas around Burley, Buhl, and Gooding, Idaho. He completed the requirements for the BS (Agriculture) degree in Horticulture at the University of Idaho in 1952. He obtained a Ph.D. degree in Horticulture from Oregon State University in 1956. Upon graduation from Oregon State, Tim was appointed Instructor in Horticulture at Oregon State and was advanced to Assistant Professor in 1957. In 1963 Jim was promoted to Associate Professor and to Professor in 1971. On retirement in 1995 Jim was named Professor Emeritus in the Department of Horticulture at Oregon State University.

Jim's principal research at Oregon State involved breeding bush Blue Lake type green beans adapted to the Willamette Valley for the Oregon bean canning industry. In this regard Jim released six high-yielding bush Blue Lake cultivars. (Oregon 17, Oregon 43, Oregon 55, Oregon 83, Oregon 91, and Oregon 54.) Oregon 91 became--and is--the standard processing green bean in western Oregon, being grown on about 85 percent of the green bean acreage there.

Additionally, Jim specialized in vegetable breeding in general, including edible pod and shelling peas; broccoli; tomatoes; squash; lettuce; and peppers. He also released two green beans for the home gardener: Oregon Trail and Cascade Giant.

Lest anyone thinks Jim devoted all his time to variety development, be assured that, in addition, he advised numerous graduate students at both the master and doctoral level besides publishing a substantial number of papers on disease reactions and inheritance of a multitude of bean characteristics.

Jim has received numerous awards in recognition of his research, such as the Earl Price Award (Oregon Experiment Station), Distinguished Service Award (Northwest Food Processors Association), the Meritorious Service Award (National Pea Improvement Association), and a Certificate of Appreciation (Oregon Master Gardeners Association).

Should this not suffice, Jim has a life outside the Horticulture Department! His family is of paramount importance. The Baggett yard--front and back--is a veritable botanical wonderland. Perfection and attention to detail
are not quite sufficient in the Baggett view of the world. It must be just a little beyond perfect. Some are content to be a "rock hound" but not Jim. He also was compelled to develop his lapidary skills beyond perfection. Good was not good enough—they had to be beyond perfect. If you are fortunate enough to possess a GEM cut by Jim Baggett you possess a true gem. You might also possess a "Baggett" pot, for Jim is also a potter. Want to know how to locate a particular portion of the Oregon Trail or the best place and time to go crabbing on the Oregon coast? Guess who knows! One must wonder what is next in the repertoire of this very skillful Horticulturist.

JAMES S. BEAVER

Dr. James S. Beaver was born on September 25, 1950, in Noblesville, Indiana. He received his B.S. (Honors) in Agronomy at Purdue University in 1972. He was a Peace Corps volunteer in Matto Grosso, Brazil from 1972 to 1973. He obtained his MS in 1975 and Ph.D. degrees in 1980 in Plant Breeding and Genetics at the University of Illinois. He spent one more year as a Research Associate at the Champaign-Urbana before joining the University of Puerto Rico at Mayaguez in 1981 to present.

Jim has achieved national and international recognition for his outstanding research contributions and leadership in common bean breeding and genetics at the Agricultural Experiment Station, University of Puerto Rico (UPR), Mayaguez, PR. Also as Principal Investigator and Co-Principal Investigator, Bean/Cowpea CRSP projects with the University of Nebraska, in Honduras (HON) and the Dominican Republic (DR), respectively. He served on the Bean/Cowpea CRSP Technical Committee over the past 6 years and was chair in 1993. He served as the Coordinator for the Latin American Region since 1997. Jim has played a significant role in PROFRIJOL breeding and testing bean lines in the Caribbean and Central America, and has provided the leadership in breeding large seeded beans for the Caribbean.

Jim's research has encompassed many areas of bean breeding and genetics. He was the first to establish that indeterminate dry beans produce more stable and greater yields than determinate beans and used recurrent selection to develop high yielding indeterminate red mottled and red kidney beans. He was also the first to report on the inheritance of resistance to bean golden yellow mosaic (BGYM), a serious bean disease throughout Latin America and now in Florida. He developed pink, pinto and red kidney bean lines with resistance to BGYM, rust, and common bacterial blight. Jim developed heat tolerant small red and white beans to alleviate this production constraint and allow expanded bean production in the lowland tropics. He developed or was involved with the development of 17 dry bean varieties and lines. The most notable were the disease resistant varieties/lines Arroyo Loro (PR), Morales (PR), Rosado Nativa (PR), JB-178 (DR), Negro Sureño (DR), Tio-Canela75 (HON), L227-1 (PR) and L226-10 (PR). Jim was successful in developing techniques to improve selection for yield and disease resistance. Examples of these techniques were: yield evaluation in hill plots; field evaluation for common bacterial blight web blight, and BGYM; an excised leaf test for web blight reaction; and seed production on F, genetic dwarfs. Jim published a total of 116 scientific and technical papers, and presented many invited papers on different aspects of bean breeding, including invitations at CIAT headquarters and Central American locations.

Since 1981, he has coordinated the winter bean nurseries for US breeding programs and also cooperated in basic studies with researchers on specific and adult plant resistance to rust and the association of leaf pubescence with field rust reactions (J.R. Steadman). Also on plant architecture (J. Kelly), on resistance to common blight (M. Bassett and L. and D. Coyne) and on BGMV resistance strategies (D. Maxwell). The winter nurseries and collaborative research have led to improved US bean breeding programs, especially for multiple disease resistance and for snap bean production in Florida (BGYM). In collaboration with M. Bassett, he identified three different genes for resistance to BGYMV, and in collaboration with P. Miklas has found a RAPD marker linked to one of those genes. His research has been recognized with a number of prestigious awards; Distinguished Achievement Award from the BIC, Gamma Sigma Delta Research Award of Merit, and Bonus for Academic Excellence and Productivity from Academic Senate, University of Puerto, Mayaguez, PR.

Jim successfully directed the programs of 23 graduate students at UPR. Many of these students have returned to their home countries to conduct successful bean research programs. He has also taught courses in plant breeding, advanced biometry, and crop ecology.
Dr. Phillip E. McClean was born on November 25, 1949 in Pierce, NE. After undergraduate studies in biology at Metropolitan State College in 1977, Phil obtained his MS in 1980 and Ph.D. degree in 1982 in genetics at Colorado State University. After postdoctoral fellowships at the Universities of Virginia and Missouri, he joined the faculty of North Dakota State University in 1985. He is currently still professor in the Department of Plant Sciences.

Phil's contributions to the bean community pertain to two areas, genetic research and information technology. He has conducted research on genetic diversity of the cultivated bean gene pool in North America. In their now "classic" 1993 paper, McClean and collaborators were the first to document, in a comprehensive way, the close ties that exist within commercial bean classes in the US. The pedigrees and coefficients of parentage of North American cultivars highlighted the narrow genetic base of the crop (as pointed out earlier by Adams 1977), and provided additional impetus for broadening the bean cultivated gene pool.

In more recent work, Phil has made several contributions to our understanding of seed color and disease resistance genes. With M. Bassett he has studied map location and allelism relationships of the partial seed coloration genes T and Z (Brady et al. 1998; Bassett et al. in press). With J. Myers, he has followed up on E. Drijfhout's earlier study, identifying, a linkage relationship between the bc-u and bc-1 loci (Strausbaugh et al. in press). With E. Vallejos, he has demonstrated the feasibility in beans of identifying, resistance gene analogs using degenerate primers against conserved sequence motifs.

A second area in which Phil has been active is the use of computers in research and teaching, a very timely contribution. Through his leadership, a bean genome database has been developed (BeanGenes: http://probe.nal.usda.gov:8300/cgi-bin/browse/beangenes). Furthermore, Phil has developed a BeanGenes general database (http://beangenes.cws.ndsu.nodak.edu) with varied information about beans, including variety trial data, cooperative dry bean nursery results, dry bean pedigrees, genes and gene symbols, classic papers on the genetics of seed coat patterning, employment opportunities in Phaseolus/Vigna, and bean production information. He is recognized as an innovator in the application of information technology to teaching.

In summary, Phil has greatly contributed to the bean community in general and BIC in particular through the application of newer technologies such as molecular genetics and information technology.

Dr. James R. Myers was born on June 26, 1954, in Columbus, Indiana. After obtaining his BS in Horticulture at Kansas State in 1978, he went on to receive both an MS in 1981 and Ph.D. in 1984 in Plant Breeding and Genetics at the University of Wisconsin. Following graduation, he became postdoctoral fellow from 1984 to 1985 and research specialist from 1985 to 1987 at the University of Kentucky where he was involved in wide hybridization and somatic cell genetics.

From 1987 to 1996, he was first assistant and then associate professor of Plant Breeding and Genetics at the University of Idaho in Kimberly. Since 1996, he is the first Baggett-Frazier Endowed Professor of Vegetable Breeding and Genetics at Oregon State University.

A large part of Jim's academic career has been devoted to legumes, principally beans but also peas and soybean. Jim's main contributions so far in beans have been his genetic studies and varietal releases. Among his major journal articles, are the now "classic" McClean et al 1993 paper reporting on pedigrees and coefficients of parentage of North American cultivars. This paper was the first to document in a comprehensive way the close ties that exist within commercial bean classes in the US and further highlighted the narrow genetic base of the crop (as pointed out earlier by Adams 1977).

Further collaborations between P. McClean and J. Myers are yielding, exciting results in the genetics of resistance to diseases. For example, Strausbaugh et al. (n.d.) report that the bc-u it and bc-1 genes are linked. Two additional contributions of Jim concern the inheritance and genotype x environment interactions of yield potential genes (Wallace et al. 1992; Hoogenboom et al. 1997) and the gene action of individual major genes influencing yield potential (e.g., Myers and Bassett 1993). More recently, he has become actively involved in international agriculture and plays a major role in the East Africa Bean/Cowpea CRSP project. His involvement in this project has led to improved knowledge of the variability of BCMV and BCMNV.

Jim has released 14 bean cultivars and 4 germplasm lines. While the development of some of them was initiated by his predecessor at Idaho, he has had a major input in the later releases, which span a wide range of bean commercial types, Cranberry, Dark Red Kidney, Black, Small White, Pinto, Pink, Navy, Small Red, Great Northern.
The Bean Improvement Cooperative has been lucky to count him as one of its members, in large part because of his outstanding scientific contributions to BIC and the bean community in general.

Dr. Rennie Stavely retired from his position as USDA-ARS bean pathologist on January 1, 2000. As members of BIC, we wish to thank Rennie for his many years of service to the bean community and wish him health and happiness in his retirement. A brief summary of the recent work he presented in Calgary is featured in this issue of the BIC (pages 1-4), along with a short tribute from Meri Liebenberg (pages 78-79). We wish to welcome Dr. M.A. ‘Talo’ Pastor-Corrales, formerly from CIAT, who will shortly assume the USDA-ARS position of bean pathologist.

Coordination of Genes and Gene Symbol Nomenclature - BIC Genetics Committee

The Genetics Committee is a sub-committee of the Bean Improvement Cooperative that organizes and coordinates activities that deal with Phaseolus genetics. The committee has served as a clearinghouse for the assignment and use of gene symbols. The committee also maintains the Guidelines for Gene Nomenclature (last published in the Annual Report of the Bean Improvement Cooperative in 1988, 31:16-19 and supplemented in 1999, 42: vi). The committee also evaluates materials submitted for inclusion in the Genetics Stocks Collection of the Plant Introduction System (for those rules see 1995 Annu. Rept. Bean Improvement Coop. 38:iv-v).

We strongly recommend that any researcher conducting studies of potentially new, qualitatively inherited traits of common bean submit his manuscript to the committee prior to publication (concurren submission can be made to the genetics committee and the journal). The committee will evaluate the data to determine 1) if sufficient evidence exists to establish the inheritance hypothesis, 2) whether any issue of potential allelism of the trait has been met, and 3) whether the proposed gene symbol has been previously assigned to another gene. The evidence must include 1) data from one generation to formulate an hypothesis and 2) data from subsequent generations to test that hypothesis. The population sizes used must be sufficiently large to distinguish (with statistical significance) among potential segregation hypotheses.

During 1999, several gene symbols (bipana, Co-1, Co-1^2, Co-1^3, and Top) and their supporting data were submitted to the committee for approval, which was granted in all cases.

Questions or comments should be addressed to the chairman of the committee:
Dr. Mark J. Bassett, Horticultural Sciences Department, P.O. Box 110690, University of Florida, Gainesville, FL 32611: ph. (352) 392-1928, ext. 326; fax. (352) 392-5653; and e-mail mjb@gnv.ifas.ufl.edu.

Report of the BIC Genetics Committee - Meeting held 10 November 1999, Calgary, Canada

Agenda:
Committee membership
Genetic stocks development update
Genetic stocks collection update
Recombinant inbreds from BAT 93 x Jalo cross
Discussion of RAPD marker development, application, and need for a catalog
Co-1 locus and evidence for multiple alleles

Committee membership was revised. Standing members are Mark Bassett, Jim Myers, Phil Miklas, Jim Beaver, Paul Gepts, and Molly Welsh (ex officio). Molly has replaced Rich Hannan as the representative of the Phaseolus curator for the Plant Introduction Germplasm System.

Mark Bassett discussed the status of the development of genetic stocks for the basic seed coat colors and submitted nine new stocks to the Genetic Stocks Collection, which were approved. The Yellow Wax #8 stock, which has resistance to the two spotted spider mite, was not included as a genetic stock, but in a separate collection for resistance stocks.

Molly Welsh wants the committee to critique the layout of the gene stock list for Phaseolus in GRIN.

Paul Gepts made a presentation to justify putting the BAT x Jalo RI lines in the PI collection (or any permanent storage arrangement). [In Aug. 1998 Paul submitted four sets of RI lines to the committee for inclusion in the PI system, and was declined. In Sept.-Nov. 1998 he reduced the list to only the BAT x Jalo RI set, and was declined.] After much discussion the motion to include was tabled by a committee vote; the need for a comprehensive new policy for genetic stocks and RI lines was obvious.

Jim Kelly made a presentation of the Co-1 work previously sent to the committee in a paper with serious errors in one of its tables. The amended work clearly supported multiple alleles at the Co-1 locus.
North Dakota is pleased to host the 2001 BIC/NDBC meeting in Fargo, ND. Arrangements have been made to hold the meeting at the Ramada Plaza Suites, 1635 42nd St. S.E., Fargo, ND 58103 (phone: 701-277-9000; FAX: 701-281-7145). Room rates have been confirmed at $68/night for a conventional room and $83/night for a two-room suite. Please contact the hotel directly for room reservations. The hotel has an excellent restaurant; other dining opportunities and shopping are within close walking distance. Major airlines currently serving Fargo are United and Northwest. The hotel has free shuttle to/from the airport. Local organizers are Ken Grafton (phone: 701-231-8145; FAX: 701-231-8474; e-mail: grafton@plains.nodak.edu); Phil McClean (phone: 701-231-8443; FAX: 701-231-8474; email: Mcclean@plains.nodak.edu); and Jack Rasmussen (phone: 701-231-1027; email: jrasmuss@plains.nodak.edu). BIC members will receive more information on the web site and in the 2001 BIC report.

REQUEST TO BREEDERS FOR INFORMATION ON DRY BEAN VARIETIES released since January 1, 1997 to include in ASHS-North American; List # 26 Vegetable Cultivar descriptions.

1. Dr. Coyne would appreciate if you would send him release notices or publications of new varieties released since January 1, 1997. You might also like to check List 24 published in HortScience 34: 763-806 and List 25 published in HortScience 34:957-1012 to see if any of your released varieties were omitted. If omitted please also send him the information.

2. Cultivar name (also experimental designation); Breeder's name; Vendor; Parentage Characteristics (use key words); Resistance(s); Similar to; Adaptation Reference (if published-give authors, title, Jour., Vol. Page #, year); PVP; Year released

3. Please send the information to Dr. Coyne by mail (also publications) or by e-mail. Some breeders in companies may not want to provide pedigree information as in the past. If so please send the requested information without pedigrees as mentioned above to Dermot P. Coyne, Department of Horticulture, University of Nebraska, Lincoln, NE 68583-0724. Phone (402) 472-1126; Fax: (402) 472-8650; E-mail: dpcoyne@unnotes.unl.edu

ANNOUNCEMENT:

75 Years of Bean Research and Development & 50 Years of Cooperative Dry Bean Nursery

University of Idaho, 3793N 3600E, Kimberly, ID 83341-5076, U.S.A.

The organizers have the pleasure of inviting interested national and international bean researchers, growers, processors, industry representatives, and dealers to participate in this very important Workshop (August 3) and Field Day (August 4). The Workshop program consists of invited oral presentations and voluntary poster sessions. The topics include history of bean research and development; use of Phaseolus germplasm in breeding; breeding dry and snap (garden) bean cultivars for tomorrow; integrated management of diseases, insects, weeds, water, and soil fertility; cooking and canning qualities; and domestic and global production and marketing of the edible and seed beans. Invited papers and abstracts of all contributions will be published and distributed at the Workshop. Participants in the Field Day will see new bean lines and cultivars from North America. They will see how new and old cultivars have fared under 50 years of continual bean cropping. They will also see how different cultivars respond to water stress and mineral deficiency, and which new strategies offer the most promise for pest management. For further information on pre-registration and accommodations, contact directly:

Shree Singh, Phone: 208-423-6609; Fax: 208-423-6559; E-mail: singh@kimberly.uidaho.edu
SUBJECT MATTER INDEX - Volume 43

Angular Leaf Spot- 180
Anthracnose- 82, 84, 182, 184
Bean Common Mosaic Virus- 1, 13, 166, 168
BioControl- 31, 90
Charcoal Rot- 176, 178
Coccineus- 21
Common Bacterial Blight- 37, 39, 190
Collections- 112
CROPGRO- 132
Disease Management- 37
Fertility- 5, 7, 11, 56, 120, 136, 142, 144
Freezing- 66, 126
Fungicides- 35, 148, 174, 186
Fusarium- 92, 170
Germplasm- 45, 114
Heat Tolerance- 68
Herbicides- 122
Heterosis- 64
Halo Blight- 188, 190
Interspecific Crosses- 21
Irrigation- 132, 134, 136
Leafhoppers- 27
Lima Beans- 58, 202
Mapping- 29, 60, 118, 162, 164, 208
Markers- 1, 39, 62, 106, 196
Marsh Spot- 9
Moisture Stress- 212, 216, 218, 220
Morphology- 96
Mutagens- 192
Nematodes- 94
Networks- 86
Nurseries- 110, 124, 140
Outcrossing- 23, 25, 194
Photoperiod Response- 214
Pod Traits- 108
QTL- 118, 162, 164
Quality- 18, 47, 49, 52, 88, 102, 106, 128
Radiation- 210
Regeneration- 206
Rhizobium- 33, 54
Root Rot- 33, 41, 70, 172
Rust- 1, 31, 35, 78, 80, 186
Seed Coat- 15, 16, 99, 104
Seeding Spacing- 138
Snap beans- 122, 128
Tannins- 18
Tillage- 56, 70, 98, 138, 148, 150
Variety Testing & Releases- 110, 220, 222, 224, 225
Web Blight- 43, 72
Weeds- 58, 146
White Mold- 74, 76, 90, 150, 152, 154, 156, 158, 160, 162, 164
Wild- 25, 198, 200, 204
Yield- 116, 130, 214
Zinc- 5, 7
<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>George Abawi</td>
<td><a href="mailto:gsa1@nysaes.cornell.edu">gsa1@nysaes.cornell.edu</a></td>
<td>Dept. of Plant Pathology, NYS Agr. Exp. Station, Geneva, NY 14456</td>
<td>315-787-2374 FAX: 315-787-2389</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.W. Adams</td>
<td><a href="mailto:astrea@centuryinternet.net">astrea@centuryinternet.net</a></td>
<td>5067 Colby Rd., Crystal, MI 48118</td>
<td>517-235-6561 FAX: 517-235-6561</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mario Aguilar</td>
<td><a href="mailto:aguilar@p2srd.mhs.comuserve.com">aguilar@p2srd.mhs.comuserve.com</a></td>
<td>Inst. de Bioquimica y Biologia Molecular, Univ. Nacional de La Plata, Argentina</td>
<td>50-031-899-2933</td>
<td></td>
<td></td>
</tr>
<tr>
<td>David Allen</td>
<td><a href="mailto:santonius@aol.com">santonius@aol.com</a></td>
<td>Higher Quantock, Stockland, United Kingdom</td>
<td>44-1404-861394 FAX: 44-1404-861446</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ana Lilía Alzate Marín</td>
<td><a href="mailto:aaltzate@alunos.ufv.br">aaltzate@alunos.ufv.br</a></td>
<td>BIOAGRO / UFV, 1900-La Plata, ARGENTINA</td>
<td>36571-000 Vicos (MG)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neil O. Anderson</td>
<td><a href="mailto:nanderson@pasrd.mh.comuserve.com">nanderson@pasrd.mh.comuserve.com</a></td>
<td>PanAmerican Seed Co, 15861 Green Road, Elburn, IL 60119</td>
<td>630-588-3177 FAX:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steve Antonius</td>
<td><a href="mailto:santonius@aol.com">santonius@aol.com</a></td>
<td>ASI - California, 3058 HWY 45, Orbdend, CA 95943</td>
<td>916-934-3385 FAX: 530-342-6359</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDTA Attn: Carmenti Asensio</td>
<td><a href="mailto:maria-carmen.asensio@cag.jcyl.es">maria-carmen.asensio@cag.jcyl.es</a></td>
<td>Apdo. 172, 47080 Valladolid, Spain</td>
<td>34-83-414461 FAX: 34-83-414780</td>
<td></td>
<td></td>
</tr>
<tr>
<td>James R. Baggett</td>
<td><a href="mailto:baggetti@bcc.orst.edu">baggetti@bcc.orst.edu</a></td>
<td>Dept. of Hort, Ag &amp; Life Sci, Oregon State University, Corvallis, OR 97331-7304</td>
<td>541-737-3459 FAX: 541-737-3479</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parthiba M. Balasubramanian</td>
<td><a href="mailto:parthiba@sask.usask.ca">parthiba@sask.usask.ca</a></td>
<td>Dept of Plant Sciences, University of Saskatchewan, Saskatoon, SK S7N 5A8 Canada</td>
<td>306-966-8373 FAX: 306-966-5015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efren Acosta Diaz</td>
<td><a href="mailto:rhymes@agrrium.com">rhymes@agrrium.com</a></td>
<td>INIFAP-Zacatecas, Zacatecas, MEXICO</td>
<td>306-975-3840 FAX: 306-975-3750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J. Rogelio Aguirre</td>
<td><a href="mailto:Allison@Pilot.msu.edu">Allison@Pilot.msu.edu</a></td>
<td>Inst. de Bioquimica y Biologia Molecular, Univ. Nacional de La Plata, Argentina</td>
<td>50-031-899-2933</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter L. Anderson</td>
<td><a href="mailto:andersw@mtsu.edu">andersw@mtsu.edu</a></td>
<td>Campus Box 5, Dept. of AgriBus &amp; AgriSci, Middle Tennessee State University, Murfreesboro, TN 37132</td>
<td>615-898-2523 FAX: 615-898-5169</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carlos Manuel Araya F.</td>
<td><a href="mailto:caraya@una.ac.cr">caraya@una.ac.cr</a></td>
<td>Universidad Nacional/Escuela de Ciencias Agrarias Laboratorio de Farmacia, Apartado 86-3000, Heredia, Costa Rica</td>
<td>506-277-3301 FAX: 506-261-0035</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Humberto Avila-Rodriguez</td>
<td>camino@delgrenizo #128</td>
<td>MEXICO</td>
<td>18-131576 FAX: 18-127647</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bakker Brothers</td>
<td><a href="mailto:bakkerbrothers@ccnturyinter.net">bakkerbrothers@ccnturyinter.net</a></td>
<td>Oostelijke Randweg 12, PO Box 7, 1723 Noord-Scharwoude, HOLLAND</td>
<td>31-226-331364 FAX: 31-226-317641</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parthiba M. Balasubramanian</td>
<td><a href="mailto:parthiba@sask.usask.ca">parthiba@sask.usask.ca</a></td>
<td>Dept of Plant Sciences, University of Saskatchewan, Saskatoon, SK S7N 5A8 Canada</td>
<td>306-966-8373 FAX: 306-966-5015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jim Ballerstein</td>
<td><a href="mailto:jwb2@cornell.edu">jwb2@cornell.edu</a></td>
<td>NYSAES, 315-787-2223 FAX: 315-787-2216</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ricardo Balardin</td>
<td><a href="mailto:balardin@uf.br">balardin@uf.br</a></td>
<td>Universidade Federal de Santa Maria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parthiba M. Balasubramanian</td>
<td><a href="mailto:parthiba@sask.usask.ca">parthiba@sask.usask.ca</a></td>
<td>Dept of Plant Sciences, University of Saskatchewan, Saskatoon, SK S7N 5A8 Canada</td>
<td>306-966-8373 FAX: 306-966-5015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mark J. Bassett</td>
<td><a href="mailto:mbj@gnv.ifas.ufl.edu">mbj@gnv.ifas.ufl.edu</a></td>
<td>Dept of Horticulture Sciences, University of Florida</td>
<td>352-392-1928 x 326 FAX: 352-392-5653</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jorge A. Acosta Gallegos</td>
<td><a href="mailto:jacosta@cimmyt.mx">jacosta@cimmyt.mx</a></td>
<td>Campo Exp. Valle de Mexico</td>
<td>595-42905 FAX: 595-46528</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Position/Address</td>
<td>Contact Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charles Green</td>
<td>Novartis Seeds, Inc. P.O. Box 1069, Nampa, ID 83653</td>
<td>Phone: 208-463-2516, FAX: 208-466-7360, Email: <a href="mailto:Chuck.green@seeds.novartis.com">Chuck.green@seeds.novartis.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anne F. Groenewald</td>
<td>Grain Crops Institute P. Bag X1215, Potchefstroom 2520</td>
<td>Phone: 27-148-297-7211, FAX: 27-148-297-6572, Email: <a href="mailto:anne_g@ops.agric.za">anne_g@ops.agric.za</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan Hugener</td>
<td>uilityyazynska 12, Wroclaw 53-010, POLAND</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert Hall</td>
<td>Dept. of Environmental Biology University of Guelph</td>
<td>Phone: 519-824-4120, FAX: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head, Library</td>
<td>Areka Agric Research Center P. O. Box 79, Areka, North OMO ETHIOPIA</td>
<td>Phone: 216-628-297-7211, FAX: 216-628-297-6572, Email: <a href="mailto:annc_g@ops.agric.za">annc_g@ops.agric.za</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anne F. Groenewald</td>
<td>Grain Crops Institute P. Bag X1215, Potchefstroom 2520</td>
<td>Phone: 27-148-297-7211, FAX: 27-148-297-6572, Email: <a href="mailto:anne_g@ops.agric.za">anne_g@ops.agric.za</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan Hugener</td>
<td>uilityyazynska 12, Wroclaw 53-010, POLAND</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>George L. Hosfield</td>
<td>Dept. of Crop &amp; Soil Sciences Michigan State University</td>
<td>Phone: 517-355-0110, FAX: 517-337-6782, Email: <a href="mailto:hofi2@pilot.msu.edu">hofi2@pilot.msu.edu</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roman Holubowicz</td>
<td>Poznan Agricultural University Dept. of Science &amp; Technology</td>
<td>Phone: 62-081 Przemysl, POLAND, Phone: 142-291 FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. P. Hugo</td>
<td>Sensako, 23 Ross Street Moveig, Bethlehem 9700, REDAMOUTH</td>
<td>Phone: 058-3032150, FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Francisco Ibarra-Perez</td>
<td>INIFAP-Durango Apartado Postal 186, Durango, DGO. MEXICO 34000</td>
<td>Phone: 91-181-2-1044, FAX: 91-181-2-1133</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shuzo Iida</td>
<td>Kitami Agricultural Exp. Station Yayoi Kumeppu Hokkaido</td>
<td>Phone: 099-14, JAPAN, Phone: 0157-47-2146, FAX: 0157-47-2774, Email: <a href="mailto:ssidshuzo@agri.pref.hokkaido.jp">ssidshuzo@agri.pref.hokkaido.jp</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INRA CR G.M.P.V.</td>
<td>Sta. De Genetique des Plantes Amelioratin Des Plantes RD 10</td>
<td>Phone: 78026 Versailles, CEDEX, FRANCE, Phone:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inst. for Wheat &amp; Sunflower</td>
<td>&quot;Dobrojuda&quot; - Biblioteka near General Toshevo BULGARIA</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barry Jacobsen</td>
<td>Montana State University 119 ABS Facility Bozeman, MT 9717</td>
<td>Phone: 406-994-5161, FAX: 406-994-7600, Email: <a href="mailto:upblj@montana.edu">upblj@montana.edu</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instytut Hodowli i Aklimatyzacji</td>
<td>Roslin Radzikow 05-870 B Monie POLAND</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carmen Jacinto-Hernandez</td>
<td>Apartado Postal 10, 56230 Chapingo, Mex, MEXICO</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Padilla Jo. Saúl</td>
<td>Km. 32.5 Carretera Aguaescalientes-Zacatecas Pabellon de Arteaga, Ags. Cs 20660</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enamuthu Joseph</td>
<td>Center for Human Services. SUNY       518-564-4170 FAX: <a href="mailto:josephe@spilav.edu">josephe@spilav.edu</a></td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ian Hugener</td>
<td>uilityyazynska 12, Wroclaw 53-010, POLAND</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antony Jarvis</td>
<td>PANNAR Limited Box 19, Greytown 3250, REPUBLIC OF SOUTH AFRICA 033 4171208</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geunhwa Jung</td>
<td>Dept. of Hort-492, 1575 Linden Dr. University of Wisconsin Madison, WI 53706</td>
<td>Phone: 608-262-6044, FAX: 608-262-4743, Email: <a href="mailto:gung@facstaff.wisc.edu">gung@facstaff.wisc.edu</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walter J. Kaiser</td>
<td>USDA-ARS Reg. Plant Intro. Station 59 Johnson Hall, Wash. State Univ. Pullman, WA 99164-6402</td>
<td>Phone: 509-335-1502 FAX: 509-335-6654, Email: <a href="mailto:wjkaiser@wsu.edu">wjkaiser@wsu.edu</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enamuthu Joseph</td>
<td>Center for Human Services. SUNY       518-564-4170 FAX: <a href="mailto:josephe@spilav.edu">josephe@spilav.edu</a></td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frans J. Jongeelen</td>
<td>SVS Holland BV JPO Box 22, 1600 AA Enkhuizen THE NETHERLANDS 0220-357000 FAX: 0220-357035</td>
<td>Phone: FAX:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walter J. Kaiser</td>
<td>USDA-ARS Reg. Plant Intro. Station 59 Johnson Hall, Wash. State Univ. Pullman, WA 99164-6402</td>
<td>Phone: 509-335-1502 FAX: 509-335-6654, Email: <a href="mailto:wjkaiser@wsu.edu">wjkaiser@wsu.edu</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Company/Institution</td>
<td>Address</td>
<td>Phone</td>
<td>Fax</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Yu Kangfu</td>
<td></td>
<td>Agriculture and Agri-Food Canada</td>
<td>Harrow, ON, N0E 1G0 Canada</td>
<td>519-738-2251 ext. 479 FAX: 519-738-2929</td>
<td><a href="mailto:yuk@em.agr.ca">yuk@em.agr.ca</a></td>
</tr>
<tr>
<td>KBC Trading and Processing Company</td>
<td></td>
<td>P. O. Box 155</td>
<td>Holyoke, CO 80734</td>
<td>970-854-3656 FAX: 970-854-3702</td>
<td><a href="mailto:sbrown2926@aol.com">sbrown2926@aol.com</a></td>
</tr>
<tr>
<td>Steve Keil</td>
<td></td>
<td>AgriLink Foods</td>
<td>P. O. Box 19027</td>
<td>970-854-3656 FAX: 970-854-3702</td>
<td><a href="mailto:sbrown2926@aol.com">sbrown2926@aol.com</a></td>
</tr>
<tr>
<td>John Keenan</td>
<td></td>
<td>Dept. of Biology/100 Morrey Blv</td>
<td>Univ. of Massachusetts/Boston</td>
<td>617-287-6606 FAX: 617-287-6650</td>
<td><a href="mailto:lawrence.kaplan@umb.edu">lawrence.kaplan@umb.edu</a></td>
</tr>
<tr>
<td>Eric Klassen</td>
<td></td>
<td>12 Garnet Bay</td>
<td>Winnipeg, MB</td>
<td>204-453-2514 FAX: 204-453-2520</td>
<td><a href="mailto:cklassen@mb.sympatico.ca">cklassen@mb.sympatico.ca</a></td>
</tr>
<tr>
<td>Ivan Dimitrov Kirakov</td>
<td></td>
<td>Inst for Wheat &amp; Sunflower</td>
<td>&quot;Dobrojuda&quot; near General Toshevo</td>
<td>058-2-20-61 FAX: 058-2-20-61</td>
<td><a href="mailto:joako@cnpa.embrapa.br">joako@cnpa.embrapa.br</a></td>
</tr>
<tr>
<td>Judy Kolkmann</td>
<td></td>
<td>Crop and Soil Sciences</td>
<td>Michigan State University</td>
<td>517-353-3954 FAX: 517-353-3955</td>
<td><a href="mailto:kellyj@pilot.msu.edu">kellyj@pilot.msu.edu</a></td>
</tr>
<tr>
<td>Marcelo Bernardo Larra</td>
<td></td>
<td>Imp. Agr.</td>
<td>4400 Salta, ARGENTINA</td>
<td>54-87-312857 FAX: 54-87-312857</td>
<td></td>
</tr>
<tr>
<td>Colin Leakey</td>
<td></td>
<td>The Close, 15 Cambridge Road</td>
<td>Girton, Cambridge CB3 OPN ENGLAND</td>
<td>1223-276866 FAX: 1223-565215</td>
<td></td>
</tr>
<tr>
<td>Librarian Scottish Crop Research Institute</td>
<td></td>
<td>Invergowrie, Dundee DD2 5DA SCOTLAND</td>
<td>44-1382-562731 FAX: 44-1382-562426 <a href="mailto:a.stephens@ecr.sar.ac.uk">a.stephens@ecr.sar.ac.uk</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Librarian Veg. &amp; Orn. Plant Res Inst</td>
<td></td>
<td>Private Bag X293, 0001 Pretoria</td>
<td>REPUBLIC OF SOUTH AFRICA</td>
<td>27-12-8080830 FAX: 27-12-8080844</td>
<td></td>
</tr>
<tr>
<td>Librarian Sir John Carling Building</td>
<td></td>
<td>Ottaw K1A 0C5</td>
<td>CANADA</td>
<td>FAX:</td>
<td></td>
</tr>
<tr>
<td>Librarian Agricultural Res. International</td>
<td></td>
<td>Welllesbourne, Warwick CV35, 9EF ENGLAND</td>
<td>1789-470382 FAX: 1789-470552 <a href="mailto:rhona.floate@hr.ac.uk">rhona.floate@hr.ac.uk</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Librarian Selian Research Institute</td>
<td></td>
<td>Selian Research institute P. O. Box 6024</td>
<td>Arusha, TANZANIA</td>
<td>FAX:</td>
<td></td>
</tr>
<tr>
<td>Librarian Library Head</td>
<td></td>
<td>Selian Research Institute</td>
<td>P. O. Box 6024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Address</td>
<td>Phone</td>
<td>Fax</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------------</td>
<td>--------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Maria Teresa Osppina</td>
<td>Michigan State University</td>
<td>1314 F University Village</td>
<td>517-355-6197</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lai Pao-Tsao, Librarian</td>
<td>Taiwan Agr Res Inst, 189 Chung-cheng Rd</td>
<td>Taichung, REPUBLIC OF CHINA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parks Library</td>
<td>Iowa State University</td>
<td>Ames, IA 50011-2140</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pattee Library</td>
<td>Pennsylvania State University</td>
<td>University Park, PA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cecilia B. Pena-Valdivia</td>
<td>Programa de Botanica</td>
<td>IRENAV Col. de Postgrad.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florence Picard</td>
<td>Els Vilomir</td>
<td>49250 La Menitre</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant Pathology Library</td>
<td>Univ. of Wisconsin, 584 Russell Lab</td>
<td>1630 Linden Drive, 584 Russell Lab</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pop Vriend Zaadhandel B. V.</td>
<td>P. O. Box 5</td>
<td>31-22859-1462</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processors &amp; Growers Res. Org.</td>
<td>Great North Road, Thornbaugh</td>
<td>Peterborough, PE8 6HJ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aimee Rabakoarhanta</td>
<td>MAFIFA B. P. 144</td>
<td>Antananarivo 101</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phil Osterli</td>
<td>UC Coop. Extension</td>
<td>733 County Center III Court</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soon Jae Park</td>
<td>Agriculture &amp; Agri-Food Canada</td>
<td>Greenhouse &amp; Processing Crop Res. Centre</td>
<td>2585 County Rd 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remy Pasquet</td>
<td>OSTOM</td>
<td>35 Rue Montmirail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trazilbo Jose de Paula Jr.</td>
<td>EPAMIG - Vila Gianetti 47</td>
<td>CP 216 Vicosa, M. G.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedro A. Arraes Pereira</td>
<td>EMBRAPA/CPNPAF</td>
<td>Cx. Postal 179</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norma Silvia Perialia</td>
<td>Bibliotecaria, INTA-EEA</td>
<td>Mendoza, CC3-5507, Lujan de Cuyo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Daniel Ploper</td>
<td>Estacion Experimental Agroindustrial Obispo</td>
<td>Casilla de correo 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maria Carmela Posa</td>
<td>494-J Plant &amp; Soil Sciences Building</td>
<td>Michigan State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emmanuel Prophete</td>
<td>Ministry of Agriculture</td>
<td>PO Box 236</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magno Antonio Pato Ramalho</td>
<td>Dept. de Biologia - UFLA</td>
<td>Cx. Pos. 37, 37200-000 Lavras, M.G.</td>
<td>035-829-1352</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloria Palomares</td>
<td>Dept. de Biotech, Univ. Politecnica</td>
<td>Camino de Vera 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soon Oh Park</td>
<td>Fort Valley State University</td>
<td>Agric. Res. Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peterborough, PE8 6HJ</td>
<td>01780782525 FAX: 01780783993</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soon Jae Park</td>
<td>Agriculture &amp; Agri-Food Canada</td>
<td>Greenhouse &amp; Processing Crop Res. Centre</td>
<td>2585 County Rd 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remy Pasquet</td>
<td>OSTOM</td>
<td>35 Rue Montmirail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trazilbo Jose de Paula Jr.</td>
<td>EPAMIG - Vila Gianetti 47</td>
<td>CP 216 Vicosa, M. G.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedro A. Arraes Pereira</td>
<td>EMBRAPA/CPNPAF</td>
<td>Cx. Postal 179</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norma Silvia Perialia</td>
<td>Bibliotecaria, INTA-EEA</td>
<td>Mendoza, CC3-5507, Lujan de Cuyo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Daniel Ploper</td>
<td>Estacion Experimental Agroindustrial Obispo</td>
<td>Casilla de correo 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maria Carmela Posa</td>
<td>494-J Plant &amp; Soil Sciences Building</td>
<td>Michigan State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emmanuel Prophete</td>
<td>Ministry of Agriculture</td>
<td>PO Box 236</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magno Antonio Pato Ramalho</td>
<td>Dept. de Biologia - UFLA</td>
<td>Cx. Pos. 37, 37200-000 Lavras, M.G.</td>
<td>035-829-1352</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloria Palomares</td>
<td>Dept. de Biotech, Univ. Politecnica</td>
<td>Camino de Vera 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soon Oh Park</td>
<td>Fort Valley State University</td>
<td>Agric. Res. Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peterborough, PE8 6HJ</td>
<td>01780782525 FAX: 01780783993</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soon Jae Park</td>
<td>Agriculture &amp; Agri-Food Canada</td>
<td>Greenhouse &amp; Processing Crop Res. Centre</td>
<td>2585 County Rd 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remy Pasquet</td>
<td>OSTOM</td>
<td>35 Rue Montmirail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trazilbo Jose de Paula Jr.</td>
<td>EPAMIG - Vila Gianetti 47</td>
<td>CP 216 Vicosa, M. G.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedro A. Arraes Pereira</td>
<td>EMBRAPA/CPNPAF</td>
<td>Cx. Postal 179</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norma Silvia Perialia</td>
<td>Bibliotecaria, INTA-EEA</td>
<td>Mendoza, CC3-5507, Lujan de Cuyo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Daniel Ploper</td>
<td>Estacion Experimental Agroindustrial Obispo</td>
<td>Casilla de correo 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maria Carmela Posa</td>
<td>494-J Plant &amp; Soil Sciences Building</td>
<td>Michigan State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emmanuel Prophete</td>
<td>Ministry of Agriculture</td>
<td>PO Box 236</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magno Antonio Pato Ramalho</td>
<td>Dept. de Biologia - UFLA</td>
<td>Cx. Pos. 37, 37200-000 Lavras, M.G.</td>
<td>035-829-1352</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloria Palomares</td>
<td>Dept. de Biotech, Univ. Politecnica</td>
<td>Camino de Vera 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soon Oh Park</td>
<td>Fort Valley State University</td>
<td>Agric. Res. Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peterborough, PE8 6HJ</td>
<td>01780782525 FAX: 01780783993</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Position and Contact Information</td>
<td>Email Address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norman F. Weeden</td>
<td>Dept. of Plant Sciences, Montana State University, Bozeman, MT 59717</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floyd A. Weems</td>
<td>Pure Line Seeds, Inc., P. O. Box 8866, Moscow, ID 83843, 208-882-4422 FAX: 208-882-4326</td>
<td><a href="mailto:mollywelsh@wsu.edu">mollywelsh@wsu.edu</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molly Welsh</td>
<td>Curator, Phaseolus Collection, WRPS, 59 Johnson Hall, Pullman, WA 99164-6402, 509-335-3692 FAX: 509-335-6654</td>
<td><a href="mailto:mwa@wsu.edu">mwa@wsu.edu</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>David B. Willmot</td>
<td>Rogers NK Seed Company, 6338 HWY 20-26, Nampa, ID 83687, 208-466-0319 FAX: 208-467-4559</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mike Wood</td>
<td>Novartis Seeds, Inc., 6338 Highway 20-26, Nampa, ID 83687, 208-465-8533 FAX: 208-467-4559 <a href="mailto:mike.wood@seeds.novartis.com">mike.wood@seeds.novartis.com</a></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jim Wyatt</td>
<td>University of Tennessee, 605 Airways Blvd, Jackson, TN 38301-3200, 901-424-1643 FAX: 901-425-4760 <a href="mailto:jwyatt@utk.edu">jwyatt@utk.edu</a></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haytham Zaier</td>
<td>18 Hollywood Ave. # 1606, Willowdale, Ontario M2 N6 P5, Canada</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mildred Zapata</td>
<td>Crop Protection Department, Box 5000, Univ. of PR (RUM), Mayaguez, PR 00681-5000, 809-265-3859 FAX: FAX:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dorothea Zink</td>
<td>FB Biologie AG Cytologie, Univ. Kaiserslautern, Er. Schr.-Str 67663 Kaiserslautern, GERMANY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>49-631-205-2880 FAX: 49-631-205-2998 <a href="mailto:dozink@rhrk.uni-kl.de">dozink@rhrk.uni-kl.de</a></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Balance on Hand January 1, 1999  

<table>
<thead>
<tr>
<th>INCOME CATEGORIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BACK ISSUES</td>
<td>197.00</td>
</tr>
<tr>
<td>BIC MEETING</td>
<td>1,000.00</td>
</tr>
<tr>
<td>DUES</td>
<td>4,807.00</td>
</tr>
<tr>
<td>INTEREST</td>
<td>83.15</td>
</tr>
<tr>
<td><strong>TOTAL INCOME CATEGORIES</strong></td>
<td><strong>6,087.15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPENSE CATEGORIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BANK CHARGES</td>
<td>27.00</td>
</tr>
<tr>
<td>GRADUATE AWARD</td>
<td>200.00</td>
</tr>
<tr>
<td>LABOR</td>
<td>330.00</td>
</tr>
<tr>
<td>OFFICE SUPPLIES</td>
<td>125.04</td>
</tr>
<tr>
<td>POSTAGE</td>
<td>1,177.15</td>
</tr>
<tr>
<td>PRINTING</td>
<td>1,816.50</td>
</tr>
<tr>
<td><strong>TOTAL EXPENSE CATEGORIES</strong></td>
<td><strong>3,675.69</strong></td>
</tr>
</tbody>
</table>

| **GRAND TOTAL**         | **2,411.46** |

Balance on Hand December 31, 1999  

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance on Hand</td>
<td>5,363.10</td>
</tr>
<tr>
<td>December 31, 1999</td>
<td></td>
</tr>
</tbody>
</table>