



# Ornamental Plant Germplasm Center

2001 | 2002 *Annual Report*



**Ornamental Plant  
Germplasm Center**

670 Vernon Tharp Street

# USDA Herbaceous Ornamental Crop Germplasm Committee (HOCGC)

Lemon, D., Oglevee, Ltd., Chair  
Cameron, J., USDA, ARS, Ex-Officio  
Corfield, J., The Ohio State University, Ex-Officio  
Hellier, B., USDA, ARS, Ex-Officio  
Meerow, A., USDA, ARS, Ex-Officio  
Robertson, L., USDA, ARS, Ex-Officio  
Stieve, S., The Ohio State University, Ex-Officio  
Tay, D., The Ohio State University, Ex-Officio  
Widrechner, M., USDA, ARS, Ex-Officio  
Anderson, N., University of Minnesota  
Armitage, A., University of Georgia  
Ault, J., Chicago Botanic Garden  
Batdorf, L., National Arboretum, USDA  
Bowman, R., NASA, Moffettfield, Calif.  
Boyle, T., University of Massachusetts  
Cialone, J., Tropical Ornamentals  
Craig, R., The Pennsylvania State University  
Dole, J., North Carolina State University  
Drewlow, L., Oglevee, Ltd.  
Elsley, J., Wayside Gardens  
Gesick, E., University of Minnesota  
Griesbach, R., USDA, ARS  
Henny, R., University of Florida  
Holden, D., Goldsmith Seeds, Inc.  
Leue, E., Pan American Seed Co.  
Ley, E., National Arboretum, USDA  
Marotta, J., Possum Run Greenhouses  
McDonald, M., The Ohio State University  
Metzger, J., The Ohio State University  
Miller, M., Ball Horticultural Company  
Schmale, L., Society of American Florists  
Stimart, D., University of Wisconsin  
Talmadge, P., PanAmerican Seed Co.  
Wilfret, G., University of Florida  
Wilkins, H., University of Minnesota



## Staff

Project Chief Investigator — Steve Slack, Ph.D., Director,  
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## Affiliated Staff

Department of Horticulture and Crop Science  
Administrative Officer — Glen Arbogast  
Computer Support — Brian Mowery  
Financial Officers — Joan Randall, Shirley Hall  
Personnel Officer — Andrea Ramsey  
Website Designer — Tim Rhodus, Ph.D.

## HOCGC OPGC Subcommittee

Ault, J., Chicago Botanic Garden  
Bowman, R., NASA, Moffett Field, California  
Dole, J., North Carolina State University  
Marotta, J., Possum Run Greenhouses  
Widrechner, M., USDA, ARS, Ames, Iowa

Chair of the OPGC Subcommittee will be elected in the  
2002 Subcommittee meeting.



## Building the first ornamentals gene bank

The Ornamental Plant Germplasm Center (OPGC) is a joint venture between The Ohio State University/Ohio Agricultural Research and Development Center (OARDC) and the Agricultural Research Service (ARS) of the U.S. Department of Agriculture (USDA) to serve the nation's and the world's needs for a genebank to collect, preserve, study, and distribute germplasm of herbaceous ornamental plants. Through this joint endeavor, the OPGC becomes an official repository for herbaceous ornamental species in the U.S. National Plant Germplasm System (NPGS). It is also the first time in the history of humankind that efforts to protect and conserve our valuable herbaceous ornamental plant diversities and a specialized genebank just for this group of plants have been established in the world. We are excited about this, the members of academia and even more so the floricultural industry. I assure you, the people of the world, that we are serious about this initiative, and we are taking this unique opportunity and challenge to serve you and to make certain that our children and grandchildren will be able to enjoy the beauty of our flowers that our forefathers handed to us. Please check out our web site at <http://hcs.osu.edu/opgc/> and I leave you to ponder on the magic and power of ornamental plants:

“Not a food for our flesh, but a joy for our souls.  
Not to sustain our food security, but to nurture  
our spiritual needs.”

David Tay, Ph. D.  
Director  
Ornamental Plant Germplasm Center  
June 28, 2002





## ■ Mission Statement

We work to conserve the world wealth of herbaceous ornamental plant diversity to bring happiness and health to humankind.

## ■ Goal

To build OPGC into the world's leading herbaceous ornamental plant genebank.

## ■ Objectives

- To establish an herbaceous ornamental plant genebank as an integrated component of the USDA National Plant Germplasm System (NPGS).
- To build a network of cooperators from the horticultural industry, universities, botanic gardens and arboreta, USDA, crop specific societies, and individual gardeners.
- To establish a system that promotes industry-oriented collaborative research to enhance germplasm utilization.
- To institute academic programs and industrial short courses in the germplasm discipline to meet the needs of the horticulture industry.

## ■ Benefits

Preserving unique genetic materials for present and future crops that:

- Are resistant to pests and diseases.
- Require fewer economic inputs.
- Promote consumer product appeal through expansion of crop diversity in form, color, and fragrance.
- Exhibit biological activity for pharmaceutical, nutraceutical, agrochemical, and functional food uses.



Bobby D. Moser, Vice President for Agricultural Administration, The Ohio State University (left); Dr. Anna Hewings, Area Director Midwest Area, USDA (center); and Steve Slack, Director of the Ohio Agricultural Research and Development Center (right), cutting the garland at the opening ceremony.

meets the OSU Physical Hazards Assessment requirements, Hazard Communication Program, and Chemical Hygiene Plan. The building water supply is within the quality requirements of the University's Office of Environmental Health and Safety.

## Summary of Progress

This report summarizes the progress made in the first year of operations of the Ornamental Plant Germplasm Center (OPGC). The grand opening of OPGC was held on July 14, 2001. The mission statement, goals, objectives, and development plan of the Center were formulated, presented to, and endorsed by the USDA Herbaceous Ornamental Crop Germplasm Committee (HOCGC) at its 2001 meeting on July 16, 2001, at the Ohio Florists' Association Short Course. The development plan was also presented at a wide range of venues, including the American Seed Trade Association (ASTA) 21st Vegetable and Flower Seed Conference, the New Ornamental Crop Research Symposium at the Chicago Botanic Garden, universities, etc., reaching the nursery industry, academia, botanic gardens and arboreta, and the general public (including Master Gardeners).

Following the arrival of the Center's Director, May 1, 2001, a recommended list of 25 priority genera was provided to OPGC by HOCGC. The genera were: *Alstroemeria*, *Aquilegia*, *Aster*, *Baptisia*, *Begonia*, *Campanula*, *Chrysanthemum* (*Dendranthema*), *Dianthus*, *Euphorbia* (*Poinsettia*), *Geranium*, *Hemerocallis*, *Impatiens*, *Iris*, *Lilium*, *Narcissus*, *Pelargonium*, *Petunia*, *Phalaenopsis*, *Phlox*, *Rudbeckia*, *Salvia*, *Tagetes*, *Verbena*, *Veronica*, and *Viola*. During the 2001 HOCGC meeting, it was decided that the list be shortened to the top 10 genera. Then, in October 2001, in the process of consultation with the committee to narrow the list down, five more priority genera — *Algaonema*, *Anthurium*, *Dieffenbachia*, *Philodendron*, and *Spathiphyllum* — were added. A survey sent to the committee and the ornamental plant industry to rank the priority genera is still in progress.

The OPGC Subcommittee of HOCGC is being activated to provide an external sounding board for OPGC activities.

The Ohio State University's Ohio Agricultural Research and Development Center contributed an additional \$67,500 for the improvement of the building, its air-conditioning system, an upgraded 200-Amp with 220-volt electrical supply, a dust collection system, and the repair and upgrade of the greenhouses. The total area of the OPGC building is 6,000 sq. ft., and the greenhouse facility is about 12,000 sq. ft. The building was audited by the University and

The seed cooler has been upgraded with a simple automatic power cut-off system, heated door, chart recorder, and door lock. Additional shelves were installed to increase the storage capacity from 11,000 to 25,000 accessions. The seed laboratory and the seed processing room are presently functional.

The OPGC procured an extensive collection of very high-quality seed-testing and seed-processing equipment from Express Seed Company for \$52,000, equipment which was valued at about \$150,000 when new. Additional seed equipment, laboratory glassware, field pollination cages, and materials for bee pollination were all procured and are now in place. A reference library on herbaceous ornamental plants was established. Inventories of laboratory and field equipment, supplies, and reference books are in place.

Nearly 1,100 accessions of herbaceous ornamental species have been transferred from the following USDA collections: National Center for Genetic Resources Preservation, Fort Collins, Colo., 199 accessions; Western Regional Plant Introduction Station, Pullman, Wash., 125; North Central Regional Plant Introduction Station, Ames, Iowa, 497; Plant Genetic Resources Conservation Unit, Griffin, Ga., 214; and the U.S. National Arboretum, Washington, D.C., 71 (new germplasm collected in Russia in 2001). OPGC is also serving as the backup site of vegetatively propagated *Cuphea*. Presently, we are working with the National Arboretum to transfer the *Hemerocallis* collection (1,088 accessions).

Our first seed multiplication trial is focusing on easy-to-grow annuals, such as *Tagetes*, *Rudbeckia*, and *Zinnia*, and 90 accessions were sown in April 2002. In addition, eight accessions of *Antirrhinum* genetic stocks will also be tried out in greenhouse pollination. Accessions with old and few seeds were germinated in a seed germinator and seedlings then transplanted into plugs. Both single and double seedlings per hill will be tested. Thirty-five pollination cages will be installed at Ohio State's Waterman Farm. The university's Honey Bee Laboratory will assist in the management of bees for pollination. In addition, seedlings of nine accessions from the Republic of Georgia, collected in 2000 by the Mid-West Plant Collection Consortium (MWGCC) and distributed by the Chicago Botanic Garden, will be multiplied.

The details of the year's achievements are itemized in the Appendix included in this publication.



## THE PRIORITY LIST OF GENERA — as of November 2001

The list of genera presented here is a work in progress and represents the latest recommendation from the Herbaceous Ornamental Crop Germplasm Committee (HOCGC).

1. *Algaonema*
2. *Alstroemeria*
3. *Anthurium*
4. *Aquilegia*
5. *Aster*
6. *Baptisia*
7. *Begonia*
8. *Campanula*
9. *Chrysanthemum*
10. *Dianthus*
11. *Dieffenbachia*
12. *Euphorbia* (Poinsettia)
13. *Geranium*
14. *Hemerocallis*
15. *Impatiens*
16. *Iris*
17. *Lilium*
18. *Narcissus*
19. *Pelargonium*
20. *Petunia*
21. *Phalaenopsis*
22. *Philodendron*
23. *Phlox*
24. *Rudbeckia*
25. *Salvia*
26. *Spathiphyllum*
27. *Tagetes*
28. *Verbena*
29. *Veronica*
30. *Viola*



# Appendix: OPGC Progress Report, 2001/2002

## Physical Facilities

- A building layout plan was drawn and space assigned to make the building into a functional genebank for ornamental plant conservation and distribution.
- OSU/OARDC provided a cash contribution of \$67,500 for greenhouse repairs and upgrade (ridge vent, central cooling system conversion to individual compartment system to prevent cross-contamination by diseases, tempered-water supply for irrigation, head-house, hot-water supply, washing and potting area) and building improvements (additional 200-Amp electrical supply, air-conditioning duct-work to reduce building humidity, germination room, dust collection system, etc.)
- Seed Storage Cooler rectifications (USDA fund):
  - Lifted the two dehumidifiers off the cooler roof which had sagged due to the weight and vibration of the dehumidifiers; installed dripping pans under the dehumidifiers to prevent water accumulation on the roof.
  - Installed heated window, heating coil, and lock on door.
  - Adjusted door so that it shuts entirely.
- Seed Storage Cooler improvement (USDA fund):
  - Added safety cut off for dehumidifiers, cooling system, and lights.
  - Added temperature and relative humidity chart recorder.
  - Added additional shelving to increase storage capacity from 10,000 to 25,000 accessions (16-oz. jars).
  - Procured 10,000 seed storage jars.
- Building Air-Conditioner rectifications (OSU fund):
  - Re-built and re-installed the cooling-coil of the new air-conditioning system.
  - Improved building air duct system to increase re-circulating air to lower the humidity in the building. (Last summer there was serious condensation on the floor of the cooler walls and cooler door. We will know the effectiveness of the rectifications this coming summer.)
- Equipment procurement (USDA fund):
  - Express Seed equipment procurement — \$52,000. Seed research and technology equipment including thermogradient table, three germinators, two precision balances, seed moisture meter, stereo-microscope, laboratory oven, thermohydrograph, laboratory mixer, seed germination ware, vacuum seed counter heads, laboratory glassware, cabinet chamber seed dryer, precision temperature-controlled seed dryer, four-channel electronically controlled aspirator, single-seed sorting machine, laboratory seed brushing machine, laboratory specific gravity separator, seed texture separation table, three mechanical sieve sets, three seed coating machines, dust collector and ducts, etc., valued at \$150,000 new.
  - Other equipment procurement — reverse osmosis water purification system, storage freezer, refrigerator, microwave oven, laboratory oven, transmission microscope, pH/conductivity meter, hot-plate stirrer, riffle seed divider, vacuum seed counter pump, office and laboratory shelves, two desk-top computers, hand-held computer, zebra printer, office copier, digital camera, laboratory glassware, seed testing media and containers, compressed air system, wheeled belt thresher, Oregon seed blower, laboratory seed scarifier, laboratory and greenhouse trolleys, chemical application sprayers, greenhouse and field tools, beehives, bee maintenance gear and 50 pollination cages (netting and frames).

- OSU Seed Biology Group located its two water-jacket incubators for seed accelerated-aging tests and an air-screen cleaner (Official Laboratory Clipper) at OPGC.
- Rectified backflow of rainwater from outside into greenhouse corridor (OSU fund).
- Established a reference floriculture library of more than 200 volumes (USDA fund).
- Established OPGC inventory lists for equipment and books.
- Negotiated a field-space allocation at Waterman Farm by joining the Horticulture and Crop Science field rotation system and negotiated a provision to use other Ohio State research farms.
- Installed four additional fire extinguishers.
- Repaired the building hot water system.
- The building currently meets the University's health and safety operational requirements including Hazard Communication Program, Chemical Hygiene Plan, fire prevention and control requirements, drinking water quality, noise level, and exhaust-hood system.
- Developed a Material Safety Data Sheet (MSDS) notebook.
- Upgraded the building landscaping.

## Public Relations

### Inauguration

- OPGC Grand Opening, July 14, 2001, with representation from USDA, industry, and universities.

### Presentations

- OSU BioHio, Columbus, Ohio, May 10-12, 2001, David Tay and Susan Stieve.
- 2001 OFA Short Course, HOCGC meeting, July 16, 2001.
- New Ornamental Crop Research Symposium, Chicago Botanic Garden, September 26-29, 2001.
- OSU Department of Horticulture and Crop Science (HCS) seminar, October 12, 2001.
- China Agricultural University, Department of Seed Science and Technology, November 6, 2001, professors and graduate students.
- Chinese Academy of Agricultural Sciences (CAAS), Graduate School, November 6, 2001.
- Institute of Vegetables and Flowers (IVF), CAAS, November 8, 2001.
- Master Gardeners, Franklin County, Ohio, Nov. 15, 2001.
- The Wheaton Club (a garden club in central Ohio), Dec. 12, 2001.
- ASTA 21st Vegetable and Flower Conference in Albuquerque, N.M., Wildflower and Native Plants Group, Jan. 27, 2002.
- ASTA 21st Vegetable and Flower Conference in Albuquerque, N.M., Home Garden Committee, Jan. 28, 2002.
- Consortium of U.S. Universities and Institutes in Cooperation with China for Agriculture, Washington, February 16, 2002.
- Michigan State University's Department of Horticulture seminar, East Lansing, Mich., Feb. 21, 2002.
- Mid-West Regional Seed Quality meeting, The Ohio State University, Columbus, Ohio, March 14, 2002.
- National Center for Genetic Resources Preservation, Fort Collins, Colo., March 28, 2002.

### Displays

- OSU BioHio, Columbus, Ohio, May 10-12, 2001.
- 2001 OFA Short Course, Columbus, Ohio, July 14-18, 2001.
- OSU Horticulture and Crop Science Field Day, Waterman Farm, Columbus, Ohio, August 9, 2001.
- ASTA 21st Vegetable and Flower Conference, Albuquerque, N.M., Jan. 26-30, 2002.
- 2002 OARDC Annual Conference, Wooster, Ohio, April 23, 2002.

- Otterbein College, Life and Earth Science Career Day, Westerville, Ohio, May 20, 2002.

## OPGC Facility Tours

- OPGC Grand Opening, July 14, 2001 — USDA, industry, and university invited representatives.
- 2001 OFA Short Course, July 15, 2001 — some 150 people attended.
- Dr. K. Fujimura, seed imaging research, August 20, 2001.
- Nandancho Delegation, Japan (15 people), August 10, 2001.
- OSU Horticulture and Crop Science Graduate Student Orientation, Sept. 14, 2001.
- Two Master Gardener tours, November and December 2001.
- The Wheaton Club (20 people), Ohio, December 12, 2001.
- John Armstrong, Secretary/Manager, Ohio Seed Improvement Association, January 4, 2002.
- Dr. Michael Kruse, University of Hohenheim, Germany, January 8, 2002.
- Dr. John Cross, Chair, American Seed Research Foundation, ASTA, January 9, 2002.
- Dr. Usha Pillai-McGarry, University of Queensland, Australia, January 23, 2002.
- Dr. Francis Kwong, PanAmerican Seeds, January 7, 2002.
- Dr. M. Aktas, Dean, College of Agriculture, Harran University, Turkey, February 11, 2002.
- Dr. D. Mackay, University of Missouri, February 12, 2002.
- Dr. M. Kogan (Chair) and Dr. E. Olate, Department of Plant Sciences, Pontificia Universidad Católica de Chile, Chile, February 14, 2002.
- OSU Department of Plant Biology group, February 15, 2002.
- Jim Doherty, Species Lily Preservation Group, February 19, 2002, and May 11, 2002.
- Dr. Marlin Languis, Junior Master Gardener Group Leader, February 25, 2002.
- Michael Gahn, Pioneer Hi-Bred, February 25, 2002.
- David Kovach, NC7, Ames, Iowa, installing Zebra printer, February 26, 2002.
- Samuel Contreras, Pontificia Universidad Católica de Chile, Chile, March 4, 2002.
- Mike Wagner, Chapman Elementary, on school partnership, March 6, 2002.
- Mid-West Regional Seed Quality meeting tour, March 14, 2002.
- Master Gardeners, Hardin County, Ohio, March 28, 2002.
- Ohio State Science Day tour, students and family members, May 10, 2002.
- Dr. Samuel Kyamanywa, Head, Department of Crop Science, Makerere University, Uganda, and Dr. George Bigirwa, National Agricultural Research Organisation, Uganda, May 11, 2002.

## Media

- OPGC brochure and bookmark (10,000), June 2001.
- Web site (<http://hcs.osu.edu/opgc/>) construction, Dr. Tim Rhodus, June 2001.
- *EnPlant*, July 6, 2001, HCS newsletter — Update on OPGC, David Tay.
- OPGC grand opening, July 14, 2001.
- *ARS News*, July 16, 2001, New Ornamental Plant Germplasm Center Celebrated.
- *People Places Plants*, New England's Garden Magazine, Jan-Feb 2002, Page 22 in Garden Notes.

## Meetings

- Ohio Seed Improvement Association, Dublin, Ohio, June 1, 2001, David Tay and Susan Stieve.
- Applewood Seed Company, Denver, Colo., June 25, 2001, David Tay and Susan Stieve.

- Meeting with Ohio State University faculty members, July 17, 2001 — Meeting report sent to 28 persons, David Tay and Susan Stieve.
- OARDC Crop Variety Release and Distribution Committee (CVRDC) meeting, September 11, 2001, David Tay and Susan Stieve.

### OPGC Endowment

- OPGC Endowment in 2001, \$30,000.
- Application submitted to the College Development Office to include OPGC in College of Food, Agricultural, and Environmental Sciences's donation drive.

### Germplasm

- Collection Two accessions of native *Impatiens* species.
- 1099 accessions - transferred from USDA repositories.
- NA 71 accessions of new germplasm collected in Russia 2001.
- NC7 497 accessions.
- NCGRP 199 accessions.
- S9 214 accessions.
- W6 125 accessions.
- NC7 32 accessions of vegetatively propagated *Cuphea* as backup collection.
- NA — presently working with the National Arboretum to transfer its *Hemerocallis* collection (1,088 accessions) and *Narcissus* collection to OPGC.
- MWPC (Mid-West Plant Collecting Consortium) sent 9 accessions of germplasm collected in the Republic of Georgia in 2000.
- NACPEC agrees to share appropriate collected germplasm.
- Cornell Plantation (Mary Hirshfeld) will share germplasm.
- Native Seed/SEARCH agrees to share germplasm of *Tagetes*.
- Brisbane Botanical Garden will share germplasm.
- World-Wide Begonia Research Group, Queensland Begonia Society — USDA import permit in place for importing.
- Preparation for the coming season seed multiplication program.
- Identification and procurement of seed cleaning and laboratory equipment, greenhouse supplies, and equipment and pollination cages and field equipment.
- Evaluation of *Cuphea* provided cuttings to Dr. Claudio Pasian, OSU Extension, Floriculture, for plot evaluation, 2002.

### USDA

- 2001 PGOC/Regional Technical Committee meeting at the National Center for Genetic Resources Preservation (NCGRP), Fort Collins, Colo., June 25-29, 2001, David Tay and Susan Stieve.
- Herbaceous Ornamental Crop Germplasm Committee meeting, July 16, 2001, David Tay and Susan Stieve.
- NC7 Plant Introduction Station, Ames, Iowa, July 31 to August 1, 2001, David Tay and Susan Stieve.
- GRIN training at OPGC — Mark Bohning provided basic GRIN training, August 2001.
- David Kovach, North Central Regional Plant Introduction Station, February 26, 2002.
- NCGRP Category 4 Scientist Position — Interviewing committee member, March 25-28, 2002.
- GRIN training meeting, May 20-24, 2002, David Tay and Susan Stieve.
- National Agricultural Library (Drs. Gary McCone and Melanie Gardner) and GRIN Taxonomy Component (Dr. J. Wiersma) — discussed cooperation in AgNIC project, May 20, 2002, David Tay and Susan Stieve.

### International Cooperation

- Attended the International Conference on Agricultural Science and Technology (ICAST), Beijing, November 5-10, 2001.
- Institute of Vegetables and Flowers (IVF), Chinese Academy of Agricultural Sciences, University of Minnesota, and Chicago Botanic Gardens to develop a flower collection mission in China.
- China Agriculture University, American Seed Trade Association (ASTA), International Society of Seed Technologists (ISST), and The Ohio State University to implement a workshop in seed science and technology.
- Consortium of U.S. Universities and Institutes in Cooperation with China for Agriculture (UCCA for University Consortium for Chinese Agriculture) — attended the foundation meeting and ceremony in Beijing and the follow-up meeting in Washington, February 16, 2002.
- World-Wide Begonia Research Group, Queensland Begonia Society, April 24, 2002 — negotiating exchange of germplasm.
- Brisbane Botanical Garden, April 26, 2002 — discussed cooperation.
- Chile — Invitation by Chair, Department of Plant Sciences, Pontificia Universidad Católica de Chile, to cooperate in germplasm conservation.
- Turkey — Invitation by Dean, College of Agriculture, Harran University, Turkey, to cooperate in germplasm conservation.
- Argentina — Negotiating an agreement with the National Genebank, INTA, to collect germplasm in Argentina.
- Uganda — Pre-proposal in flower germplasm research is being considered by Makerere University for further development.

### Academic and University Activities

#### Dr. David Tay, Director:

- Department of Horticulture and Crop Science, OSU Adjunct Faculty appointment.
- USDA proposed, approved, and allocated \$10-15,000 for a half-time graduate assistantship.
- University of Queensland, Queensland, Australia — 1 M.Sc. graduation (Committee Chair) and 1 Ph.D. graduation (Committee member). (From programs established during David Tay's employment there.)
- HCS Seed Biology Group member and resource person in journal classes.
- Plant Breeding and Genetics Group member.
- Graduate Seminar on Weedy and Invasive Plants, Autumn 2001, EEOB (Dept. of Evolution, Ecology, and Organismal Biology) resource person.
- Susan Stieve's Ph.D. program — Committee member.
- Lecture — Plant Research Methods (HCS 604), October 25, 2001, 1 class; Seed Physiology, February 25, 2002, 1 class; and Seed Science, February 25, 2002, 1 class.
- HCS Molecular Genetics position search meetings with candidates, February 2002.
- OFA Education Affairs Committee member, starting July 2001.
- National Floriculture Forum, California Pack Trials, April 8-14, 2002.
- Judge, Ohio State Science Day, Plant Science Innovation Award, May 11, 2002.
- Department of Entomology (Dr. Casey Hoy) — Seed coating of onion seed.
- Department of Entomology (Dr. Robin Taylor) — Proposal on greenhouse indicator plants.
- Scientific paper review for Dr. Mark Widrechner, North Central Regional Plant Introduction Station.
- International journal paper review, *New Zealand Journal of Botany*, May 2002.



- Will host Professor Richard Criley, University of Hawaii, Sabbatical leave at OPGC, August to December 2002.
- Society of American Florists (SAF), August 2001.
- Ohio Florists Association (OFA), March 2002.
- American Society of Horticultural Sciences (ASHS), April 2002.
- International Society of Horticultural Sciences (ISHS), April 2002.
- American Association of Botanic Gardens and Arboreta (AABGA), May 2002.
- Ohio Historical Society Library, February 2002.
- Publication: Survival of conidia of sorghum ergot (caused by *Claviceps africana*) on panicles, seed, and soil in Australia. Bhuiyan, S. A., Ryley, M. J., Galea, V. J., Tay, D., and Lisle A. T. (2002) *Australasian Plant Pathology* 31, 137-141.

### Susan Stieve, Curator

- Horticulture and Crop Science Seed Biology Group member and participated in journal classes.
- Graduate Seminar on Weedy and Invasive Plants, Autumn 2001, EEOB (Dept. of Evolution, Ecology, and Organismal Biology) participant.
- Ph.D. program commencing January 2002. Experiment summer 2002: comparing seed quality and quantity of field vs. greenhouse seed production.
- OPGC Building Coordinator — responsible for initiating building repair requests and work health and safety.
- OSU College of Food, Agricultural, and Environmental Sciences, Library Improvement Committee, committee member, 2002.
- Proposed and actively assisted in the development of the Seed Evaluation and Enhancement course to be taught by Seed Biology Faculty.
- OFA Education Affairs Committee member, starting July 2001.
- OSU Nursery Short Course seminars and Central Environment Nursery Trade Show, January 23, 2002.
- Ohio Florists Association (OFA), March 2002.
- Mid-West Regional Seed Quality meeting, March 14-15, 2002.
- American Society of Horticultural Sciences (ASHS), April 2002.
- OSU Honey Bee Laboratory — initiated contact and work with Dr. J. Tew, Director of the Laboratory, to develop insect pollination capability.
- Ohio State Beekeepers Association, June 2002.

### Volunteers, Student Intern, and Donations

- Possum Run Greenhouse donated plants for landscaping in 2001 and 2002.
- Dr. Martin Quigley assisted in landscape design.
- Dr. John Street obtained donation of turf.
- Mary Maloney coordinated Master Gardener volunteers.
- Developed volunteer and employment application and standards of behavior forms.
- Bob Gutches, an independent volunteer, general help of more than 100 hours.
- Franklin County Master Gardeners, 10 volunteers, general help.
- One HCS student intern, to work on a bibliographic search for web-based database (possible AgNIC project).
- One student casual to help in general laboratory, greenhouse, and field work.
- Penny Aguirre obtained wholesale discount of 40% for Timber Press reference books.

## 2002/2003 PLAN

### Outreach activities

#### 2002

- 2002 PGOC meeting, June 3-6, 2002.
- First OPGC Subcommittee meeting and planning session, July 14, 2002.
  - Facilitator Dr. Garry Gibbons.
  - Finalizing priority genera list recommendation.
- Develop future staffing plans
- Technical Working Groups, crop specific.
- Soliciting germplasm contributions from public and private entities, domestic and overseas seed companies, and botanic gardens and arboreta.
- Proposing a two-tier germplasm acquisition system to accommodate species not on the priority list. (The second tier is similar to the present NCGRP black-box system).
- CBD requirements in germplasm collection, acquisition, and distribution.
- USDA funding vs. OPGC Endowment.
- 2002 OFA Short Course presentation and poster display, July 13-17, 2002.
- 2002 HOCGC meeting, July 15, 2002.
- 2002 AABGA Conference, August 7-10, 2002, paper presentation.
- 2002 ISHS/ASHS Convention, August 11-17, 2002, paper presentation.

#### 2003

- 2003 National Floriculture Forum (NFF), February 21-23, 2003. Organize and host the Ornamental Plant Germplasm Conservation and Utilization Symposium.
- 2003 International Master Gardener Conference and Trade Show, June 19-22, 2003, paper presentation.

### Physical Facilities

- OPGC Tissue Culture (in vitro) Laboratory for the preservation of clonal germplasm materials; design and equip the laboratory.

### Human Resources Development

- Second Curator — Develop strategy to expand curatorial capacities as collections expand.
- Research Assistant — Employ a Research Assistant to assist in field, greenhouse, and laboratory works.
- Student casual assistants — Employ both Federal Work-Study program students and regular students
- Project management courses — Dr. David Tay.

### Germplasm

- Ranking HOCGC priority genera list — Finalizing July 2002 planning session.
- OPGC Operation Manual — Formulation and implementation.
- Technical Working Groups — Organize crop specific technical working groups to fulfill the following (based on Dr. Gary Pederson's 2002 PGOC presentation):
  - Advice.
  - Germplasm identification and acquisitions.
  - Collection proposals.
  - Duplicate identification.
  - Descriptors.
  - Regeneration techniques.
  - Characterization and evaluation techniques.
  - Discussion.
  - Concerns with the crop.

- Questions of NPGS policy and procedure.
- Representation of user's concerns.
- New approaches for germplasm preservation, including core collections, cryopreservation, in situ conservation, GIS applications, etc.
- Feedback on accessions.
- Data for entry into GRIN.
- Use in cultivar and germplasm development.
- Contribution to published research.
- Viability and quality of accessions received.
- Other problems with accessions received.  
(Note: Dr. Gary Pederson is Research Leader, USDA Plant Genetic Resources Conservation Unit, Griffin, Ga.)
- GRIN — Continue to learn the software package.
- GRIN — Work with Dr. J. Wiersema to enhance taxonomic information on the priority genera.
- Species Lily Preservation Group — Prepare to accept germplasm.
- National Arboretum Iris collection (96 accessions) — Formulate and organize maintenance by Franklin Junior Master Gardener group (Dr. Marlin Languis).
- ASTA Wildflower and Native Plant Group — Prepare to accept germplasm as second tier germplasm.
- AABGA/CPC — Work with AABGA and CPC to acquire germplasm from botanic gardens and arboreta.
- World-Wide Begonia Research Group — USDA Import Permit in place for importing.
- NACPEC, September 2002, China expedition to Shanxi — Coordinate to receive any herbaceous germplasm collected.
- Institute of Vegetables and Flowers (IVF), CAAS — Continue to develop the proposal to collect *Chrysanthemum* and *Lilium* in China.
- International Bulb Society — Cooperate to conserve *Narcissus* from Spain.
- Native Seeds/SEARCH — Sourcing native *Tagetes*.

## OPGC Endowment

- Actively work to develop the endowment, Year 2002 amount — \$30,000.

## CONTACT

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