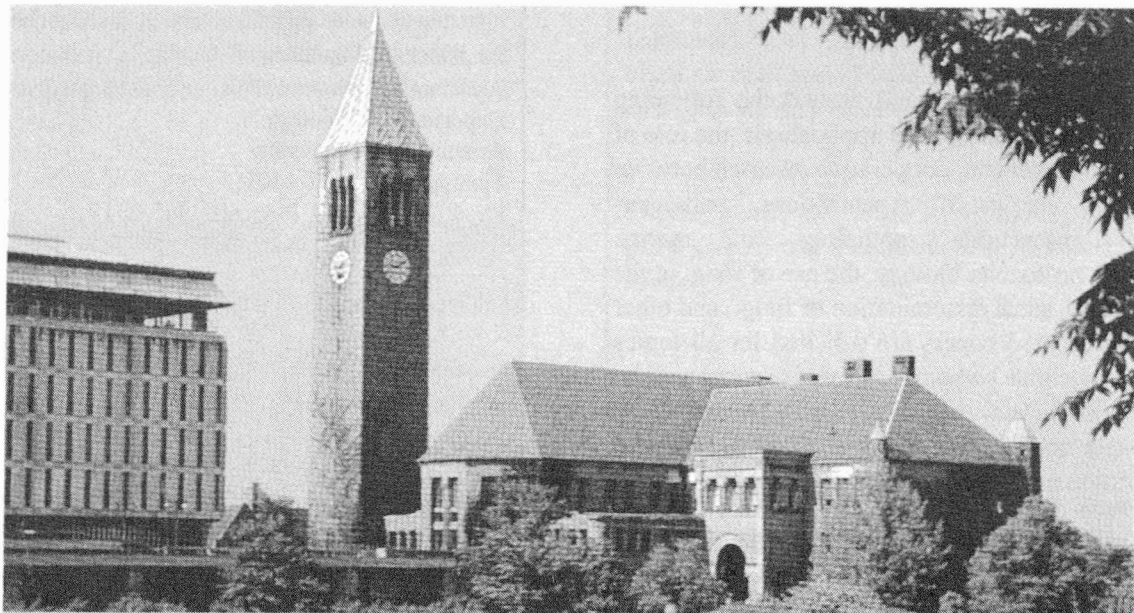


NEWSLETTER

society for invertebrate pathology

VOLUME 27, NUMBER 1
February 1995



McGraw Tower, Cornell University

**28th ANNUAL MEETING, CORNELL
UNIVERSITY, ITHACA, NEW YORK
JULY 16 - 21, 1995**

The 1995 Annual Meeting of the Society will be held in Ithaca, New York. Ithaca is home to many scientists involved in the research and teaching of invertebrate pathology. These scientists, post-doctoral associates and students represent Boyce Thompson Institute, the USDA Agricultural Research Service, and Cornell University. The meeting will be held on the campus of Cornell University and will take advantage of the many amenities the campus and the surrounding area have to offer.

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Ithaca is located at the south end of Cayuga Lake, in the heart of New York's beautiful and scenic Finger Lakes district. It is a popular destination for tourists, and has hiking, fishing, boating, swimming, shopping, wine-tasting and sightseeing all within easy reach.

Scientific Program: The program will follow the usual SIP format. The meeting will begin with a mixer on Sunday evening, July 16, and conclude at noon on Friday, July 21. Scientific plenary and concurrent sessions will begin on Monday. Divisional workshops are planned for either Monday or Tuesday evening. The Society's annual Business Meeting will be held on Thursday morning.

Symposia are being organized around the following topics: baculovirus biology and applications, the role of B.t. in pest management, cooperative research between industry and non-profit organizations, pathogen-parasitoid interactions, pathology of marine invertebrates, protozoan biology, the use of fungi in the lab and the field, aerial dissemination of fungi, and other topics. Contributed papers are solicited for all topics related to invertebrate pathology. Poster sessions will be held on both Tuesday and Thursday. There will be student paper and poster competitions; please refer to the registration materials for instructions.

Deadline for Abstract Submission: April 15 will be the deadline for receipt of abstracts for individual symposia, submitted papers, and poster presentations, as well as other program information. This deadline will allow us to distribute the program to all members before the meeting. Abstracts received after the deadline will not be printed. Late abstracts and submissions will not be printed, and will be accommodated in the meeting schedule on a space- and time-available basis only.

How To Submit Abstracts: The Program Committee solicits your contributions of abstracts for meeting presentations. Instructions can be found in the registration package attached to this newsletter. ORAL PRESENTATIONS WILL BE LIMITED TO 10 MINUTES, with an additional 2 minutes for questions. Because of concurrent sessions, moderators will be instructed to KEEP STRICTLY TO SCHEDULED

SIP NEWSLETTER

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Submissions to the following sections are solicited:

Forum: More substantial articles on current issues of concern, limited to approximately five pages.

Letters to the Editor: Issues of concern can be brought up here.

Microbial Control News: Information on new discoveries, "News Releases", formation of companies etc. pertaining to microbial control.

We also depend on our members to supply us with information for the following sections: **Obituaries**, **Member News** (Retirements, Awards, Promotions), **Members on the Move** (New addresses), **Positions Available/Wanted**, **Meeting and Workshop Announcements**, and other **News Items**.

Send all submissions directly to the Editor in Lethbridge. Submissions via EMail or on computer disk (WP or ASCII) make our lives much easier and save on costs. Please include a hard copy of any text sent via computer disk.

Deadline for the next Newsletter is April 15, 1995

TIMES. Projection equipment available will consist of Kodak carousel slide projectors (2" x 2" or 5 cm x 5 cm slides) and overhead transparency projectors. Speakers with other needs for presentations should notify the Program Committee Chair, John Vandenberg, at the time of abstract submission. Poster boards will be approximately 5 feet wide and 4 feet high (1.6 x 1.2 meters).

Instructions for preparing abstracts are included with this issue; follow them carefully. We require ELECTRONIC OR DISKETTE SUBMISSION OF ABSTRACTS, accompanied by a hard copy. If you cannot accomplish this (because of lack of a computer or e-mail connection), please follow the instructions for submitting printed abstracts.



Taughannock Falls, Site of BBQ

WHEN DID YOU RECEIVE YOUR NEWSLETTER?

In an effort to improve our service to you, we would like to know how long it takes for the Newsletter to reach you. The Newsletter is distributed to all members outside North America via Distribution Consultant. This service seems acceptable to Europe. How about the rest of the world? I just learned that the November Newsletter arrived in the Solomons on 19 January!

We'd like to improve our delivery time, but at reasonable cost. Sending to all members via first class air mail would more than double our mailing costs, but we may be able to use air mail selectively.

Please send me a short Email message or postcard if you received this Newsletter after March 15.

The Editor

Social Events: The social events will begin Sunday evening with a mixer from 6:00 to 8:00 p.m. The 5K race is scheduled for Wednesday morning, and will begin and end on the Cornell campus. Ithaca was the site of the first-ever SIP 5K race in 1983. Please sign up for the 13th annual race to make it the best ever! Please indicate shirt size.

An optional excursion and barbecue will take place at Taughannock Falls State Park on Wednesday afternoon. This get-together will offer meeting attendees the chance to relax informally with colleagues. The Park offers hiking, swimming (bath house available), and sightseeing. The Falls drop over 200 feet and are the highest in the eastern U.S. (yes, higher than Niagara!), and are reached by an easy walk from the parking area. We'll have great food and drink and other activities available.

Also on Wednesday we will offer an optional excursion to visit local wineries and taste their wines. The tour

will leave Ithaca at noon. Because of the time, be sure to order a Wednesday lunch ticket. A box lunch will be provided at the tour bus. The wine tour will include an escort with extensive knowledge of the Finger Lakes wineries. At the end of the wine tour, you will go to the Taughannock State Park for the barbecue. Therefore, if you want to take the wine tour, you must also sign up for the barbecue.

On Thursday evening, the banquet will be held at an inn overlooking Cayuga Lake. Dress will be informal. An invertebrate-based menu is planned but will also include appropriate items for vertebrate-eaters and vegetarians. Following dinner, we'll have our awards ceremony followed by dancing to the great live music of Steve Southworth and the Rockabilly Rays!

Accommodations: Townhouses and Dormitories are located on the Cornell University North Campus. The Townhouses are air-conditioned. They typically have two bedrooms, kitchen, living room and shared bath. The Dormitory suites are four or five bedrooms with a central living area and a shared bathroom. A limited number of Townhouse suites are available and will be assigned on a first-come basis. An additional fee will be collected for Townhouse accommodations at the time of registration (see registration form).

Rooms have been reserved at the Best Western University Inn which is close to campus at the East Hill Plaza. For reservations call (607) 272-6100 or Fax: (607) 272-1518. Indicate that you are attending the SIP meeting for the single rate of \$65 per night and double rate of \$50 per night per person.

Registration: The registration fee includes the Sunday mixer, coffee-breaks, audiovisual equipment, insurance, transportation and the Thursday night banquet. The companion fee includes the Sunday mixer and Thursday night banquet. Please return your registration forms as soon as possible. There will be a late fee of \$50 for registration forms received after April 30. Only payments in U.S. currency will be accepted. Please make checks or money orders payable to Cornell University Conference Services-SIP. Please note that payments can be made by Visa or MasterCard.

Refund Policy: Refunds of registration fees will be available with delivery of a cancellation notice prior to June 27. Refunds will be made by Cornell University Conference Services after the meeting.

Travel Information: Information concerning the vast array of tourist attractions and events in the Ithaca area can be obtained by calling the Tompkins County Chamber of Commerce at (800) 284-8422 or writing them at 904 East Shore Drive, Ithaca, NY 14850.

Ithaca has a new airline terminal which opened in the spring of 1995. It is serviced by U.S. Air and Continental Express Airlines. A shuttle service from the airport to the Robert Purcell Center (housing and registration center) at Cornell will cost approximately \$8.00 one-way.

Additional air service is available at the Syracuse airport which is approximately one hour and fifteen minutes by car from Ithaca. Limousine service is available from the Airline Limo Service and will cost approximately \$65 roundtrip. You must make reservations by calling (800) 273-9197.

Free parking will be available on the Cornell University campus near the housing units. For participants staying off campus permits will have to be purchased for parking on campus.

Contact People

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FROM THE PRESIDENT

Greetings and best wishes for a prosperous and scientifically exciting New Year! Preparations for the 28th annual meeting of SIP to be held in 'gorges' Ithaca, New York are well underway, and details can be found elsewhere in this newsletter. Attendance at our annual meetings has been increasing during recent years, and much of this success can be attributed to dedicated, hard working volunteers who plan and organize strong programs for the annual events. Your attendance at the annual meetings is extremely important, and I encourage members to 'talk up' the SIP meetings and convince your colleagues to participate in these scientific gatherings. The annual meetings also offer excellent social events that are important venues for informal scientific discussions and the renewal of friendships.

In 1996, our Society will be holding its annual meeting in Spain. Just Vlák, our Meetings Board chairperson, is communicating with Candido Santiago-Alvarez (local organizer in Spain) to confirm that the meeting site has the necessary resources to accommodate the increasing attendance at these meetings. At this point, the organizers of the International Conference on *Bacillus thuringiensis* have expressed an interest in meeting in conjunction with the SIP annual meeting every two years. Joint meetings would be a positive development that would greatly strengthen our Society. However, joint meetings will require more careful planning. The SIP Council strongly supports this development, and we hope that the next *Bt* conference will be held during our 29th annual SIP meeting in Spain.

Another related issue is the interest in organizing a Bacteria Division within the Society for Invertebrate Pathology expressed by several *Bt* researchers at the Montpellier meeting. Our Vice-President, Brian Federici, will initiate the coordination with other SIP *Bacillus* researchers to develop the Division. At this same meeting, several insect virologists expressed an interest in organizing an Insect Virus Division, but no one has stepped forward to initiate the process. The SIP Constitution and By-Laws encourage the organization of Divisions. Any member of the Society may write to our Secretary, Wendy Gelernter, to obtain the necessary guidelines for the establishment of a Division.

In November of 1994, Brian Federici and I were in Kyoto, Japan, attending a U.S.-Japan seminar on insect pathogens (see article in this newsletter). Professor Toshihiko (Toshi) Iizuka from Hokkaido University in Sapporo graciously invited us to visit Sapporo in order to visit the two potential meeting sites for the VII International Colloquium on Invertebrate Pathology and Microbial Control which will be held in Sapporo in August 1998. One possible meeting site is Hokkaido University which is located in Sapporo. The University has an adequate number of rooms for plenary sessions and lectures. Accommodations would be in various hotels which are located reasonably close to the University. The second potential site is the Thermo International Sapporo Hotel and Convention Center is located just 20 minutes from the center of Sapporo. Toshi Iizuka and other members of the Japan organizing committee have selected these two excellent meeting sites for consideration, and I am confident that our next Colloquium is in very good hands.

MICROBIAL CONTROL NEWS

Paecilomyces fumosoroseus to be Commercialized a Mycoinsecticide for Greenhouse Pest Control

W. R. Grace & Co., a U.S. specialty chemicals company, has entered into an agreement with Biobest Trading, a Belgian company that supplies beneficial insects for greenhouse IPM, for the registration and sale of a mycoinsecticide developed by Grace, which contains the fungus *Paecilomyces fumosoroseus*. This fungus kills a wide range of pests such as whiteflies, aphids, thrips, mealybugs and mites. The University of Florida holds a patent on this fungus, which it licensed to Grace in 1989. The company has conducted extensive research into formulation, manufacture and field trials to develop a commercial product, and a registration application was submitted to the U.S. Environmental Protection Agency in February 1994. Biobest is submitting requests for several European registrations. Biobest has rights to distribute the product for applications to greenhouse vegetables in Europe, the Middle East and North America. Europe has about 80,000 ha of greenhouse vegetables and many growers use beneficial insects for pollination and biological control, which restricts the use of chemical pesticides. This mycoinsecticide is safer to

these beneficial organisms than most chemical pesticides and should fit well in these production systems. (from *Biocontrol News and Information* 1993, Vol 15 (2), p. 12N).

Facilitation Grant Program

The National Biological Control Institute (NBCI) has limited funding for projects that facilitate biological control. Specifically, projects that address information, education, or communication needs of the biological control community will be considered. Proposals for startup or matching funds that leverage existing resources and are consistent with NBCI priorities are especially welcomed. For further information contact:

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Program Assistant
National Biological Control Institute
U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Office of the Administrator
6505 Belcrest Road, Room 350
Hyattsville, M.D. 20782
Tel: (301) 436-4329
Fax: (301) 436-7823
Bulletin Board System: (800) 344-6224 or
(301) 436-7487

EcoScience Announces Programs to Enhance Timeliness And Efficiency of Product Commercialization Efforts

Worcester, Massachusetts, December 8, 1994
EcoScience Corporation today announced an organizational structure which is designed to accelerate the full commercialization of its key product initiatives at a lower total cost. Donald T. Aiello, acting Chief Operating Officer, said, "Not only will these changes allow us to save an additional \$1.5 - \$2.0 million per year in expenses, they put our research and development effort much closer to the marketplace by eliminating a layer of management and aggregating research and development, marketing and manufacturing resources into product teams." The Company's key product initiatives, the Bio-Path® Cockroach Control Chamber, Bio-Blast™ Termite Control Product, Bio-Save®

biofungicides and Nature Seal® coatings are the focus of this effort. The organizational changes, which permit the immediate reduction in the Company's work force by 11 full-time positions, allow the Company to focus resources on its near term priorities while retaining its fundamental core technology for future growth.

The Company also announced that it has identified several potential cost-effective third party manufacturing sources for the active ingredient in its Back-Off™ sprayable fungal agents for use in its Soft-Bodied Insect Spray for greenhouse and agricultural uses. The Company has temporarily deferred funding of its research and development efforts for this product due to manufacturing cost considerations, while committing to the development of sources for the reliable and commercially viable supply of the active ingredient for these products. Aiello mentioned, "The Company intends to seek collaborative arrangements with third parties for the financing and development of products in this area. While EcoScience has solved many key technical hurdles, we recognize we are at a point where joining forces with the right multinational partner will be beneficial for both parties."

Aiello further commented, "The initiatives announced today not only strengthen EcoScience's ability to deliver its products into the marketplace, but further enhance the Company's financial position and facilitate implementation of its strategic alternatives."

Donald T. Aiello
EcoScience Corporation
Worcester, MA, 01605
Tel: (508) 754-0300
Fac: (508) 754-1134

Biosys and Crop Genetics To Merge

Palo Alto, CA and Columbia, MD. December 8, 1994
Biosys Inc. and Crop Genetics International have signed an agreement to merge the two biopesticide companies. In the contemplated transaction, biosys, a worldwide leader in biological insect control products, will acquire all the outstanding shares of CGI, a leader in the emerging field of baculovirus insecticides, by issuing 3.5 million shares of biosys' common stock. The

acquisition is subject to approval by the common shareholders of both companies and review by the US Securities and Exchange Commission.

Biosys officials said the combination with CGI will reinforce its technological and financial status and enhance its position as a leader in developing and commercializing safe and effective biopesticides.

"The synergies achieved in combining biosys and CGI pertain to one of our three core technologies," said Dr. Venkatrao S. Sohoni, who will continue as Vice Chairman and CEO of the combined companies. Dr. Sohoni said that CGI and biosys have different but complementary technologies for producing insecticidal baculoviruses."

CGI is an industry leader in advanced technology and techniques for manufacturing and processing high quality baculovirus in living insects. The U.S. Environmental Protection Agency has approved two CGI products and two more are awaiting EPA registration. CGI is now selling the products in Europe and plans to launch products in the U.S. next year.

Biosys has access to a patented strain of baculovirus that has been proven effective for the control of wide spectrum of caterpillar pests. In addition, the company has made considerable progress toward the development of the fermentation (in vitro) process for producing baculovirus.

"Together, the combined firm will be able to exploit the commercial potential of baculovirus more quickly than if we were to attempt this separately," continued Dr. Sohoni. "This merger creates a firm that has world-class baculovirus production capabilities," he said.

"The merger of biosys and CGI creates a single firm that can more quickly and economically exploit the growing worldwide demand for safe and effective biorational pest control products," said Joseph W. Kelly, Chairman and Chief Executive Officer of CGI. "The acquisition of CGI will strengthen biosys' financial position. CGI has cash and equivalents of more than \$6 million. This includes a \$3.4 million loan guaranteed by the state of Maryland that was completed yesterday," said Mr. Kelly.

Biosys Background. Founded in 1983, biosys is a leader in the development and commercialization of biological pesticide products based on multiple, complementary technologies including beneficial nematodes, pheromones, and baculoviruses. Using advanced science and technology, the company develops and manufactures environmentally safe and effective products for detection, monitoring and control of insect pests in agricultural and consumer markets. Biosys has a broad array of commercialized products, most of which are exempt from EPA registration. These products include outdoor flea control products which are marketed by Farnam Companies, Inc., such as bio Flea Halt™ and Interrupt™, which were successfully introduced in the U.S. in spring 1994. In addition, biosys markets and distributes its products worldwide through strategic alliances with CIBA-Giegy, Ltd., SDS Biotech KK, a subsidiary of Sandoz Agro, Inc.; Rhone-Poulenc SA; LESCO, Inc., Farnam Companies, Inc., and others.

CGI Background CGI is engaged in the discovery, development, and production of environmentally-safe crop protection products. The U.S. Environmental Protection Agency has granted the company registrations for Spod-X™ Wettable Powder and Gusano™ Wettable Powder. Both products are based on the company's baculovirus technology. CGI is located in Columbia, Md.

Dr. Venkatrao S. Sohoni,
Vice Chairman and CEO
biosys, inc., Palo Alto, CA
Tel: (415) 856-9500

Joseph W. Kelly
Chairman and CEO
Crop Genetics International
Columbia, MD
Tel: (410) 381-3800

North American Plant Protection Organization Adopts a Biological Control Philosophy

Orlando, Florida, October 17, 1994. NAPPO believes that biological control, appropriately applied and monitored, is an environmentally safe and desirable form of both, short and long-term management of pest species. While biological control can have a significant

impact on agricultural pest populations, it is recognized that it is neither a panacea nor a solution for all pest problems. Although biological control has limited application to emergency eradication programs, NAPPO believes that biological control should be the base strategy for integrated pest management programs.

In support of this philosophy, NAPPO member countries will promote regulations and guidelines that facilitate the release of safe biological control agents, while maintaining adequate protection for North American agriculture and the environment.

William S. Lanterman
Executive Committee, Canada

B. Glen Lee
Executive Committee, United States

Marco Antonio Carréon Zuñiga
Executive Committee, Mexico

EPA Proposes Regulations to Address Plant-Pesticides

November 16, 1994 To further protect public health and the safety of the nation's food supply, the U.S. Environmental Protection Agency is proposing a number of actions to regulate certain novel pesticidal substances genetically introduced into plants for the purpose of protecting the plants against pests and disease. The Agency has designated these substances, along with the genetic material necessary to produce, the substances, as plant-pesticides, not the plants themselves.

The ability to deliberately introduce into plants desirable characteristics has been greatly enhanced in the past five to 10 years making it possible today to transfer the ability to produce pesticide substances from many sources directly into plants. These pesticidal substances can come from bacteria, insects, viruses, animals or other plants. Thus, plants can be engineered to produce pesticidal substances they could not previously produce.

"Today's action will establish a program that will ensure the safety of the food supply and safeguard the environment," said Carol M. Browner, EPA

Administrator. "This pesticide control technology holds a promise of reduced use of pesticides because the plant will produce its own defense against pests."

The proposed regulations for plant-pesticides consist of several parts:

~ The Agency will focus its attention on those plant-pesticides posing new exposures and having the greatest need to be evaluated for potential adverse effects.

~ To achieve this scope, EPA is proposing to exempt three categories of plant-pesticides from regulation under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and under the Federal Food, Drug, and Cosmetic Act (FFDCA).

Under FIFRA, EPA is proposing to exempt:

* Those plants-pesticides that are derived from a closely related plant; e.g. those taken from one corn plant and engineered into another corn plant.

* Those plant-pesticides that would not result in adverse effects to non-target organisms because they act primarily by affecting the plant; e.g. plants that have been engineered to produce a thicker cuticle or a thicker layer of wax.

* Coat proteins from plant viruses when produced in plants for virus-coat protein mediated resistance; i.e. a piece of genetic material from the virus which encodes (carries the instructions for making) for the coat protein is inserted into the plant, thus the plant produces the protein and is protected against future viral infections.

Under FFDCA, EPA is proposing to exempt from the requirement of a tolerance:

* Those plant-pesticides that are derived from closely related plants.

* Those plant-pesticides that are not derived from closely related plants but for which there is experience with dietary exposure because both plants are part of the food supply; e.g. those taken from a highly consumed crop such as corn and engineered into another highly consumed crop such as wheat.

* Coat proteins from plant viruses.

~ Under FFDCA, EPA is also proposing to exempt from the need for a tolerance the genetic material produced in plants as part of the plant pesticide active or inert ingredient.

~ The Agency is also suggesting general guidance to plant-pesticide developers on the types of information EPA would need to evaluate a plant-pesticide.

~ In order to create a more "user-friendly" code of Federal Regulations, EPA is proposing to create a new part in the code especially for plant-pesticides.

Comments on the proposal are due in 60 days and should be addressed to : Program Resources Section, Public Response and Program Resources Branch, Field Operations Division (7506C), Environmental Protection Agency, 401 M St. S.W., Washington, D.C. 20460.

Mycogen Receives U.S. Patent Covering Key Technology for Insect-Resistant Plants

San Diego, Calif. January 11, 1995 The United States Patent Office has issued a patent to Mycogen Corporation covering the synthesis of *Bacillus thuringiensis* (Bt) bacterial genes to optimize expression of insecticidal proteins in plants.

Mycogen's patent (U.S. Patent No. 5,380,831), issued January 10, 1995, covers any method of modifying Bt gene sequences to make them resemble those of the plants into which they are to be inserted. Such modifications improve the gene's efficiency in producing Bt proteins, which deter feeding by target insects but are harmless to beneficial insects and other species.

This built-in insect resistance reduces or eliminates the need for chemical pesticide applications and improves the plant's yield potential. Several major crop plants, including corn, cotton, canola, potatoes and tomatoes, have been transformed with synthetic Bt genes, and planting seeds for some are expected to be introduced commercially in 1996.

"All insect-resistant transgenic plants now under commercial development have used the synthetic Bt gene technology that this patent now covers," said Jerry Caulder, Mycogen's chairman, president and chief executive officer. "The Patent Office has recognized that our researchers invented this method to enhance Bt protein expression in plants. It is a very valuable and strategically important piece of intellectual property."

In 1986, a research team headed by Dr. Michael Adang first described plants transformed with Bt genes. A number of other researchers reported similar experiments through the late 1980's. All found that although the level of Bt protein expression in transformed plants was detrimental to insects, it was below the level required for optimal control.

Experiments continued with various plant promoters, viral leader sequences and other approaches to increase expression levels of Bt protein in plants until Adang's team hit upon modifying Bt gene sequences to make them resemble plant genes. A patent application covering this discovery was filed in 1988.

Caulder said Mycogen has additional pending U.S. patent claims covering synthetic Bt genes and for plants transformed with synthetic Bt genes, and has corresponding patent claims pending in Europe, Japan and other agriculturally important jurisdictions.

In October 1994, Mycogen applied for Environmental Protection Agency approval to market hybrid seed corn with Bt-based resistance to European corn borers, which cost U.S. farmers as much as \$1 billion a year in lost yields. The company also is developing hybrids with Bt-based resistance to corn rootworms, and even more widespread and costly pest, and is transforming cotton varieties with synthetic Bt genes that protect the plants from budworms, bollworms and boll weevils.

Caulder noted that Mycogen's strategic programs in corn and cotton employ technology that is free from patent claims held by others, and said the company expects action on pending patent claims to further strengthen its position.

"Our technology and patent positions already are helping us build our existing seed corn business, and we think

they will give us leverage to get into the cotton seed business," he said. "For non-strategic crops such as wheat, rice and vegetables, we're evaluating opportunities to collaborate with others who need access to Bt-based insect control."

Mike Sund, Director
Corporate Communications
Mycogen Corporation
San Diego, CA, 93131
Tel: (619) 453-8030

Mycogen, Kubota Receive Approval to Market Environmentally Compatible Bioinsecticide in Japan

San Diego, Calif. Mycogen Corporation announced today that Japan's Ministry of Agriculture, Forestry and Fisheries has approved a new, environmentally compatible bioinsecticide for caterpillar control in Japanese cabbage and radish crops. The new product, Guardjet®, was developed and registered through a biotechnology collaboration between Mycogen and Kubota Corporation, a major manufacturer of farm equipment and agricultural products. The two companies are developing several additional products for the Japanese insecticide market, the world's largest, with \$1.3 billion in annual sales. They have agreed to market Guardjet in Japan through a newly formed Kubota subsidiary, Kubota Biotech Corporation. Mycogen has formed another entity, Mycogen Far East Corporation, to market biological insecticides in the balance of Far East Asia.

Mycogen's MVP® bioinsecticide, which is based on the same *Bacillus thuringiensis* (Bt) caterpillar control protein used in Guardjet, recently has been approved for commercial use in vegetable crops in Korea, Taiwan, and Malaysia. Both products employ Mycogen's proprietary CellCap® encapsulation system, which improves efficacy by prolonging the field activity of fragile Bt proteins. In the United States, MVP is used to control caterpillars in cotton, vines and tree fruit, as well as in vegetables.

Mycogen also recently received approval to market MVP to control cotton pests in Pakistan, one of the world's largest cotton producers, with some 8 million acres

under cultivation. In all, MVP is registered for vegetable or cotton pest control in 16 foreign countries, and registration applications are pending in 10 additional countries.

"Interest in softer biological alternatives to chemical pesticides continues to grow both here and abroad," said Mycogen's Chairman, President & CEO, Jerry Caulder. "The progress we're making in the regulatory arena is opening up some very significant new markets for our products."

Mike Sund, Director
Corporate Communications
Mycogen Corporation
San Diego, CA, 93131
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OBITUARY

HOWARD ALLEN CHITTICK 1907 - 1994

Howard was born December 23, 1907 in Thief River Falls, MN. He moved to St. Cloud and then Duluth, MN where he received his primary and secondary education. After High School he worked for the railroad for 2 years. He was accepted to George Washington University in Washington DC and graduated in 1934. In the summer of 1934 he worked for the Smithsonian Institute collecting specimens for the Natural History Museum in the Caribbean. He then worked for the US Department of the Interior until 1941; he then worked for the US War Department until 1945. In the Fall of 1945 with his wife Anna, he founded the Fairfax Biological Laboratory and began producing Milky Disease Spore Powder for controlling Japanese beetle larvae. The trademark was Japonex and later changed to Doom and Japidemic. In 1948 the laboratory moved to Clinton Corners, NY where it continues. Howard had been a long time member of the Society and had always valued the many friends he had made over the years. Howard passed away on October 3, 1994.

His wife Anna Chittick passed away in 1992. He is survived by three sons, Peter Jay, Richard Theodore and David Allen.

MEMBERS ON THE MOVE

JEFF LORD has recently joined Mycotech Corp. of Butte, Montana. He was previously a Senior Scientist with EcoScience Corporation, after stints with the USDA in Gainesville, FL and with Boyce Thompson Institute. At Mycotech, Jeff will be working on laboratory and field development of mycoinsecticides for rangeland and crop pests. His new address is: Mycotech Corp., 630 S. Utah Ave., Butte, MT 59702. Tel: (406) 723-7770 Fax: (406) 723-8007

DR. PAM MARRONE recently left Novo Nordisk Entotech, which she started in 1990, to establish a new company, AgraQuest Inc. AgraQuest will be doing discovery and development of pesticidal natural products from microorganisms. Her new address is 3333 Victoria Place, Davis, CA 95616. Tel: (916) 753-1513. Fax: (916) 753-4963. Email: pammarrone@aol.com

NEWS ITEMS**The new address and contact numbers for the APHIS' National Biological Control Institute**

USDA APHIS
Office of the Administrator
National Biological Control Institute
4700 River Road Unit 5
Riverdale, MD 200737-1229
Tel: (301) 734-4329
Fax: (301) 734-7823
Bulletin Board System: 800/344-6224 or 301/734-7487 (locally)
Internet: Not yet available

Please stop by and visit with us when you are in the Washington, D.C. area.

Ernest S. Delfosse
Director
National Biological Control Institute

Canadian Forum for Biological Control gets Incorporated

The Canadian Forum for Biological Control was developed out of a resolution passed at the Workshop on Biological Control of Pests in Canada held in Calgary in October 1990. After operating on an ad hoc basis, a steering committee was formed in 1992. The steering committee recommended formal incorporation of the Forum as a not-for-profit organization and called for membership and developed bylaws. The draft bylaws were ratified by the membership and the society was incorporated on August 16, 1994 under the Canada Corporations Act.

The objectives of the society are to study, advance, and promote biological control in Canada and facilitate communication among biocontrol researchers. It is structured to allow the formation of working groups under its umbrella. Presently there are three working groups in the making: 1) Weeds 2) Nematodes and 3) Microbial Agents. Formation of other groups are expected in the near future.

The society holds an annual meeting at which time symposia and workshops are organized. The next annual meeting will be held at the Chateau Victoria in Victoria, B.C. on Saturday, October 14, 1995 in conjunction with the Entomological Society of Canada Annual Meetings. Working Groups are encouraged to organize Symposia and Workshops at other meetings as opportunities arise. The society publishes a Bulletin which is mailed to members as well as contributes to the Agriculture and Agri-Food publication, Biocontrol News.

There are currently ca. 80 members in the society. All those interested in Biological Control in Canada are invited to join. Membership dues are \$100 associate, \$15 regular and \$7 for student members. For those interested in joining, please send your name, address, e-mail address and a cheque payable to the Canadian Forum for Biological Control to Dr. Dan Johnson, Treasurer, Canadian Forum for Biological Control, Lethbridge Research Centre, P.O. Box 3000, Lethbridge, AB T1J 4B1. Tel: (403) 327-4591 ext 301 Fax: (403) 382-3156
Internet JOHNSON@ABRSLE.AGR.CA

Notice to users of the ARSEF Culture Collection

APHIS-PPQ has recently requested that shipments of all cultures from the USDA-ARS Collection of Entomopathogenic Fungal Cultures (ARSEF) in Ithaca, NY, to recipients in the United States be accompanied by valid permits for interstate transit issued on APHIS-PPQ 526 forms ("Application and Permit to Move Live Plant Pests and Noxious Weeds"). These forms are available from your local APHIS officers, and must be submitted through your state authority for their permission before being sent on to APHIS-PPQ in Maryland. You should be able to obtain the name and address of the appropriate state authority to whom any application must be sent from your nearest APHIS office or from APHIS-PPQ in Hyattsville (Deborah M. Knott, Head, Plant Pest Permit Section, USDA-APHIS-PPQ, Room 625, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782; Fax: (301) 436-8700). Please be aware that APHIS will be moving to a new office building during December and January; it may be difficult to get a new, correct phone number or to get through to them until sometime in mid to late January (Editor's note: see page 11 for APHIS' new address and contact numbers).

Rich Humber, the curator of the ARSEF collection, regrets the additional inconvenience and delays caused by this new requirement. It has been imposed on the collection, however, in the interest of bringing a higher degree of procedural uniformity to the movements of living organisms within the United States. He thanks your for your forbearance and cooperation in this, and wants to put you on notice that cultures will not be shipped until you have obtained a valid 526 permit and sent it on to the ARSEF collection.

This new procedural requirement does not affect receipts of cultures by ARSEF collection nor any shipments of cultures to recipients outside of the United States.

PUBLICATIONS

Abstracts and Proceedings from the VIth International Colloquium on Invertebrate Pathology and Microbial Control and the IInd International Conference on *Bacillus thuringiensis*, Montpellier, France, 28 August - 2 September, 1994.

The Abstracts and Proceedings will be available for distribution and/or sale soon. They are in 2 volumes; volume 1 contains the Proceedings (507 pages) and volume 2 contains the Abstracts (417 pages).

The Abstracts will be sent free of charge to members in good standing for 1994. However, there will be a processing, handling and mailing fee of \$U.S. 9.00 for mailing within North America and \$U.S. 13.00 for mailing overseas. Non-members can purchase the Abstracts for \$25 plus the appropriate processing, handling and mailing fee as outlined above.

The Proceedings can be purchased by members and nonmembers for \$25 plus the processing, handling and mailing fee. If both the Abstracts and Proceedings are requested, the processing, handling and mailing fee remains the same. Please refer to the table below for a synopsis of costs.

Checks and/or money order should be made out to the "Society for Invertebrate Pathology" in US currency. No credit cards will be accepted. Send request to FASEB, c/o Society for Invertebrate Pathology, ATTN: Debbie Stoutamire, 9650 Rockville Pike, Bethesda, Maryland, 20814 USA.

NOTE: There are only 200 of each publication available and these will be distributed on a first come, first serve basis.

	Member	Cost		
		Non-member	Processing and Mailing N. America	Overseas
Abstracts	Free	\$25	\$9.00	\$13
Proceedings	\$25	\$25	\$9.00	\$13
Abs + Proc	\$25	\$50	\$9.00	\$13

New Book in Preparation: Formulation of Microbial Biopesticides, Beneficial Microorganisms and Nematodes

Formulation is of major, increasing importance in the development of biocontrol products. This, together with the surge of new data on the subject in the public domain, has inspired me to edit this book. I intend to produce a comprehensive, in depth book to probe deeper than so many recent books, many of which are based on conference proceedings that have space for little more than general principles. This will be a major reference work extending beyond insect pathogens to help cross-fertilize knowledge between areas of biocontrol and other uses of microorganisms that have been insular.

Contents

1. Introduction - H.D. Burges (UK)
2. Principles of formulation and application - K.A. Jones (UK), H.D. Burges

PART 1: ORGANISMS WITH A PERORAL MODE OF ACTION

3. Formulation of *Bacillus thuringiensis*, occluded viruses and protozoans - H.D. Burges, K.A. Jones (UK)

PART 2: ORGANISMS WITH A CONTACT MODE OF ACTION

4. Formulation of mycoinsecticides - H.D. Burges
5. Formulation of microorganisms to control plant disease - D.R. Fravel (USA), W. Connick (USA)
6. Formulation of microbial herbicides - M.P. Greaves (UK), P. Holloway (UK), A. Auld (Australia)
7. Formulation of beneficial organisms applied to the soil - A.S. Paau (USA)
8. Application of microorganisms to seeds - Mark P. McQuilken (UK), Pete Halmer (UK) & David Rhodes (UK)

PART 3: ORGANISMS WITH A POWER OF SEARCH

9. Formulation of beneficial nematodes - R. Georgis (USA), H.K. Kaya (USA)

PART 4: THE FUTURE

10. Trends in formulation of microorganisms and research requirements - H.D. Burges, K.A. Jones (UK)

APPENDICES

- I. A catalogue of formulation additives: classification, nomenclature, properties and suppliers - P. Holloway (UK), K. Bernhard (Switzerland), H.D. Burges (UK)
- II. A Catalogue of apparatus and machinery for formulation of microbials: suppliers and other key data - K. Bernhard (Switzerland)
- III. Spray application criteria - K.A. Jones (UK)

- IV. Glossary - H.D. Burges

SUBJECT INDEX

The first milestone will be June, 1995, the deadline for finishing manuscripts for editing.

In an attempt to make the book as up-to-date and forward-looking as possible, I invite you to take part in this venture by sending relevant recent papers, proofs, pre-prints and manuscripts - as well as research results that can be used as personal communications - either direct to appropriate authors, or to myself.

H. Denis Burges
21 Withdean Avenue
Goring-by-Sea, Worthing
West Sussex, U.K.
BN12 4XD
Phone: (0903) 245136

Microbiological Plant Protection Products - Danish Guidelines

This report contains the guidelines from the Danish Environmental Protection Agency concerning the registration of microbiological plant protection products.

The guidelines present the regulations applying to microbiological plant protection products specified in Statutory Order from the Ministry of the Environment No. 584 of July 9, 1993 on pesticides. The guidelines give detailed instructions on information to be submitted in applications for product approval. Price DKK 55,- (incl. 25% VAT).

Ministry of the Environment and Energy
Danish Environmental Protection Agency
29, Strandgade, DK-1401 Copenhagen K, Denmark
Phone: +45 32 66 01 00 * Telefax: +45 32 66 04 79 *
Telex: 31 209 miljoe dk

Input Needed: Entomophaga

Del Delfosse, President of the Global Body of the International Organization of Biological Control, appointed a Committee to examine its journal, Entomophaga, and to make recommendations that will enhance its value to the scientific community. Co-chairs are Albert Minks and Alan Cameron (addresses below); other members are Lerry Lacey, USDA-ARS, Montpellier (FR), Cesare Gessler, ETH-Zurich (CH), and Jack Coulson, USDA-ARS, Beltsville (USA). Since 1956, the journal has been devoted to biological control of noxious insects, usually from a traditional perspective. Other disciplines such as invertebrate pathology, nematology, plant pathology, and biological control of weeds contribute significantly to biologically based management of pest problems.

At a meeting in Montpellier, the Committee considered the scope of the journal, the likelihood of a change in name to reflect a broadened scope, editorial structure and procedures, financial arrangements, and appearance of the journal. It is clear that the scope must be enlarged, which will elicit contributions from a much broader scientific community, and consequently reach a much larger audience. Subject editors may be needed to assist

the Editor in Chief. Content could consist of invited review articles, forum papers, original research papers across the broad domain of biological control, and integrated ecosystem management. Scope could include effects on non-target organisms, management strategies, host resistance, genetic engineering, and molecular and biotechnological approaches, or scope could be narrowly restricted to exclude anything not specifically incorporating biocontrol agents.

The Committee invites comments and constructive suggestions from all who may have an interest in this journal. The first person to suggest the name eventually selected for the journal will receive a free subscription for one year. Please forward your ideas and comments to either of the Co-Chairs. Comments should be received as soon as possible, but if they are to be effectively considered they must be received no later than March, 1995.

Co-Chairs,

Dr. Albert K. Minks,
Research Institute for Plant Protection, P.O.B. 9060,
6700 GW Wageningen, The Netherlands
Fax: (31) 8370-10113;
Internet: A.K.MINKS@IPO.AGRO.NL

Dr. E. Alan Cameron,
501 A.S.I. Building, Penn State University, University
Park, PA 16802, USA
Fax: (1) (814) 865-3048;
Internet: ACAMERON@PSUPEN.PSU.EDU).

POSITIONS AVAILABLE

**Postdoctoral Researcher/ Research Associate (M.S.),
Temporary - One Year**

Qualifications: M.S. or Ph.D., preferable in insect pathology/ microbial control or in forest entomology. Allied disciplines also will be considered. Ability to compile literature and write review papers.

Nature of Work: Co-author a booklet on microbial control of forest pests. Supervise computer searches of literature, organize citations and abstracts, and write sections of the booklet.

Salary and Benefits: Salary to be commensurate with training and experience. Benefits include university holidays, earned annual and sick leave, retirement plan, and optional group hospitalization and life insurance.

Date Available: April 1, 1995, or until a suitable applicant is found.

Application Deadline: February 15, 1995, or until a suitable applicant is found.

Applicants should forward detailed curriculum vitae, copy of transcripts, and three recommendations letters to:

Dr. James R. Fuxa
Department of Entomology
Louisiana State University
402 Life Sciences Building
Baton Rouge, LA 70803-1710

The LSU Agricultural Center is an equal opportunity affirmative action employer.

Nematode Taxonomist / Systematist

(Position # VL94-08): Available July 1, 1995, a tenure-track position within the professional ladder-rank series. Preference will be given to applicants at the assistant/associate level. Research, teaching, and student advising responsibilities in the areas of nematode taxonomy and systematics. The appointee will conduct research on the taxonomic and phylogenetic relationships of nematodes utilizing comparative morphology and molecular biology. A Ph.D. degree, with broad training in systematics, and experience in nematode systematics/ taxonomy/ morphology are required, with a record of research productivity.

Application Deadline: April 15, 1995

Send Curriculum vitae, statement of research and teaching interests relative to this position, official undergraduate and graduate transcripts, reprints of relevant publications and submitted manuscripts, names and addresses of at least three references to:

Dr. Howard Ferris,
Search Committee Chair,
Department of Nematology,
University of California,
Davis, CA 95616 USA
phone: (916) 752-8432
email: hferris@ucdavis.edu.

The University of California is an affirmative action/equal opportunity employer.

Graduate Research Assistant

M.S. for research in the biological control of grasshoppers using pathogens. Avail. Fall 1995. Appl. deadline 15 June, 1995. Contact: D.A. Streett, USDA/ARS Rangeland Insect Laboratory, Montana State University, Bozeman, MT 59717. Phone: (406) 994-6439, Fax: (406) 994-3566.

MEETINGS AND WORKSHOPS

Molecular Biology and Genetic Engineering of Biopesticides for Insect Control

A seminar held in Kyoto, Japan, brought together leading scientists from Japan and the United States who are specialists in the area of biological control to address novel molecular approaches for the genetic manipulation of microorganisms for insect control. It was anticipated that the seminar would foster closer scientific collaboration and joint research projects between scientists from the two countries. The multidisciplinary character of the seminar applied contemporary research on insect pathogens to biological, environmental, agricultural, and medical sciences. The seminar focused on the genetic engineering of insect pathogens used as biopesticides, the development of a greater understanding of the molecular interactions between pathogenic microbes and their insect hosts, and, finally, the improvement of biological control tactics for insect pests using new agents and knowledge. Pathogen groups that were considered include viruses, bacteria, fungi and nematodes. The engineering of insecticidal genes into plants was also addressed.



Participants in the Japan-U.S. Joint Seminar. Kyoto Institute of Technology November 15-17, 1994, Kyoto, Japan

Front row (l-r): Cynthia Gawron-Burke, Brian Federici, Robert Granados, Kazuhiro Maruyama, President of KIT, George Rohrmann, Fred Perlak, Harry Kaya, Lois Miller.

Middle row (l-r): Yoshifumi Hashimoto, Michihiro Kobayashi, Michio Himeno, Tosihiko Hukuhara, Raymond St. Leger, Toshihiko Iizuka, Hidetaka Hori, Tsuguo Matsumoto, Jun Kobayashi.

Back row (l-r): Mike Adang, Shuichiro Tomita, Susumu Maeda, Norman Crook, Hisanori Bando, Takeshi Kawarabata.

The seminar was held at Center Hall, Kyoto Institute of Technology, Kyoto, Japan, during November 15-17, 1994. The Local organizers of the seminar were Professors Tsuguo Matsumoto and Yoshifumi Hashimoto, both from Kyoto Institute of Technology. In the United States, the organizers were Bob Granados (Boyce Thompson Institute) and Brian Federici (University of California-Riverside). The seminar was sponsored by the U.S. National Science Foundation and the Japan Society for the Promotion of Science.

The city of Kyoto, with its ancient shrines and temples, was a beautiful site for this meeting. The participants took advantage of the opportunity to visit the impressive monuments. The food and Japanese hospitality were excellent, and a good time was had by all.

The Pacific Rim Conference on Biotechnology of *Bacillus thuringiensis* and Its Impact to the Environment, Academia Sinica, Taipei, Taiwan R.O.C., October 17-21, 1994.

Approximately 120 delegates from over 20 countries, with good representation from many Asian countries, attended the conference. During the first day papers were presented on the structure and function of Bt toxins and its isolation and characterization from USA, Korea, Thailand, Malaysia, Japan, Taiwan, Mexico and Indonesia. The following day's topic was the development and field application of Bt. Tuesday evening workshops were held on Bt nomenclature and resistance to Bt. The resistance workshop discussed the problems of managing of insect resistance in this region where small subsistence farms predominate. On the third day delegates visited the Yangmingshan National Park on the outskirts of Taipei and the National Palace Museum to view the world's largest collection of Chinese art. The conference dinner on Thursday night was held at the Chinese Culture Centre in Tienmu, where delegates were given old Chinese coins to buy meals of their choice. This was followed by street entertainment and traditional Chinese art and craft displays, providing a memorable evening. On the last day papers were presented on registration and regulation of Bt products and the environmental impact of its application. A book containing the papers presented at the conference is to be published in mid 1995. A second meeting is being planned for 1996, possibly in Thailand. Thanks to the organizing committee for a very enjoyable and successful conference.

Chris Chilcott
BioDiscovery New Zealand

**SIP - PRESIDENTIAL ADDRESS - 1994
MONTPELLIER, FRANCE**

Ladies and Gentlemen,

Today and for the rest of this week we are benefitting from the achievements of the organisers in establishing a scientific programme on Invertebrate Pathology and Microbial Control and the 2nd International Conference on *B.t.*, that looks in its scientific content to surpass any

past meeting organised under the auspices of the Society for Invertebrate Pathology. My thanks are due particularly to Max Bergoin and André Klier. It is invidious to select names from a team effort within the organising committee but from personal experience, I've seen at first hand the considerable efforts put in by Roger Frutos, François Cousserans and Larry Lacey. These individuals and the rest of the organising team deserve our grateful thanks, as do the sponsors of our conference - the many National, Regional and Local Institutions and Private Companies. Much of the success of the Society depends on our conference organisers and sponsors and we should not underestimate the hard work that goes into organising such meetings. As an organiser myself in times past, I always claim that it took one year out of my life and five years off it. I am proof that is also makes your hair fall out!

During my two years as President (I pass the gavel over this year) I set myself the objective of trying to achieve a closer integration of the more molecular aspects of our science programmes within the more broadly based pathological, ecological and microbial control investigations that have been a traditional strength of the Society for Invertebrate Pathology. It has saddened me, and a number of colleagues, for example, that the Society had tended to lose close contact with some of the cutting edge studies on baculovirology.

Undoubtedly this Society's strength has always been its breadth of scientific interests. However, the Society's scientific base and capacity to contribute at the cutting edge will depend on retaining close contact with key specialists. On the other side of the coin, specialists in particular disciplines can benefit from occasional immersion in what the generalist would regard as the 'real world'. This essential dialogue between generalist and specialist is not always an easy one to achieve but one in which I feel the Society has a key role to play.

The generalist may find the challenges of understanding the latest molecular advances as too demanding, and tend to switch off. The specialist may lose patience with the apparent intellectual incompetence of the generalist.

Fortunately the programme for this Conference displays all the hallmarks of pulling together in harmony the

specialists, those working at the cutting edge of their disciplines, with generalists - those whose science programmes provide them with a broader biological perspective. This is clearly evident in the strong *B.t.* programme that has been assembled and I am also delighted at the strength of the baculovirus programme which will be kick-started shortly by one of the leaders in this field, Lois Miller.

I firmly believe that the integration of specialist and generalist at meetings such as this is the way forward and the best way in which the Society can help to take forward our general area of science. I would like to support the establishment of further meetings 'within a meeting' (e.g. the integration of SIP and *B.t.*) - why not others in future?

So I believe this meeting promises well. As a Society, we have been fortunate in providing attractive locations and effective organisers. While the main reason for our presence here may be scientific, I hope that you'd be able to enjoy the full 'SIP experience'. Have a good meeting.

Professor C.C. Payne, Chief Executive

5- K RESULTS, MONTPELLIER, FRANCE AUGUST 31, 1994

<u>Name</u>	<u>Place</u>	<u>Time</u>	<u>Category</u>
VAN TOL, Rob	1	15'48"	Man under 40
BARKER, Anthony	2	17'08"	Man over 40
ADAMS, Lee	3	17'13"	Man under 40
JENSEN, Gert	4	17'18"	Man over 40
SOARES, George	5	17'33"	Man over 40
JOHNSON, Tracy	6	17'38"	Man under 40
CHANDLER, David	7	17'45"	Man over 40
CROOK, Norman	8	18'02"	Man over 40
CRICKMORE, Neil	9	18'38"	Man under 40
SKOVMAND, Ole	10	18'48"	Man over 40
VESTERGAARD, S.	11	19'00"	Womanrunner
WILSON, Michael	12	19'38"	Man under 40
VAN RIE, Jeroen	13	19'48"	Man under 40
GRIZEL, Henri	14	20'18"	Man over 40
GRZYWACZ, David	15	20'27"	Man over 40
FLIPSEN, Hans	16	20'38"	Man under 40
FITTERS, Paul	17	20'58"	Man under 40
SCHMIDT, Nis.	18	21'02"	Man under 40

<u>Name</u>	<u>Place</u>	<u>Time</u>	<u>Category</u>
KRELL, Peter	19	21'10"	Man over 40
UNDEEN, Albert	20	21'20"	Man over 40
MOAR, William	21	21'30"	Man under 40
CAMERON, Alan	22	21'37"	Man walker
SMITS, Peter	23	21'41"	Man under 40
LORD, Jeffrey	24	21'52"	Man over 40
JUAREZ PEREZ, Victor	25	22'02"	Man under 40
CORREA-O, Margarita	26	22'06"	Womanrunner
LUCAROTTI, Chris	27	22'09"	Man over 40
DE MAAGD, Ruud	28	22'12"	Man under 40
EVANS, Hugh	29	22'18"	Man over 40
CHAPPLE, Andrew	30	22'23"	Man under 40
ANDREADIS, Theodore	31	22'38"	Man over 40
THOMAS, Matthew	32	23'00"	Man under 40
RICHMAN, Adam	33	23'05"	Man under 40
EHLERS, Ralf-Udo	34	23'11"	Man over 40
PAYNE, Chris	35	23'11"	Man over 40
LEE, Roger	36	23'37"	Man under 40
JENKINS, Nina	37	23'52"	Womanrunner
RATNASINGHE, Gamini	38	24'00"	Man under 40
CHERRY, Ronald	39	24'08"	Man over 40
EILENBERG, Jorgen	40	24'18"	Man over 40
ARONSON, Arthur	41	24'34"	Man over 40
BARBERCHECK, Mary	42	24'50"	Womanrunner
MOLLOY, Daniel	43	25'18"	Man over 40
HALL, Richard	44	25'22"	Man over 40
BERGOIN, Max	45	26'18"	Man over 40
LEWIS, Ed	46	26'30"	Man under 40
IRVIN, Jeannie	47	26'58"	Womanrunner
DEWAR, John	48	27'12"	Man over 40
CHEN, Wei-June	49	28'30"	Man over 40
ANDREADIS, Peggy	50	29'48"	Woman walker
MOORE, David	51	29'28"	Man over 40
KIRK, Alan	52	35'01"	Man walker
WINSTANLEY, Doreen	53	35'12"	Woman walker
ARIF, Basil	54	35'42"	Man walker
DELECLUSE, Armelle	55	36'12"	Woman walker
THIERY, Isabelle	56	36'12"	Woman walker
NIELSEN-LE ROUX, C.	57	36'12"	Woman walker
BARLOY, Frederique	58	37'40"	Womanrunner
CUNNINGHAM, Mrs.	59	39'20"	Woman walker
NAGY, Eva	60	42'52"	Womanrunner
ARIF, Mrs.	61	44'00"	Woman walker
CHELIAK, William	62	46'27"	Man under 40
CUNNINGHAM, John	63	47'03"	Man walker

ADDRESS CORRECTIONS OR ADDITIONS TO MEMBERSHIP DIRECTORY

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Please feel free to offer any suggestions you may have to make the Newsletter more attractive and useful.

Many thanks to those who submitted material to this Newsletter. Special thanks to B. Granados, T. Iizuka, and Y. Ziniu for submitting photos.

Deadline for next Newsletter is April 15, 1995.

EDITOR'S NOTES

In an effort to make the Newsletter more attractive, the November issue was printed on blue paper. However, in our opinion, the color resulted in reduced contrast in our photos. Therefore we are reverting back to the original black & white format with this issue.

Also, because it is cheaper to produce the Newsletter in one print run, Supplements are appearing stapled into the centre of the Newsletter. Simply pull out the centre pages if you wish to separate the supplement from the body of the Newsletter.

PLEASE DONATE SLIDES

Due to popular demand, the Society is once more sponsoring production of a slide atlas on general invertebrate pathology. Please donate slides of pathogens (molecular, cellular, and organismal levels), diseased hosts, schematic life cycles, etc. All submissions will be greatly appreciated.

Send slides to Dr. Ann E. Hajek, Department of Entomology, Cornell University, Ithaca, New York 14853-0901.



Ithaca, N.Y with Cornell Campus in foreground and Cayuga Lake in background



1. James Coupland (The Joker?); 2. A jubilant 5-k winner; 3. Joanne Fransen, Lerry & Cindy Lacey; 4. Pre-banquet entertainment; 5. André Klier; 6. Keith Jones; 7. Joe Maddox.

MORE PHOTOS FROM MONTPELLIER

Society for Invertebrate Pathology

28th Annual Meeting

July 16-21, 1995

Cornell University Campus

Ithaca, New York, USA

**Call for Abstracts
and
Meeting Registration**

(Please note early and FIRM DEADLINE for receipt of abstracts!)

Program Committee Chair:

**John D. Vandenberg
USDA ARS U.S. Plant, Soil & Nutrition Lab.
Tower Road, Ithaca, NY 14853**

**e-mail: jdv3@cornell.edu
phone: 607-255-2456
FAX: 607-255-2459**

Local Arrangements Committee Chair

**H. Alan Wood
Boyce Thompson Institute
Tower Road, Ithaca, NY 14853**

**e-mail: haw5@cornell.edu
phone: 607-254-1200
FAX: 607-254-1242**

CALL FOR ABSTRACTS and Instructions to Authors**Absolute Deadline for Receipt of Abstracts: April 15, 1995**

The Abstracts of the 28th Annual Meeting of the Society for Invertebrate Pathology will be prepared electronically for uniform display in the final publication. However, **there will be no editing of the author's copy** except for obvious typographical errors that might be spotted. Therefore, every error which appears in the submitted abstract will also appear in the printed Abstracts. **Because of the early meeting date, the abstract deadline is FIRM. Abstracts received later will NOT be printed.**

Please prepare your abstract for electronic or diskette submission. The preferred method is by electronic mail as a text file or in one of a variety of word processing software formats. Alternatively, you may submit your abstract on diskette (formatted for MAC or PC), again, as a text file or in a word processing software format. Please indicate on the disk the hardware (MAC or PC) and software used.

If you do not have access to a computer, submit two cleanly typed copies of the abstract. This will be scanned into an electronic format by optical character recognition for inclusion in the abstracts. Submission of the **original** abstract by FAX is NOT acceptable.

FOR ALL ABSTRACTS: Each line must not exceed a total of 80 characters and spaces. The number of lines for each section is limited as follows: **TITLE:** No more than 2 lines. Capitalize ONLY those words that must be capitalized. **AUTHORS:** No more than 2 lines. Put the last (family) name of the presenting author in ALL CAPITAL LETTERS. All other names should appear in upper and lower case letters. **AFFILIATIONS:** No more than 4 lines. **ABSTRACT:** No more than 40 lines.

Please also submit a printed copy of your abstract by FAX or mail. Use this printed copy to indicate any underlining, bolding, italics, or other modification of the text that you wish to appear in the printed abstract. If there could be any question about the last (family) name of any author for listing in the author index, please **UNDERLINE** the last name on the printed copy.

Student Presentations: If you are a student and wish your paper or poster to be entered in the student presentation awards competition, please indicate this by typing **STUDENT PRESENTATION** on a separate line **AFTER** the body of your abstract. To be eligible for a prize, the paper must be presented by the student. The student need not be the sole author, but must be the first author.

Poster Presentations: Please indicate this by typing **POSTER PRESENTATION** on a separate line **AFTER** the body of your abstract. Poster size will be 64" (1.6m) wide by 48" (1.2m) high. Please refer to the guidelines for effective poster presentation included in this mailing. If yours is a student poster, please indicate this by typing **STUDENT POSTER PRESENTATION** on a separate line **AFTER** the body of your abstract. See the previous paragraph for student eligibility.

The Council of Biology Editors Style Manual, published by the American Institute of Biological Sciences, should be used as a guide to abbreviations and symbols. Genus and species names in Latin must be spelled out in full at first mention. Proprietary and trade names must be accompanied, at first mention, by the established or generic names. When using abbreviations for compounds, the name must be spelled out in full at the first mention.

Please complete the form on the next page, follow the format guidelines, and send completed abstracts, together with your name, address, phone and FAX numbers, and e-mail address to: Richard A. Humber at internet address: rah3@cornell.edu (mailing address: USDA ARS U.S. Plant, Soil & Nutrition Laboratory, Tower Road, Ithaca, NY, 14853. phone: 607-255-1276, FAX: 607-255-2459).

Absolute DEADline for Receipt of Abstracts: April 15, 1995

ABSTRACT SUBMISSION GUIDELINES

Absolute Deadline for Receipt of Abstracts: April 15, 1995

PLEASE NOTE: Because of the early meeting date this year, the firm deadline for receipt of abstracts is April 15, 1995. Please help us by submitting your abstract as early as possible before April 15. Abstracts received after April 15, 1995, will NOT be printed.

Since abstracts will be prepared electronically, there is no fixed form to follow. Instead, please adhere to the following guidelines:

Each line must not exceed a total of 80 characters and spaces.

The number of lines for each section is limited as follows:

- Title:** -- No more than 2 lines.
-- Capitalize ONLY those words that must be capitalized.
- Authors:** -- No more than 2 lines.
-- Put the last (family) name of the presenting author in ALL CAPITAL LETTERS.
-- All other names should appear in upper and lower case letters.
- Affiliations:** -- No more than 4 lines.
- Abstract:** -- No more than 40 lines.

ABSTRACT SUBMISSION FORM

I am submitting ____ (how many?) abstract(s) for presentation/publication in the program.

The abstract(s) is for presentation as:

Plenary session _____	Symposium paper _____
Contributed paper _____	Student paper _____
Poster _____	Student poster _____

I have sent the abstract(s) by electronic mail: YES _____ NO (not available) _____

I have sent the abstract(s) on diskette: YES _____ NO (not possible) _____

I also enclose two printed copies of my abstract.

Submit electronic and printed copies of your abstract, together with your name, address, phone, FAX number and e-mail address, to:

Richard A. Humber
 USDA ARS Plant Protection Research Unit
 U.S. Plant, Soil & Nutrition Laboratory
 Tower Road, Ithaca, NY 14853-2901, USA
 phone 607-255-1276
 FAX 607-255-2459
 internet rah3@cornell.edu

Don't forget! -- Absolute DEADline for Receipt: April 15, 1995

MEETING REGISTRATION FORM

(Please type or print legibly)

Name: _____ Title: _____
(Family Name) (First Name) (MI)

(Name desired on registration badge)

Affiliation: _____

Postal Address: _____

State: _____ Zip/Post Code: _____ Country: _____

Emergency Contact: _____
Name Telephone Number

I am a member of SIP: YES _____ NO _____

I am a full-time student at: _____ Student ID No. _____

Date of Arrival: _____ Date of Departure _____

Registration * (if paid by April 30, 1995)

Regular Member	\$ 160	_____
Student Member	\$ 110	_____
Non-Member	\$ 225	_____
Companion	\$ 85	_____
5-K Runner (w/ T-shirt)	\$ 20	_____
T-shirt only No. _____	\$ 15 each	_____
Late Fee (after April 30)	\$ 50	_____

* Fee includes mixer, banquet, and refreshment breaks

Wine tasting tour: Number: _____ \$ 39 each _____
(includes transportation and tastings; be sure to order a Wed. lunch for the tour - see next page)

Taughannock Park Excursion (includes transportation, Wednesday dinner, and entrance fee):

Number of adults: _____	\$ 45 each	_____
Number of children (under 18) _____	\$ 30 each	_____

Total Registration Fee _____

Continue to next page for housing, meals and payment instructions

HOUSING REGISTRATION FORM

University Housing (available Sat. 6/15 thru Fri. 6/21)

Single room _____ OR Double room _____

Townhouse Room: _____ OR Dormitory Room: _____

Housing Deposit:

Single \$35 x No. of days _____
 Double \$29/person x No. of days _____
Total Housing Deposit _____

Air-conditioned townhouse rooms will be assigned on a first come basis. An additional fee of \$20 per night for single and \$10 per night for double townhouse rooms will be collected upon arrival. If townhouse rooms are unavailable, you will be assigned a dormitory room at no additional charge.

Motel: Rooms have been reserved at the Best Western University Inn, East Hill Plaza, Ithaca, NY 14850. Please make your own reservation by writing, calling (607) 272-6100 or faxing (607) 272-1518. Indicate you are with the SIP meeting for single rates of \$65 per night and double rates of \$50 per night per person.

Meal Tickets: Meals will be available at the North Campus cafeteria for breakfasts Monday-Friday (5 meals), and dinners Sunday-Wednesday (4 meals). Remember, excursions (optional) and the banquet (included in the registration fee) will be Wednesday and Thursday nights, respectively. Lunch meals will be available on campus at the Trillium cafeteria (about a 5-minute walk from the meeting rooms) on Monday-Thursday (4 meals). Also note that Ithaca has many fine restaurants close to campus.

Breakfast tickets (Circle) Mon Tues Wed Thr Fri \$5.00 x No. _____
 Lunch tickets (Circle) Mon Tues Wed Thr Fri \$7.50 x No. _____
 Dinner tickets (Circle) Sun Mon Tues Wed Thr \$9.00 x No. _____
Total Meal Fee: \$ _____

Total Remittance Enclosed:(Registration plus Housing plus Meal Fees) \$ _____
 (Refunds will be available with delivery of notice to the address below prior to June 27, 1995.)

Make checks payable to Cornell University Conference Services - SIP

OR

Pay by credit card (MasterCard or Visa): MasterCard _____ Visa _____
 Card number _____ Date of expiration: _____
 Signature _____ Date _____

Remember! Late Payment Deadline is April 30, 1995.

Send Registration Form and Payment to: Cornell University Conference Services - SIP
 231 Robert Purcell Community Center
 Ithaca, New York, USA 14853-6001

13th ANNUAL SIP 5K RACE

10:30 a.m, Wednesday, July 19, 1995

To be held on, and near, the Cornell University campus

**The SIP meeting in Ithaca in 1983 was the site of the FIRST annual 5-K race.
Please join us in making this year's THIRTEENTH annual race the best yet!!!**

YES!! Sign me up!!: **NAME** _____

ADDRESS _____

I wish to compete in the following category (honesty about your own age and sex is assumed!):

Category	Male	Female
runner, under 35	_____	_____
runner, 35 & over	_____	_____
walker	_____	_____

PLEASE NOTE: Prizes will be awarded to fastest finishers in these categories, AND, in the spirit of maximizing participation and fostering a friendly, non-competetive atmosphere, prizes will also be awarded to a few randomly-selected finishers! **Proper attire, INCLUDING SHIRTS, is required.**

CERTIFICATION: I intend to participate in the SIP 5-K race on July 19, 1995. I affirm that I am in proper physical condition to participate in this race and in consideration of the acceptance of this entry, I hereby release sponsors, race officials, organizers, and organizations affiliated with this race from all claims of injury or damage to person or property, including death, resulting from my participation in this event.

SIGNATURE: _____

FEES: \$20.00 for the race and a souvenir T-shirt
\$15.00 for the T-shirt only

T-shirt size: S___ M___ L___ XL___

Please enter the appropriate fee on the meeting registration form.

Oral and Poster Presentation Guidelines

SLIDES

Slide projectors (standard 2 x 2 format) and overhead projectors will be provided. A slide preview room will be available. The projectors will take the standard Kodak carousel. For your convenience, please bring your slides loaded into a carousel, marked with your name and paper number, to your presentation room, at least 15 minutes prior to your presentation.

Limit the amount of information on each slide. Limit text to no more than 5 or 6 SHORT 'bullet'-type statements per slide. Limit tables to no more than 5 or 6 rows and 3 or 4 columns. More numbers are merely distracting to viewers. If more extensive lists must be shown, divide them onto consecutive slides.

Keep the message simple. Use slides to reinforce the points you make orally, but do not merely read the text on the slide. Short text messages are easily read by viewers while you reinforce your point verbally with more information.

Keep colors simple. Two or three colors per slide can effectively highlight your point. More colors can be distracting to your audience. Remember also that a common form of color-blindness results in difficulty distinguishing reds and greens, so avoid these colors.

Use contrast effectively. The old 'standard' white text on blue background is very effective. However, dark text on a bright background can be very hard on viewers' eyes.

Make text and numbers large and bold. What looks fine projected in your office may be tiny when viewed from the back of an auditorium.

Limit the number of slides. A useful rule of thumb is one slide per minute of your presentation. If you run short of time and race through your slides, you make them meaningless.

PRACTICE YOUR PRESENTATION and STAY WITHIN YOUR TIME LIMIT

POSTERS

There will be two **Poster Sessions**: on Tuesday, July 18, and on Thursday, July 20. The posters may be set up in the morning, as soon as the boards are available, and must be taken down at the end of the afternoon break (4 p.m.). Please be present at your poster from 2:00 to 3:30 p.m. on the day assigned. Please check the program for your assigned day and poster number. Please have extra copies of your submitted abstract available.

Poster Display Space: You will have one side of a double-sided 64-inch (1.6m) wide and 48-inch (1.2m) high board for your poster. The board will take push pins or thumb tacks. These will NOT be provided, **YOU MUST BRING YOUR OWN**. Do NOT plan for velcro attachment.

Lay-out: Plan ahead and practice your lay-out using the size limits above.

Heading: the full title, as printed in the program, and the name(s) and addresses of the author(s) should be given at the top of your display in lettering readable from a distance of 6 feet.

Legibility and Contrast: All lettering should be readable from 1 meter, including captions and figure legends. Illustrations should be relatively large in size. The use of contrasting colors can be very effective.

Simplicity and Clarity: Make your material easy to comprehend. Avoid a mass of numbers in tables. Highlight major points using color or bold print.

Continuity: Make your presentation easy to follow. Make a series of statements with supporting data and illustrations. Make the flow of the presentation clear to viewers.

DISPLAYS ARE NOT MANUSCRIPTS -- LIMIT THE LENGTH OF PROSE. Limit yourself to fewer and shorter cogent points.

DISPLAYS ARE NOT ORAL PRESENTATIONS -- They should be succinct and self-explanatory.

SOCIETY FOR INVERTEBRATE PATHOLOGY
APPLICATION FOR 1995 MEMBERSHIP

BACKGROUND INFORMATION					
NAME	_____	_____	_____		
	first	middle initial	last		
ORGANIZATION	_____	ADDRESS	_____		
			street address or PO Box		
ADDRESS	_____				
	street address, continued	city	state	country	zip code
PHONE	_____	FAX	_____	E MAIL #	_____
Please check appropriate boxes: <input type="checkbox"/> above is new address <input type="checkbox"/> new member <input type="checkbox"/> renewal					

DUES	
Membership (founding, charter and regular member)	<input type="checkbox"/> \$30.00
Student membership	<input type="checkbox"/> \$15.00
Division of Microsporidia	<input type="checkbox"/> \$2.00
Division of Microbial Control	<input type="checkbox"/> \$2.00
Society contribution	<input type="checkbox"/> \$ _____
Endowment contribution	<input type="checkbox"/> \$ _____
Dues owed for prior years	<input type="checkbox"/> \$ _____
TOTAL	\$ _____

PAYMENT INSTRUCTIONS	
<ul style="list-style-type: none">• Enclose this form with check, credit card or money order payment and return to: SOCIETY FOR INVERTEBRATE PATHOLOGY 9650 ROCKVILLE PIKE BETHESDA, MARYLAND 20814 USA 301-530-7026 (phone) 301-530-7001 (FAX)• Make check, credit card payment, or money order payable to SOCIETY FOR INVERTEBRATE PATHOLOGY in U.S. dollars. PLEASE DO NOT SEND CASH.• Paying by money order: Make money orders payable in U.S. dollars. Canadian members should use a Canadian Domestic Postal Money Order. Other non-U.S. members should use an International Postal Money Order, OR an International Bank Draft OR a Bank Money Order.• Paying by credit card: fill out the information below: Charge to (check one): <input type="checkbox"/> MasterCard/EuroCard <input type="checkbox"/> VISA Total (fill in TOTAL from DUES section): \$ _____ (U.S. dollars) Card number: Expiration Date: _____ Card holder name (please print): _____ Card holder signature: _____	