sip

NEWSLETTER

society for invertebrate pathology

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CORDOBA HOSTS OVER 360 PARTICIPANTS AT THE 29TH ANNUAL MEETING

The 29th Annual Meeting of the Society for Invertebrate Pathology in conjunction with the 3rd International Colloquium on *Bacillus thuringiensis* was held at the Universidad de Córdoba, Spain, September 1 - 6, 1996. It was organized by Cátedra de Entomología Agrícola y Forestal, E.T.S.I.A.M. There were 392 registrants including 72 students and 32 companions who came from 34 countries from all continents. There was an outstanding representation of Iberoamerican countries: two European, Portugal and Spain and nine American, Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Perú and Uruguay. There were 253 participants housed at the campus dormatories of the Universidad de Córdoba.

The scientific program was comprised of three morning plenary sessions, 14 symposia covering a wide-range of topics, 24 contributed paper sessions and two poster sessions. The scientific program was completed by an informal session on fungus strain selection for mycopesticides, a workshop on chalkbrood-update as well as Microbial Control, Microsporidia and Virus Division Workshops.

Of the 337 scientific papers accepted, 12 were plenary session papers, 56 symposium papers, 155 contributed papers and 114 posters (6 of which were late submissions). In order to cope with the large number of submited papers, up to four sessions were held concurrently.

The Annual Business Meeting was held on Thursday morning and was well attended.

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Deadline for the next Newsletter is January 15, 1997.

Don't Forget to Pay Your Dues for 1997

Dues notices for 1997 were recently mailed by FASEB. To ensure that your membership remains current, that you continue receiving the Newsletter, **and that your name appears in the next SIP Membership Directory,** please don't forget to return your notice with payment immediately. **The next issue of the Newsletter will be sent only to paid up members.** Lapsed memberships require further action which only ends up costing the Society needlessly. If you haven't yet received your 1997 notice or have misplaced it, please contact FASEB as soon as possible. EMAIL: staff@dues.faseb.org.

Student Presentations and Awards:

There were 48 student presentations; 19 poster and 29 oral. Winners of the student competition were:

Poster Presentations:

Hui-Chen Hsu, Taiwan
Eliane Quintela, USA
Stephen Garczynski, USA

Oral Presentations:

Sylvia Fernandez, USA
K. Wilson, UK
Peter Denolf, Belgium

Congratulations to all of the students for their excellent contributions.

Student Prize Winners

Social Events: The meetings started with a mixer, at the Palacio de La Merced, sponsored by the Diputación Provincial de Córdoba, on Sunday evening. A concert and reception at the Alcázar de los Reyes Cristianos, sponsored respectively by the Town Council, Consejeria de Agricultura (Gobierno de Andalucía) and Alimentos de Andalucía, was held on Monday. On Wednesday, the traditional 5K-race was held at the Taurine Gardens El Pilar (La Carlota) followed by an exhibition of Spanish horses and a friendly (?) bullfight. After tasting many delicious

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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 to light 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. Submissions via EMail or on computer disk (WP, MSWORD 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 next Newsletter is January 15, 1997.

regional specialities most of the afternoon, a traditional meal was served at La Carlota. Then in the evening a private visit to the fascinating Mezquita-Catedral was graceously allowed by the Cabildo Catedral and sponsored by CajaSur. The banquet on Thursday evening took place at the restaurant "El Oasis de la Sierra", situated in the foothills of Sierra Morena and an exhibition of folk music (Flamenco) was performed by Cuadro Flamenco de Concha Calero y Merengue de Córdoba.

5-K Race Winners: 67 members participated in the race. Winners were:

Victor Juárez Pérez	Leellen Solter
Olivier Peyronnet	Nicole Cooper
Dietrich Stephan	Silvia Fernández
Terry Couch	Delia Muñoz

5-K race winners

The meetings were supported by donations from the following:

Public donors:

Universidad de Córdoba
Excmo. Ayuntamiento de Córdoba
Excma. Diputación Provincial de Córdoba
Cabildo Catedral
CajaSur
Comision Interministerial de Ciencia y Tecnología (CICYT) (Grant: AGF96-1931-E)

Private donors:

1) Spanish briefcases were sponsored by the Spanish Association of Crop Protection Products Manufacturers (AEPLA)

AEPLA
Abbott Laboratories S. A.
AgrEvo
Agroindustrial, S.S.
Aragonesas
Ciba
Sandoz
Zeneca Agro

2) Abroad. Donations totaling approximately US $ 6250 were received from the following industrial organizations:

Abbott Laboratories
Becker Microbial Products
Biosys, Inc.
Ciba-Geigy Corporation
Ecogen Inc.
Mycogen Corporation
Sandoz

Appreciation is extended to our sponsors, the members of our Program Committee, the undergraduate students of Cátedra de Entomología Agrícola y Forestal who labored diligently to make the meetings a success. A special acknowledgement to PIC (Proyectos Incentivos y Congresos, S.L.) whose professionality made the meetings very successful.

Cándido Santiago-Alvarez, Chair, 1996 Organizing Committee

1997 Annual Meeting, Banff, Alberta, Canada, August 24 - 29, 1997.

The 30th Annual Meeting of the Society for Invertebrate Pathology will take place at the Banff Centre, located in Banff National Park in the Rocky Mountains, approximately 120 kms west of Calgary and the Calgary International Airport. Arrangements

have been made to house delegates at the Centre. For delegates wishing to extend their stay, special pre- and post-conference rates may be available on a first come, first serve basis. Since Banff is an extremely popular tourist resort hosting approximately 5 million visitors per year, and since August is during peak tourist season, **it will be imperative that everyone respect the deadlines as almost certainly no rooms will be available in surrounding hotels at this time.** Details on accommodation and registration will be available in the February Newsletter.

The Banff Centre for Continuing Education is a unique Canadian institution playing a special role in the advancement of cultural and professional life, internationally recognized for its advanced works in arts and management, and for developing and hosting conferences. The magnificent natural setting and its residential and retreat-like facilities provide an ideal environment for reflection, innovative thinking and interaction. The Banff Centre is located on the slopes of Tunnel Mountain within Banff National Park. The Park offers truly breathtaking opportunities for outdoor adventure, sightseeing and wildlife viewing. Here you may see elk, deer, coyote, bear or other wildlife. The Banff Centre is about a 10 - 15 minutes' walk from downtown Banff, which offers nightclubs, restaurants, museums, libraries, art galleries and churches.

We will offer several excursion options on Wednesday afternoon as well as several spousal tours. On Wednesday evening we will meet for a Western style BBQ hip of beef and then dance the night away to polkas, two-steps and square dances in country and western style. The banquet will be held at the Conference Centre on Thursday evening. The meetings will end on Friday at noon.

The scientific program will feature symposia, contributed papers, poster sessions and workshops. **Ideas for symposia and workshops should be submitted as soon as possible.** Enough meeting rooms have been reserved to allow for 4 concurrent sessions if necessary. We will reserve the right to limit the number of papers or posters presented by any one "team" if this becomes necessary.

The Banff Centre

DEADLINE: Abstract submission deadline, early registration and room reservation deadline will be **1 April.** Late reservations will be accepted until meeting time, however, room reservations will terminate as soon as our room allotment is filled. Alternate housing in Banff will be difficult, if not impossible, to find.

Full details and the registration package will be available in the February Newsletter.

Please send ideas for symposia as soon as possible and certainly before January 7, 1997 to Drs. Andrew Keddie or Martin Erlandson (Program Co-Chairs).

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MINUTES OF THE 1996 BUSINESS MEETING SEPTEMBER 5, 1996, CORDOBA, SPAIN

The SIP Business Meeting was convened at 11:10am by President Granados. Approximately 80 members attended. Summaries of 15 reports are provided below.

Reports

In his President's Report, SIP President Bob Granados provided an overview of SIP's progress over the past year. Bob expressed that he has enjoyed his term as President and is greatful for the scientific growth and financial health of the Society. He is glad to see an increase in the international membership of the Society which was reflected in the diversity of the newly elected council and the supporting committees.

Bob also:
* Acknowledged the Cordoba meeting organizers; Candido Santiago-Alvarez, Marguerite Ledadet, Andre Klier and their entire committees for an excellent scientific and social program. Extended appretiation to the PIC group, the conference staff, for their help during the presentations and their outstanding entertaining skills.
* Acknowledged the Society Council members who have supported his presidency over the last two years. The Society Council met during the day on Sunday, September 1.
* FASEB has provided assistance to the Society with our newsletter, membership tasks and accounting support since 1991. The costs of these services are increasing and will need a review. Discussion will be included later in the new business section.
* The formation of SIP committees has been a priority of Bob's tenure as President. The committee members were selected with the goals of producing a balanced group with international diversity and youth.
* The newest committee, the Publications Board is actively trying to enhance the relationship of SIP with the Journal of Invertebrate Pathology and Academic Press.
*The New Initiatives Committee has done a remarkable job with the introduction of a SIP home page on the World Wide Web.
* Highlighted the formation of two new divisions: Bacteria and Virology
* Thanks to Wendy Gelernter and Jimmy Becnel for development of the SIP Brochure which includes the SIP mission statement.
* Thanks to Harry Kaya who is finishing a 4-year term as Treasurer, for his highly organized, efficient and detailed reports to FASEB and excellent efforts at investment of the SIP monies.
* Thanks to the Newsletter editors, Mark Goettel and Betty Davidson for an excellent job. Bob has enjoyed writing a letter in each newsletter which created an avenue for communication with the Society members.

Harry Kaya presented the Treasurer's report which reflects a healthy treasury. Our Society account balance is $146,087, with $97,608 invested in one-year certificate of deposits, the remainder in the checking account. Another $15,843 is distributed between the Divisions and the Endowment Fund. Other specifics:

* Income for 1995-96 was $57,849 that represents $24,120 in membership dues, $25,123 from the Ithaca meeting, another $3,370 from the Montpellier meeting and $3,592 in interest.
* Expenses for 1995-96 totaled $33,966.
* Advances for the Spain and Banff meetings, $2,000 and $3,600 respectively, are still outstanding.
* FASEB started this year charging SIP $200 per month for secretarial services. They intend to increase this monthly charge over the next two years which is a financial concern. Harry encourages more aggressive investment in mutual growth funds. He has also written a document "Responsibilities of the Treasurer" to assist future treasurers.

Candido Santiago-Alvarez, the chair of the organizing committee for the 1996 SIP meeting, reported that 360 registrants from 34 countries are in attendance. During the 3 plenary sessions, 14 symposia, 24 contributed paper sessions, 4 workshops, a total of 214 presentations were made. In addition, over 120 posters were displayed. He expected that the meeting costs would break even.

Alan Wood, 1995 SIP Meeting Local Organizing Chair, reported that the Ithaca meeting was well attended with 374 registrants (almost 100 more than expected) from 22 countries. A total of 230 presentations were made that included 79 posters. A net profit of just over $25,000 was returned to the SIP treasury.

The 1997 SIP Meeting Organizing Chair, Mark Goettel, showed a beautiful slide of the conference center at Banff, Canada. The location of the 1997 SIP meeting is about 100km west of Calgary with the possibility of including ground transportation shuttle in the price of the airfare. He has booked 300 rooms and projected the rates as $116 for a single room, including meals, while the double would cost $73 per day per person. He intends to include a Western style dinner and square dancing as a part of the social program. Please contact Andrew Keddie or Martin Erlandson, the program chairs for symposium suggestions. He also hopes that at least one workshop and one symposium is sponsored by each SIP Division.

The 1998 SIP Meeting Organizing Chair, Toshi Iizuka reported on plans for the meeting in Sapporo, Japan. A Local Organizing Committee has been identified in the past year and a copy of the members provided to the Council at Cordoba. On October 9, 1996, the Local Organizing Committee Meeting will meet in Tokyo to discuss the symposium for each field; Bacteria, Virus, Fungus, etc. Also, a financial budget will be discussed including contact with sponsors. A progress report will be presented at the Banff Meeting.

This year, Mark Goettel reports that 3 Newsletters, totaling 120 pages were issued for a cost of about $20 per member (last year this cost was $15/member). The increased costs were due to the continued problems in mailing and prompt delivery of the newsletter to the members. A new company has been identified for faster distribution and will be responsible for the October mailing. Please check the Internet Home Page of SIP to get up-to-date information on the status of each newsletter mailing.

* Many thanks to Betty Davidson for her many years of work on the newsletter and welcome to Jimmy Becnel for accepting the challenge of being an assistant editor.
* Important reminder to get your dues in on time and include your e-mail address (if you have one) for inclusion in the new membership directory which will be sent out with the January newsletter.
* The deadline for the next newsletter is October 15.

As always, Mark welcomes any and all news items from the membership.

Just Vlak reported on the Site Selection and Meeting Board Committee.

* 1997 - Banff, Canada as already reported by Mark Goettel.
* 1998 - Sapporo, Japan is being organized by Toshi Iizuka.
* 1999 - The North American site is still open. Please contact Just if you are interested in hosting this meeting.

* 2000 - Guanajuato, Mexico, chaired by Jorge Ibarra. Requires approval by Council, probably at the Banff meeting.

Division Reports:

Lee Solter, the '96-'98 chair, reported that the Microsporidia Division sponsored a workshop, "Describing New Species of Microsporidia" and a symposium "Applied Ecology of Microsporidia" at the 1996 SIP meeting. A workshop and symposium are planned for the 1997 SIP meeting in Banff, next year. Dr. Andreas Linde was elected vice-chair and Dr. Michael Baker was elected secretary/treasurer for the 1996-1998 term. A committee will be appointed to consider an amendment to the microsporidia division bylaws to clarify election procedures and terms.

Ann Hajek, current chair for the Microbial Control Division, reported that the division has 356 members. The slide set, previously thought to be sold-out, is once again available since about 20 sets were found ($50 each). To date, the slide set has brought in over $6,000. The members discussed a wide-range of ideas for how best to spend their funds. It was decided that money would be made available to students for travel to the SIP annual meeting. Over the next year, the MCD will formulate how the student travel/meeting registration money will be awarded and we hope that it will be open for competition in the fall following the Banff meeting. A workshop, "New Products" and symposium, "Standardization of Bt products" were sponsored at the 1996 meetings. A workshop and symposium are planned for the 1997 SIP meeting in Banff, next year.

Just Vlak described the formation of the new Virology Division. A group of 135 society members have joined the division and the bylaws have been written and approved by Council. A workshop, "Insect Cell Culture for Baculovirus Production" and a symposium, "Recent Developments in the Molecular Biology of Baculoviruses other than AcMNPV" were sponsored by the Virology Division. Dues were set at $2 per member. Suzanne Thiem was voted chair of the new division; Peter Krell as vice chair, Just Vlak as secretary-treasurer and Kisanori Bando and Nikolai van Beek as members at large. Norman Crook and Bryony Bonning were elected ex-officio members. A workshop and symposium are likewise planned for the 1997 SIP meeting in Banff next year.

Brian Federici reported on the formation of another new Division, Bacteria. Bylaws were written and approved by council. Approximately 130 society members showed an interest in joining this new division. Dues were set at $2 per member. Andre Klier was voted chair of the new division. A workshop and symposium are planned for the 1997 SIP meeting in Banff next year.

Jimmy Becnel, chair of the Membership Committee, reported a 6% increase in membership which brings the total to 873 members from 59 countries. Approximately 50% of the members reside outside of North America, while the largest increase was seen in the South American region (+19%) and Europe (+17%). Only the United States saw a decline (-7%). The membership application has been translated into Spanish and Portuguese and is available in all three languages on the SIP web page.

Lerry Lacey provided an update of the activities of the New Initiatives Committee. A wide range of different ideas have been proposed with just a few listed below: A SIP home page is now available at: "http://sip.home.ml.org" (previously: "http://nervm.nerdc.ufl.edu/~majohn/"). Lerry will try to obtain a 'vanity' address for the home page, so watch for updates in the newsletter. A big "THANK-YOU" to Peg Johnson for setting up the page! Other items include development of an outreach program to introduce invertebrate pathology to minority students, development of a world-wide directory of institutions where invertebrate pathology is taught, organization of an Invertebrate Pathology quiz contest, "Steinhaus games" similar to the Linnaeus games of the ESA.

Jim Harper, Chair of the Founders' Lecture Committee, reported that Don Roberts presented an excellent Founders' Lecture on the life of Agostino Bassi, known as the father of the germ theory of disease for his work in which he proved that a

fungus, *Beauveria bassiana*, infected silkworm larvae, causing the white muscardine disease. Jim appealed to the membership to provide recommendations for the 1997 Founders Lecture. He also expressed appreciation to John Briggs who continues to arrange for preparation of the beautiful framed certificates awarded to each lecturer and, if living, to the honoree.

Wendy Gelernter reported for Tad Poprawski, Chair of the Endowment Committee, that eleven colleagues from developing countries or where hard currency is difficult to obtain have been provided with free SIP memberships.

Bob Anderson, Chair of the Publications Board Committee, is forging a new and stronger affiliation with JIP and Academic Press. The process will be a slow one in order to foster an exchange of ideas about how the goals and interests of the JIP and SIP can be mutually served.

Bob Granados passing the gavel to Brian Federici

New Business:

* A reaffirmation that the goal of the annual meetings is to financially break even or make a small profit.
* The FASEB relationship has had a few budgetary bumps during the last few months as they are now charging for secretarial services, not previously paid. For the current year, a $200 charge per month has been agreed upon while they ask for $425/month in 1997 and up to $600-650 for 1998. Much discussion followed, specifically focused on getting the value for our money. One member requested a FASEB financial report, another asked that we talk with other societies of similar size to compare costs, a third wondered if these services are available from another company. Brian Federici will negotiate the fees and explore other options.
* John Vandenberg heads a group that is reviewing the SIP bylaws. A draft will be made during the next year for presentation at the Banff meeting.
* Many questions focused on the SIP home page on the WWW. Could we directly pay our dues over the net? Not yet. Could we, or should we have the newsletter available on the net? Possibly using a member ID number system. What about putting the Abstracts on the Web? This would save considerable mailing costs.
* Bob Granados passed the gavel to Brian Federici, the new President of SIP. Brian spoke about a few of the key issues facing SIP membership in the next couple of years: transgenic plant technology, baculoviruses as a means to produce pharmaceuticals, enhancing the annual meeting programs especially to ensure that needs and desires are met.

The meeting was adjourned at 13:05.

Sue MacIntosh, Secretary

Minutes of the Microbial Control Division Meeting - Cordoba, Spain

The Microbial Control Division Meeting was called to order by chair Ann Hajek at 1900 hrs on September 3, 1996. Initially, 57 members were present increasing to 75 as the meeting progressed. A synopsis of the minutes of last year's meeting and annual report of the Division were read by secretary Lerry Lacey. Mickey McGuire motioned that the

minutes be accepted; Bob Cibulsky seconded and the motion passed unanimously. Chair Hajek announced that more microbial control slide sets were available. She also solicited ideas for future Division workshops and symposia. The first item of new business concerned what to do with Division funds. The most popular idea for use of funds has been to provide financial support to students that would enable their attendance and participation in the SIP annual meeting. Chair Hajek called for discussion and plans on how to select recipients for financial awards from the Division and suggested that a committee consisting of the Division's members at large study the issue further and develop criteria and mechanisms for selecting recipients. Chair-elect John Vandenberg suggested that additional members could be added to the committee. Discussion from the floor generated the following ideas and questions:

- should recipients be only from the Microbial Control Division?

- many students from the former Soviet Union are in need of financial assistance in order to attend.

- preference might be given to students from institutes that are not well represented at SIP meetings

- student's subject matter should pertain to the Division, even if they are not Division members

- students receiving a financial award should be required to make a presentation of their research and enter the student competition.

Wendy Gelernter moved that members at large comprise the selection committee chaired by Bonifacio Magalhaes; Mike Klein seconded and the motion passed unanimously.

The next item of new business was the election of a new member at large to replace Hugh Evans.

The candidates were Brian Melin, Carlos Lange and Jørgen Eilenberg. Voting took place in the absence of candidates and Jørgen Eilenberg was selected as the new member at large.

David Onstad announced that he is looking for people with whom to cooperate on the insect pathogen database. He requested that available data be sent to him. Mark Goettel announced that Jeff Lockwood is producing a Special Issue of Agriculture and Human Values on "The Ethics of Biological Control." Division members should consider submitting something. Mark also announced that the directory of the microbial control industry is getting out of date. Would an update be useful? Is anyone interested in heading up such an effort? If members are interested, see Mark or Ann.

Wendy Gelernter spoke about the symposia sponsored by the Entomological Society of America (ESA) Microbial Control Division. This year at the ESA annual meeting in Louisville, Kentucky, USA (Dec. 8 - 12) there will be a symposium on "Understanding the Effective use of Biopesticides".

With no further business a motion was made by Bob Cibulsky and seconded by Richard Daoust to end the meeting. The meeting was followed by a Division workshop on new microbial products. Nine speakers from industry made presentations (see related article on page 25).

Lawrence A. Lacey, Chair

Microsporidia Division Business Meeting Cordoba, Spain.

The Microsporidia Division held a symposium and a workshop at the 29th Annual Meeting of the Society for Invertebrate pathology. James Becnel organized the symposium which was titled "Applied Ecology of Microsporidia". The topic of the workshop organized by Lee Solter was "Describing New Species of Microsporidia: Consideration of Life Cycle, Molecular, and Ultrastructural Information".

Twelve members of the Microsporidia Division were present at the annual business meeting. Elections were held for the 1996-1998 term; Andreas Linde of Eberswalde, Germany was elected vice-chair and Michael Baker of Tempe, Arizona, USA was elected

secretary-treasurer. Lee Solter will serve as chair of the Division.

Andreas Linde will organize the 1997 Microsporidia Division Workshop to be held at the SIP meeting in Banff, Alberta, Canada. All ideas for topics should be submitted to Dr. Linde at Fax# 49-3334-65428 (Germany) or e-mail # alinde@fh-eberswalde.de

The Division also plans to organize a symposium for the 30th annual meeting of SIP. Anyone interested in organizing the symposium or having suggestions for a topic should contact Lee Solter, Fax#217-244-5047 (USA) or e-mail# l-solter@uiuc.edu

The Bylaws of the Microsporidia Division will be reviewed with a view to clarifying election procedures and terms for the Division officers. Proposed amendments will be submitted for consideration at the 1997 Microsporidia Division annual business meeting. Decisions regarding amendments will be decided by mail ballot.

The possibility of having professional specialties added to each entry in the SIP Membership Directory was discussed.

News Update:

*Tim Kurtii and Wayne Brooks have agreed to serve on an ad hoc committee formed to consider amendments to the election procedures in the Division Bylaws.
*Harry Kaya reports that the balance in the Microsporidia Division treasury is $945. Overseas mailing expenses for the 1996 Microsporidia Division Wrokshop were $50. The Illinois Natural History Survey paid for the USA domestic mailings, totaling approximately $50.
*Margaret (Peg) Johnson has designed a Web page for the SIP. She has also developed a section for the Microsporidia Division. There will be a list of members included in this section. Peg would also like to include the specialty area of each member, as well as e-mail addresses. Please contact her at Fax #352-374-5922 (USA) or e-mail# majohnson@nervm.nerdc.ufl.edu with this information, or write to her at USDA/ARS/MAVERL, PO Box 14565, Gainesville, FL 32604. Any ideas for the Web page, news updates, address changes, etc., may be sent to Peg or to Lee Solter (above address).

Lee Solter, Chair

ANNUAL REPORTS

President's Report, 1996

During the last year I have had contacts with the Meeting Board and the organizers of the Cordoba annual meeting. Candido Santiago-Alvarez, with his local and program arrangements committees, must be commended for organizing a strong program for our 1996 annual meeting. I also acknowledge the organizers of the IIIrd International Colloquium on *Bacillus thuringiensis* for their outstanding colloquium program which will enrich our annual SIP meeting. We look forward to a stimulating scientific and social program of events during the coming week.

This past year I worked closely with The Federation of American Societies for Experimental Biology (FASEB), Mark Goettel and Candido to produce the printed annual edition of our abstract and program volume. This year's attractive volume was approximately 100 pages in length and the final production was well done. In consultation with Mark Goettel, it was decided to mail the Program/abstracts by first class in the United States and by airmail to the rest of the world. The mailing costs were rather high (approximately $7,000), but due to a tight time line, this was the only way to assure that the membership would get the volume prior to the annual meeting. The subject of controlling our Society mailing costs will be on the agenda for our 1996 Council meeting.

During my tenure as SIP President, I have experienced a very good working relationship with FASEB. The Society is always looking for opportunities to improve the management of our business, and in 1995 I invited Deborah Stoutamire to address Council at our annual SIP council meeting

for the purpose of describing other FASEB services that are available to the SIP. In December 1995 FASEB reorganized their services provided to nonmember societies. As a result, they informed me that they had been providing services in the Secretariat area for which they had not charged the Society since inception of the agreement with FASEB. The increased fee to reflect the additional secretarial services is $200 per month starting January 1, 1996. After consultation with Harry Kaya and Brian Federici, I authorized this increased fee so as not to interrupt our services in 1996. At our 1996 Council meeting I will present a full financial accounting of the services provided by FASEB to the Society. As our Society continues to grow and greater demands in time and effort are needed to efficiently carry out SIP functions, the Society may have to consider contracting full secretarial services from FASEB.

Last year I finalized the composition of various SIP committees, most recently the Publications Board and the Bylaws committees. The Publications Board under the leadership of Bob Anderson (chair), has begun to explore new opportunities for re-establishing a formal relationship with Academic Press and the Journal of Invertebrate Pathology. Both Carol Reinisch, Editor-in-Chiel of JIP, and Chuck Crumly, Acquisitions Editor for Academic Press, attended our 1995 annual council meeting and expressed their desire to find a process for a tighter affiliation between both organizations. Upon Bob Anderson's recommendation, I authorized FASEB to send Chuck Crumly complimentary issues of future SIP Newsletters in order to enhance communications. The committee on Society Bylaws, under the leadership of co-chairs John Vandenburg and Don Roberts, will examine the current SIP Bylaws and make recommendations and revisions for updating them.

International diversity of membership participation in SIP business and activities is very important for the future growth and success of our Society. The nominating committee recommended an excellent slate of candidates for SIP office in 1996, and based on the ballot results fifty percent of the newly elected officers were from outside the United States. Furthermore, the composition of the seven SIP committees which I appointed in the past two years represents a blend of youth and international representation.

During my two years as SIP President I have been extremely pleased to see Council and the membership make progress in several areas:

*The proposed establishment of two new Divisions within the SIP: the Division of Bacteria and the Division of Virology.
* Appointment of a Publications Board to consider new opportunities to re-establish a stronger affiliation with Academic Press and the Journal.
*An SIP homepage has been established on the Internet, at the recommendation of the New Initiatives Committee
* The proposed development of a mission statement, logo and SIP brochure for the Society.
*The institution of a "From the President" letter in each newsletter issue. This is, I think, a very useful means of communication with the membership on various SIP matters that will hopefully continue in future SIP Newsletters.
*Special recognition goes to Harry Kaya who has very diligently and meticulously kept the financial and investments records during his tenure as Treasurer.
* Finally, on behalf of the membership, I wish to recognize both Mark Goettel and Betty Davidson for their devotion and hard work in producing our SIP newsletter.

As the second and final year of my Presidency comes to a close, I am gratified by the scientific growth and financial health of our Society. Our membership is strong, and we have seen continued growth in attendance at our annual meetings. The SIP is essentially a society of volunteers who run the organization and I wish to acknowledge the Society Council members and the many individuals comprising the various SIP committees for their strong support during the past two years.

Bob Granados

Treasurer's Report

Exhibits A, B, and C show the financial status of the Society as of the close of the fiscal year on April 30, 1996. My comments are primarily directed at Society Operations because divisional funds are handled by the respective divisions. Since the end of the fiscal year, an advance of $4,000 has been made toward the 1998 meeting in Banff and $25,000 has been invested in a one-year certificate of deposit (CD). There are three other one-year CDs (see Exhibit C) which brings the total to $97,608. In addition, $5,255 of the Endowment Fund is secured in a one-year CD.

Revenues for fiscal year 1995-1996 totalled $57,849 (Exhibit B). The majority of the income for Society Operations were surplus from the Ithaca and Montpellier meetings, membership dues, and bank interests.

Expenditures for 1995-1996 totalled $33,966 (Exhibit B). Major expenditures include addressing, mailing and shipping costs associated with printing of the SIP Newsletter, supplies and duplicating, and FASEB associated service costs. Another major expenditure which has not yet been subtracted and listed under Assets is the outlay of funds for future meetings ($5,600) (Exhibits A and C). This outlay does not include the additional $4,000 discussed in the first paragraph. These expenditures become accountable after the meeting is held. long as the annual

Exhibit D shows the projected expenses for the 1996-1997 fiscal year and is self-explanatory. Most expenses are recurring ones, but I wish to call your attention to two major expenditures which are the $2,400 ($200/month) for secretarial services paid to FASEB and $4,000 budgeted for a publicity brochure. Projected expenditures for 1996-1997 exceed exceed projected income by $17,000. However, as long as the annual do not have a cost overrun and generate sufficient funds to repay the "seed" money for the meetings and show a small net gain, the Society should be in excellent financial shape. The bottom line is that the Society shows $146,087 in the Society Operations.

As my term as Treasurer ends, I have drafted a document "Responsibilities of the Treasurer" which I hope will make the life of next Treasurer much easier. This document should be modified as needed and passed on to future Treasurers.

Harry Kaya, Treasurer

SOCIETY FOR INVERTEBRATE PATHOLOGY
BALANCE SHEET
APRIL 30, 1996

EXHIBIT A

	Society Operations	Microsporida Division	Microbial Control Division	Endowment Fund	Total
ASSETS					
Cash - Checking Accounts	$ 65,695	$ 945	$ 9,034	$ 582	$ 76,256
Accrued Interest Receivable	524	-	-	27	551
Certificates of Deposit (Note A)	72,608	-	-	5,255	77,863
Advances for Future Meetings (Note B)	5,600	-	-	-	5,600
Other Assets	1,660	-	-	-	1,660
Total Assets	$ 146,087	$ 945	$ 9,034	$ 5,864	$ 161,930
LIABILITIES AND FUND BALANCE					
Liabilities:					
Accounts Payable	$ 4,752	$ -	$ -	$ -	$ 4,752
Subscriptions Payable	3,043	-	-	-	3,043
Total Liabilities	7,795	-	-	-	7,795
Fund Balance:					
Fund Balance - Beginning of Year	114,109	706	8,253	5,683	128,751
Current Year Net Income (Exhibit B)	24,183	239	781	181	25,384
Fund Balance - End of Year	138,292	945	9,034	5,864	154,135
Total Liabilities and Fund Balance	$ 146,087	$ 945	$ 9,034	$ 5,864	$ 161,930

SOCIETY FOR INVERTEBRATE PATHOLOGY
STATEMENT OF REVENUE AND EXPENSE
FOR THE PERIOD MAY 1, 1995 THROUGH APRIL 30, 1996

EXHIBIT B

	Society Operations	Microsporida Division	Microbial Control Division	Endowment Fund	Total
REVENUE					
Slide Sales	$ -	$ -	$ 50	$ -	$ 50
Membership Dues (Note C)	24,120	278	722	-	25,120
Annual Meeting Income:					
1994 Montpellier, France	3,370	-	-	-	3,370
1995 Ithica, New York	25,123	-	-	-	25,123
Contributions	335	-	-	289	624
Credit Card Handling Fees	666	-	-	-	666
Publication Handling Fees	261	-	-	-	261
Proceedings Sales	377	-	-	-	377
Interest	3,592	-	173	225	3,990
Miscellaneous Income	5	-	-	-	5
Total Revenue	57,849	278	945	514	59,586
EXPENSE					
Mailing of Dues Notices and Other	2,849	31	-	-	2,880
Program and Abstracts	5,962	-	-	-	5,962
Newsletter	10,108	-	-	-	10,108
Directory	2,025	-	-	-	2,025
Travel	857	-	-	-	857
Supplies and Duplicating	1,641	8	164	-	1,813
Accounting Services	3,000	-	-	-	3,000
Secretariat Services	800	-	-	-	800
Dues Processing Fees	4,752	-	-	-	4,752
Telephone	178	-	-	-	178
Credit Card Charges	1,215	-	-	-	1,215
Miscellaneous	579	-	-	33	612
Total Expense	33,966	39	164	33	34,202
Net Revenue Before Fund Transfers	23,883	239	781	481	25,384
Transfers Between Funds	300	-	-	(300)	-
Net Revenue After Fund Transfers (Exhibit A)	$ 24,183	$ 239	$ 781	$ 181	$ 25,384

Note A: Certificates of Deposit

	Certificate of Deposit # 076-880123-1	Certificate of Deposit # 076-835803-5	Certificate of Deposit # 076-835440-4
Society Operations:			
Cost	$ 26,269	$ 20,000	$ 26,339
Maturity Date	5/22/96	10/6/96	11/23/96
Interest Rate	5.0 %	5.2%	5.2%
Endowment Fund:			
Cost	$ 5,255	-	-
Maturity Date	5/22/96	-	-
Interest Rate	5.0 %	-	-

Note B: Advances For Future Meetings

"Advances For Future Meetings" consists of the following:

Banff Meeting - 1997	$ 2,000
Spain Meeting - 1996	3,600
	$ 5,600

Note C: Membership Dues

Membership dues revenue consists primarily of amounts collected during May 1, 1995 through April 30, 1996 for 1996 calendar year dues. Dues have been collected from the following membership categories:

	Society Operations	Microsporida Division	Microbial Control Division	Total
Full Member (729 @ $30)	$ 21,870	$ -	$ -	$ 21,870
Student Member (137 @ $15)	2,055	-	-	2,055
Microsporida Member (139 @ $2)	-	278	-	278
Microbial Member (361 @ $2)	-	-	722	722
Miscellaneous 1995 Amounts	195	-	-	195
	$ 24,120	$ 278	$ 722	$ 25,120

PROPOSED BUDGET FOR SIP FOR 1996-1997

Exhibit D

EXPECTED REVENUES

	Society Operations	Microsporidia Division	Microbial Control	Endowment	Total
Membership (n) dues:					
Full (740) at $30	22,200	-----	------	------	22,200
Student (140) at $15	2,100	-----	------	------	2,100
Microspor Div 140 at $2	-----	280	-----	------	280
Micro Contr Div 360 at $2	-----	-----	720	------	720
Interest Income	4,000	-----	200	250	4,450
Sales of Pubs	400	-----	-----	-----	400
Prog & Abs (Cordoba reg. fees)	6,000	-----	-----	-----	6,000
Total	34,700	280	920	250	36,150

ESTIMATED EXPENSES

	Society Operations	Microsporidia Division	Microbial Control	Endowment	Total
Addressing, Mailing & Shipping					
Newsletter*	5,500	-----	-----	-----	5,500
Dues, Ballots, etc.	3,000	100	400	-----	3,500
Prog. & Abs.**	6,000	-----	-----	-----	6,000
Directory	1,500	-----	-----	-----	1,500
Composition & Printing					
Newsletter (3)*	5,500	-----	-----	-----	5,500
Directory	2,500	-----	-----	-----	2,500
Prog. & Abstracts**	5,000	-----	-----	-----	5,000
Office Supplies & Copying	2,000	-----	-----	-----	2,000
Accting Services (FASEB)	3,600	-----	-----	-----	3,600
Secretarial Services	2,400	-----	-----	-----	2,400
Founder's Lecture+					
Travel	1,400	-----	-----	-----	1,400
Subsistence	600	-----	-----	-----	600
Honorarium	500	-----	-----	-----	500
Miscellaneous	200	-----	-----	-----	200
Publicity brochures	4,000	-----	-----	-----	4,000
Logo contest	250	-----	-----	-----	250
Student Awards	1,500	-----	-----	-----	1,500
Dues Processing (FASEB)	5,000	-----	-----	-----	5,000
Telephone	100	-----	-----	-----	100
Credit Card Charges	800	-----	-----	-----	800
Miscellaneous	350	-----	-----	-----	350
Foreign Membership++	-----	-----	-----	210	210
Total Expected Expenses#	51,700	100	400	210	52,410
Net Revenue	(17,000)	180	520	40	(16,260)
Cash Outlay, Future Meetings: Seed Money##	10,000	-----	-----	-----	10,000
Net Cash Increase or (Decrease)	(27,000)	180	520	40	(26,260)

* Addressing, mailing and shipping, fax, supplies, etc. for the Newsletter.
** Estimated printing cost for the Program and Abstracts for Cordoba meeting.
+ The Founder's Lecture travel budget has been increased to ensure adequate allocation of funds for international travel.
++ Support for membership for scientists in some countries is provided by the interest generated from the Endowment Fund. I project that seven scientists can be supported in the 1996/1997 fiscal year. In actuality, funds never leave the Society and are transferred from the Endowment Fund to Society Operations. Costs for these members are incurred when ever mailings are done.
# Note that our estimated expenditures exceed our expected income, and we may be in deficit spending. However, our financial health will be excellent as long as we can be profitable from our annual meetings.
There is also a continuing need to provide "seed" money for future meetings. Banff (1997) meeting, for example, may need additional support. No requests have been received to date for seed money for Sapporo, Japan (1998) meeting.

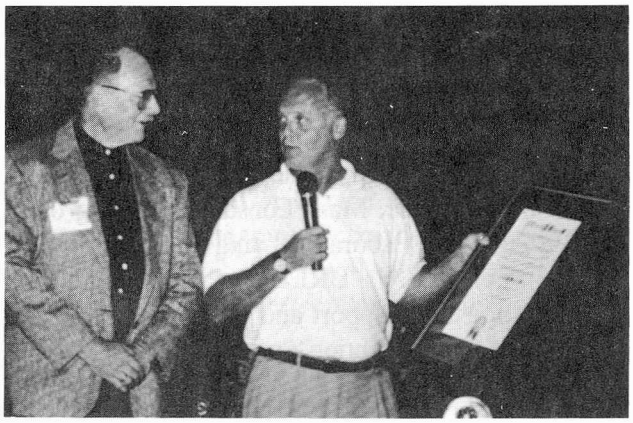
Founders Lecture Committee Report

The 1995 Founders Lecture was presented at the 28th Annual Meeting of the Society for Invertebrate Pathology on the Cornell University campus in Ithaca, New York on July 17 as part of the Society's Plenary Session by Dr. David Ellar, honoring Dr. Howard Dulmage. Dr. Ellar was introduced by Dr. Jim Harper, member of the Founders Lecture Committee and representing Dr. Richard Daoust, Chair, who was unable to attend this year's meeting.

The lecture was very well received by the delegates. Dr. Ellar provided some interesting insights into Dr. Dulmage's personal and professional life, much from his own past experiences as a friend of Dr. Dulmage. Then Dr. Ellar discussed his own research program and its importance and implications. The lecture was notable in that it was presented in a "user friendly" manner so that all attendees could follow it, regardless of their specializations. Following the lecture, Harper presented a check for $500 US and a beautifully engraved certificate to Dr. Ellar. At the same time, Mrs. Eileen Dulmage was recognized and expressed her appreciation to the Society for making her a part of its family over the past 20 plus years. The certificate for Dr. Ellar plus a second one for Dr. Dulmage, which was sent later to Mrs. Dulmage, were prepared, as all have been in the past, by contacts of Dr. John Briggs in Columbus, Ohio.

Dr. Harper requested that the members, both present and at large, provide his committee with suggestions for honorees and lecturers for consideration for the 1996 meeting to be held in Cordoba, Spain. The committee received several excellent suggestions during and following the meeting.

The committee members communicated by FAX, phone and e-mail during the 1995-1996 year preparatory to selecting the 1996 honoree and lecturer and to conduct other committee business. Good agreement was reached on the selection of Agostino Bassi as the person we would honor in 1996. Not only has he had a major impact on insect pathology, but he has also been credited by many as the father of the germ theory of disease and the first to demonstrate that a microorganism was the causative agent of a disease in an animal, that relationship being the infection of silk worm larvae by the fungus, later to be named in his honor, *Beauveria bassiana*.



Don Roberts receives the 1995 Founders Lecturer Award from James Harper

The 1995 Lecturer selected by the Committee is Dr. Don Roberts from the Boyce Thompson Research Institute in Ithaca, New York. Dr. Roberts, a Past President of the Society, is internationally known for his fundamental and applied research work on insect fungi; for his promotion of insect pathology as a discipline; and for his successes in generating interest, enthusiasm, and action on development of insect pathology and microbial control in developing countries. The Founders Lecture will be given by Dr. Roberts at the Opening Plenary Session of the XXIX Annual Meeting of the Society for Invertebrate Pathology at Cordoba, Spain on September 2, 1996.

Members of the 1995-96 Founders Lecture Committee are Drs. Richard Daoust, David Ellar, Tony Sweeney and Jim Harper, Chair.

Newsletter Report

Three issues of the Newsletter comprising a total of 120 pages were produced in the 1995-96 year. The Newsletter provided members with information on

new developments in microbial control, meetings, meeting and committee reports, positions wanted, positions available, member news and address changes. In addition to 100 pages of Newsletter text there were 3 supplements comprising 20 pages. The first was a list of books published since 1981 and was compiled by Mauro Martignoni. The other 2 supplements provided Meeting Information and Registration packages.

Text was prepared in Montpellier but printed and mailed by FASEB in Maryland. We appreciate the cooperation of FASEB in Maryland. We thank Karen Toohey for preparation of the text. Special thanks are due to Dr. Mark Lonsdale, Director of the CSIRO European Laboratory, and Dr. Pierre Ferron, Directory of INRA's URLB, located on the same premises, for their support and permission to use the facilities for production of the Newsletter at Montpellier.

We are grateful to all members who contributed material to the Newsletter this year and encourage any member to send news of interest to the Society.

Financial Report, August 1995 - July 1996.

Total Cost of Newsletter (3 issues): $17,472
Cost per member based on 815 members: $21

Expenses at Montpellier

	Vol 27 (3) (36 pp)	Vol 28(1) (60 pp)	Vol 28(2) (24 pp)
- Desktop Spec.	$275	$200	$150
- Mailing	57	52	48
- Misc.	121	135	76
	453	387	275
Expenses at FASEB			
- Printing	1,274	3,220	1,354
- Postage	898	1,450	7,406[1]
- Computer/labor	175	248	329
	2,349	5,305	9,089
Total	**$2,802**	**$4,670**	**$9,365**

[1] Includes mailing of meeting program. Cos printing the program is not included in the ab figures.

Mailing: We have experienced difficulties in mai of the Newsletter. We are presently investiga alternatives and will report to Council w recommendations.

Assistant Newsletter Editor. The Assist Newsletter Editor, Dr. E.W. Davidson, requests t Council appoint a replacement. We have contac James Becnel and he has agreed to take the positi if Council agrees.

Mark S. Goettel, Editor
Elizabeth W. Davidson, Assistant Editor
August, 1996

Report of the New Initiatives Committee

Over the past two years members of the Ne Initiatives Committee met during various gathering and in cyberspace to discuss issues that woul promote our Society as well as activities designed t provide information to Society members an stimulate greater member participation in SI activities. The principal items that were proposed included:

-Production of a home page for SIP
-Development of an outreach program to introduce invertebrate pathology to minority students
-Development of a worldwide directory of institutions in which invertebrate pathology is taught
-Development of branches of the Society in South America and other regions
-Compiling a list of invertebrate pathologists (along with their specialties) for distribution to regulatory agencies and groups that influence public policy on the use of insect pathogens
-Investigating means (including JIP) that will promote SIP
-Establishing student fellowships (perhaps with the help of industry) to assist with meeting travel and/or registration
-Sponsoring another symposium at ESA

-Making press releases at meetings as a means of publicizing insect pathology in general and SIP in particular.
-Arrange Invertebrate Pathology quiz contest "Steinhaus games" similar to the ESA Linnaeus games.

These three activities have subsequently been developed further: Home page, Steinhaus games, directory of institutions.

The most productive activity thus far has been the home page. Peg Johnson has put considerable time and effort into developing the page on the University of Florida server. It includes or will include various features: a Society mission statement; information on becoming a member; address of the home office (FASEB); information and news from the SIP divisions and the table of contents of the most recent SIP Newsletter; information on upcoming meeting and cross links with related Societies, pathogen database, etc.; and a monthly or quarterly news feature that describes (with text and graphics) aspects of invertebrate pathology and microbial control that would appeal to surfers of scientific web sites. The address of the home page is: "http://sip.home.ml.org". Comments and suggestions will be gratefully appreciated (e-mail for Peg Johnson is: "MAJOHN@nervm.nerdc.ufl.edu" and for Lerry Lacey: "llacey@yarl.gov").

We propose that the Steinhaus games include both students and professionals and that the first games be held at the Banff meeting in 1997. Interested parties should contact Jen Altre (e-mail: jaa10@cornell.edu or L. Lacey).

In order to develop a resource directory of institutions where invertebrate pathology is taught we will need input from members. Please send information to L. Lacey.

Lawrence A. Lacey, Chair

Endowment Committee Reports

The Endowment Committee uses the interest on the endowment fund to provide support for membership for scientists from developing countries or in special cases where hard currency is difficult to obtain. Usually the interest on the endowment is sufficient to pay for the dues of 8-12 individuals per year.

Through postings on the Web and personal contacts, the committee has encouraged the scientific community to nominate colleagues for endowed membership. As a result, eleven colleagues were selected for endowed membership in SIP for 1996: two from Mexico and one each from Romania, Poland, the Czech Republic, Russia, Madagascar, Egypt, Jordan, Brazil and Sri Lanka.

The committee well take the opportunity of the Meeting in Cordoba to publicize the Endowment and solicit donations. We will also encourage all members to nominate colleagues for endowed membership for 1997.

Tad Poprawski, Chair
Stephen Wraight
Nguya Maniania

Membership Committee Report

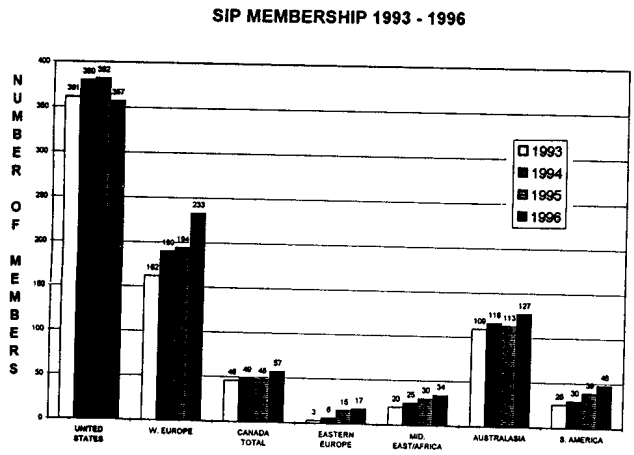
Composition of SIP Membership:

Membership in the SIP has increased approximately 6% during the past 12 months (see table and chart for breakdown by country and region). Currently, there are 873 members worldwide representing 59 countries. Approximately 50% of the members are from outside North America; the largest increases in membership were from South America (up 19%) and

Western Europe (up 17%). There was an increase in all regions except the United States (-7%).

Activities during 1995/96:

W. Gelernter and J. Becnel collaborated to develop information for a Society brochure which included sections on History, Objectives, Advantages and Benefits and a number of suggested mission statements. This information was mailed to all Board Members for consideration.



Submissions for the logo contest were collected and sent to all board members for judging.

Members of the Society that had not paid dues for 1994 and 1995 (approximately 200 individuals) were mailed packets requesting they renew their membership. Postage cost for this was approximately $150.00. Of these, 12 packets were returned by the postal service as not deliverable. Based on the list of new members for 1996, none of those contacted in this endeavor rejoined.

Membership packets (composed of a copy of the newsletter, SIP data sheet and an application form) were mailed to individuals requesting information on the Society.

A worldwide web site was established primarily through the efforts of Ms. Margaret (Peg) Johnson and Lerry Lacey. A section on membership is part of the site and includes the benefits and advantages of membership, information on the annual meeting and a downloadable application form.

Suggested activities for 1996/97:

Submit articles or information about the Society (purpose, benefits and activities) to suitable outlets and promote SIP website by advertising on related sites and mailing lists.

Conduct mailings based on JIP contributors who are not members and participants in invertebrate pathology related meetings.

Continue to promote increased participation in the annual meetings (the Society's number one fund raiser) through cooperative efforts with other groups (such as the BT group).

Increase SIP profile (and therefore membership) by becoming involved in contemporary issues in which the Society has played an important role. Consider designating "Country" contacts to help recruit new members.

The Membership Committee:

The Membership Committee for 1996/97 consists of Jorge Ibarra, Robert Anderson, Lerry Lacey and James Becnel.

Submitted by James J. Becnel: July 1996

Annual Report of the Meetings Board Committee 1995

During this year the Meetings Board Committee (MBC) consisted of Dr. Just M. Vlak, Chair, Department of Virology, Wageningen Agricultural University Wageningen, the Netherlands; Dr.Mike Adang, Member, Department of Entomology, University of Georgia, Athens, USA; and Dr. Yoshifumi Hashimoto, Member, Department of Applied Biology, Kyoto Institute of Technology, Faculty of Textile Sciences, Matsugasaki Sakyuku,Kyoto 606, Japan. The members of the MBC communicated through e-mail on the state of affairs.

The XXVIIIth Annual Meeting of the Society for Invertebrate Pathology was held in Ithaca, USA, July 16-21, 1995, and was a great success. Over 300 participants attended the meeting located on the Cornell University Campus and enjoyed the hospitality. The MBC is very grateful to Dr. John D. Vandenberg, Program Committee Chair, and Dr. H. Alan Wood, Local Arrangement Committee Chair, and their team, who were able to draw up an exciting scientific and social program. The meeting realized a profit.

The MBC chairman met with the 1996 Organizing Committee once (November, Paris) and on various occasions with its Chairman, Dr. Candido Santiago-Alvarez, to monitor progress of the 1996 Annual Meeting in Cordoba, Spain. The meeting is well on its way and organizers are expecting to host over 300 participants in the magnificent town of Cordoba. After enjoying the heat in Spain the 1997 Annual Meeting will return to North America and convene in Banff, Canada, to enjoy the hospitality of Mark Goettel and his crew.

The XXXIth Annual Meeting and the VIIth International Colloquium of Invertebrate Pathology in 1998 will be held in Sapporo, Japan, August 23-28, in conjunction with the 4th International Conference on *Bacillus thuringiensis*. The MBC chairman also met with Dr. T. Iizuka, chairman of the Organizing Committee of the 1998 meeting and visited the splendid accommodation in Sapporo. The Organizing Committee is complete, met once and a preliminary budget has been made. The organization for this meeting is well on track.

The MBC solicits sites for the year 1999 (USA), 2001 (USA) and 2002 (International Colloquium) meetings. The MBC has the intention to maintain an international spread of future meetings, alternating sites between Northern America and other parts of the world. The confirmed and tentative site for SIP Meetings through 1998 are as follows:

Site	Dates	Chair
Cordoba, Spain+	Sept 1-7, 1996	C. Santiago
Banff, Canada	Aug. 24-30, 1997	M. Goettel
Sapporo, Japan+*	Aug. 23-28, 1998	T. Iizuka
Open	1999	
Mexico+	2000	J. Ibarra

+International Conference on *Bacillus thuringiensis*, *International Colloquium

No offers have been received for the 1999 meeting and the MBC urges the US membership to consider the organization of this meeting.

Just M. Vlak, Chair
July 16, 1996

Microsporidia Division Annual Report

1995 Annual Meeting: The Microsporidia Division held its annual business meeting on July 17 with approximately 40 persons in attendance. The meeting was convened by the Division Chair Tim Kurtti. Minutes of the 1994 meeting, read by Leah Bauer, were approved. Possible workshop topics for the 1996 meeting in Cordoba, Spain were discussed. Suggested topics included epizootiology, life cycles, diagnosis and treatment of microsporidian diseases and a continuation of this years taxonomy topic.

A workshop on microsporidian taxonomy was held. The workshop was organized by Lee Solter and moderated by Joe Maddox and Jiri Vavra. The topic for discussion was what should be done when molecular data do not support morphological data. Introductory comments were made by Jimmy Becnel, Charlie Vossbrinck and Michael Baker.

Excellent presentations were made by student members of the Microsporidia Division: Lisa Carloy and Michael Baker from the University of Illinios, Margaret Johnson and Bettina Moser from the University of Florida, and Ellen Beerling from the University of Amsterdam. Margaret Johnson won first place for her poster presentation and Bettina Moser honorable mention for her contributed paper. Wayne Brooks from the University of North Carolina organized and convened the Protozoa Symposium: Host-Pathogen Relationships and Adaptive Strategies. Rick Clopton, Joe Maddox, Ted Andreadis and Jimmy Becnel were invited speakers.

Post 1995 Meeting Activities: A member of our Division, Peg Johnson has played an important role in the constructions of the SIP home page on the web. Members of the Division are encouraged to view the SIP home page at: "http://sip.home.ml.org" (formally http://nervm.nerdc.ufl.edu/~majohn") and visit the Microsporidia Division page.

An ad hoc committee (Ingemar Fries, Peg Johnson and Louise Malone) was formed by the Chair Tim Kurtti to nominate a Vice Chair and a Secretary for the Division. Lee Solter, 94-96 Vice Chair, will assume the official duties of Chair for the 96-98

term. The ad hoc committee has nominated Andreas Linde and Michael Baker for Vice Chair and Secretary, respectively. This slate will be presented at the business meeting for acceptance by the members present at the meeting. Jimmy Becnel has organized a symposium for the Cordoba meeting. The symposium, "Applied Ecology of Microsporidia" will have Ingemar Fries, Lee Solter and Carlos Lange as speakers. A workshop has been organized by Lee Solter: "Describing New Species of Microsporidia: Consideration of Life Cycle, Molecular and Ultrastructural Data". There are plans to hold a discussion concerning data for new species descriptions of microsporidia including techniques, minimum "requirements", and difficulties in obtaining important information. Introductory comments will be made by Jimmy Becnel, Ronny Larsson, and Louise Malone.

Tim Kurtii, Chair

Report from the Virology Division

Last year we obtained petition signatures from 85 individuals favoring the formation of a Virology Division within the Society; these have been sent to Wayne Brooks for the Society Archives. On a ballot sent out this Spring, 135 Society members signed up to be members of the Division, 89 of these had not previously signed a petition.

We organized a symposium and a workshop for the annual meeting in Cordoba. The symposium topic is: "Recent Developments in the Molecular Biology of Baculoviruses other than AcMNPV" and will be convened by Norman Crook. The workshop is "Insect Cell Culture for Baculovirus Production" and the convenor will be Just Vlak.

Bylaws for the new Virology Division were drafted and are ready to be reviewed for approval by Council.

SIP Virology Division 1995-1996

Chair:	Norman Crook
Vice-Chair:	Suzanne Thiem
Sec/Treas:	Just Vlak
Mbrs at lrg:	Bryony Bonning

Suzanne Thiem

Report on the Establishment of a Division of Bacteriology

The Society now has over 900 members, and somewhere between 200-300 of these have as their primary interest research on bacteria. In addition, many participants at the Annual SIP Meetings, and especially at the International Colloquia held every four years, have as their primary interest bacteria, whether or not they are members of the Society. Research on *B. thuringiensis* has expanded and accelerated to the extent that international meetings on Bt will be held every two years, most likely in conjunction with the Society's annual meeting and international colloquia.

In light of the strong interest in bacteria among a large percentage of the Society's membership, it seems appropriate that a Division of Bacteriology be established within the Society. This Division will have several purposes, the two most important of which will be representing the interests of its members within the Society, and providing input with respect to the scientific programs at the Society's annual meetings, nominate candidates for offices of the Society, and on occasion, develop opinions on issues of public interest related to their discipline.

At the annual meeting of the Society held at Cornell University, Ithaca, NY, from June 16 - 21, a group of SIP members interested in the formation of a Division of Bacteriology met and identified a tentative slate of officers. These initial officers are as follows:

Chair:	Andre Klier
Chair-Elect:	Barbara Knowles
Sec/Treas:	William Moar
Mbr-at-Lrg:	Elizabeth Davidson
Mbr-at-Lrg:	Susan MacIntosh

At the meeting, Brian Federici was selected to draft bylaws for the Division, and to develop a list of at least 50 members, in accordance with the Society's constitution, that would join the Division. A draft of the bylaws has been prepared and circulated to the above tentative officers. The bylaws will be presented to the SIP Council for consideration at its

meeting on September 1. A solicitation was published in the SIP Newsletter for SIP members interested in joining the Division. This solicitation resulted in 130 SIP members signing up as "charter" members of the Division.

Based on the above, it is anticipated that the Division of Bacteriology will be formally established at the Annual Meeting of the Society for Invertebrate Pathology to be held at Cordoba, Spain, in September, 1996.

Brian Federici
July 24, 1996

1996 Publications Board Report

The SIP Publications Board was set up by President Bob Granados and approved by Council. Its initial membership included Michael Bidochka, Bob Possee, Wendy Gelernter, Bob Anderson (Chair), and Mark Goettel (ex officio). The composition of this committee can be modified by appointment by the current President. The initial charge for the committee was to facilitate new and stronger affiliation with JIP. This was encouraged by the positive interactions with Dr. Chuck Crumly, of Academic Press, during our 1995 SIP Council Meeting.

A dialog between Bob Anderson, Carol Reinisch, and Chuck Crumly has now been established viz mail. Dr. Crumly's schedule did not permit a personal meeting during Bob's recent travel to the west coast, but mail and phone interactions continue. Unfortunately, neither Chuck nor Carol could attend this year's meeting in Cordoba, but will continue to be invited to participate in future Council Meetings. Dr. Crumly and I are enthusiastic about carrying on a productive exchange of ideas about how the goals and interests of JIP and SIP can be mutually served. Specific developments will be reported as they occur.

Robert S. Anderson

NEWS ITEMS

ARS Establishes Gainesville Entomology Center

A new Center for Medical, Agricultural and Veterinary Entomology has been established by merging two existing U.S. Department of Agriculture laboratories in Gainesville, Florida.

USDA's Agricultural Research Service, the department's chief scientific agency, established the center effective May 15 by consolidating two groups of 35 scientists now working at the Medical and Veterinary Entomology Research Laboratory (MAVERL), and the Insect Attractants, Behavior and Basic Biology Research Laboratory (IABBBRL).

"Merging the two labs gives us a stronger base for entomology research. Our unified center will allow for more efficient use of research funds and more cooperation among scientists. And we will strengthen the center's role in developing natural pest controls as part of the presidential initiative on integrated pest management," said Roger Breeze, director of the ARS South Atlantic Area, which includes agency labs in Florida, the Carolinas, and Georgia.

Establishing the center won't involve any new construction, funding or positions, Breeze said. The two labs sit side by side in Gainesville and the scientists will remain in those buildings, but the administrative functions of the two facilities will be consolidated, he added. Herb Oberlander, formerly director of the IABBBRL, was named director of the new center.

"The scientists at Gainesville are world leaders in their fields" Oberlander said. "The new center will continue that tradition of excellence in controlling insect pests of humans, animals and plants into the next century."

The center will continue working on mosquitoes, ticks, flies, cockroaches, fire ants and other pests that can spread diseases affecting humans and animals. Established in World War II, scientists at MAVERL work closely with the military to develop strategies

for protecting soldiers from diseases spread by insects and other pests.

IABBBRL opened in 1969 with the task of developing environmentally friendly ways to control agricultural crop pests such as fruit flies. Scientists at the center will continue studying the basic biology of insect pests, pheromones, parasites and predators, and other integrated pest management strategies to control crop pests.

Herb Oberlander, Director
Center for Medical, Agricultural and Veterinary Entomology
PO Box 14565,
Gainesville, FL 32604 USA

Ecological Database of the World's Insect Pathogens on the World Wide Web

The EDWIP, produced by David Onstad at the University of Illinois and the Illinois Natural History Survey, can be found at a new address: **http://insectweb.inhs.uiuc.edu/**. The Worldwide Database of Viral Diseases of Insects created by Mauro Martignoni (over 3,000 references) is expected to be available on this Web server soon. This work was supported by the USDA-APHIS National Biological Control Institute with special help from Ellen Brewer, Dawn Dockter, Rich Humber, Ronny Larsson, Brian Federici, Joe Maddox, Gary Blissard, Bruce Black, and Yasuhisa Kunimi.

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Request for Suggestions and Nominees for 1997 Founders' Lecture

The Founders' Lecture Committee (Jim Harper, Chair, Richard Daoust, David Ellar, and Tony Sweeney) invites suggestions for both honoree and lecturer for our 1997 Founders' Lecture. In general, past Honorees have been 19th or early 20th century Founders whose contributions have clearly promoted the establishment and recognition of Invertebrate Pathology as a distinct discipline of science.

Several recent honorees have been more contemporary. Lecturers have been selected from active and highly productive scholars in Invertebrate Pathology whose work in itself has made major contributions to the field. Lecturers have been selected in part because they work in a discipline of the science related to that of the Honoree and are thus able to show a linkage between the Founder's work and the contemporary science in which they are personally involved. The Founders' Lecture is presented at the plenary session of the SIP annual meeting and has been an annual event since 1982.

Past Honorees with Lecturers in parentheses have included K. Smith (C. Rivers) 1982, J. Makin (A. Sparks) 1983, E. Steinhaus (Y. Tanada) 1984, G. Bergold (T. Angus) 1985, E. Metchnikov (J. Weiser) 1986, L. Pasteur (C. Vago) 1987, (in 1988, H. Whiteley was lecturer, but no honoree was named), R. Kudo (V. Sprague) 1989, T. Grace (K. Maramorosch) 1990, R. Glaser (G. Poinar) 1991, E. Mueller-Kogler (A. Vey) 1992, J. Couch (H. Whisler) 1993, C. Vago (L. Miller) 1994, H. Dulmage (D. Ellar) 1996, and Agostino Bassi (D. Roberts) 1997.

If you have suggestions, please e-mail, mail, fax, or call any of us. We will consider each one and will pass on all suggestions to future committees as well.

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MICROBIAL CONTROL NEWS

Is Standardization of *Bacillus thuringiensis* Products Necessary?

Summary of a Symposium Sponsored by the Division of Microbial Control, September 4, 1996

Thirty years ago, in an effort spearheaded by SIP member Denis Burges, researchers and companies around the world agreed for the first time to use a *Bacillus thuringiensis* (Bt) international standard, E-61, in standardized bioassays that quantified the activity of lepidopteran-active Bt isolates. Today, however, the world of commercial *Bt* products has grown more complex. Over 40 products are now commercially available for control of a broader group of Lepidoptera, as well as Coleoptera and Diptera. These products are based on naturally occurring *Bts* as well as on genetically engineered plants and microbes, some with, and some without the presence of a *Bt* spore. New methodologies have also been developed, with several laboratories and companies now utilizing biochemical tests that are used to supplement or replace insect bioassays.

Given these changes, a symposium was organized to address the following questions:

- What methods are currently available for quantifying *Bt* based products?
- Is standardization of *Bt* products feasible?
- Given the lack of standardization in *Bt* quantification today, how can researchers produce meaningful data on *Bt* based products?

Methods: Speakers Robert Cibulsky (Abbott Laboratories, USA), Terry Couch (Becker Microbials, USA), Tom Currier (Ciba-Geigy, USA), Richard Daoust (Ecogen, USA), Amos Navon (The Volcani Center, Israel), and Takashi Yamamoto (Sandoz, USA) reviewed recent progress made in development of bioassay techniques as well as of protein analytical techniques such as high pressure liquid chromatography (HPLC) and gel electrophoresis. Company representatives indicated that they utilize analytical techniques extensively in *Bt* manufacturing and quality assurance of *Bt* products. Yet the speakers indicated that just as in the 1960s, the insect bioassay is still the backbone of quality control programs for product potency determinations. The difference today is that each company employs different procedures, different test insects and different standard powders, so that results are not comparable among different laboratories.

The need for and feasibility of standardization: While there was general agreement among speakers as well as the audience that the insect bioassay is the method of choice for *Bt* potency determinations, there was some difference of opinion on the need for international standardization of techniques. Industry representatives were unanimous in their feeling that standardization was neither technically nor practically feasible, based on the following points:

- Within-species variability in response to *Bt* has been documented for several insect species such

SIP has Home Page on the WWW

One of the accomplishments of the new initiatives and membership committees was the development of a home page for our Society on the World Wide Web. Margaret Johnson (AKA Peg) has done the ground work in putting together our home page. Our node resides at the University of Florida in Gainesville. In addition to providing information regarding our Society, the page is intended to promote new membership and inform those who cruise (surf, browse) the web (internet) about invertebrate pathology. Our web sites provides information regarding the table of contents of the latest Newsletter, deadlines for submission of articles to the next Newsletter, dates when to expect receipt of the next Newsletter, schedule of meetings and the possibility to download membership application forms. Address:

"http://sip.home.ml.org"

Check it out!

as the beet armyworm, *Spodoptera exigua*. Thus, the same *Bt* preparation tested in two different labs could produce two very different potency estimates, despite the use of rigorously standardized procedures.

- Selection of a standard test insect species could bias results unfairly. For example, if the use of *Trichoplusia ni* as a test insect is imposed for lepidopteran-active *Bts*, then products which are developed to target *Plutella* and *Heliothis* will be at a disadvantage compared to products developed to target *T. ni*.
- There is no company or agency willing to support the expense and effort of producing, maintaining and distributing international standard powders for each sub-group of *Bts*.
- New guidelines for quantification and standardization would necessitate re-registration of all *Bt* products on a country-by-country basis. The costs of this process would be prohibitive to companies.

Academic researchers, on the other hand, expressed frustration that without standardization, they were experiencing difficulty in:

- Interpreting potency determinations on *Bt* product labels that are developed using different assay techniques
- Interpreting potency data generated by different laboratories
- Evaluating new strains of *Bt*, particularly in comparison to currently available commercial strains
- Monitoring insect populations for development of resistance to *Bt* products

Conclusions: Representatives of the *Bt* industry stated that development of international standardization procedures is no longer a technically or economically feasible prospect, and for these reasons, companies are not pursuing efforts to unify procedures for *Bt* potency determinations. To resolve some of the issues faced by academic researchers, *Bt* companies have, for the last several years, offered to supply samples of their internal standard powders to researchers. This offer was renewed by several industry representatives at the symposium. It was also suggested that although the active ingredient statements on *Bt* product labels may be difficult to interpret, the recommended rates which appear on each label provides important information to researchers on the company's assessment of product potency for each target insect. Finally, the possibility of following up on some of these issues was suggested, and Amos Navon has agreed to explore the possibility of organizing a session at the 1997 SIP meetings in Banff on the needs for standardized bioassays.

Did we reach earth-shattering conclusions at this symposium? Certainly not, nor was this our intention in organizing it. However, we feel that the symposium was a success because information and opinions were communicated in an honest, friendly and constructive way on a very controversial subject. In addition, at least some participants came away feeling that they were slightly better equipped to do their jobs as a result of attending the symposium. This is the essence of our annual SIP meetings, and we are glad to have been a small part of it.

Wendy Gelernter (PACE Consulting, USA) and Amos Navon (The Volcani Center, Israel)

California Supreme Court Denies Monsanto's Petition to Review Ruling Affirming Mycogen's Options for Plant Technology

SAN DIEGO, Calif. July 1, 1996 - The California Supreme Court has denied Monsanto Company's petition to review an April 1996 Court of Appeal ruling affirming that Mycogen Corporation's Mycogen Plant Science, Inc. subsidiary is entitled to exercise options to license certain Monsanto herbicide tolerance and insect resistance technology for plants.

The options give Mycogen the right to license Monsanto's Roundup Ready® herbicide tolerance technology for corn, cotton and oilseed rape and *Bacillus thuringiensis* (Bt) insect-resistance gene technology for corn on "terms as favorable as any other third party licensee."

Monsanto granted the options in 1989 to Lubrizol Genetics, Inc., an entity in which Mycogen acquired a controlling interest in 1992. When Mycogen sought to exercise the options in 1993, Monsanto

refused and Mycogen filed suit in Superior Court. In 1994, that court ruled in Monsanto's favor and Mycogen appealed. The Court of Appeal reversed that ruling and directed summary judgment in Mycogen's favor on April 2.

"These options are valuable assets that Mycogen should have been able to use for the past three years to develop products and build our business," said Jerry Caulder, Mycogen's chairman and chief executive officer.

On May 8, 1996, Mycogen filed suit in Superior Court in San Diego, seeking actual and punitive damages from Monsanto for breach of contract and interference with Mycogen's seed business as a result of Monsanto's refusal to honor the options.

Mycogen is a diversified agricultural biotechnology company that develops and markets technology-based products and provides crop protection services to control agricultural pests and improve food and fiber production. Mycogen Seeds develops and markets planting seeds for improved crop varieties with genetically enhanced insect-resistance and other value-added characteristics. Mycogen Crop Protection develops and markets environmentally compatible biopesticides and provides crop protection services to growers of high value crops in California and Arizona.

Michael Sund
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Microbial Control Division Workshop: New Products for Microbial Control

This workshop was held on September 3, directly after the Microbial Control Division Business Meeting at the SIP Annual Meeting in Cordoba, Spain. The workshop was well-attended and many attendees mentioned that they found the presentations extremely useful. Following are brief summaries of the presentations which have predominantly been prepared by the speakers.

BACTERIA

George Soares, Mycogen: Key developments over the past 2 years include: 1) design and construction of Mycogen's own dedicated state-of-the-art fermentation and packaging plant which has dramatically reduced cost of goods for the *Pseudomonas*fermentation system used in producing all CellCapR products, and 2) registration in the U.S. of a) MVP II, a Cry1A© aqueous flowable with twice the toxin concentration of the older MVP, b) Mattch, an aqueous containing Cry1A© and Cry1C offering precisely optimized activity on a broad spectrum of caterpillars in vegetables, etc. In addition, a high potency CellCap wettable powder formulation, GuardjetR, was developed by Mycogen and was registered and launched with great success in Japan by our partner, Kubota Corporation. A number of new products in the development pipeline include CellCap versions of Cry1C toxin, Cry1F toxin, and the scarab beetle-active toxin in *B.t.* var. *japonensis* (being developed in collaboration with Kubota, the company that identified this opportunity). A house fly-active (adults and larvae) B.t. is also being evaluated for commercialization. With regard to use strategies, CellCap products are proving to have some unique attributes in IPM systems and are proving to be very valuable to growers in vegetables and cotton.

Robert J. Cibulsky, Abbott Laboratories, Chemical and Agricultural Products Division: In October, 1995, Abbott Laboratories acquired the plant protection business of Denmark-based Novo Nordisk. The Novo plant protection business complements Abbott's 25 years of experience in the development, manufacturing, marketing, and sales of biorational products. The acquisition included the transfer of all products, trade marks, patents and know-how relating to the biological plant protection business. As a consequence of the divestiture, Novo Nordisk Entotech, Inc., the research unit located in Davis, CA, ceased operations. With this acquisition, Abbott will continue to market the following Novo agricultural biologicals: Btk (Biobit, Bactospeine), Bta (Florbac), Bti (Bactimos, Skeetal), Bsph (Spherimos) and Btt (Novodor) in addition to the Abbott agri-bio product line. Abbott has also

announced several new product introductions in 1996, including a new dry flowable formulation of Btk (DiPel DF), a granular formulation of Bsph (VectoLex CG), a microbial nematicide (DiTera), and a microbial fungicide (Trichodex). Trichodex is being co-developed with Makhteshim-Agan, Beer-Sheva, Israel for control of Botrytis on grapes, strawberries and greenhouse vegetable crops. During 1996, DiPel DF, VectoLex, and DiTera all received EPA registration approvals and Trichodex received registration approvals in Australia, Chile, and several Eastern European countries. Abbott looks forward to additional new product introductions in 1997 based on the combination of Abbott/Novo fermentation technology.

Richard A. Daoust, Ecogen: New products introduced by Ecogen in 1996 include the biological fungicides; AQ10TM biofungicide and AspireTM biofungicide and the biological insecticides Condor® XL and Crymax®. Crymax bioinsecticide is the first living genetically engineered *Bacillus thuringiensis*-based product for control of lepidopteran pest insects registered for sale in the United States by the Environmental Protection Agency. It contains the highly potent *B. thuringiensis* subspecies *kurstaki* strain EG7841 and is formulated in a unique water dispersible granule for easy handling and mixing. Crymax contains a unique genetic complex including three versions of the Cry1Ac gene, the Cry1C gene and the Cry2A gene. As an engineered strain, it outperforms other Bt- based products and provides control equivalent to synthetic chemical insecticides of lepidopteran pests on leafy and cruciferous vegetables, tomatoes and peppers and on tree fruit and nut crops.

Takashi Yamamoto, Sandoz Agro: A new generation, high-potency biological insecticide will be available for the 1997 growing season in California to combat orchard and vine lepidopteran pests, such as the peach twig borer and navel orangeworm. Called CoStarTM, the new Bt provides a higher level of lepidopteran control at a more economical cost per acre. CoStar contains 3-5 times more BIUs per pound than others Bts, remains active longer after application and is specifically designed to combat TNV pests. Although CoStar Bt is based on the *kurstaki* species from which most other Bt products are derived, it contains an especially high concentration of a specific Cry1A protein. Labeled rates for CoStar application vary from 0.12 to 2 lbs./acre. CoStar's narrow range of activity and tankmix compatibility allow it to be mixed with February-April fungicide applications and to take advantage of controlling lepidopterans without disrupting predators. CoStar is manufactured at Sandoz' production facility in Wasco, CA, and is available in a wettable granular formula. Sandoz Agro is a worldwide manufacturer of biological insecticides including Javelin WG and VaultTM as well as CoStar.

Trevor Jackson, AgResearch: In New Zealand, InvadeR, a microbial product based on the bacterium *Serratia entomophila* (Enterobacteriaceae), has been sold for the last 6 years for control of the native grass grub *Costelytra zealandica* (Scarabaeidae). Bacteria are applied to infested pastures in a concentrated suspension using a modified seed drill. In 1996, marketing of Invade passed from Monsanto NZ Ltd to Coated Seed Ltd who have enthusiastically promoted the product. Microbial control, using Btk, is also the core of a current program aimed at eradication of an outbreak of the two-spotted tussock moth, *Orgyia thyellina*.

VIRUSES AND NEMATODES

Doug Kolodny-Hirsch and Ramon Georgis, biosys: Nematodes: All nematode products in the USA are formulated as water dispersible granules. Each granule is approximately 10 mm in diameter and contains up to 40,000 dehydrated nematodes. Products are available from 1.5 lb in 2 L containers to 30.0 lb in 35 L containers. The new products in the market are: Vector® MC and Devour® (based on *Steinernema riobravis*) against mole crickets and plant parasitic nematodes in turfgrass, Magnet® and X-Gnat® (based on *S. feltiae*) against mushroom flies and fungus gnats, respectively, Vector® TL and Savior® (based on *S. carpocapsae*) against a wide range of soil insects in turfgrass and ornamentals, and Millenium® (based on *S. carpocapsae*) against cat fleas.

Viruses: Gemstar® LC (based on *Helicoverpa zea* NPV) and Spod-X® LC (based on *Spodoptera exigua* NPV) were introduced commercially in the USA in 1995/1996. Both products are formulated as liquid concentrates in 4 L and 10 L containers. Gemstar® (against *Heliothis virescens* and *H. zea*) and Spod-X® (against *S. exigua*) have been introduced as a tool for the management of insecticide resistance in cotton, vegetables and field crops.

FUNGI

Rick van der Pas, Koppert Biological Systems: Koppert Biological Systems BV produces and markets two mycoinsecticides in a number of European countries. These are Mycotal, for control of whiteflies and thrips, and Vertalec, for control of aphids. Both are based on a strain of *Verticillium lecanii* and are used in greenhouse crops, including vegetables as well as ornamentals. The products are wettable powders; we are now developing new formulations, based on oil, in order to reduce the high humidity requirements. Research on the whitefly pathogen *Aschersonia aleyrodis* has been stopped after reaching the development of a marketable product. The reason for the cessation is that registration in the EU at the moment is too complicated and expensive.

Steven Wraight, Mycotech Corporation: Mycotech Corporation of Butte, Montana, plans to begin commercial production and sale of its new *Beauveria bassiana*-based biological insecticides by fall 1996. Mycotrol® represents the first mycoinsecticide registered for use against pests of vegetables and other row crops in the United States. Products for nursery and greenhouse applications will be marketed under the trade name BotaniGard®. These products are labelled against grasshoppers, thrips, and various homopteran pests including whiteflies and aphids. They will be available as both wettable powder and emulsifiable oil formulations containing 2×10^{13} conidia per pound or quart. Organic formulations will also be available by Spring 1996.

David Miller, EcoScience Corporation: EcoScience Corporation has developed and is now manufacturing Bio-Blast® Biological Termiticide. This product has as its active ingredient *Metarhizium anisopliae* ESC1 in a 50% wettable powder. Bio-Blast is available in foil pouches containing 19 grams of product, sufficient for the treatment of one structure. Bio-Blast has been registered with the United States Environmental Agency and in 48 states. Field testing and registration are under way in Japan. Bio-Blast is to be used as a treatment for active termite infestations with its principal use on subterranean and Formosan termites and with acceptable efficacy against dry wood termites. Direct application to exposed termites leads to their death and transfer to the colony via the Horizontal Transfer® Effect. Termites are thus eliminated from structures. Bio- Blast is available through the Paragon distribution group of Terminix International.

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From: ISB NEWS REPORT, JULY 1996

Baculovirus Field Test Okayed By EPA

The Environmental Protection Agency has determined that a small-scale field trial of American Cyanamid's genetically engineered baculovirus will cause no significant risk to human health or nontarget organisms, and may be conducted without an experimental use permit. The insect virus, designated AaIT strain, has been modified to express the insect control protein from a North African scorpion.

American Cyanamid will conduct field trials in 12 states to test the efficacy of the genetically engineered biocontrol agent against tobacco budworm and the cabbage looper on cotton, tobacco and leafy vegetables such as cabbage, broccoli and lettuce. Less than 100 grams of active ingredient will be used to treat a total of 7.4 acres. Similar field tests were conducted in 1995 in which the EPA requested soil sampling data to evaluate survival and persistence of the baculovirus. These data were not available when the 1996 release was being considered, however the agency felt that they were not needed to evaluate the

potential for the new trials to cause unreasonable adverse effects on the environment.

In the 1996 field tests, soil samples are to be taken at specified points during the course of the release: prior to the initial application of the recombinant virus; following application; just prior to spraying with wildtype baculovirus; and after allowing sufficient time for dispersal of the wildtype virus in the soil. The soil samples are to be used in a bioassay with a highly sensitive susceptible insect to detect infectious polyhedra; PCR is to be used to detect the recombinant gene construct. At the end of the trial, applications of lime are to be used to inactivate residual virus in the soil.

Alan Wood, Boyce Thompson Institute for Plant Research, raised several issues concerning the proposed release in comments to the EPA. He noted that the AaIT virus has an increased rate of infection compared with the unmodified virus, an unexpected and unexplained phenotype that could be due to uncharacterized genetic changes in the recombinant strain. Wood also questioned the feasibility of using lime to raise soil pH to inactivate the virus and added that the amount of lime needed may itself cause environmental effects.

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Biological Control of Mosquitoes with Genetically Engineered Bacteria

Mosquitoes, the scourge of a relaxing summer evening picnic, are the insect vectors for a number of serious parasitic diseases such as malaria. The malaria parasite is transmitted by *Anopheles* mosquitoes and infects an estimated 500 million people per year, resulting in approximately 3 million deaths. Eradication is an effective method of controlling mosquito populations and the outbreak of mosquito-transmitted diseases. Chemical pesticides such as DDT have been successfully used in eradication programs, however DDT is toxic to animals and is an environmental pollutant. Moreover, mosquitoes that are resistant to the effects of DDT have arisen rapidly. Thus development of an improved and more environmentally-friendly method of controlling mosquito populations is urgently needed.

Bacillus sphaericus and *Bacillus thuringiensis* subsp. *israelensis* produce potent protein toxins that have been used effectively to control mosquito larval populations. However, these bacteria have not met with the same commercial success as chemical pesticides because the bacterial spores are UV-sensitive, resulting in their rapid inactivation near the surface of water where the larvae feed. Furthermore, the spores rapidly settle from the zone in which the larvae feed, restricting the duration of effective control. These disadvantages limit the use of *Bacillus* sp. as effective biological control agents. To overcome these problems, researchers have genetically engineered other bacteria to express *Bacillus* mosquitocidal toxin proteins, but success utilizing this strategy has been limited mainly due to low expression of the introduced toxin genes.

In the March issue of Nature Biotechnology, researchers in Singapore report the production of genetically engineered *Asticcacaulis excentricus* expressing the binary toxin genes of *Bacillus sphaericus*. *A.excentricus* is an aerobic, Gram-negative, motile bacterium that normally reproduces near the water surface. Laboratory studies have demonstrated that the recombinant *A.excentricus* expresses mosquito larvicidal activity that is close to that of the natural high-toxicity strains of *B.sphaericus*. The real advantage with *A. excentricus* is its ability to persist for weeks in the larval feeding zone.

How well this organism can adapt to the number of diverse habitats in which mosquitoes breed while maintaining high level toxin production remains to be determined in field trials. If this biological control method proves to be efficacious, then a program that rotates chemical pesticides with biological control could successfully regulate mosquito population growth while minimizing the probability of selecting for pesticide- or toxin-resistant mosquitoes.

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BIOSAFETY is an online journal that presents original research, reviews and discussion papers focused on the effects of novel organisms - genetically manipulated microorganisms, transgenic plants and animals and unmodified organisms which are alien to an ecosystem - on people and the environment. It will be concerned with the application of science, technology and regulatory processes in monitoring, defining and controlling effects which such organisms may have. Because the topic of biosafety is multifaceted, it will necessarily publish papers which relate to a wide range of science, though all will be relevant to biosafety.

Containment of potentially hazardous organisms will be of major interest and both biological and engineering approaches will be discussed. BIOSAFETY is published only on the Internet; there will be no hard copy equivalent. The journal is accessible on the web at: http://www.bdt.org.br/bioline/by.

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Mycogen Consolidates Facilities, Staff Following Acquisition

SAN DIEGO, Calif. August 20, 1996 - Mycogen Corporation has consolidated production, research and administrative facilities and staff in several states, completing the company's assimilation of its February 1996 acquisition of United AgriSeeds from DowElanco.

"We wanted to complete this process by the end of August so we can start fiscal 1997 in September with the unified Mycogen Seeds organization in place," said Jerry Caulder, Mycogen's chairman and chief executive officer. "To meet our goal of moving into the black next year, we had to bring facilities and expenses into proper relationship with realistic volume and revenue forecasts."

Carl Eibl, president and chief operating officer, said Mycogen will concentrate corn and soybean seed production in four large, efficient plants, two of which were acquired from DowElanco, and two others that were modernized and expanded this year. Four smaller, less efficient, seed plants are being closed, resulting in the elimination of 51 production positions and relocation of seven others.

"This modern, efficient production system is the foundation for making Mycogen one of the industry's lowest-cost, highest-quality seed producers," Eibl said. "Our alliances with DowElanco and Pioneer Hi-Bred also are allowing us to redeploy some of what we had been spending on R&D to invest in building our business and accelerating commercialization of new products."

Eibl said some biopesticide research programs are being phased out and several seed research groups are being consolidated or relocated to facilities provided by DowElanco in Indianapolis, Ind., resulting in the closure of Mycogen's Madison, Wisc., plant science laboratory. In all, 44 research and administrative positions in Madison and Mycogen's San Diego headquarters are being eliminated and another 29 Madison positions will move to other locations. Six of the employees affected in San Diego will be offered jobs at other locations.

Mycogen's forward-looking statements are based on projections and estimates regarding the economy and the seed and crop protection industries. Various factors could cause actual results to vary significantly from management's expectations. These include the

impact of weather on production and sales, actions by competitors and regulatory agencies, intellectual property positions, fluctuations in commodity prices and crop acreage and the effectiveness of internal expense controls.

Mycogen is a diversified agricultural biotechnology company that develops and markets technology-based products and provides crop protection services to control agricultural pests and improve food and fiber production. Mycogen Seeds develops and markets planting seeds for improved crop varieties with genetically enhanced insect-resistance and other value-added characteristics. Mycogen Crop Protection develops and markets environmentally compatible biopesticides and provides crop protection services to growers of high value crops in California and Arizona.

Michael Sund
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NOTE: Mycogen news releases are available on the company's World Wide Web site: http://www.mycogen.com

New Mycoinsecticide Research at the Swiss Federal Institute of Technology (ETH)

In April of this year, new research on mycoinsecticides was started at the ETH in Zürich, Switzerland. Emphasis is being given to the potential utilization of entomopathogenic fungi belonging to the Entomophthorales with special focus on fungi belonging to the genera *Erynia* and *Neozygites*. Main targets are sucking pest insects of field crops. Despite their known constraints in terms of slow growth and fastidious requirements for culture media, this group of entomopathogenic fungi was chosen on the basis of their well documented potential to cause epizootics in field situations and their high host specificity.

The research plan is based on the idea that for a successful application of Entomophthorales in agriculture, major progress is required in the understanding of differentiation processes as well as in the formulation of infective fungal propagules. Flavia Camastral and Anne Grundschober have started Ph.D. programmes and are currently collecting isolates from the field and establishing laboratory procedures. Helge Sierotzki, a postdoctoral researcher, is investigating life-cycle and differentiation processes of these fungi. Paresh Shah joined the team recently in order to develop a reliable formulation process. Urs Tuor has been responsible for starting the project and is leading the group.

This mycoinsecticide group is part of a larger mycology research team headed by Prof. Markus Aebi. His other areas of interest are the N-linked glycosylation of protein in the endoplasmic reticulum of *Saccharomyces cerevisisae* and fruit body development in *Coprinus cinereus*. These biological processes are studied using molecular biology and biochemical methods. In this largely academic environment the researchers are mostly interested in fungal entomopathogens from a mycological rather than entomological perspective. Further information about the Department of Microbiology at the ETH and research activities is provided at: "http://www.micro.biol.ethz.ch".

For further information please contact:

Dr . Urs Tuor
E-mail: utuor@micro.biol.ethz.ch

Microbial Formulation Services

Ecoscience has pioneered methods for large scale stabilization and formulation of fungi and bacteria resulting in state of the art, novel microbial pesticides of unprecedented stability. This expertise is now available as a service to academic, governmental and industrial organizations.

Ecoscience Developed :

-the first chamber infection device for the control of insects utilizing a fungal active ingredient. The development of this product, the Bio-Path® Roach Control Chamber, revolutionized how we think of microbial pesticides, combining as it did a unique delivery system and packaging that yielded two years of shelf life, providing access to the consumer market. Similar novel approaches could be applied to your product.

-the first wettable powder, a fungal pesticide, of significant storage stability for use against a broad variety of insects. This technology is now in the market as Bio-Blast™ Biological Termiticide, a highly effective product for the treatment of active termite infestations. Extensions of this technology include wettable powders and water dispersible granules suitable for a variety of fungal species.

-a shelf stable, wettable powder formulation of non-spore forming bacteria. This group of bacteria has been particularly problematic in their commercial development because of their inherent instability. The result of this achievement are the Bio-Save™ PostHarvest Bioprotectants for the control of fruit postharvest disease. The technology has applicability to other bacteria, opening a range of product opportunities, including biofungicides.

-extremely successful packaging systems yielding microbial products with demonstrated extended shelf-life. Microbial pesticides are extremely sensitive to their storage conditions and have historically suffered from unacceptable shelf life. The environmental variables which have profound effects on the shelf life of stabilized microbial formulations are temperature, moisture, gas compositions, light, pH, chemicals and microbial contaminants. Through a well designed packaging system the effects of these variables can be minimized to yield products with extended shelf life.

EcoScience has aggressively pursued patent protection for its formulation technologies. Microbial pesticide efficacy is dependent on the concentration of the active organism in the final product. This is a function of both production and formulation processes. Therefore, a successful production system must have the ability to produce a large quantity of physiologically vigorous organisms that will survive processing and are efficiently formulated and packaged into a shelf stable product with maximal efficacy. EcoScience will work with you to integrate appropriate formulation strategies with our method of biomass production.

With its emphasis on formulation, EcoScience can help you to develop the following processes and products for our microbial pesticide:

+Enhancement of biomass physiology
+Biomass harvesting
+Biomass stabilization
+Formulation development
+Dust formulations
+Wettable powder formulations
+Oil and Gel formulations
+Granule Formulations
+Water dispersible formulations
+Formulation process development
+Pilot scale manufacturing and troubleshooting
+Packaging and delivery systems
+Integrated manufacturing for commercial production

Please contact:

David W. Miller, PhD.
EcoScience Corporation
10 Alvin Court
East Brunswick, NJ 08816
Tel: (908) 432-8200; Fax: (908) 432-0770

MEMBERS ON THE MOVE

Paresh Shah has started a post-doctoral position at ETH in Zurich. He gained his PhD in 1994 at the University of London while working with the IIBC/IITA/DFPV grasshopper and locust project: He undertook field work in Benin, Mali and the Sultanate of Oman. His current position is to carry out formulation studies with entomophthoralean fungi especially using *Erynia (=Pandora) neoaphidis* as a model system. Further information on this project is provided on page 30 in this Newsletter.

Previously Paresh has worked with ODA in Mali on controlling millet pests, including grasshoppers, with conventional insecticides; with IITA in Zambia and Mozambique for releases of natural enemies against cassava pests and with IACR-Rothamsted in southern England on insect diversities and farming systems.

His current address is:

Swiss Federal Institute of Technology

Department of Microbiology
LFV E14, ETH-Zentrum
CH-8092 Zurich, Switzerland
Tel: ++41 1 632 1111; Fax: ++41 1 632 1148
E-mail: shah@micro.biol.ethz.ch
http://www.micro.biol.ethz.ch/

Lawrence (Lerry) Lacey has transferred from the USDA European Biological Control Laboratory in Montpellier, France to the Yakima Agricultural Research Lab in Wapato, Washington, USA. He will work on pathology and microbial control of insect pests of apples and potatoes.

His current address is:

USDA-ARS, Yakima Ag. Res. Lab
5230 Konnowac Pass Rd.
Wapato, WA 98951, USA
Tel: 509-454-4463; Fax: 509-454-5646
E-mail: llacey@yarl.gov

Moving?

To ensure proper address in future Membership Directory and for receipt of SIP Mailings including the Newsletter:

1) Contact FASEB and provide both **New** and **Old** adresses at:

Society for Invertebrate Pathology
FASEB Membership Department
9650 Rockville Pike
Bethesda, MD 20814, USA
Tel. 301-530-7026
Fax. 301-530-7001
EMail staff@dues.faseb.org

2) Prepare a paragraph including information about past and present postings, new address, telephone, fax and Email address and send to your Newsletter Editor for inclusion in the Members on the Move section in the next issue of the Newsletter. Editor's address can be found on page 2.

MEMBER NEWS

Dr. Patrick V. Vail

Dr. Patrick V. Vail of Fresno, California has won a 1996 U.S. Department of Agriculture Honor Award. Vail, a research entomologist and director of the USDA Agricultural Research Service's Horticultural Crops Research Laboratory at 2021 South Peach Avenue, Fresno, California, was commended for studies that have opened the door to safe, natural and effective ways to control insect pests in fields, orchards, and warehouses.

The honor, presented to Vail at a recent ceremony in Washington, D.C. also acknowledges his discovery of a microorganism that biotechnologists in laboratories worldwide now use to quicken development of new medicines for people and animals.

Vail has been with USDA's Agricultural Research Service since 1962 and director of the ARS Horticultural Crops Research Laboratory since 1982. His staff of 55 scientists, technicians, and others, investigates new, environmentally friendly ways to protect crops in fields and storage facilities from insects and other pests, and develops new kinds of grapes, peaches, plums, apricots and nectarines for commercial growers and backyard gardeners.

Last year, Vail won the Agricultural Research Service's highest scientific honor when he was named the ARS 1995 Distinguished Scientist of the Year. He has a bachelor's degree in Zoology (1960) and master's degree in Biology (1962) from California State University, Fresno, and Doctorate in Entomology (1967) from the University of California at Riverside.

Dr. Pierre Ferron, Director of INRA's Unite de Recherche en Lutte Biologique and CILBA (Complexe International de Lutte Biologique Agropolis), at Montpellier France was presented the "Croix de Chevalier de la Legion d'Honneur" (The cross of the nights of the legion of honor) by Monsieur Louis Malassis at a reception in Montpellier on 22 June, 1997. The award was presented as recognition of Dr. Ferron's many contributions to the field of biological control.

Dr. Pierre Ferron bearing his Award

POSITIONS AVAILABLE

Assistant Professor of Entomology (Insect Pathologist) Tenure track

Location: Department of Entomology, University of Maryland, College, Park, MD 20742

Starting Date: January 1, 1997 or until a suitable candidate is found.

Job Summary: Responsibilities include: (1) developing an innovative research program on some aspects of the microbial control of insects; (2) teaching a graduate course in insect pathology and participating in undergraduate teaching ; and (3) interact with existing research programs in integrated pest management, insect host-plant interactions, and molecular entomology.

Qualification: Applicants should hold a Ph.D. in Entomology or a related field. A successful candidate should demonstrate research experience with insect pathogens including bacteria, fungi, nematodes, and viruses. A strong background in molecular biology, microbiology, and pathogen-host interaction is desirable.

Salary: Commensurate with training and experience.

Application: Applications should include a curriculum vitae, statements of research plans and of teaching experience and interests, transcripts copies or list of relevant undergraduate and graduate courses, and names and addresses of five referees. Our faculty is committed to fostering racial and ethnic diversity, and applications from minority and women are strongly encouraged.

Send to:
Professor Michael Ma
Department of Entomology
University of Maryland
College Park, Maryland 20742
Tel: (301) 405-3942; Fax: (301) 314-9290

FUTURE MEETING AND WORKSHOP ANNOUNCEMENTS

Microbial Insecticides: Novelty or Necessity?, University of Warwick, UK, 16-18 April 1997

The symposium explores the position of microbial insecticides within the world market, concentrating on opportunities and constraints, now and in the

future. As the name of the symposium implies, there will be a critical examination of whether microbial insecticides are seen merely as a novelty or whether they have a serious role to play in future crop protection.

World authorities on microbial insecticides have been invited to contribute to a themed symposium that explores four main areas pertinent to the title of the symposium.

Although all platform presentations are by invitation, the Programme Committee welcome submission of poster papers to fit in with the four main themes outlined below. Both platform and poster papers will be included in the proceedings, to be published at the time of the symposium.

The symposium themes are:

Setting the Scene

This session will include a representative of the purchasers of crop products who, with their massive purchasing power, can have a considerable influence on crop protection measures. Further papers will examine the roles, with opportunities and constraints, of microbial insecticides, develop case histories of successful use and lead to an industry view of the future.

Biological issues

By their nature, microbial insecticides have a range of biological attributes that influence the ways in which they can be employed in crop management. These will be explored, for each of the main pathogen groups, from the perspective of ecological characteristics and how these influence practical use in crop management. Biological issues arising from genetic modification of microbial agents will also be discussed as will the compatibility between microbial insecticides and other pest management regimes.

Technological Issues

Scale-up, quality control, shelf-life and the question of whether formulation is needed for field use will be explored in three linked papers. Field use, especially the technology of pathogen application, their position in Integrated Crop Management and the special requirements of decision support systems for successful deployment, will form the subjects of three further papers. Finally, the question of potential resistance to microbial agents and ways of resistance management will be discussed.

Regulations and the Environment

Microbial insecticides within the UK, Control of Pesticides Regulations, and a wider view in relation to world regulatory requirements, including those for genetically modified variants, will be discussed. The environmental consequences of use of microbial insecticides will also be considered from the perspective of a "green" NGO. One of the consequences of new techniques of genetic modification is the question of intellectual property rights and whether these are helping or hindering development; this will be addressed in this session. Finally, a closing view of Microbial Insecticides: Novelty or Necessity? will be given from an industry perspective.

To receive a programme and registration form write to:

British Crop Protection Enterprises
49 Downing Street
Farnham
Surry GU9 7PH, UK
Tel: +44 (0) 1252 733072
Fax: +44 (0) 1252 727194

Microbial Control of Pests in Sustainable Agriculture, Royal Veterinary and Agricultural University, Copenhagen, Denmark, August 10-15, 1997

Please note date change.

Organized by the working group "Insect Pathogens and Insect Parasitic Nematodes" within the IOBC (International Organization of Biological Control) (Chairman: Peter Smits, The Netherlands).

Local Organizer:

Jørgen Eilenberg (Royal Veterinary and Agricultural University)

The Meeting

The meeting is held every second year (1993: Zürich, 1995: Poznan) as part of the activities within the IOBC working group.

The meeting will consist of : Oral Presentations, Poster Session and Working Group Discussions (at present two recognized groups: "Insect pathogenic fungi" and "Insect Parasitic nematodes").

Scientific contributions (oral and posters): contributions of all kinds within the subject are welcome. In particular, we are looking for contributions dealing with the use of microbial control agents as part of sustainable agriculture in temperate agricultural systems.

A few speakers will be invited to present papers on the incorporation of microbial control agents in sustainable agriculture. Contributions will be published as papers in the IOBC Bulletin.

Facilities:

The meeting will be held at the new facilities at The Royal Veterinary and Agricultural University in Copenhagen.

Preliminary programme:

Sunday August 10:	Registration, mixer
Monday, August 11:	Scientific presentations
Tuesday, August 12:	Scientific presentations And discussions
Wednesday, August 13:	Excursion, dinner
Thursday, August 14:	Scientific presentations poster session, discussions
Friday, August 15	Scientific presentations

Price and Accommodation:

1000 Dkr (approx $150) covering:
˜Programme and abstracts
˜Mixer Sunday
˜Excursion and dinner Wednesday
˜Lunch, coffee and tea 11-15 August

Accommodation:

The university is situated about 5 km from the centre of Copenhagen, close to accommodation facilities. Hotels in all price categories are available within short distance.

For more information, contact:

Jørgen Eilenberg
Royal Veterinary and Agricultural University
Department of Ecology and Molecular Biology
Thorvaldsensvej 40
DK - 1871 Frederiksberg
Tel: +45 35 28 26 60 or 35 28 26 92
Fax: +45 35 28 26 70

Sixth International Mycological Congress IMC6, Jerusalem, Israel, August 23-28, 1998

The conference is scheduled to take place at the ICC Jerusalem International Convention Center. For more information, contact:

Congress Secretariat
P.O. Box 50006,
Tel Aviv 61500, Israel
Tel: 972 3 5140014
Fax: 972 3 5175674/5140077
E-mail: mycol@kenes.ccmail.compuserve.com
Website:
"www:http://Isb380.plbio.1su.edu/ima/index.html"

PAST MEETINGS AND WORKSHOPS

V Siconbiol, Brazil

The 5th Symposium of Biological Control was held in Iguassu Falls, Brazil, June 9 - 14, 1996. The Symposium was hosted under the direction of Flavio Moscardi and was well attended by SIP members.

Symposium was hosted under the direction of Flavio Moscardi and was well attended by SIP members. During this Symposium, Don Roberts was presented an award for his contributions to insect pathology in Brazil.

SIP Membership Directory

The 1997-1998 SIP Membership Directory will be prepared early in the new year and will be sent to all members with a future edition of the Newsletter. To be sure that you are included in the Directory, please ensure that you have renewed your Membership in SIP. Please check that your address, telephone, facsimile and Email address are correctly entered on the renewal form.

EDITOR'S NOTES

Newsletter Mailing. In an effort to improve our delivery of the Newsletter in a timely, yet most economical manner, this issue of the Newsletter is being sent out using a private company. We hope that this will help alleviate some of the problems we have experienced in the past.

New Assistant Newsletter Editor. I welcome **James Becnel** as the new Assistant Newsletter Editor. I look forward to working with Jimmy in putting this Newsletter together. At the same time I would like to thank **Betty Davidson** for having been an excellent Assistant Newsletter over the years. I'll miss your help, Betty!

Acknowledgements. Many thanks to everyone who contributed to this issue of the Newsletter. Special thanks to **Toshi Iizuka, Don Roberts, Candido Santiago Alvarez** and **Betty Davidson** for contributing photos. Thanks also to **Karen Toohey** for all her typing.

Deadline for next issue. Please submit all material by **January 15, 1997** for publication in the February, 1997 issue.

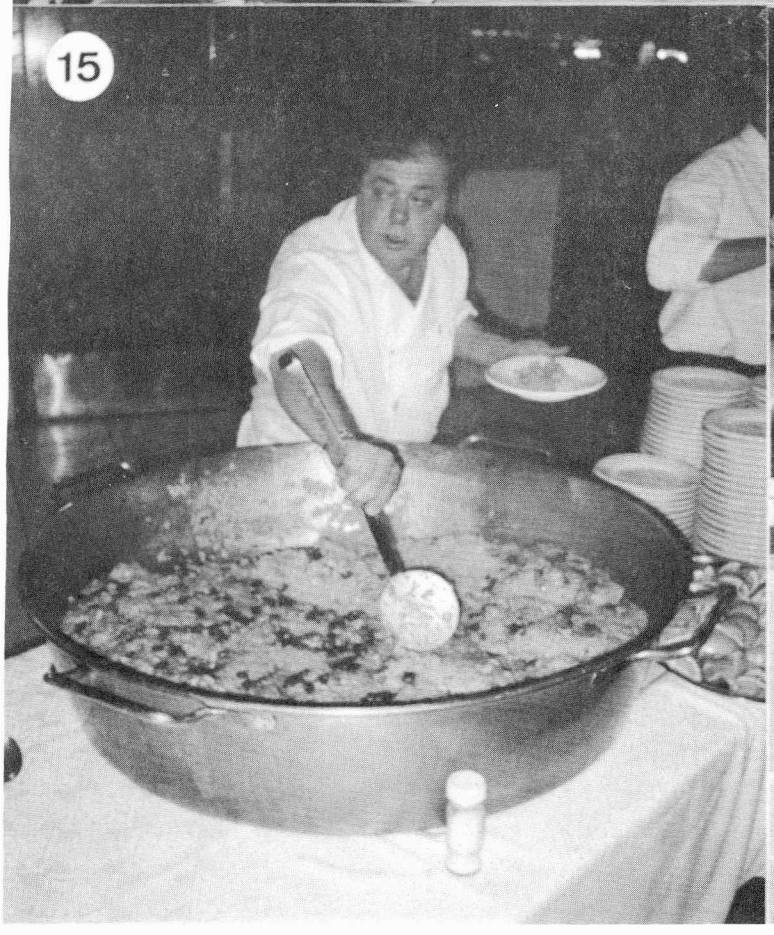
SIP Members attending the V Siconbiol, Brazil

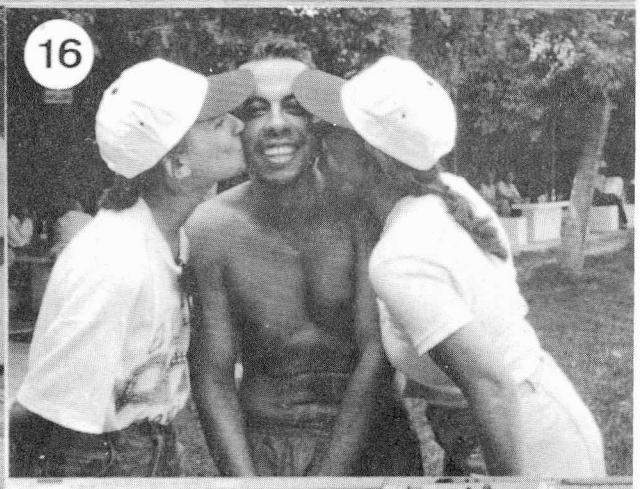
1. Sunday night Mixer; Mrs. Ohba, Kazuhisa Miyamoto, Mr. Kuaimi, Madoka Nakai, Michio Ohba & Hisanori Bando; 2. Don Roberts presenting Founders' Lecture; 3. Amos Navon; 4. Hu Zhihong, Basil Arif, Al Wood; 5. Mrs. & Mr. Meir Broza; 6. Mr. & Mrs. David Ellar, Denis Burges; 7. Hisanori Bando & Norman Crook.

PHOTOS FROM CORDOBA

8. Toshi Iizuka & Marguerite Lecadet; 9. Our lovely PIC hostesses; 10. Peter Krell, Mrs. & Mr. Peter Faulkner; 11. More lovely PIC hostesses & Ana Miranda; 12. Brain Federici, Candido Santiago-Alvarez & Bob Granados; 13. Susan MacIntosh.

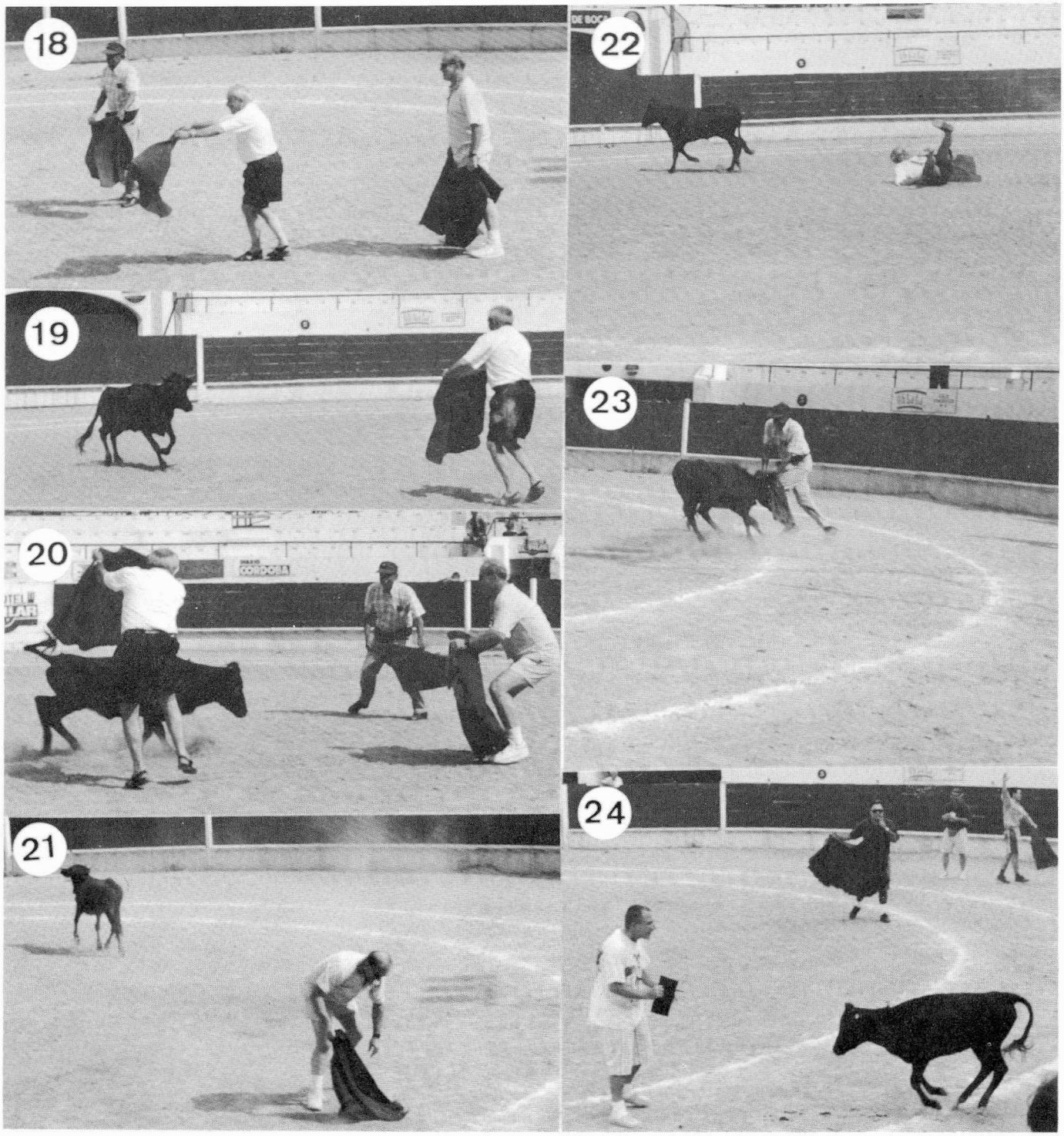
PHOTOS FROM CORDOBA





14. Start of 5-K race; 15. Mucho grande paella; 16. 5-K winner gets his reward from PIC hostesses!;
17. Spanish riding demonstration during Wednesday outing.

PHOTOS FROM CORDOBA



18. Bob Granados, Candido Santiago-Alvarez & Brian Federici challenge the toro; 19; Toro accepts; 20. Toro by-passes Candido and heads for Brian; 21. Toro 1, SIP 0; 22. Toro 2, SIP 0; 23. Toro 3, SIP 0; 24. Hey, I'm the referee!

SIP CHALLENGES TORO AT CORDOBA