**Phyllis Gail Hotchkin Weintraub JANUARY 2016**

##### PART I: CURRICULUM VITAE

# I. Personal

1953 Born in Hollywood, California, U.S.A.

1969 - 1971 High school education in U.S. Grant High School, North Hollywood, CA

# II. University Education and Additional Training

1971 - 1976 B.A. in Biology at California State University, Northridge

1977 - 1979 M.S. in Biology at California State University, Long Beach

 Title of thesis: Properties of Two Strains of Granulosis Virus

 Supervision by: Victoria Y. Yokoyama, Ph.D.

1979 - 1984 Ph.D. in Entomology at University of California, Davis

 Title of thesis: Parasite-Pathogen Interactions in the Armyworm, *Pseudaletia unipuncta*

 Supervision by: Harry K. Kaya, Ph.D.

1984 - 1986 Postdoctoral position at Department of Microbiology, University of Medicine and Dentistry of New Jersey, School of Osteopathic Medicine, Piscataway, N.J. with Ann M. Fallon, Ph.D.

 Research subject: Mosquito vitellogenesis

2012 – 2013 Sabbatical leave at Museum of Natural History/Humboldt University, Berlin Germany, with Prof. Hannelore Hoch

 Research subject: microtomography of leafhopper bacteriomes

2013-2014 Sabbatical leave at Plant and Food Research, Christchurch New Zealand with Andrew Pitman

 Research subject: psyllid vectors of *Candidatus* Liberibacter solanacearum, the putative cause of potato zebra chip disease

# III. Positions Held and Academic Status

1970 – 1977 Research Associate, Developmental Biology Laboratory, Veterans Administration Hospital, Sepulveda, CA., U.S.A.

1984 – 1986 Postdoctoral Research Associate, Department of Microbiology, University of Medicine and Dentistry of New Jersey, School of Osteopathic Medicine, Piscataway, N.J., U.S.A.

1990 – 1993 Pesticides Efficacy/Regulatory Affairs Specialist for Insect Control & Research, Inc., Baltimore, Maryland, U.S.A.

1993 – 1994 Senior Entomologist, Western Negev Initiative Center, Neve Dekalim

1994 – 1995 Research Scientist, Research and Development Sha’ar HaNegev

1995 – 1998 Research Scientist in Entomology at Gilat Experiment Station

 (Grade C)

1998 – 2004 Research Scientist in Entomology at Gilat Research Center

 (Grade B)

2004 – present Research Scientist in Entomology at Gilat Research Center

 (Grade A)

**IV. Training/Teaching Experience**

1977 – 1979 Teaching Assistant California State University, Long Beach for Insect Morphology and Physiology Laboratory and General Entomology Laboratory

1982 – 1984 Lecturer at University of California, Davis in Insect Pathology Laboratory

## 2004 – 2012 Lecturer at Hebrew University, Faculty of Agriculture. Developed and taught (solo) course entitled “Integrated Pest Management in Protected and Field Crops”.

2002 – present Lectures for Extension Service, growers groups, employees of ARO, guest lecturer for Ben Gurion University of the Negev, Hebrew University Faculty of Agriculture, Arava Institute, visiting groups from abroad, etc.

2003 – present Member of Examining Committee for thesis defense for Master’s and Ph.D. students at Bar Ilan University, Hebrew University, Central Queensland University, Australia

2004 – 2005 **Sulochana Shakya**, M.Sc. “Damage by *Frankliniella occidentalis* to strawberry: effect of pest density and interactions between its predators *Orius laevigatus* and *Neoseiulus cucumeris*” 2007, co-supervisor, guidance with Prof. Moshe Coll, Hebrew University, Faculty of Agriculture.

2006 – 2011 **Carmit Tal**, M.Sc. “Biological control of *Polyphagotarsonemus latus* bythe predaceous mite *Amblyseius swirskii*”, 2011, co-supervisor, guidance with Prof. Moshe Coll, Hebrew University, Faculty of Agriculture.

2006 – 2007 **Dr. Rakesh Gupta**, Post-doctoral candidate, “Efficacy of a predatory bug on thrips and whiteflies”.

2007 – 2011 **Saioa Legarrea Imizcoz**, Ph.D. “Selective physic-chemical barriers against insect vectors of virus diseases in vegetable crops”, 2011, co-supervisor, guidance with Prof. Alberto Fereres Castiel, Universidad Politecnica de Madrid.

2009- 2014 **Itai Opatovsky**, Ph.D. “Interactions between web-building immigrant and agrobiont spider species and the effect on wheat pest consumption”. “in progress”, co-supervisor, guidance with Prof. Yael Lubin, Ben Gurion University of the Negev, Sde Boker Campus. He was recently awarded the prestigious Comstock Award by the Entomological Society of America.

2011– 2013 **Huda Beiruti**, M.S. “Foraging behavior of spiders in wheat agroecosystem in the northwestern Negev”. 2013, co-supervisor, guidance with Prof. Yael Lubin, Ben Gurion University of the Negev, Sde Boker Campus.

2014–2016 **Mengqi Zhang**, M.S. “Effect of seed hormonal treatment on the whole plant tolerance to insects.” Co-Supervison, guidance with Prof. Shimon Rachmelvitch, Ben Gurion University of the Negev, Sde Boker Campus.

## V. Membership in Scientific and Agricultural Committees

**A. Local:**

2002 – 2006 Co-Treasurer for the Entomological Society of Israel

2003 Member, Organizing Committee for the 23th Conference of the Entomological Society of Israel

2005 – 2006 Membership chairman for the Entomological Society of Israel

1. Member/Judge, Organizing Committee for the 25th Conference of the Entomological Society of Israel

**B. International**:

2005 – 2009 Elected: Council Member International Organization of Biological Control/Western Palearctic Regional Section

2006 – 2007 Convener of IOBC/WPRS study group: Integrated Pest Management of Plant Feeding Mites

2007 – present International Scientific Committee, International Phytoplasmologist Working Group

2009 – 2013 Chair working group 2 (Epidemiology and vector ecology) and COST country representative “Integrated Management of Phytoplasma Epidemics in Different Crop Systems”

2009 – 2013 Elected: Vice President, Council Member International Organization of Biological Control-Western Palearctic Regional Section

## VI. Editorial Responsibilities

1980 – present Reviewer for:

 Annals of Applied Biology, Annals of the Entomological Society of America,

 BioControl, Biological Control, Bulletin of Insectology, Crop Science,

Entomologia Experimentalis et Applicata, Environmental Entomology,

 Experimental and Applied Acarology, Insect Science and Its Application,

International Journal of Acarology, Journal of the American Mosquito Control Association, Journal of Economic Entomology, Journal of Insect Science, Journal of Pest Management, Journal of Phytopathology, Pest Management Science, Pesticide Biochemistry and Physiology, Phytoparasitica, Plant Pathology

2003 – 2015 Editorial Board, *Phytoparasitica*

2006 – 2015 Subject editor *Journal of Economic Entomology*

2007 – present Subject editor *The Open Entomology Journal*

2011 – present Editorial Board, *Phytopathogenic Mollicutes*

2007 Editor: **Phyllis G. Weintraub**, IOBC/WPRS Bulletin volume 30(5) *Integrated Control of Plant-Feeding Mites*

2009 Co-editor E. Palevsky, **P.G. Weintraub**, U. Gerson, S. Simoni : IOBC/WPRS Bulletin volume 40 *Integrated Control of Plant-Feeding Mites*

2010 Book editor: **Phyllis G. Weintraub** & Phil Jones, Phytoplasmas – Genomes, Plant Hosts and Vectors, CABI , 331pp.

2010 Co-editor Abstract Book, Kenes HaNegev, *Root and Tuber Vegetable in the Negev*

2012 Co-editor D. Perdikis, **P. Weintraub**, A. Lucchi IOBC-WPRS Bulletin volume 79

 *Integrated Protection of Olive Crops*

2013 Co-editor C.G. Athanassiou, N.G. Kavallieratos, **P.G. Weintraub**, IOBC-WPRS Bulletin volume 81, *Integrated Protection of Stored Products*

2013 Co-editor E. Palevsky, J. Ridsdill-Smith, **P.G. Weintraub**, U. Gerson, S. Simoni, J. McMurtry, R. Zemek: IOBC/WPRS Bulletin volume 93 Integrated Control of Plant-Feeding Mites

2014 Co-editor C.G. Athanassiou, N.G. Kavallieratos, **P.G. Weintraub**, IOBC-WPRS Bulletin volume 98, *Integrated Protection of Stored Products*

2015-present **Editor-in-Chief**, Journal of Insect Science

VII. Participation In International Meetings

1983 16th Annual Meeting, Society for Invertebrate Pathology at Cornell University, Ithaca, New York, U.S.A. (**Poster** **presenter**)

1984 17th Annual Meeting, Society for Invertebrate Pathology at University of California, Davis, U.S.A. (**Speaker**)

1985 Annual Meetings, American and New Jersey Mosquito Control Associations, Atlantic City, NJ, U.S.A. (**Speaker**)

1992 Bi-annual Meeting, National Conference on Urban Entomology, University of Maryland, College Park, MD, U.S.A. (**Speaker**)

1996 XX International Congress of Entomology, Firenze, Italy. (**Poster** **presenter**)

1998 Muck Crop Growers Annual Meeting, Celeryville, Ohio, USA, November 5, 1998. (**Speaker**)

1998 American Phytophathological Society/Entomological Society of America Joint Annual Meeting, Las Vegas, NV, USA, November 8-12, 1998. (**Organized and moderated Crop Protection Session, speaker**)

1999 XIVth International Plant Protection Congress (IPPC), Jerusalem, Israel, July 25-30, 1999. (**Session chair, speaker**)

2000 XXI International Congress of Entomology, Iguassu Falls, Brazil. (**Speaker**)

2001 Entomological Society of America, San Diego, CA, U.S.A. (**Speaker**)

2002 11th International Auchenorrhyncha Congress, Potsdam/Berlin, Germany. (**Session chair and speaker)**

2002 Meeting of the IOBC Nearctic and West Palearctic Glasshouse Working Groups, Victoria, British Columbia, Canada. May 6-9. (**Session chair and** **speaker**)

2003 **Invited Lecturer**, 4th National Integrated Pest Management Symposium, Indianapolis, IN, USA, April 8-10, 2003. Symposium organizer, moderator and speaker. Honorarium

2003 IOBC/WPRS meeting “Integrated Control in Protected Crops, Mediterranean Climate”, Agadir, Morocco. (**Speaker**)

2004 ISHS International symposium on “Protected Culture in a Mild-Winter Climate”, Kissimmee, Florida. (**Speaker**)

2004 XV International Plant Protection Congress, Beijing, China, May 2004. (**Speaker**)

2004 XXII International Congress of Entomology, Brisbane, Australia, August 15-21, 2004. Additionally, organized and conducted a workshop on Insect Vectors of Phytoplasmas (**Speaker**)

1. 2nd International Biological Control Congress, Davos, Switzerland. (**Poster presenter**)

2005 **Keynote Speaker**, session moderator, IOBC/WPRS WG-Meeting on IPM in Glasshouses, Turku, Finland. Partial reimbursement (airfare).

2005 **Invited Lecturer**, 1st Phytoplasma Workshop, Havana Cuba. Keynote speaker. Honorarium

2005 **Invited Lecturer**, 1 Curso Internacional en Fitoplasma y Vectores de los Cultivos de Tomate, Papa y Durazno”, Santa Cruz, Bolivia Keynote speaker, workshop organizer. Partial reimbursement (room and board).

2006 IOBC/wprs meeting “Integrated Control in Protected Crops, Mediterranean Climate”, Murcia, Spain. (**Session chair, speaker**)

1. Entomological Society of America, San Diego, CA, U.S.A. (**Speaker**)

2007 **Keynote speaker**, XVI International Plant Protection Congress, Glasglow, Scotland, October 15-18, 2007 Full reimbursement airfare, room and board.

2007 K**eynote speaker**, International Phytoplasmologist Working Group, Bologna, Italy, November 12-15, 2007. Additionally poster presenter. Honorarium

2008 23rd International Congress of Entomology, Durban, South Africa. (**Speaker**)

2008 IOBC/WPRS meeting “Integrated Control of Plant-Feeding Mites”, Firenze, Italy (**Speaker**)

1. **Symposium organizer, Invited speaker**: Pollen and nectar-providing plants enhance biological control with parasitoids and predators, Entomological Society of America, Reno, Nevada, USA, 16-20 November, 2008
2. IOBC/WPRS meeting “Integrated Control in Protected Crops, Mediterranean Climate”, Crete, Greece. **(Session chair, speaker**)

2010 European Congress of Entomology, Symposium in Agricultural Entomology on Phytoplasmas: Can phytoplasma vectors be controlled? (**Speaker**)

#### 2010 European Congress of Entomology, Symposium in Agricultural Entomology on Biorational insecticides: UV-Absorbing Insect Exclusion Screens (IES):

An Important Tool for Biorational Control of Sweet Pepper Pests, (**Speaker**)

2010 58th Annual Meeting, Entomological Society of America, registration reimbursement (**Symposium co-organizer, speaker**)

2011 **Invited speaker** on Pests in Vineyards, 59th Annual Meeting, Entomological Society of America, registration reimbursement.

2011 2nd International meeting, International Phytoplasmologist Working Group, Neustadt, Germany. (**Session chair, speaker**)

2012 **Invited speaker and session chair**. COST joint meeting, ”Phytoplasmas, insect vector, symbionts and plant endophytes, Full reimbursement.

2012 IOBC/WPRS meeting “Integrated Control in Protected Crops, Mediterranean Climate”, Catania, Sicily, Italy. (**Poster presenter**)

2013 IOBC/WPRS “Integrated Protection of Stored Products”, Bordeaux, France. (**Session chair**)

2014 2nd Hermiptera-Plant Interactions Symposium, University of California, Riverside. (**Poster presenter**)

2014 Ecology & management of phytoplasma vectors in cassava crops. Hanoi, Vietnam (**Invited Speaker**) all expenses paid

2015 International Phytoplasmologist Working Group, Mauritius, (**Session chair**)

2015 IOBC/WPRS “Pheromones and Other Semio-Chemicals in Integrated Production” (**Organizer, Session chair**)

VIII. Invitation by Professional Societies in Israel

‏1996 **Speaker** 11th Conference of the Entomological Society of Israel, A Shoshana Yathom Memorial Meeting.

1998 **Speaker** 13th Conference of the Entomological Society of Israel, Physical Control of Pests in Protected and Outdoor Life in honor of Menachem Berlinger.

1999 **Speaker** 16th Conference of the Entomological Society of Israel, Research on Thrips.

2006 **Speaker** 7th Symposium in Memory of Merav Ziv, Ben-Gurion University, Sede Boqer Campus, The Zoological Society of Israel and the Israeli Entomological Society, “The use of predatory mites for biological control in vegetables”.

‏**IX. Membership in Professional Societies**

 Entomological Society of Israel

 Entomological Society of America

 International Organization for Biological and Integrated Control

**X. Contribution to the Scientific Community**

2007 Organization of an international meeting under the auspices of the IOBC-WPRS: “Integrated Control of Plant Feeding Mites”, Jerusalem, March 11-14, 2007.

2008 Organizing committee for Conference in the Negev, Eshel HaNasi, 1 day conference

2008 Developed the vector pages for the USDA Molecular Plant Pathology Laboratory; Phytoplasma Resource Center website (plantpathology.ba.ars.usda.gov/cgi-bin/resource/ phytovector.cgi)

2009 Organizing committee, for Conference in the Negev, Yotvata, two day conference, also served as group coordinator and Judge Student Poster Completion

2010 Organizing committee for Conference in the Negev, Eshkol, one day conference, organized and edited abstract book, Judge Student Poster Completion

2010 Developed the International Organization for Biological Control page for *Wikipedia, the free encyclopedia*, and contributed to other sites on IPM, biological control, and related subjects

2010 Organizing committee for a week-long workshop: COST Action 0807, Psyllid Training School, phytoplasma vectors, capturing, identifying, PCR of phytoplasmas. Neustadt, Germany

2010 Organizing committee for a week-long workshop: COST Action 0807, Grapevine Yellows Vector Sampling and Monitoring Training School. Bernkastel-Kues, Germany

2011 Chair of organizing committee for a week long, international meeting under the auspices of the International Organization of Biological Control (IOBC-WPRS) meeting on ‘Integrated Production of Olive Crops’ held in Jerusalem.

2011 Organizing committee for 26th European Congress of Arachnology held on the Ben Gurion University campus at Sede Boqer.

2012 Organizing committee for a week-long workshop: COST Action 0807, Molecular tools to identify insect vectors of phytoplasmas.

2015 Organizing committee for a week long, international meeting under the auspices of the International Organization of Biological Control (IOBC-WPRS) meeting on ‘Pheromone and other semiochemicals in intergrated production’ held in Jerusalem.

2015 Scientific organizer and lecturer for Intensive Agriculture in Arid and Semi-arid Environments. 2-week international course in conjunction with CINADCO, MASHAV

**XI. Research Grants**

**A. International Competitive Grants**

‏2001 CDR Title: Control of the leafminer, *Liriomyza huidobrensis* in potatoes through IPM. Principal Investigator for 3 years.

 Budget: Total $200,000; Researcher’s part $101,000.

2002 CRAFT PF5 Title: Development of an environmentally friendly protection of sweet pepper and strawberry. Cooperating Investigator for 2 years.

 Budget: $267,693/year; Researcher’s part $2,000.

2004 CRAFT PF6 Title: Development of an economic rearing and transport system for an arid adapted strain of the predatory mite, *Neoseiulus* *californicus*, for spider mite control. Cooperative Investigator for 2 years.

 Budget: $1,222,500/year, Researcher’s part $39,000.

**B. National Competitive Grants**

1994 Chief Scientist of the Ministry Agriculture Grant. Title: Vacuum Sweeper for controlling vegetable and field pests. Cooperative investigator for 3 years.

 Budget: $22,000/year; researcher’s part $11,000/year.

1994 Chief Scientist of the Ministry of Science and The Arts Grant. Title: Vacuum Sweeping Vegetable Insect Pests to Reduce the Use of Insecticides. 131-0853-94 Cooperative investigator for 3 years.

 Budget: $17,000/year; researcher’s part $8,500/year.

1997 Chief Scientist of the Ministry of Agriculture Grant. Title: Biology and Population Dynamics of *Liriomyza huidobrensis*, the Pea Leafminer, in Potatoes and Celery. 131-1040-97 Principal Investigator for 3 years.

 Budget: $22,000/year; researcher’s part $22,000/year.

1998 Chief Scientist of the Ministry of Science Grant. Title: Reduction of Pesticide Use in Production of “Insect Free” Greenhouse Vegetables. Cooperative Investigator for 3 years.

 Budget: $10,000/year; researcher’s part $5,000/year.

1998 Chief Scientist of Ministry of Agriculture. Title: Development of IPM for the Broad mite (*Polyphagotarsonemus latus*) in greenhouse peppers and cucumbers.

 Cooperative Investigator for 3 years.

 Budget: Total $23,000/year; researcher’s part $8,000/year.

1998 Chief Scientist of Ministry of Agriculture. Title: Control of Pests and Diseases in Organic Agriculture.

 Cooperative Investigator for 3 years.

 Budget: Total $23,000/year; researcher’s part $8,000/year.

1998 Chief Scientist of Ministry of Agriculture. Title: Epidemiology of "Yellows" Diseases in Grape and Carrot and Development of Tactics to Prevent its Spread” Cooperative Investigator for 3 years.

 Budget: Total $22,000/year; researcher’s part $10,000/year.

2000 Chief Scientist of Ministry of Agriculture. Title: Control of diseases and pests of organic tomatoes. Cooperative Investigator for 3 years.

 Budget: Total $17,500/year/ researcher’s part $4,000/year.

2000 Chief Scientist of Ministry of Agriculture. Title: Epidemiology of "yellows" diseases in wine grapes.

 Principal Investigator for1 year

 Budget: Total $30,000/year; Researcher’s part $4,000.

2002 Chief Scientist of Ministry of Agriculture. Title: Epidemiology of "yellows" diseases in *Limonium*.

 Cooperative Investigator for 3 years

 Budget: Total $18,000/year; Researcher’s part $6,000.

2002 Chief Scientist of Ministry of Agriculture. Title: Root stock in Grapes in the Golan. Cooperating Investigator for 3 years.

 Budget: Total $17,780/year; Researcher’s part $2,250/year

1. Chief Scientist of Ministry of Agriculture. Title: Diseases caused by phytoplasmas: epidemiology and control. Cooperating Investigator for 3 years.

 Budget: Total $72,000/year; Researchers part $12,000.

2002 Chief Scientist of Ministry of Agriculture. Title: Development of different aspects of organic agriculture. Cooperating Investigator for 3 years.

Budget: Total $72,000/year; Researchers part $0

2003 Chief Scientist of Ministry of Agriculture. Title: Testing the use of various rootstocks in wine grapes for the prevention of damage caused by phytoplasma. Cooperating Investigator for 3 years.

 Budget: Total $18,000/year; Researchers part $3,000.

2004 Chief Scientist of Ministry of Agriculture. Title: Biological control of spider mites with the predatory mite, *Neoseiulus californicus*.

 Principal Investigator for 3 years. Investigator for 3 years

 Budget: Total $18,000/year; Researchers part $8,000.

2006 Chief Scientist of Ministry of Agriculture. Title: Development of an integrated management program for organic pepper diseases and pests.

 Budget: Total $41,000/year, Researchers part $10,250

2008 Chief Scientist of Ministry of Agriculture. Title: Management of *Bemisia tabaci* in floriculture crops in the Arava Valley. Principal investigator for 3 years

 Budget: $26,000/year, Researchers part $17,140

2008 Chief Scientist of Ministry of Agriculture. Title: Augmentation of phytoseiid generalists with commercial applications of pollen. Cooperative investigator for 3 years

 Budget: $ 31,500/year, Researchers part: $14,300

2008 Chief Scientist of Ministry of Agriculture. Title: Identification of principal parameters in the epidemiology and molecular of the symptoms of the virus TSWV in different varieties of peppers and aspects of resistance. Cooperative investigator for 3 years

 Budget: $ 43,000/year, Researchers part $21,000

2008 Chief Scientist of Ministry of Agriculture. Title: Development of methods for evaluating the damage of the chilli thrips (*Scirtothrips dorsalis*) and is biology. Cooperative investigator for 3 years

 Budget: $43,000/year, Researchers part $21,000

2008 Chief Scientist of Ministry of Agriculture. Title: Identification and control of viruses in Calaniot. Cooperative investigator for 3 years

 Budget: $26,000/year, Researchers part $0

2009 Chief Scientist of Ministry of Agriculture. Title: Deploying and utilizing specialized and generalist predatory mites for the control of arthropod pests in green herbs. Cooperative investigator for 3 years

 Budget: $28,000/yr, Researchers part $14,000

2011 Chief Scientist of Ministry of Science and Technology. Title: Characterization of phytoplasmas in wild and cultivated plant species around vineyards with yellows disease.

 Cooperative investigator for 2 years

 Budget: $73,200/yr, Researchers part $10,000

2012 Chief Scientist of Ministry of Agriculture. Title: Management of the carrot yellow disease. Cooperative investigator for 3 years

 Budget: $ 267,000/yr, Researchers part $ 35,000

2014 Chief Scientist of Ministry of Agriculture. Title: Imparting insect resistance to leafy vegetable seedlings by seed treatment. Cooperative investigator for 3 years

 Budget: $ 40,000/yr, Researchers part $ 20,000

**C. Other Research Grants**

1995 Vegetable Board Grant (1 year). Title: Control of Celery Pests by a Vacuum Sweeper. Cooperative Investigator for 1 year.

 Budget: $ 7,000/year; researcher’s $3,500.

1996 Vegetable Board Grant (2 years). Title: Biology and Population Dynamics of *Liriomyza huidobrensis,* the Pea Leafminer in celery.131-0980-96. Cooperative Investigator for 3 years.

 Budget: $7,000/year; researcher’s $3,500.

1996 Vegetable Board Grant (2 years). Title: Biology and Population Dynamics of *Liriomyza huidobrensis,* the Pea Leafminer in potatoes 131-0938-96. Cooperative Investigator for 3 years

 Budget: Total $7,250/year; researcher’s $3,625.

1996 Vegetable Board Grant (1 year). Title: Control of Vegetable Pests by a Vacuum Sweeper. Cooperative Investigator for 1 year.

 Budget: Total $7,000/year; researcher’s $3,500.

1998 Vegetable Board Grant (1 year). Title: Control of Melon Pests by a Vacuum Sweeper. Cooperative Investigator for 1 year.

 Budget: Total $5,000/year; researcher’s $2,500.

1999 Vegetable Board Grant. Title: Population Dynamics and Control of *Liriomyza huidobrensis,* the Pea Leafminer in potatoes 131-0938-96. Principal Investigator 1 year.

 Budget: Total $5,000/year; researcher’s $5,000.

1999 Vegetable Board Grant. Title: Population Dynamics and Control of *Liriomyza huidobrensis,* the Pea Leafminer in celery. 131-0980-96. Principal Investigator for 1 year.

 Budget: Total $6,000/year; researcher’s $6,000.

2000 Vegetable Board Grant. Title: Population Dynamics *Liriomyza huidobrensis,* the Pea Leafminer in potatoes. Principal Investigator for 1 year.

 Budget: Total $4,000/year; researcher’s $4,000.

2000 Vegetable Board Grant. Title: Effects of Potato Cultivars on Populations of *Liriomyza huidobrensis,* the Pea Leafminer in potatoes. Principal Investigator for 1 year.

 Budget: Total $4,000/year; researcher’s $4,000.

2000 Vegetable Board Grant. Title: PCR analysis of the potential vectors of phytoplasma diseases in carrots. Principal Investigator for 1 year.

 Budget: $6,000/year; researcher’s $6,000.

2002 Vegetable Board Grant. Title: Vectors of Phytoplasmas in Carrots. Cooperative Investigator for 1 year

 Budget: Total $4,000, researchers part $2,000.

2003 Flower Board Grant. Title Vectors of Phytoplasmas in *Limonium*. Principal Investigator for 3 years

 Budget: Total $3,000, researchers part $3,000.

2008 MOP North-Central Arava. Title: Sampling *Amblyseius swirskii* in flowers and peppers.

 Principal Investigator for 1 year

 Budget: Total $5600

2008 Title: Research and development of Castor Bean and *Jatropha curcas* oil plants for their better usage as source for biodiesel, Brazil and India. Co-P.I. for 2 years

 Budget: Total $1,000,000, researchers part 2009 $6,250

1. Vegetable Board Grant. Title: Vectors of Phytoplasmas in Carrots.

 Budget: $18,000, researchers part for 1 year

2010 Vegetable Board Grant. Title: Monitoring and controlling aphid vectors of PVY in potatoes

 Budget: researchers part $10,000

2010 Cotton Board Grant. Development of methods for rearing pink bollworm for research

 Principal Investigator for 1 year

 Budget: $10,000/yr

2010 Cotton Board Grant. Monitoring resistance of *Bemisia tabaci* to cotton insecticides

 Principal Investigator for 1 year

 Budget: $10,000/yr

2010 Spainish Ministry of Agriculture: Integration of physical, chemical and biological tactics for managing insect pests and virus diseases. Cooperative Investigator for 3 years

 Budget: $206,000/yr, Researcher’s funds for travel to Spain

2010 BASF: Cross-resistance studies of the new BASF product (BASF-EXP 5599) against B and Q biotypes of *Bemisia tabaci.* Principal Investigator for 3 years

 Budget: $58,000/yr

2011 Cotton Board Grant Development of methods for rearing pink bollworm for research

 Principal Investigator for 1 year

 Budget: $10,000/yr

2011 Cotton Board Grant. Monitoring resistance of *Bemisia tabaci* to cotton insecticides

 Principal Investigator for 1 year

 Budget: $10,000/yr

2011 Title: Research and development of *Jatropha curcas* oil plants for use source for biodiesel, Italian, Mozambique

 Co- Principal Investigator for 2 years

 Budget: researchers $22,000

2012 Cotton Board Grant Development of methods for rearing pink bollworm for research

 Principal Investigator for 1 year

 Budget: $10,000/yr

2012 Cotton Board Grant. Monitoring resistance of *Bemisia tabaci* to cotton insecticides

 Principal Investigator for 1 year

 Budget: $10,000/yr

2012 Title: Research and development of Castor Bean and *Jatropha curcas* oil plants for their better usage as source for biodiesel, Brazil and India. Co-P.I.

 Budget: Total $1,000,000, researchers part 2009 $6,250

## XII. Awards and Scholarships

1974, 1975 Dean’s List, California State University, Northridge

1977-79 Graduate Dean’s List of University Scholars, CSU Long Beach

1979 Outstanding Academic Achievement in Biology, CSU Long Beach

1981, 1983 Jastro-Shields Graduate Research Award, UC Davis

1981, 1983 UCD Graduate Research Award, UC Davis

1997-1998 Giladi Research Award, Israel**Phyllis Gail Hotchkin Weintraub JANUARY 2016**

### PART II: LIST OF PUBLICATIONS

“All publications have been classified into five major categories: The letter following each number indicates the appropriate category.

a. Publications exclusively within the candidate’s research group (including graduate and post-graduate students, technicians, associated scientists, etc.).

b. Joint publications with other research group(s) in which the candidate plays the major primary role.

c. Joint publications with other research groups in which the candidate’s contribution is comparable in weight to that (those) of the other research groups.

d. Joint publications with other research groups in which the candidate’s group plays a secondary role.

**1. Articles in reviewed journals.**

1a. **Hotchkin, P.G.** (1981).

Comparison of virion proteins and granulin from a granulosis virus produced in two host species.

 *J. Invert. Pathol.* 38: 303-304. IF 2.421; Zoology, Rank 16/149

2a. Kaya, H.K. and **Hotchkin,** **P.G.** (1981).

 The nematode *Neoaplectana carpocapsae* Weiser and its effect on selected ichneumonid and brachonid parasites.

 *Environ. Entomol.* 10: 474-478 IF 1.606; Entomology, Rank 34/87

3a. **Hotchkin, P.G.** and Kaya, H.K. (1983).

Pathological response of the parasitoid, *Glyptapanteles militaris*, to virus infected armyworm hosts.

 *J. Invert. Pathol.* 42: 51-61. IF 2.421; Zoology, Rank 16/149

4a. **Hotchkin, P.G.** and Kaya, H.K. (1983).

 Interactions between two baculoviruses and several insect parasites.

 *Can. Entomol.* 115: 841-846. IF 0.942; Entomology, Rank 42/87

5a. **Hotchkin, P.G.** and Giblin, R.M. (1984).

 Comparison of electrophoretic protein profiles of some aphelenchoidid species.

 *Rev.Nematol.* 7: 319-320. IF 0.962; No longer published

6a. **Hotchkin, P.G.** and Kaya, H.K. (1985).

 Electrophoresis of soluble proteins from two species of *Xenorhabdus* bacteria mutualistically associated with the nematodes *Steinernema* spp. and *Heterorhabditis* spp.

 *J. Gen. Microbiol.* 130: 2725-2731. IF 3.313; Microbiology, Rank 42/116

7a. **Hotchkin, P.G.** and Kaya, H.K. (1985).

 Isolation of a protein adversely affecting the development of the internal parasitoid, *Glyptapanteles militaris*, from virus-infected hosts.

 *Arch. Insect Biochem. Physiol.* 2: 375-384. IF 1.378; Entomology, Rank 29/87

8a. **Hotchkin, P.G.** (1985).

 Duration of larval life of *Aedes aegypti* as affected by time of hatch.

*J. Am. Mosquito Contr.* 1: 489-492. IF 1.198, Entomology, 50/87

9a. Fritz, M.A., **Hotchkin, P.G.**, Fallon, A.M. (1986).

 Changes in ribonuclease activity during development of the mosquito, *Aedes aegypti*.

 *Comp. Biochem. Physiol.* 84B: 355-361. IF 2.092; Zoology, Rank 28/149

10a. **Hotchkin, P.G.** and Fallon, A.M. (1987).

 Ribosome metabolism during the vitellogenic cycle in *Aedes aegypti*.

*Biochimica et Biophysica Acta* 924: 352-359. IF 4.947; Biochemistry and Molecular Biology, Rank 60/290

11a. **Weintraub, P.G.** and Horowitz, A.R. (1995).

 The newest leafminer pest in Israel, *Liriomyza huidobrensis*.

 *Phytoparasitica* 23: 177-184. IF 0.910; Plant Sciences, Rank 122/195

12a. **Weintraub, P.G.** and Horowitz, A.R. (1996).

Spatial and diel activity of the pea leafminer (Diptera: Agromyzidae) in potatoes, *Solanum tuberosum*

 *Environ. Entomol.* 25: 722-726. IF 1.606; Entomology, Rank 34/87

13a. **Weintraub, P.G.**, Arazi, Y., and Horowitz, A.R. (1996).

 Management of insect pests in celery and potato crops by pneumatic removal.

 *Crop Protection* 15*:* 763-769. IF 1.598; Agronomy, Rank 28/78

14a. **Weintraub, P.G.** and Horowitz A.R. (1997).

Systemic effects of a neem insecticide on *Liriomyza huidobrensis* larvae.

*Phytoparasitica* 25: 283-289. IF 0.910; Plant Sciences, Rank 122/195

15c. Horowitz, A.R., **Weintraub, P.G.**, Ishaaya, I. (1998).

 Status of insecticide resistance in arthropod pests in Israel.

 *Phytoparasitica* 26: 231-240. IF 0.910; Plant Sciences, Rank 122/195

16d. Horowitz, A.R., Mendelson, Z., **Weintraub, P.G.** and Ishaaya, I. (1998).

 Comparative toxicity of foliar and systemic applications of two chloronicotinyl insecticides, acetamiprid and imidacloprid, against the cotton whitefly, *Bemisia* *tabaci*.

*Bull. Entomol. Res.* 88: 437-442. IF 2.081; Entomology, Rank 16/87

17c. Pluschkell, U., Horowitz, A.R., **Weintraub, P.G.**, Ishaaya, I. (1998).

DPX-MP062 - a potenet compound for controlling the Egyptian cotton leafworm, *Spodoptera littoralis*.

*Pestic. Sci.* 54: 85-90. IF 2.771; Entomology, Rank 5/87

18c. Kontsedalov, S., **Weintraub, P.G.**, Horowitz, A.R. and Ishaaya I. (1998).

Effects of insecticides on immature and adult western flower thrips, *Frankliniella occidentalis* (Pergande) (Thysanoptera: Thripidae).

*J. Econ. Entomol.* 91: 1067-1071. IF 1.781; Entomology, Rank 26/87

19a. **Weintraub, P.G.** and Horowitz A.R. (1998).

 Effects of translaminar versus conventional insecticides on *Liriomyza huidobrensis* (Blanchard) (Diptera: Agromyzidae) and *Diglyphus isaea* Walker (Hymenoptera: Eulophidae) populations in celery.

*J. Econ. Entomol.* 91: 1180-1185. IF 1.781; Entomology, Rank 26/87

20a. **Weintraub, P.G.** and Horowitz A.R. (1999).

 Management of the whitefly, *Bemisia tabaci* (Genn.), on melon by pneumatic removal.

*Ins. Sci. Applicat*. 19:173-178. IF 0.625; No longer published

21a. **Weintraub, P.G.** (1999).

Effects of cyromazine and abamectin on the leafminer, *Liriomyza huidobrensis* and its parasitoid, *Diglyphus isaea* in celery

*Ann. Appl. Biol*. 135: 547-554. IF 2.260; Agriculture, Multidisciplinary, Rank 5/57

22a. **Weintraub, P.G.** (2001).

Effects of cyromazine and abamectin on the leafminer, *Liriomyza huidobrensis* and its parasitoid, *Diglyphus isaea* in potatoes

 *Crop Protection* 20: 207-213. IF 1.598; Agronomy, Rank 28/78

23b. Klein, M., **Weintraub**, **P.G.,** Davidovich, M., Kuznetsova, L., Zahavi, T., Ashanova, A., Orenstein, S. and Tanne, E. (2001).

Monitoring phytoplasma-bearing leafhoppers/planthoppers in vineyards in the Golan Heights, Israel.

 *J Appl. Entomol* 125: 19-23. IF 1.480; Entomology, Rank 28/87

24a. **Weintraub, P.G.** (2001).

 Changes in the dynamics of the leafminer, *Liriomyza huidobrensis*, in Israeli potato fields.

*Intern’l J. Pest Manage.* 47: 95-102 IF 0.757; Entomology, Rank 54/87

25c. Palevsky, E., Soroker, V., **Weintraub, P.,** Mansour, F., Abu-Moach, F. and

Gerson, U. (2001).

How specific is the phoretic relationship between broad mite, *Polyphagotarsonemus latus* (Banks) (Acari: Tarsonemidae), and its insect vectors?

*Exp. Appl. Acarol.* 25: 217-224. IF 1.777; Entomology, Rank 22/87

26a. Orenstein, S.,\*\* Zahavi, T. and **Weintraub, P.G.** (2001).

 Survey of the distribution of phytoplasmas in wine grapes in the Golan Heights, Israel and development of specific primers.

*Vitis* 40: 219-223. IF 1.286; Horticulture, Rank 13/32

27c. Civelek, H.S., Yoldas, Z.and **Weintraub, P.G.** (2002)

 The parasitoid complex of *Liriomyza huidobrensis* (Blanchard, 1926) in cucumber

greenhouses in Izmir Province, western Turkey.

*Phytoparasitica* 30: 285-287. IF 0.910; Plant Sciences, Rank 122/195

28c. Civelek, H.S. and **Weintraub, P.G.** (2003).

Effects of bensultap on larval serpentine leafminers, *Liriomyza trifolii* (Buregess) (Diptera: Agromyzidae), in tomatoes.

 *Crop Protect.* 22: 479-483. IF 1.598; Agronomy, Rank 28/78

29a. **Weintraub, P.G.**, Kleitman, S., Mori, R., Shapira, N., and Palevsky, E. (2003).

Control of broad mites (*Polyphagotarsonemus* *latus* (Banks)) on organic greenhouse sweet peppers (*Capsicum* *annuum* L.) with the predatory mite, *Neoseiulus cucumeris* (Oudemans).

*Biol. Cont.* 27:300-309. IF 2.290; Entomology, Rank 20/87

30a. Orenstein S.\*\*, Zahavi T.,Nestel, D., Sharon, R., Barkalifa, M., and **Weintraub**

**P.G.** (2003).

Spatial dispersion patterns of potential leafhopper and planthopper (Homoptera) vectors of phytoplasma, and their associated phytoplasmas, in wine vineyards.

*Ann appli Biol* 142: 341-348. IF 2.260; Agriculture, Multidisciplinary, Rank 5/57

\*\*Post-doc

**Since Previous Promotion**

31d. Gera, A., Maslenin, L., Rosner, A., Zeidan, M., Pivonia, S. and **Weintraub, P.G.** (2004).

 A new disease in *Limonium* hybrids. I. Molecular identification

 *HortScience* 39:1056-1059 IF 1.122; Horticulture, Rank 12/32

32a. **Weintraub, P.G.**, Pivonia, S., Rosner, A. and Gera, A. (2004).

 A new disease in *Limonium* hybrids. II. Insect vectors.

 *HortScience* 39:1060-1061 IF 1.122; Horticulture, Rank 12/32

33a. **Weintraub, P.G.** and Orenstein, S. (2004).

 Potential leafhopper vectors of phytoplasma in carrots

 *Intern. J. Trop. Ins. Sci.* 24: 228-235. IF 0.300 No longer published

34c. Civelek, H.S. and **Weintraub, P.G**. (2004).

 Effects of two plant extracts on larval serpentine leafminers, *Liriomyza trifolii* (Burgess) (Diptera: Agromyzidae), in tomatoes

 *J Econ Entomol* 97:1581-1586. IF 1.781; Entomology, Rank 26/87

35c. Sharon, R., Soroker, V., Wesley, S.D., Zahavi, T., Harari, A., and **Weintraub, P.G.** (2005).

*Vitex agnus-castus* a preferred host plant for the phytoplasma vector, *Hyalesthes obsoletus*

 *J Chem Ecol* 31:1051-1063 IF 2.732; Ecology, Rank 55/136

36a. **Weintraub, P.G.** and Beanland, L. (2006).

 Review: Insect Vectors of Phytoplasmas

 *Annu. Rev. Entomol.* 51: 91-111 plus supplemental table IF 14.047; Entomology, Rank 1/87

37a. **Weintraub, P.G.** and Mujica, N. (2006).

 Systemic effects of a spinosad insecticide on *Liriomyza huidobrensis* larvae.

 *Phytoparasitica* 34: 21-24. IF 0.910; Plant Sciences, Rank 122/195

38a. **Weintraub, P.G.**, Kleitman, S., Alchanatis, V. and Palevsky, E. (2007).

 Factors affecting the distribution of a predatory mite on greenhouse sweet pepper.

 *Exp Appl Acarol* 42:23-35 IF 1.777; Entomology, Rank 22/87

39a**.** Gerson, U. and **Weintraub, P.G.** (2007).

Review: Mites for the control of pests in protected cultivation.

 Pest Manag. Sci. 63:658-676 IF 2.771; Entomology, Rank 5/87

40a. **Weintraub, P.G.** (2007).

 Review: Integrated control of pests in tropical and subtropical sweet pepper production.

 *Pest Manag Sci,* 63:753-760 IF 2.771; Entomology, Rank 5/87

41a. **Weintraub, P.G.** (2007).

 Insect vectors of phytoplasmas and their control – an update.

 *Bull Insectol* 60: 169-173 IF 0.440; Entomology, 75/87

42a. Sobolev, I., **Weintraub, P.** Gera A., Tam, Y., Spiegel, S. (2007).

Phytoplasma infection in the four o’clock flower (*Mirabilis jalapa* L.)

*Bull. Insectol.* 60: 281-282 IF 0.440; Entomology, 75/87

43a. **Weintraub, P.G.**, Gera A., Maslenin L., Spiegel, S., Zeidan M. (2007).

Diversity of the known phytoplasmas in Israel

*Bull. Insectol.* 60: 143-144 IF 0.440; Entomology, 75/87

44a. Wilson, M.R., **Weintraub, P.G.** (2007)

An introduction to Hemiptera phytoplasma vectors.

*Bull. Insectol.* 60: 177-178 IF 0.440; Entomology, 75/87

45a. Gera, A., **Weintraub, P.G.**, Maslenin L., Spiegel, S., Zeidan M. (2007).

A new disease causing stunting and shoot proliferation in Gypsophila is associated with phytoplasma.

 *Bull. Insectol.* 60: 271-272 IF 0.440; Entomology, 75/87

46a Cikman, E., Civelek, H.S., and **Weintraub, P.G.** (2008).

The parasitoid complex of *Liriomyza cicerina* (Rondani) (Diptera: Agromyzidae) on Chickpea (*Cicer arietinum* L.).

*Phytoparasitica* 36:211-216 IF 0.767; Plant Sciences, Rank 137/195

47a. **Weintraub, P.G.**, Pivonia, S. and Gera, A. (2008).

Physical control of leafhoppers

*J Econ Entomol.* 101:1337-1340. IF 1.781; Entomology, Rank 26/87

48a. Durmusoglu, E., Madanlar, N., **Weintraub, P.G.** (2008).

Active ingredient contents of “me-too” registered abamectin products and their efficacy differences on *Tetranychus cinnabarinus* (Boisduval) (Acari, Tetranychidae).

*Phytoparasitica* 36:231-241. IF 0.767; Plant Sciences, Rank 137/195

49a. **Weintraub, P.G.** and Palevsky, E. (2008).

Evaluation of the predatory mite, *Neoseiulus californicus*, for spider mite control on greenhouse sweet pepper under arid field conditions

*Exp. Appl.Acarol.* 45:29-37. IF 1.777; Entomology, Rank 22/87

50a. Shakaya, S**.,\*\* Weintraub, P.G.** and Coll, M. (2009).

Effect of pollen supplement on intraguild predatory interactions between two omnivores: the importance of spatial dynamics.

*Biol. Cont.* 50:281-287. IF 2.290; Entomology, Rank 20/87

51a. Legarrea, S\*\*., Karnieli, A., Fereres, A. and **Weintraub, P.G.** (2010).

Comparison of UV-absorbing nets in pepper crops: spectral properties, effects on plants and pest control

*Photochem. Photobiol.*, 86:324-330. IF 2.529; Biophysism Rank 40/72

52a. Shakaya, S**.,\*\*** Coll, M. and **Weintraub, P.G.** (2010).

The incorporation of intraguild predation into a pest management decision-making tool: the case of thrips and two pollen-feeding predators in strawberry

 *J Econ Entomol.* 103: 1086-1093. IF 1.781; Entomology, Rank 26/87

53a. Arthur, F.H., **Weintraub, P.G.** (2010).

 The impending collapse of the peer review system (and what we can do to prevent it)

 *Am Entomol*, 56:138-139. IF 0.939; Entomology, Rank 36/87

54a. **Weintraub, P.G.** (2010)

 Host plant tomentosity effects arthropod pest and parasitoid efficacy.

 *Israel J Pla Scis*, 58:143-148. IF 0.4417; Plant Sciences, Rank 184/195

55a. **Weintraub, P.G.**, Pivonia, S., Steinberg, S. (2011).

 How many *Orius laevigatus* are needed for effective western flower thrips, *Frankliniella occidentalis*, management in sweet pepper?

 *Crop Protection*, 30:1443-1448. IF 1.598; Agronomy, Rank 28/78

56a. Gera, A., Meslenin, L., **Weintraub, P.**, Mawassi, M. (2011).

 Phytoplasma and spiroplasma diseases in ornamental and open field crops in Israel

 *Bull. Insectol.* 64:53-54 IF 0.440; Entomology, 75/87

57a. Gerson, U., **Weintraub, P.G.** (2012).

 Mites (Acari) as a factor in greenhouse management

 *Annu. Rev. Entomol.* 56: 229-247. IF 14.047; Entomology, Rank 1/87

58b. Hermann, I., Bernstein, M., Karnieli, S.A., Bonfil, D.J. and **Weintraub, P.G.** (2012).

 Spectral monitoring of two-spotted spider mite damage to pepper leaves

 *Remote Sens. Lett.* 3:277-283. IF 1.615; Remote Sensing, Rank 10/27

59a. Legarrea, S.\*\*, **Weintraub, P.G.**, Plaza, M., Vinuela, E., and Fereres, A. (2012).

 Dispersal of aphids, whiteflies and their natural enemies under UV-absorbing nets.

 *BioControl,* 57:523-532. IF 2.102; Entomology, Rank 10/87

60a. Opatovsky, I.\*\*, Chapman, E.G., **Weintraub, P.G.**, Lubin, Y., Harwood, J.D. (2012).

 Molecular characterization of the differential role of immigrant and agrobiont generalist predators in pest suppression.

 *Biol Cont* 63:25-30 IF 2.290; Entomology, Rank 20/87

61a. Johnson, A.J., **Weintraub, P.G.**, Katoch, R., Schemerhorn, B.J. and Shukle, R.H. (2012).

 Biological and molecular characterization of Hessian fly (Diptera: Cecidomyiidae) from Israel

 *Bull Entomol Res* 8:1-12. IF 2.081; Entomology, Rank 16/87

62a. Iasur-Kruh, L, **Weintraub, P.**, Mozes-Daubea, N. Robinson, W., Perlman, S., Zchori-Fein, E. (2013).

 Characterization of a novel *Rickettsiella* in the leafhopper *Orosius albicinctus* (Hemiptera: Cicadellidae).

 *Appli. Environ. Microbiol*. 79:4246-4252. IF 4.406; Biotechnology and Applied Microbiology, Rank 30/159

63a. Hoch, H. Wessel, A., Aschel, M., Baum, D., Beckmann, F., Bräunig, P., Ehrig, K., Mühlethaler, R., Riesemeier, H., Staude, A., Stelbrink, B., Wachmann, E., **Weintraub, P.**, Wipfler, B., Wolff, C., and Zilch, M. (2014)

 Non-sexual abdominal appendages in adult insects challenge a 300 million year old bauplan.

 *Curr. Biol.* 24:R16-17 IF 10.445; Biochemistry and Molecular Biology, Rank 19/290

64a. **Weintraub, P.G.,** Hoch, H., Mühlethaler, R., Zchori-Fine, E. (2014)

 Synchrotron X-ray micro-computed tomography as a tool for *in situ* elucidation of insect bacteriomes

*Arthrop. Struct. Devel.* 43:183-186. IF 2.488 Entomology Rank 6/87

65a. Johnson, A.J., Shukle, R.H., Chen, M.-S., Srivastava, S., Subramanyam, S., Schemerhorn, B.J. **Weintraub, P.G.**, Abdel Moniem, H.E.M., Flanders, K.L., Buntin, G.D., and Williams, C.E. (2015)

 Differential expression of candidate salivary effector proteins in field collections of Hessian fly, *Mayetiola destructor*.

 *Insect Molec. Biol.* 24:191-202 IF 3.059, Entomology, Rank 3/90

66a. **Weintraub, P.G.** (2015)

 The future of the Journal of Insect Science

 *Journal of Insect Science* 15:86 IF 1.025, Entomology Rank 45/92

67a. Sharon, R., Harari, A.R., Zahavi, T., Raz, R., Dafny-Yelin, M., Tomer, M., Sofer-Arad, **Weintraub, P.G.**, Naor, V. (2015)

 A yellows disease system with differing principal host plants for the obligatory pathogen and its vector.

 *Plant Pathology* 64:785-791 IF 2.12, Agronomy rank 17/82, Plant Sciences rank 63/204

68a. Opatovsky, I., Gavish-Regev, E., **Weintraub, P.G.**, Lubin Y. (2016)

 Various competitive interactions explain niche separation in crop-dwelling web spiders.

 *Oikos*, published online Jan IF 3.44, Ecology Rank 35/145

69a Opatovsky, I., **Weintraub, P.G.**, Musli, I., Lubin, Y. (2016)

 Use of alternative habitats by natural enemies in a desert agroecosystem

 *J. Arachnology* accepted IF 0.975, Entomology rank 62/92

70a Schuldiner-Harpaz, T., Coll, M., **Weintraub, P.G.** (2016)

 Prey and pollen food choice depends on previous diet in an omnivorous predatory mite.

 *Environmental Entomology*

**2. Reviewed Articles in Hebrew Journals**

1a. **Weintraub, P.G.** and Horowitz, A.R. (1996).

 Dynamics and population sampling of *Liriomyza huidobrensis*. (Hebrew)

 *Hassadeh* 76: 87-90.

**Since Previous Promotion**

2a. Opatovsky I., Musli I., **Weintraub P.G**., Lubin Y. (2013)

 Alternative habitats for use of agricultural and immigrant spiders in the agroecosystem of the northern Negev. (In Hebrew).

 *Ecology and Environment.* 1: 64-69.

**3. Books, Book Chapters and Invited Reviews**

1a. **Weintraub, P.G.** and A.R. Horowitz. (2000).

 Lutte contre les insects ravageurs a l’aide d’aspirateurs: l’experience Israelienne

In: *La Lutte Physique en Phytoprotection*. (C. Vincent, B. Panneton, F. Fleurat-Lessard, eds.), pp. 315-324. INRA, Paris, France.

2a. **Weintraub, P.G.** and A.R. Horowitz. (2001).

 Vacuuming Insect Pests: the Israeli Experience.

In: *Physical Control Methods in Plant Protection*. (C. Vincent, B. Panneton, F. Fleurat-Lessard, eds.), pp. 294-302. Springer, Germany.

**Since Previous Promotion, April 2004**

3a. **Weintraub, P.G.** and M.J. Berlinger (2004).

 Physical Control in Greenhouses and Field Crops.

 In: *Novel Approaches to Insect pest Management*. (A.R. Horowitz, I. Ishaaya, eds),

 pp. 301-318. Springer, Germany

4a. **Weintraub, P.G.** (2004).

 The pea leafminer, *Liriomyza huidobrensis* (Blanchard), (Diptera: Agromyzidae)

 In: *Encyclopedia of Entomology* (J.L. Capinera, ed.)

 pp. 1648-1649 Kluwer Academic Publishers, Dordrecht, The Netherlands

5a. **Weintraub, P.G.** (2004)

 Insect Vectors of Phytoplasmas

 In: *Encyclopedia of Entomology* (J.L. Capinera, ed.)

 pp. 2431-2432 Kluwer Academic Publishers, Dordrecht, The Netherlands

6a. Vincent, C., **Weintraub, P.G.**, Hallman, G.J., Fleurat-Lessard, F. (2008)

 Insect management with physical methods in pre- and post-harvest situations.

 In: Integrated Pest Management eds. E.B. Radcliff, W.D.Hutchison and R.E. Cancelando

 pp. 309-323 Cambridge University Press

7a. Vincent, C., **Weintraub, P.G.**, and Hallman, G.J. (2009)

 Physical control of insect pests.

In: Encyclopedia of Insects, eds. R.T. Cardé and V.H. Resh, 2nd ed., pp. 794-798. Academic Press

8a. **Weintraub, P.G.** (2009).

 Physical control: an important tool in pest management programs.

In: Biorational Control of Arthropod Pests: Application and Resistance Managements pp 317-324.

 Springer, Germany

9a. **Weintraub, P.G.**, and M.R. Wilson (2010).

 Control of Phytoplasma Vectors

In: Phytoplasmas – Genomes, Plant Hosts and Vectors, eds. P.G. Weintraub and P. Jones,

 CABI, England

 pp 239-255.

10a. **Weintraub, P.G.** (2012).

 Virus- and Bacteria-transmitting Arthropod Vectors and their Management

In: Integrated Pest Management, eds D.P. Abrol and U. Shankar

CABI, England

 Pp 351-369.

11a. Oliver, C., Vincent, C., Saguez, J., Galka, B., **Weintraub, P.G.**, Maixner, M. (2012).

Leafhoppers and planthoppers: their bionomics, pathogen transmission and management in vineyards.

 In: Bostanian, N. J., R. Isaacs & C. Vincent (Eds.) Arthropod Management in Vineyards: Pests, Approaches, and Future Directions. pp. 253-270 Springer, Dordrecht, The Netherlands. 504 p.

 Pp 253-270.

12a. **Weintraub, P.G.** (2012).

 Physical control methods

 In: Giordanengo, P., C. Vincent, & A. Alyokhin (eds) Insect Pests of Potato, Global Perspectives on Biology and Management

 Chapter 17, 499-516.

13a. **Weintraub, P.G.**, and Gross J. (2012).

 Vector sampling in Phytoplasma: Methods and Protocols, eds M. Dickinson and J. Hodgetts, Methods in Molecular Biology, CRC Press

 Chapter 6, 61-72

14a. Jarausch, B., and **Weintraub, P.G.** (2014)

 Psyllid vectors of plant pathogens

 In: Maramorosch, K & Mahmood F. (eds) Rearing Animal and Plant Pathogen Vectors

 Chapter 18, 330-350.

15a. **Weintraub, P.G.**, Recht, E., Mondaca, L., Harari, A.R., Diaz, B.M., and Bennison, J. (2016)

 Pest Management in organic vegetable greenhouses

 In: Pest Management in Organic Farming., Vacante, V., Kreiter, S., (eds)

 CABI Publishing, in press

16a. Harari, A.R., Sharon, R., and **Weintraub, P.G.** (2016)

 Chapter 6, Manipulation of insect reproductive systems as a tool in pest control

 Horowitz, A.R. and Ishaaya, I. (eds)

 Springer Germany in review

**5. Articles in non-reviewed journals.**

1a. **Weintraub, P.G.**, Horowitz, A.R., Ben-Yakir, D., and Arazi, Y. (1995).

 Biology and control of the new leafminer in Israel, *Liriomyza huidobrensis*: Short review and update of the situation in Israel.

 *Hassadeh* 75: 87-90. (in Hebrew).

2a. Zvieli, E., Arazi, Y., Ganmor, B., Gamliel, A., Horowitz, R. and **Weintraub, P.** (1996).

 Insect suction replaces pesticides.

 *Agricul. Machin. & Engin.* 3: 44-46 (in Hebrew).

3a.  **Weintraub, P. G.** and A. R. Horowitz.(1996).

 Management of *Liriomyza huidobrensis* in spring celery.

 *Gan Sadeh Va’Meshek* 10: 48-53 (in Hebrew).

4a. **Weintraub, P. G.** and A. R. Horowitz.(1996).

 Dynamics and population movements off the pea leafminer in potatoes.

 *Hassadeh* 5: 36-43 (in Hebrew).

5a. **Weintraub, P.**, Horowitz, R., Arazi, Y. and Laniado, M. (1997).

 Control of the whitefly, *Bemisia tabaci* in melon using a field vacuum.

 *Hassadeh* 5: 36-38 (in Hebrew).

6a. **Weintraub, P. G.** and A. R. Horowitz.(1997).

 Biology and dynamics of populations of the pea leafminer in potatoes.

 *Gan Sadeh Va’Meshek* 11: 56-62 (in Hebrew).

7a. **Weintraub, P.**, S. Kleitman, and A.R. Horowitz. (1998).

 Pea leafminer in celery.

 *Gan Sadeh Va’Meshek* 11: 66-70 (in Hebrew).

8a. **Weintraub, P**., S. Kleitman, R. Mori, R. Horowitz (1998).

 Biology and control of populations of the pea leafminer in potatoes

 *Gan Sadeh Va’Meshek* 12: 52-54 (in Hebrew).

9a. **Weintraub, P**., S. Kleitman, R. Mori, R. Horowitz (1998).

 Biology and dynamics of populations of *Lirimoza huidobrensis* in potatoes.

 *Potato Research Summaries 1997/8;* 99-104. (in Hebrew)

10a. **Weintraub, P**., S. Kleitman, and R. Mori. (1999).

Comparison of the efficacy of translaminar insecticides against *Liriomyza* *huidobrensis* in potatoes.

 *Potato Research Summaries 1998/9;* 77-83. (in Hebrew)

11a. **Weintraub, P**., S. Kleitman, and R. Mori. (2000).

 Biology and control of populations of *Liriomyza huidobrensis* in potatoes.

 *Gan Sadeh Va’Meshek* 6: 41-44. (in Hebrew)

12a. **Weintraub, P**. (2000).

 Vacuuming the pests.

 *Mashuv Haklaut* 144: 29-31 (in Hebrew)

13a. Greenberger, A., Efrat, Y., Horowitz, R., **Weintraub, P.** (2001).

 Comparison of the means of control: research into the means of getting clean leaf

Vegetables in covered enclosures.

*Gan Sadeh Va’Meshek* 3: 57-60. (in Hebrew)

14c. Visser, D. and **Weintraub, P.** (2001).

 Outbreak of the potato leafminer – comparisons between Israel and South Africa.

 *Chips* 15(2): 38-39.

15a. **Weintraub, P.**, Kleitman, S., Horowitz, R. and Gimenez, M. (2001).

Control of *Frankliniella occidentalis* in organic greenhouse peppers in the central Arava.

*Annual Research Summaries M.O.P. Arava 1999/2000* 114-117. (in Hebrew)

16a. **Weintraub, P.**, Kleitman, S., Horowitz, R., Palevsky, E., Gimenez, M. (2001).

 Control of the broad mite in organic greenhouse peppers in the central Arava.

*Annual Research Summaries M.O.P. Arava 1999/2000* 118-123. (in Hebrew)

17c. Visser, D. and **Weintraub, P.** (2001).

 Potato leafminer – lessons from Israel

 *Chips* 16 (4): 39-41

18a. **Weintraub, P.G.,** Shapira, N., Chiel, E., and Steinberg, S. (2002).

Effect of various release schedules of *Eretmocerus mundus* on the control of *Bemisia tabaci* in organic greenhouse peppers, in Israel – preliminary results.

*IOBC/WPRS Bulletin* 25:301-304.

19a. **Weintraub, P.G.**, Kleitman, S., Mori, R., and Berkalifa, M. (2002).

 Effect of Palladium on whiteflies in organically grown tomatoes.

 *Gan Sadeh Va’Meshek* 3: 41-42. (in Hebrew)

20c. Civelek, H.S., **Weintraub, P.G.**, and Durmusoglu, E. (2002).

The efficacy of two different neem [*Azadirachta Indica* A Juss (Melacaeae)] formulations on the larvae of *Liriomyza huidobrensis* (Blanchard) and *Liriomyza trifolii* (Burgess) (Diptera: Agromyzidae)

*Internat’l. J. Dipterolog. Res.* 13:87-91.

21a. **Weintraub, P.G.**, Kleitman, S., Mori, R., Shapira, N., and Palevsky, E. (2003).

Control of broad mites, *Polyphagotarsonemus* *latus,* on greenhouse sweet peppers with the predatory mite, *Neoseiulus cucumeris* and its effect on western flower thrips, *Frankliniella occidentalis*.

 *Gan Sadeh Va’Meshek* 4:40-48. (in Hebrew)

22a. **Weintraub, P.G.** and Palevsky, E. (2003).

 Distribution and diel movement of the predatory mite, *Neoseiulus cucumeris*, on greenhouse sweet pepper – preliminary study

 *IOBC/WPRS Bulletin* 26:89-94.

23a Gera, A., Alexandrov, Maslenin, L., Rosner, A., Antignus, Y., Lampel, M., Masika, Y., **Weintraub, P.** and Ziedan, M. (2003).

Cyclamen: A new disease caused by phytoplasma.

*Pracheem*. 25:58-60. (in Hebrew)

**Since Previous Promotion**

24a **Weintraub, P.G.** Kleitman, S., Palevsky, E. (2005).

 Diel movement of predatory mites (*Neoseiulus cucumeris*), reared in light or dark, on greenhouse sweet pepper.

 *IOBC/WPRS Bulletin* 28(1):313-316.

25a **Weintraub, P.G.**, Cheek, S. (2005).

Need for new biocontrol agents in greenhouse IPM – a European perspective

*IOBC/WPRS Bulletin* 28(1):317-324.

26b. Gera, A., Mor, Y, Navon, A., Uko, A, Moslinin, L. Moasi, M., Zhdan, M., **Weintraub, P.,**

 Speigel, S. (2005).

 New disease in *Gypsophyllia* caused by phytoplasma (in Hebrew)

 *The Flower World* Oct-Nov: 46-47.

27b. Kleitman, S., Khasdan, V., Ripa, M., Masika, Y., **Weintraub, P.**, Horowitz, R. (2006).

 The effect of insecticides on the predatory bug, *Nesidiocoris tenuis*

 *Gan, Sedah, u’Meshek* March, 30-33. (in Hebrew)

28a. **Weintraub, P.G**., Kleitman, S., Shapira, N., Argov, Y. and Palevsky, E. (2006) .

Efficacy of *Phytoseiulus persimilis* versus *Neoseiulus californicus* for controlling spider

mites on greenhouse sweet pepper.

*IOBC/WPRS Bulletin* 29(4):121-125.

29b. Argov, Y., Berkeley, M., Domeratzky, S., Melamed, E., **Weintraub, P.,** and Palevsky, E.

(2006).

Identification of pollens for small scale mass rearing of *Neoseiulus californicus* and a novel method for quality control.

*IOBC/WPRS Bulletin* 29(4):126-132.

30b. Spiegel, S., Gera, A. Sovelev, A., **Weintraub, P.,** Zhdan, M., (2006).

Phytoplasma in sweet cherries in the Northern Golan

*Alon Hanotea* 60(6):22-27. (in Hebrew)

31b. Sharon, R., Zahavi, T., Soroker, V., Harari, A., **Weintraub, P.** (2006).

 Abraham’s bush as a trap plant.

 *B’shvil HaTeva* 8:23-25. (in Hebrew)

32a. **Weintraub, P.**, Argov, Y.,Shaira, N., Palevsky, E. (2006).

 Biological control of spider mites by the predator, *Neoseiulus californicus*.

 Research Summary, R & D Arava, 2005-2006 6pp (in Hebrew)

33a. **Weintraub, P.,** Tal, C., Bar Lvan, Y, Keviter, R., Pivonia, S., Steinberg, S. (2007).

 Control of broad mites in pepper with the predatory mite *Amblyseius swirskii*.

 Maximum Yield, M.O.P. Arava, 62-64 (in Hebrew)

34a. Tal, C.\*\*, Coll, M. and **Weintraub, P.G.** (2007).

Biological control of *Polyphagotarsonemus latus* (Acari: Tarsonemidae) by the predaceous mite *Amblyseius swirskii* (Acari: Phytoseiidae).

*IOBC/wprs Bulletin* 30(5):111-115.

35a. **Weintraub, P.G.** (2008)

Vectors of Phytoplasmas

*Encyclopedia of Entomology* pp. 4052-4053

36a. Shapira, N., Yafa, A., Pivonia, S., Dobrenin, S., **Weintraub, P.**, Steinberg, S., Cohen, M., Rodman, R., Adler, U. (2008).

Biological control of western flower thrips in pepper with *Amblyseius swirskii*

*Research Summary, R & D Arava*, 2006-2007 (in Hebrew)

37a. Tal, C.\*\*, **Weintraub, P.**, Pivonia, S., Steinberg, S. (2008).

Biological control of the broad mite and western flower thrips with the predatory mite *Amblyseius swirskii*

*Research Summary, R & D Arava*, 2006-2007 (in Hebrew)

38a. Ben-Yakir, D., **Weintraub, P.**, Masika, Y. (2008).

 Thrips kikiyon (*Scirtothrips dorsalis*) and damage in *Liasanthus*

 *World of Flowers*, June-July, 24-25. (in Hebrew)

39a. Legarrea, S\*\*., Fereres, A., **Weintraub, P.G.** (2009).

Compatibility of *Amblyseius swirskii* with UV-absorbing nets.

*IOBC/WPRS Bulletin* 50:41-43.

40a. Dar, Z., Tzuriel, S., Rosner, A., Zig, U., **Weintraub, P.** (2009).

 Growing seed potatoes free of PVY in the fall

 *Potato Research Summary, 2007/2008* pp 8-12 (In Hebrew)

41a. Zig, U., Dar, Z., Rosner, A., **Weintraub, P.,** Shlevin, E. (2009).

 Growing seed potatoes free of PVY in the fall in the western Negev region

 *Potato Research Summary, 2007/2008* pp 13-16 (In Hebrew)

42a. **Weintraub, P.G**. and Chernoblsky, D. (2009).

 Phytoplasma in carrots

 *Mashov* 246: 28-29 (in Hebrew)

43a. **Weintraub, P.G**., Kleitman, S., Pivonia, S., Steinberg, S. (2009)

 Control of western flower thrips: effects of two predators and treatment for powdery mildew.

*IOBC/WPRS Bulletin* 49:189-194.

44a. Opatovsky, I\*\*, **Weintraub, P.G.** (2009).

 Newly established pest in Israel: Castor thrips

 *Mashov* 247: 42-43 (in Hebrew)

45a. **Weintraub, P.G.**, Kleitman, S., Mori, R., Gan-Mor, S., Ganot, L., Palevsky, E. (2009)

 Novel application of pollen to augment the predator *Amblyseius swirskii* Athias-Henriot on greenhouse sweet pepper.

 *IOBC/WPRS Bulletin* 50: 119-124.

46a. Gan-Mor, S., Pivonia, S., Mizrach, A., Ronen, B., **Weintraub, P.G.** (2010).

 A new technology for application of freshly emulsified botanical pesticides

*Asp. Appl. Biol* 99: 395-400

47a. Gan-Mor,S., **Weintraub, P.G.,** Ronen**,** B., Argov, Y., Maoz, Y., Adar, E., and Palevsky, E.,(2010).

 An Electrostatic applicator for the enhancement of generalist predator populations for improving pest control on protected and orchard crops

 *Asp. Appl. Biol.*99: 425-430.

48a. **Weintraub, P**., Kleitman, S., Parker, D., Semne, T., Lievta, R., Yosel, A., Pivonia, S., Yaffa, A., Steinberger, S., Alush, A. (2010).

 Control of the western flower thrips in pepper by *Orius laevigatus* and *Amblyseius swirskii*

 *Maximum Yield* January pp. 16-22. [Hebrew]

49a. Klein, J.D., Duvdevani, H., Herskovitz, J., Feldman, P., Hebbe, Y., **Weintraub, P.G.** (2013)

 Seed treatment with trinexapac-ethyl induces resistance to whitefly (*Bemisia tabaci*) in lettuce (*Lactuca sativa* L.) seedlings

 *IOBC/WPRS Bulletin* 89: 367-371

50a. Tedeschi, R., Jarausch, B., Delec D., Weintraub, P (2013)

 Actual distribution of fruit tree and grapevine phytoplasma diseases and their vectors in Europe and neighboring regions.

 *Phytopath. Mollic.* 3:3-4.

51a. Jarausch, B., **Weintraub, P.** (2013)

 Spread of phytoplasmas by insect vectors.

 *Phytopath. Mollic.* 3:5-8.

52a. **Weintraub, P.G.** 2013

 Biological control of the broad mite

 2B Monthly August, pg 6.

53a. Tedeschi, R., Delic, D., Jarausch, B. **Weintraub, P.G.** (2014)

 Summary of questionnaire data for the presence of phytoplasma diseases and their putative vectors through Europe and Middle East

 *Petria*,

54a. **Weintraub, P.G.** , Hoch H. 2014

 Newly discovered planthopper appendage doesn’t fit the bauplan

 Entomology Today, 12 September

55a. Dafny-Yelin, M., Orbach, D., Brudoley, R., Shachar Barkai, R., Zahavi, T., Sharon, R., Tomer, M., Sofer-Arad, C., **Weintraub, P.**, Mawassi, M. Naor, V. (2015)

 The source plant for phytoplasma in the Israeli vineyards is still a mystery.

*Phytopathogenic Mollicutes* 5:S73-74

**6. Articles of symposia proceedings.**

1a. Sharon, R., **Weintraub, P.**, and Zahavi, T. (2003).

 Effect of rootstock on grapevine yellows – facts and explanations.

 14th ICVG Conference, pp73-74.

**Since Previous Promotion**

2a. **Weintraub, P.G**., Alchanatis, V. and Palevsky, E. (2004)

 Distribution of the predatory mite, Neoseiulus cucumeris, in greenhouse pepper.

 ACTA Horticulturae No. 659:281-285

3a. Palevsky, E., **Weintraub, P.G.**, Zchori-Fein, E. et al. (2005).

Development of an economic rearing and transport system for an arid-adapted strain of the predatory mite, *Neoseiulus californicus*, for spider mite control.\*

ICA, Amsterdam, The Netherlands

4a. Gera, A. Alexandrov, S. Zeidan, M., **Weintraub, P.G.** (2006)

 Phytoplasma diseases in ornamental crops in Israel

 11th International Symposium on Virus Diseases of Ornamental Plants. Taichung, Taiwan.

*ACTA Horticulturae* No. 722:155-161.

5a. **Weintraub, P.G.** (2007).

 Control of phytoplasma vectors

 Proceedings of the XVI International Plant Protection Congress, Glasgow, Scotland.

 1:134-135.

6a**.** Palevsky, E., **Weintraub, P.G.**, Zchori-Fein, E., Gal, S.,Mozes-Daube, N. (2009).

Development of an economic rearing and transport system for an arid-adapted strain of the predatory mite, *Neoseiulus californicus*, for spider mite control.

*Trends in Acarology* Proc of the 12th International Congress. 425-429.

7a.Gan-Mor, S., **Weintraub, P.G.,** Ronen, B., Argov, Y, Maoz Y., Adar, E., Palevsky, E. (2010).

 Electrostatic applicator for predators food deposition and population augmentation on pepper and avocado

*Asp. appl.Biol.* 99:425

8a. Gan-Mor, S., Mizrach, A., Elad, Y., Ronen, B., Egozi, H., **Weintraub, P.** (2010).

Development of on-site emulsifying device for production of cooking-oil-based presticides.

*Proceedings of the XVII World Congress of the International Commission of Agricultural Engineering*. Quebec City, Canada

9a. Horowitz, A.R., Breslauer, H., Rippa, M., Kontsedalov, S., Ghanim, M., **Weintraub, P.** Ishaaya, I. (2011).

 Dynamics of biotypes ‘A’ and ‘Q’ of *Bemisia tabaci* in cotton fields and their relevance to insecticide resistance.

 *Proc. World Cotton Res. Conf.* pp. 232-238

**Phyllis Gail Hotchkin Weintraub September 2013**

**PART III: List of Major Achievements**

My research focuses primarily on applied and field research in the following areas: 1) non-chemical pest control (physical and biological) in greenhouses, and 2) identification and characterization of phytoplasmas and their insect vectors. ‘Contributions to General Science’ are related to the ***development of methodologies and tools*** (part 1) and ‘Achievements in Applied Research’ to ***applied research, leadership in applied research and literature***.

**1. General Contributions to Agricultural Science**

 **a.** In conjunction with R & D at Sha’ar HaNegev and the agricultural engineering department at Volcani Center, I was involved in ***developing*** and evaluating a field-scale, tractor-driven vacuum device to remove and manage insect pests. Four papers (1: 12, 19; 5: 3, 6; 7: 8) were published. A portion of this work was presented nationally and internationally, and as a result I was invited to write two book chapters on vacuuming pests (3: 1, 2).

 **b.** I have been involved in several projects over the years on the ***development*** of more effective insect screening for greenhouses. Work initially involved working on the effects of treating greenhouse screening with insecticides and the effects of insecticides on plant photosynthesis (5:14), but more recently has focused on the effects of UV absorbing nets on both pests and natural enemies. A great many insects see in the UV range, so decreasing transmitted UV affects their behavior; pathogen-transmitting leafhoppers are adversely affected by reduced UV environments (1: 42) as are thrips and whiteflies (1: 46, 53; 5: 44).

 **c.** Predatory mites can be effective in biological control of pests in covered crops. However, because they have different diurnal rhythms, consume pollen to varying degrees, and are affected by various other biotic and abiotic factors, ***methods and technology needs to be developed*** for different groups of pests and predators. We had to learn about the biology, means of releasing and sampling these mites before they could be applied commercially. Further complicating the situation, broad mite pests, *Polyphagotarsonemus latus* are known to be phoretically distributed by another pest, whiteflies. We showed that of the four genera of whitefly tested, the level of attachment varied significantly (I 24). Some mites do better in the presence of pollen. Before ***developing methodology*** of pollen application, we first identified pollen that would promote the growth and development (5: 30) for both mass rearing and for application on greenhouse plants.

 **d.** Modern greenhouses are highly automated and through work with a graduate student on remote sensing we ***developed methodology*** to detect spider mite infestations on a very low level (1: 52; 5: 70, 71).

 **e.** Most of the methods I developed were related be better pest control, however, with the pea leafminer, *Liriomyza huidobrensis*, I ***developed*** an analysis to determine if it really was a pest in potatoes or just a fear of the potato growers.

**2. Achievements in applied research specifying major contributions to agriculture in Israel and abroad.**

**1) Applied research**

 **a**. The first project I worked on the management of the leafminer pests, *Liriomyza huidobrensis*. Although I did a great deal of work on the fly both nationally and internationally, I could never find damage in Israel in terms of yield loss. An analysis of kibbutz records over 9 years (from 2 years before the fly’s arrival) and 7 potato varieties showed that there was no yield loss due to the leafminer ([www.agri.gov.il/en/people/ 850. aspx](http://www.agri.gov.il/en/people/%20850.%20aspx)). To date I am still contacted by various research and governmental bodies on the management of this pest. Most recently I contributed to the European Food Safety Authority (www.efsa.europa.eu/en/publications.htm).

 **b.** I did the initial work on *Neoseiulus cucumeris* and showed that it effectively controlled broad mites (1:28; 5: 25) lectured on the results to growers groups at various meetings. *One of our local biological control companies started mass rearing and commercialization of the mite (www.biobee.com).*  The predator was sold for a number of years to growers for both biological control and integrated pest management. It was eventually supplanted by *Amblyseius swirskii*, another general predator (5:35). As a direct result of my work *the company was able to expand their recommended applications to include for control of the broad mite.* Another biological control company is working on the development of a commercial rearing system for *Neoseiulus californicus* for control of spider mites.

 **c**. There are many insect exclusion screens available on the Israeli agriculture market, but the spectral qualities and their effects on both pests and beneficial arthropods have not been fully elucidated. As a result of work in my laboratory examining the effects of 7 different screens as compared to non-covered sweet pepper and the knowledge gained on the spectral qualities of these nets (I:49, V: 45) has influenced the commercialization of certain nets. I am still working closely with the company on other new ideas for improving net efficacy.

 **d**. With Dr. Gan Mor of the agriculture engineering department I collaborated on projects and published (5: 50, 51, 52; 6: 4) using the EPAVE (electrostatic pollen applicator and viscosity enhancer) for which Dr. Shmuel Gan-Mor holds the *patent* (12/984462, <http://www.freepatentsonline.com/y2011/0162266.html>).

 **e.** Biological control is not simply a matter of releasing natural enemies, as the cost of them directly affects growers profits. In two separate lines of research, in open fields and in greenhouses, we worked out optimum predator releases (*Orius laevigatus*) under various conditions. My graduate student Sulo Shakaya determined the effect of pollen supplements on intraguild predation and the number of *Orius* to be released in strawberry fields for the control of thrips (1: 45, 47). In greenhouse peppers, I showed that the number of *Orius* that were being purchased and released by growers was about twice the level needed for effective control (1:50). As *Orius* cost between $400-1000/1000 m2 greenhouse, the reduction represents a substantial saving to the growers.

 **f.** With collaborators in the US and Israel, we have developed molecular techniques to identify the origins of pests and determine the efficacy of predators. The Hessian fly, *Mayetiola destructor*, was thought to have been brought to the US by German (Hessian) troops during the American Revolution. However, the native home of the fly is thought to be the Middle East. I have been working in conjunction with researchers at the USDA in Indiana to determine, using microsatellite technology, the diversity of populations in the US and Israel (1: 54). All spiders are predators, but without molecular techniques it is difficult to determine what and how much is being eaten in the field. My PhD student, Ital Opatovsky, has been recognized by the Entomological Society of America as an outstanding student (Comstock Award) has recently published on the identification of spider stomach contents and their efficacy in biological control in wheat fields. (1:55)

**2) Leadership in applied research and literature**

 **a.** I was elected to the Council of the International Organization for Biological Control/west palaearctic regional section (IOBC-WPRS) and my first action was to recommend the formation of a new Study Group – IPM of Plant Feeding Mites. This was passed and I was designated the first meeting Convenor. The international meeting that I organized met with great success and the group is now an established Working Group. I edited the first Bulletin and was co-editor on the second and third for their meetings. Then and now, I serve as a liaison officer between certain working groups and the Executive Council. I was subsequently vote Vice President of the IOBC/wprs and have been serving in the office from January 2010 (until 2015). To promote biological control and integrated pest management, I became a recognized author for Wikipedia and wrote about the IOBC-WPRS. To each younger audiences and enter the social networking realm, I created and launched four Facebook pages for different working groups within the IOBC-WPRS in addition to upgrading the regular webpage ([www.iobc-wprs.org](http://www.iobc-wprs.org)).

 **b.** I was requested to sit on the Scientific Committee for the International Phytoplasmologist Working Group and was an invited keynote speaker for the first meeting. I assisted in writing a COST proposal in association with members of this group which was funded. I am one of the country representatives for Israel for that action and was elected to head the Working Group 2 (Epidemiology and Vector Ecology) within the action. As head of the WG, I have been instrumental in organizing 3 international Teaching Sessions on the identification of psyllid and leafhopper vectors of phytoplasmas by conventional and molecular techniques. Additionally I coordinated information gathering and composed and posted maps with the distributions of vectors of the five major phytoplasma-caused diseases in Europe and the Middle East ([www.costphytoplasma.eu/InsectVectors.htm](http://www.costphytoplasma.eu/InsectVectors.htm)). For the USDA, I created a table of know phytoplasma vectors on a world-wide basis which is posted on the USDA Molecular Plant Pathology Laboratory; Phytoplasma Resource Center website: plantpathology.ba.ars.usda.gov/ cgi-bin/ resource/phytovector.cgi. I was one of a few phytoplasmologist world-wide to interviewed and quoted in a Science (325:388-390) NewsFocus article.

 **c.** I have organized a number of symposia on a national and international basis. Workshop on phytoplasma vectors at the International Congress of Entomology in Brisbane, Australia, 2004. Symposium on “Pollen and Nectar-Providing Plants Enhance Biological Control with Parasitoids and Predators” at the Entomological Society of America meetings in 2008. I chaired the meeting on “Integrated Production of Olive Crops” under the auspices of the IOBC-WPRS, held in 2011 with an international attendance of about 80 people. I co-organized the 26th European Congress of Arachnology meeting in Israel in 2011.