

**SUMMARY OF QUALIFICATIONS**

An acknowledged world expert in the field of honey bee breeding with over 30 years experience in establishing and managing a closed population breeding program. An important accomplishment includes the development of techniques and equipment for the field of instrumental insemination of honey bees. Experience includes management Honey Bee Research Laboratories at the Ohio University State and the University of California, Davis, providing honey bee stock and assisting faculty, post-doctoral researchers, graduate and undergraduate students in honey bee research. Development of an independent research program focused on post-insemination survival of honey bee queens and the selection of behavioral traits including selection for resistance to pests and diseases. Additionally, extensive experience includes dispensing information in presentations, publications and instructional courses for both scientific and public audiences.

Activities and expertise include:

- Worldwide consulting in honey bee breeding and instrumental insemination.
- Training of beekeepers, research scientists and their staff in honey bee insemination, bee breeding and queen rearing techniques.
- Development and maintenance of the New World Carniolan Closed Population Breeding Program, 1981 to Present.
- Enhancement of domestic stocks through importation of germplasm to increase genetic diversity.
- Development of a Protocol for importation of honey bee germplasm.
- Recognized international authority on honey bee insemination techniques and specialized equipment.

**PROFESSIONAL EXPERIENCE****Washington State University**

Sept 2010 – Present

Honey Bee Research Extension Associate. 50% appmt.

Enhancement of honey bee stocks and improvement of colony health through breeding and incorporation of germplasm collected from superior stocks around the world. Provide information and conduct training sessions to assist beekeepers in maintaining healthy colonies for pollination.

**University of California, Davis**

May 2007 – Present

Staff Research Associate IV, Harry Laidlaw Honey Bee Research Facility.

50% appmt. As of Sept. 2010

Develop programs to enhance the ability of the California bee breeders to select and maintain breeding stock to supply industry demand. Continue to maintain selected lines of bees and improve these with semen collected from superior stocks abroad. Develop information and outreach programs to assist beekeepers in honey bee breeding methods. Provide instruction and in queen rearing and instrumental insemination.

## CURRICULUM VITAE

530-574-5716

SUSAN W. COBEY

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### **Ohio State University, Columbus, Ohio**

June 1990 – May 2007

Staff Apiarist, Rothenbuhler Honey Bee Laboratory

Coordination and technical support of projects related to bee genetics, bee behavior in collaboration with Prof. B. H. Smith and non-chemical controls of parasitic honey bee mites. Instruct annual courses, present seminars, workshops and presentations on queen rearing, instrumental insemination, bee breeding and bee related topics, nationally & internationally.

### **Honey Bee Insemination Service**

June 1990 – Present

Sole Proprietorship

Provide training and specialized equipment for instrumental insemination of honey bee queens. Custom instrumental insemination service and training. Provide custom genetic crosses for research and commercial stock.

### **Vaca Valley Apiaries, Vacaville, CA**

September 1982 – May 1990

General Partner & Owner

Establishment and operation of a diverse commercial beekeeping business devoted honey bee stock improvement. Development of the New World Carniolan Closed Population Breeding Program. Management of 1000 field colonies for queen production and pollination services. Production of 1500 queen mating nuclei for production of 5000 naturally mated queens annually.

### **USDA Bee Breeding & Stock Center, Baton Rouge, LA.**

January 1981 – August 1982

Biological Technician.

Technical assistance related to honey bee reproduction, instrumental insemination, semen storage, honey bee behavior and physiology. Queen rearing, management of field colonies, construction and maintenance of beekeeping equipment in collaboration with Dr. John Harbo.

### **University of California, Davis**

August 1978 – Oct. 1980

Biological Technician, Department of Entomology, Honey Bee Laboratory

Assist in federal research project studying honey bee behavior in collaboration with Drs. Norman Gary and Rebecca Brown-Westerdahl

### **Genetic Systems, Inc. Labelle, FL.**

January 1978 – July 1978

Laboratory Technician.

Instrumental Insemination of honey bee queens. Rearing and banking of queens and drones.

### **Kendal Apiaries. White Sulfur Springs, MT. MT.**

July 1977 October 1977

Beekeeper. Management of colonies for honey production.

### **Wenner Honey Farm, Glenn, CA.**

January 1977-June 1977

Beekeeper. Commercial production of honey bee queens.

## EDUCATION

University of Delaware, Newark, DE

Bachelor of Science, Entomology, 1976

Oregon State University, Corvallis, OR.

Student Exchange Program Entomology, 1975

## AWARDS AND FELLOWSHIPS

- Staff Citation for Excellence. University of California, Davis, 2009
- Outstanding Service To Beekeeping. Western Apicultural Society, 2009
- Distinguished Service Award. California State Beekeepers Association, 2009
- Gold Metal for DVD Production, Instrumental Insemination of Honey Bee Queens. International Apimondia Congress, 2007.
- Distinguished Staff Award. College Of Biological Science, Ohio State University, 2005
- Honorable Mention for Video Production Instrumental Insemination of Honey bee Queens. International Apimondia Congress, 1998.
- Ohio Leadership, Education, and Development Program Fellowship, Delegation IV, 1991 – 1993
- Young Beekeeper Of The Year Award. California State Beekeepers Association, 1986

## GRANTS

- Cobey,S. Cooperating Personnel: Pollard,J., Plante, C., Sheppard,W., Spivak,M., Judy Chen, Flenniken,M. Honey Bee Stock Improvement Program. Almond Board of California. 2010-2011. \$27,000.
- Cobey,S. Cooperating Personnel: Pollard,J., Plante, C., Sheppard,W., Spivak,M., Flenniken,M. Honey Bee Stock Improvement Program. Almond Board of California. 2009-2010. \$19,235
- Pollard,J., Plante, C., Cobey,S., Cooperating Personnel: Sheppard,W., Spivak,M., Flenniken,M. Development of Reproductive Testing Protocols For The Safe International Exchange Of Honey Bee Stocks To Enhance Proven Commercial Lines Through Selection and Increased Genetic Diversity. National Honey Board. 2009-2010. \$24,600
- Pollard,J., Plante, C., Flenniken,M. Cobey,S.,Development Of Protocols For The Safe International Exchange Of Honey Bee Eggs, Utilizing Pathogen Detection, And Pathogen Elimination Technologies. Foundation for the Preservation Of Honey Bees, American Beekeeping Federation. 2009-2010. \$16,000
- Cobey, S. Pollard ,J., Plante, C.Spivak,M., Sheppard,W., Chen,J. Honey Bee Stock Improvement Program. California Almond Board. \$38,500. 2008-2009.
- Cobey, S., Pollard ,J., Plante, C. Development of Reproductive Technologies to Facilitate the Safe International Exchange of Genetics in the Honey Bee. . National Honey Board. \$21,700. 2008-2009.
- Mussen, E., Cobey, S. Stock Improvement Pilot Program In Cooperation with Dr. Spivak, U.of MN. California State Beekeepers Assoc. \$10,000. 2008-2010
- Cobey, S. Honey Bee Stock Improvement Program. California State Beekeepers Assoc. \$35,300. 2008-2009.
- Cobey, S. OSU Critical Difference for Women, Professional Development Grant. \$600. 2004
- Cobey, S. New Hampshire Beekeepers Assoc. Selection For Tracheal Mite Resistance NWC Program. \$500. 1998
- Cobey, S. Spivak, M., Smith, B.H. California Apiary Board & California Almond Board. University of Minnesota. Breeding Honey Bees for Resistance to Mite Infestations Project. \$25,000. 1995-1996
- Sammataro, D., S. Cobey, B.H. Smith. California Department of Food and Agriculture. Integrated Pest Management Approach to the Control of Honey Bee Tracheal Mites. \$29,000. 1993-1995
- Sammataro, D., S. Cobey, B.H. Smith. California Department of Food and Agriculture. Control of Honey Bee Tracheal Mites With Natural Products: Testing of Vegetable Oil Formulations. \$6,000. 1992 – 1993.

**WORKSHOPS & PROJECTS, INTERNATIONAL**

- Instrumental Insemination Workshops. Hamilton, New Zealand. 2010
- Instrumental Insemination Workshops. Wheen Foundation. Richmond, Australia 2009
- Instrumental Insemination Workshop. Symposium Mundial de Criadores De Abejas Reinas E Inseminacion Apimondia Congress. Nuevo Vallarta, Nayarit, Mexico 2008
- Instrumental Insemination Workshop. Middle East Technical University, Department of Ankara, Turkey. 2008
- Summer Course, Gormanston. Federation Of Irish Beekeepers Assoc, Ireland. 2008.
- Instrumental Insemination Workshop. And Honey Bee Stock Improvement Project. Tandil, Argentina. Sponsor, Instituto Nacional de Tecno. Agropecuaria & Fondo Tecnologia Argentina -2005.
- Instrumental Insemination Workshop. Beaverlodge Bee Research Lab. Alberta, Canada. Sponsor- Agriculture & Agri-Food Canada -2004.
- Instrumental Insemination Workshop. Perth, Australia. Sponsor, Western Australia Beekeepers Assoc. & Western Australia Farmers' Federation -2003.
- Instrumental Insemination Workshop Veracruz, Mexico. Sponsored by the La Asociacion de Apicultores de Cosautlan, Veracruz -2003
- Instrumental Insemination Workshop. Tandil, Argentina. Sponsor, Instituto Nacional de Tecnologia Agropecuaria & Fondo Tecnologia Argentina -2003.
- Instrumental Insemination Workshop. San Rafael, Argentina. Sponsored by PROAPI, Argentina -2003.
- Closed Population Honey Bee Breeding Project. Sponsor, Colmenares Santa Ines SA, and Proyecto de Innovacion Tecnologica, Gobierno de Chile Chiloe Island, Vallenar, Valaparasio, Curico, and Ensenada, Chile -2001 to 2003.
- Queen Rearing Workshop. Jamaica. Sponsor, Ministry Of Agriculture -2002.
- Instrumental Insemination Workshops. Sponsor Australian Bee Breeders Association. Tocol Agricultural College, New South Wales and Boonah, Queensland, Australia -2001.
- Honey Bee Stock Improvement Project. Buenos Aires, Argentina. Sponsor: Facultad de Cs Veterinarias, Universidad Nacional del Centrodela Provincia de Buenos Aires and Instituto Nacional de Tecnologia Agropecuaria & Fondo Tecnologia Argentino -1999.
- Bee Breeding Project. La Asociacion de Apicultores de Coatepec, Mexico -1997 & 1998.
- Instrumental Insemination Workshop. Asociacion Estatal De Criadores De Abejas Reinas & Secretaria De Agricultura De Veracruz, Veracruz, Mexico -1996.
- Queen Rearing Techniques. Ontario Beekeepers, Tech. Transfer Course, Guelph, Ont. Canada. 1998
- Instrumental Insemination Workshop. Dokki, Egypt. Sponsor, Egyptian Ministry of Agriculture, Plant Protection Res. Inst. -1994.

**WORKSHOPS, NATIONAL**

Specialized Beekeeping Short Courses To Promote Stock Improvement

Taught Annually at University of California, Davis. 2008-Present.

Taught Annually at Ohio State University, 1998-2006.

The Art Of Queen Rearing.

Instrumental Insemination & Honey Bee Breeding.

Instrumental Insemination-Advanced Techniques.

Instrumental Insemination Workshop. Kentucky State Univ. Frankfort, Ky. 2003

Queen Rearing Workshop. Purdue University , Ind. 2001

Basic Aspects Of Bee Breeding, Workshop Team taught with Dr. Gard Otis.

Eastern Apicultural Society. Cape Cod, MA 2001

**MEDIA PRODUCTION**

Video/DVD Production:

- Executive Producer. DVD Instrumental Insemination of honey bee queens, English & Spanish. 2007.
- Executive Producer. VHS Video Instrumental Insemination of honey bee queens, English & Spanish 1998.

**INVITED SEMINARS**

**INTERNATIONAL**

La Inseminación Instrumental en Mantener Diversidad Genética y Programas de Mejora de la Acción de las Abejas Europeas de la Miel. XXIV Seminario Americano de Apicultura . Cuernavaca, Mexico July 26-31, 2010.

New World Carniolan Breeding Program & Genetic Diversity in the US. Buckfast Bee Breeders Assoc. Aua, Germany Mar. 6 & 7, 2010

Bee Breeding & The Importance Of Genetic Diversity. When Foundation Field Day Dec. 12<sup>th</sup>, 2009.

Cooperative Stock Maintenance and Development of Protocol for International Exchange of Honey Bee Germplasm. Apimondia International Beekeeping Congress, Montpellier France. Sept. 2009

The Future Of Stock Improvement. 2<sup>nd</sup> World Symposium Of Queen Bees and Artificial Insemination. Apimondia Congress. Nuevo Vallarta, Nayarit, Mexico 2008.

Symposium Organizer-Apimondia International Beekeeping Congress. Instrumental Insemination And Bee Breeding. Melbourne, Australia Sept. 2007

Beekeeping in the 21<sup>st</sup> Century. Apimonida. Melbourne, Australia. Sept. 2007.

Bee Breeding and Instrumental Insemination. Chilean National Beekeeping Conference. Valdivia, Chile May 2007.

Queen Rearing Techniques. British Beekeepers Association, Stoneleigh Park, Warwickshire, United Kingdom. April 2006

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- Innovations In Instrumental Insemination. British Beekeepers Association, Stoneleigh Park, Warwickshire, United Kingdom. April 2006
- The Varroa Species Complex and Methods of Control. Danish Beekeepers Association, Annual Conference, Nørgaards Højskole , Denmark March 2006
- Basic Bee Genetics & Methods of Selection. Danish Beekeepers Association, Annual Conference, Nørgaards Højskole, Denmark March 2006
- Innovations In Instrumental Insemination. Danish Beekeepers Association, Annual Conference, Nørgaards Højskole, Denmark March 2006
- Instrumental Insemination & Bee Breeding Workshop, Tandil, Argentina 2005
- Honey Bee Stock Improvement Project, Instituto Nacional de Tecnologia Balcarse, Argentina 2005
- Bee Breeding & Selection Methods. Innovations In Instrumental Insemination. Manitoba Beekeepers' Assoc. and Canadian Assoc. Of Professional Apiculturists Joint Convention. Winnipeg, Manitoba, Canada. 2004.
- Queen & Drone Rearing. Saskatchewan Beekeepers' Assoc. Saskatoon, Saskatchewan Canada -2003.
- Practical Bee Breeding Methods. Alberta Beekeepers Association. Tech. Transfer Workshop. Edmonton, Alberta, Canada 2004.
- The Honey Bee Super-Organism Concept. Honey Bee Mating Behavior & Field Dissection Of The Spermatheca. VXII Seminario Americano, Aguascalientes, Mexico 2003
- Manejo Genetico De Las Abejas. Inseminacion Instrumental. Seminario Apicola Internacional. Rancagua, Chile 2003.
- Varroa Species Complex & Strategies for Sustainable Control. British Columbia Honey Producers Assoc. Convention. Nanaimo, British Columbia 2001.
- The Varroa Species Complex. Limitations of Chemical Treatment And Selection For Traits That Confer Resistance. Seminario Americano de Apicultura. Tepic, Nayarit, Mexico 2001.
- A Sustainable Solution to Current Industry Concerns: Selective Breeding & Non -Chemical Mite Controls. Understanding & Overcoming The Obstacles Unique To Honey Bee Breeding. Alberta Beekeepers Assoc. Convention. Edmonton, Alberta, Canada 2000.
- Honey Bee Breeding Programs In The U.S. Ribeirao Preto, Brazil. Sponsor, University of SaoPaulo, Genetics Department 1999.
- Selective Breeding and Stock Maintenance. Symposium Organizer. International Apimondia Congress Vancouver, Canada 1999.
- Field Performance Of Instrumentally Inseminated & Naturally Mated Honey Bee Queens. Congreso Ibero Latinoamericano de Apicultura. Merida Yucatan -1998.
- Honey Bee Selection Methods For Stock Improvement. Universidad Nacional Autonoma De Mexico. Facultad De Medicina Veterinaria & Zootecnia Mexico City, Mexico 1998.
- Instrumental Insemination Techniques. Tropical Bee Conference, International Bee Research Assoc. San Jose Costa Rica 1998.
- Bees & Mites, and Potential Breeding Solutions. Nova Scotia Beekeepers Association. Kentville, NS, Canada 1996
- Instrumental Insemination & Bee Breeding Methods. Seminario Americano De Apicultura. Colima, Mexico 1996.

The New World Carniolan Breeding Program. Sponsor, French National Queen Breeders Association. France 1995

Selection Methods for Bee Breeding. Seminario Americana De Apicultura. Tuloca, Mexico 1993.

INVITED SEMINARS

NATIONAL

Mating Is Risky Business. Iowa State Beekeepers Assoc. Nov. 6, 2010

The Challenge of Stock Improvement. Northwest Corner Beekeeping Conference. Mt Hood, OR. Oct. 28-30, 2010

Honey Bee Breeding & Why Our Progress is Slow. Western Apicultural Society Aug 31, 2010

Developing a Protocol for the international Exchange of Honey Bee Germplasm. American Assoc. of Professional Apiculturists. Orlando, FL. Jan., 2010

Bee Breeding Programs Around the World. American Beekeeping Federation. Orlando, FL Jan. 2010

Stock Importation & Developing a Protocol for the international Exchange of Honey Bee Germplasm. American Honey Producers Sacramento Jan. 5-9, 2010.

Update on Stock Importation Project. Calif. Bee Breeders Assoc. Jan. 2010.

Developing a Protocol for Stock Importation. California State Beekeepers Assoc. Nov. 17-19, 2009

Genetic Diversity & the Benefits of Being Promiscuous. Wisconsin Beekeepers. Assoc. Nov. 6 & 7<sup>th</sup> 2009

Queen Rearing. Puget Sound Beekeepers Oct 25<sup>th</sup>, 2009

Update on Stock Importation Project. Calif. Bee Breeders Assoc. Oct, 2009

The Benefits of Being Promiscuous. Western Apicultural Society Aug 17<sup>th</sup>, 2009

Rebuilding the UCD Bee Lab. American Beekeeping Federation, 2008

Honey Bee Genetic Diversity & Its Impact. Washington State Beekeepers Assoc. 2008

New Projects at the UCD Bee Lab. Colorado Beekeepers Assoc. 2007

21<sup>st</sup> Century Beekeeping. American Honey Producers Assoc. Phoenix, AZ. 2007

Bee Breeding & Future Possibilities. California State Beekeepers Assoc. Lake Tahoe, CA. 2006

Instrumental Insemination Techniques & Queen Performance. Oregon State Beekeepers Assoc. Newport, OR. 2006

21<sup>st</sup> Century Beekeeping. Washington State Beekeepers Assoc. Bellingham, WA. 2006

The Honey Bee Genome & Breeding Possibilities. American Beekeeping Federation Convention. Louisville, KY. 2006

The Honey Bee Genome, Bee Breeding, & Future Possibilities. Bee School. Asheville, NC. 2006.

Bee Breeding & Future Possibilities. California Bee Breeders Beekeepers Assoc. Ord Bend, CA. 2005

Queen & Drone Rearing. Innovations In Instrumental Insemination & Queen Performance. Bee Breeding & Selection Methods. Kansas State Beekeepers Assoc. McPherson, KS -2005

Rearing High Quality Queens. New Jersey Beekeepers Assoc. Bordentown, NJ. 2005. Bee Genetics & Selection Methods. New Jersey Beekeepers Assoc. Bordentown, NJ. 2005.

Mating Biology & Assessing Queen Quality. New World Carniolan Breeding Program. Connecticut Beekeepers Assoc. New Haven, CT 2005.

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- Improvements In the NWC Breeding Program. Eastern Apicultural Society. Kent, OH -2005.
- Rearing Quality Queens and Drones. Innovations In Instrumental Insemination. South Carolina & North Carolina Beekeepers Assoc. Joint Convention. Rock Hill, NC. 2005.
- A Review of performance studies of instrumentally inseminated and naturally mated queens. Assoc. of Professional Apiculturists Reno, NV. 2005
- Queen & Drone Rearing and Simple Tests to Determine Their Quality. Georgia State Beekeepers Assoc. Athens, GA -2004.
- Honey Bee Breeding: Constraints And Opportunities. North Dakota Beekeepers Association Bismarck, ND. 2004.
- Honey Bee Breeding: Selection Methods. Rearing High Quality Queens & Drones. Wisconsin Honey Producers Assoc. Manitowoc, WI. 2004.
- Selective Breeding: The Complexities of Breeding. Empire State Honey Producers Association. Owego, NY. 2004.
- A Versatile Multi-Purpose Queen Rearing System. Iowa Honey Producer's Association Marshalltown, IA. 2003.
- Principles Of Bee Genetics & Selection Methods -Panel Discussion: Breeding For Varroa Control Eastern Apicultural Society. Cornell Univ. Ithaca, NY. 2002.
- The Carniolan Advantage. Queen Production and Bee Breeding. PA. State Beekeepers Association. Lewisburg, PA. 2001.
- Selecting Bees for Hygienic Behavior and Resistance to Tracheal Mites. VA. State Beekeepers Assoc. Lynchburg, VA. 2001.
- Establishing A Breeding Program. Indiana Beekeepers Association Lafayette, IN. 2001
- The Complexities of Bee Breeding. Calif. State Beekeepers Assoc. Convention. Sacramento, CA 2001
- Michigan Bee School: Queen Rearing, Selection & Stock Maintenance. Livonia, MI. 2000.
- Chemical Overuse & Bee Breeding Alternatives. Ohio Bee Inspectors. Columbus, OH 2000.
- International Conference on Africanized Bees and Mites. Tucson, AZ -2000.
- Maintaining Superior Stocks. American Honey Producers. Assoc. Convention. Baton Rouge, LA. 1999.
- Queens: Problems and Solutions. Discussion Leader -Selecting For Mite Resistance. American Beekeeping Federation Nashville, TN. 1999.
- Queen Management. Western Pa. Beekeeping Seminar. Penn State Univ. Beaver, PA -1999.
- Rearing Quality Queens. New Hampshire Beekeepers Assoc. Manchester, NH. 1999.
- Queen Rearing. Eastern Apiculture Society. Marysville College. Knoxville, TN. 1999.
- Queen Rearing and Stock Selection Ind. Beekeepers Assoc. Ft. Wayne, IN. 1999.
- What it takes to raise your Own Queens. Oklahoma State Beekeepers Assoc. Oklahoma City, OK. 1999.
- Complexities Of Bee Breeding At The Commercial Level. American Beekeeping Federation Colorado Springs, CO. 1998.
- Field Performance of Instrumentally Inseminated and Naturally Mated Queens. American Bee Research Conference. Colorado Springs, CO. 1998
- Selection and Stock Maintenance. South Carolina Beekeepers Assoc. Clemson University, SC. 1998
- Queen Rearing. Indiana Beekeepers Assoc. Purdue Univ. IN. 1998.



- Races Of Bees. New World Carniolan Bee Breeding Program. Arkansas State Beekeepers Assoc. Little Rock AR. 1998.
- New World Carniolan Bee Breeding Program. Illinois State Beekeepers Meeting. Springfield, IL. 1998. Numerous presentations to local, state and national beekeeping organizations.

**PUBLICATIONS**

**PEER REVIEWED**

- Cobey, S., 2007. Comparison of instrumental inseminated and naturally mated honey bee queens and factors affecting their performance. A Review. *Apidologie* 38: 390-410.
- Ferguson, J. Cobey, S., Smith, B.H. 2001. Sensitivity to a change in reward is heritable in the honey bee, *Apis mellifera*. *Animal Behavior* (61) 527-534.
- Winston, M.L., Marceau, J., Higo, H. and Cobey, S. 1998. Honey Bee Pheromones Do Not Improve Re-queening Success. *Amer. Bee Jour.* Vol. 138:12 pp900-903.
- Benatar, S.T., S. Cobey, B.H. Smith. 1995. Selection on a haploid genotype for discrimination learning performance: Correlation between drone honey bees (*Apis mellifera*) and their worker progeny (Hymenoptera: Apidae). *Jour. of Insect Behav.* Vol. 8. pp. 637-652.
- Sammataro, D., S. Cobey, B.H. Smith, G. R. Needham. 1994. Controlling Tracheal Mites (Acari: Tarsonemidae) in Honey Bees (Hymenoptera: Apidae) with Vegetable Oil.. *J. Econ. Ent.* Vol. 87. No. 4 pp. 910-916
- Smith, B.H. and Cobey, S. 1994. Olfactory memory in the honey bee. II Blocking between odorants in binary mixtures. *J. Exo. Biol.* 195 pp. 91-108.
- Bhagavan, S. Benatar, S. Cobey, S. Smith, B.H. 1994. Effect of genotype but not age or caste on olfactory learning performance in the honey bee. *Anim. Behav.* 48, No 6 pp. 1357-1369.
- Cobey, S., Fondrk, K., Laidlaw, H.H. 1986. Instrumental Insemination: Adapting The Mackensen Plastic Tip For Use With The Glass Tip. *Bee World.* Vol. 67. No. 1 pp. 9-11.

**PUBLICATIONS, PROCEEDINGS**

- Cobey, S. Pollard, J., Plante, C., Sheppard, W. 2010. Honey Bee Stock Improvement Program. Almond Board of California.
- Cobey, S. 2010. The Use of Instrumental Insemination to Maintain Genetic Diversity In European Honey Bees. XXIV Seminario Americano de Apicultura. Cuernavaca, Mexico
- Pollard, J. and Cobey, S. 2009. Design and Testing of a Prophylactic Antibiotic Mixture During The Use with Extended Honey Bee Semen During International Genetic Exchange. Poster. Apimondia International Beekeeping Congress, Montpellier France.
- Cobey, S. 2009. Cooperative Stock Maintenance and Development of Protocol for International Exchange of Honey Bee Germplasm. Apimondia International Beekeeping Congress, Montpellier France.
- Cobey, S. Pollard, J., Plante, C., Sheppard, W. 2009. Honey Bee Stock Improvement Program. Almond Board of California.

- Cobey, S. 2008. El Futuro Del Mejoramiento Del Stock De La Abeja Melifera. Symposium Mundial de Cridores De Abejas Reinas E Inseminacion Proceedings. Apimondia Congress. Nuevo Vallarta, Nayarit, Mexico p. 130-131.
- Cobey, S. 2007. Symposia: Bee Breeding In the 21<sup>st</sup> Century. Comparison Studies of IIQ and NMQs. Melbourne, Australia Proceedings. Apimondia 40th Congress.
- Cobey, S., 2003. Innovations In Instrumental Insemination And the Super-Organism Concept. VXII Proceeding; Seminario Americano De Apicultura Aguascalientes, Mexico, Aug. 7-9, 2003 pp-95
- Cobey, S., 2003. Honey Bee Mating Behavior & Field Dissection Of The Spermatheca. Proceedings VXII Seminario Americano De Apicultura, Aguascalientes, Mexico, Aug. 7-9, 2003 pp 96-99
- Cobey, S., 2001. The Varroa Species Complex, Proceedings XV Seminario Americano de Apicultura Tepic, Nayarit, Mexico, Aug. 15 – 18, 2001.
- Cobey, S., 2001. Limitations of Chemical Treatment And Selection For Traits That Confer Resistance. Proceedings XV Seminario Americano de Apicultura Tepic, Nayarit, Mexico, Aug. 15 – 18, 2001
- Cobey, S. 1999. Symposia: Selective Breeding And Stock Maintenance. The New World Carniolan Breeding Project. . Proceedings. Apimondia XXXVI Congress.
- Cobey, S., 1998. A Comparison Of Colony Performance Of Instrumentally Inseminated and Naturally Mated Honey Bee Queens. Proceedings. American Bee Research Conference., Colorado Springs, CO. Amer. Bee Journal 138:4 :292.
- Cobey, S., 1998. Field Colony Performance of Instrumentally Inseminated And Naturally Mated Honey Bee Queens. Proceedings. VI Congreso Ibero-Latinoamericano de Apicultura Merida Yucatan Aug. 1998.
- Cobey, S., 1996. Techniques of Instrumental Insemination. Poster. International Tropical Bee Conference, International Bee Research Assoc.. San Jose Costa Rica. Aug. 1996.
- Cobey, S., 1995. Unique Obstacles and Strategies of Bee Breeding. Proceedings. IX Seminario Americano De Apicultura, Colima, Mexico Sept.1-3., 1995.
- Cobey, S., 1993. Practical field selection and evaluation methods for a large number of colonies. Proceedings. VI Seminario Americano De Apicultura, Tepic, Mexico, Sept.3-5., 1993.
- Cobey, S., 1992. Bee breeding systems and their practical application. VI Seminario Americano De Apicultura, Oaxtepec, Mexico, Sept.4-6., 1992. pp48-50.
- Cobey, S., 1992. Instrumental Insemination of honey bee queens. Proceedings. VII Seminario Americano De Apicultura, Oaxtepec, Mexico, Sept.4-6., 1992. pp38-40.

#### PUBLICATIONS, TRADE JOURNALS

- Cobey, S. 2010. Instrumental Insemination, A Historical Overview  
The Beekeepers Quarterly. No.100 Pp.70-73.
- Cobey, S. 2009. Instrumental I Insemination of Honey Bee Queens. Uludag Aricilik Dergisi Bee Jour. 9(4) 140-147
- Cobey, S. 2009. The Importance of Maintaining Genetic Diversity . Uludag Aricilik Dergisi Bee Jour. 9(6).

- Cobey, S. 2009. Genetic Diversity & Changes in the US Honey Bee Population. *Bee Cult.* 137:1:23-25.
- Cobey, S. 2009 Carnica In Chile. *Die Neue Bienenzucht.* 08/2009. Pp.272-274.
- Cobey, S. 2009. Genetic Diversity & Changes in the US Honey Bee Populaton. *Bee Cult.* 137:1:23-25.
- Cobey, S. 2008. "AJs Beetle Eater" A Simple, Non-Chemical, In Hive, Small Beetle Trap. *Amer. Bee Jour.* 148:1:43-44.
- Cobey, S. 2006. New World Carniolan Programme. *The Beekeepers Quarterly.* 84:27-30.
- Cobey, S. 2005. Jewels For The Queen: The new ruby jewel sting hook for instrumental insemination of queen bees. *The Beekeepers Quarterly.* No. 82. p43-44.
- Cobey, S, Lawrence, T. 2005. Bee Beards & Bee Bikinis. *The Beekeepers Quarterly.* 81: 16-19.
- Cobey, S, Lawrence, T. 2005. Bee Beards & Bee Bikinis. *Pasieka* No. 5 pg 44-47. (In Polish)
- Cobey, S. 2005. A versatile queen rearing and banking system. *Amer. Bee Jour.* 145:4:308-311 and 145:5:385-386.
- Cobey, S. 2005. Double Grafting. *Bee Culture* 133: 5: 27-28.
- Cobey, S.2005. Marking & Clipping Queens. *Bee Culture* 133:6: 48-49.
- Cobey, S 2004. New Zealand Bee Breeder David Yanke. *Amer. Bee Jour.* 144:4 pp296-299.
- Cobey, S 2004. Who Is Siring Your Queens? *Bee Cult.* 132:5, 27-28.
- Cobey, S. 2004. How Well Mated Are Your Queens? Use This Simple Field Test To Verify. *Bee Cult.* 132:4.
- Cobey, S 2003. The Extraordinary Honey bee Mating Strategy. Three part series. *Amer. Bee Jour.* 143:1 p. 67-69 ., 143:2 p.130-133., . 143:3 p. 217-220.
- Cobey, S and Schley, P. 2002. Innovations In Instrumental Insemination. *Amer. Bee Jour.* 142: 433-435.
- Cobey, S 2002. A Preference For Carnica In Chile. *Amer. Bee Jour.* 142: 343-346.
- Cobey, S. 2001. Beekeeping On The Only Mite Free Continent-Australia. *Amer. Bee Jour.* Vol. 141 (7) pp.495-499.
- Cobey, S. 2001. The Quest For Quality Queens. *Bee Culture* Vol. 129 (6) pp.18-19.
- Cobey, S. 2001. The Varroa Species Complex: Identifying Varroa destructor and New Strategies Of Control. *Amer. Bee Jour.* Vol. 194-196.
- Cobey, S. 1998. A Comparison Of Colony Performance Of Instrumentally Inseminated and Naturally Mated Honey Bee Queens. *Amer. Bee Journal* 138:4 :292.
- Cobey, S. 1998. The Threatened African Bee. *Bee Biz.* No. 8. pp.7-10.
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