

- Dively GP, Kamel A (2012) Insecticide residues in pollen and nectar of a cucurbit crop and their potential exposure to pollinators. *J Agric Food Chem* 60:4449–4456
- FAO (2014) FAO STAT. Food and Agriculture Organization of the United Nations. <http://faostat.fao.org/site/567/DesktopDefault.aspx?PageID=567#ancor>. Accessed 7 March 2014
- Feltham H, Park K, Goulson D (2014) Field realistic doses of pesticide imidacloprid reduce bumblebee pollen foraging efficiency. *Ecotoxicology* 23:317–323
- Fischer D, Moriarty T (2011) Pesticide risk assessment for pollinators: summary of a SETAC Pellston workshop. Society of Environmental Toxicology and Chemistry (SETAC), Pensacola
- Franklin MT, Winston ML, Morandin LA (2004) Effects of clothianidin on *Bombus impatiens* (Hymenoptera: Apidae) colony health and foraging ability. *J Econ Entomol* 97:369–373
- Gill RJ, Ramos-Rodriguez O, Raine NE (2012) Combined pesticide exposure severely affects individual- and colony-level traits in bees. *Nature* 491:105–108
- Gonzalez-Varo JP, Biesmeijer JC, Bommarco R, Potts SG, Schweiger O, Smith HG, Steffan-Dewenter I, Szentgyorgyi H, Wojciechowski M, Vila M (2013) Combined effects of global change pressures on animal-mediated pollination. *Trends Ecol Evol* 28:524–530
- Heinrich B (2004) Bumblebee economics. Harvard University Press, Cambridge
- Hoecherl N, Siede R, Illies I, Gaetschenberger H, Tautz J (2012) Evaluation of the nutritive value of maize for honey bees. *J Insect Physiol* 58:278–285
- Hurlbert SH (1984) Pseudoreplication and the design of ecological field experiments. *Ecol Monogr* 54:187–211
- Jeschke P, Nauen R, Schindler M, Elbert A (2011) Overview of the status and global strategy for neonicotinoids. *J Agric Food Chem* 59:2897–2908
- Krupke CH, Hunt GJ, Eitzer BD, Andino G, Given K (2012) Multiple routes of pesticide exposure for honey bees living near agricultural fields. *PLoS One* 7:e29268
- Laycock I, Lenthall KM, Barratt AT, Cresswell JE (2012) Effects of imidacloprid, a neonicotinoid pesticide, on reproduction in worker bumble bees (*Bombus terrestris*). *Ecotoxicology* 21:1937–1945
- Malone LA, Scott-Dupree CD, Todd JH, Ramankutty P (2007) No sub-lethal toxicity to bumblebees, *Bombus terrestris*, exposed to Bt-corn pollen, captan and novaluron. *NZ J Crop Hortic Sci* 35:435–439
- Michener CD (2007) The bees of the world. John Hopkins University Press, Baltimore
- Mommaerts V, Reynders S, Boulet J, Besard L, Sterk G, Smagghe G (2010) Risk assessment for side-effects of neonicotinoids against bumblebees with and without impairing foraging behavior. *Ecotoxicology* 19:207–215
- Morandin LA, Winston ML (2003) Effects of novel pesticides on bumble bee (Hymenoptera: Apidae) colony health and foraging ability. *Environ Entomol* 32:555–563
- Nguyen BK, Saegerman C, Pirard C, Mignon J, Widart J, Tuirionet B, Verheggen FJ, Berkvens D, De Pauw E, Haubruge E (2009) Does imidacloprid seed-treated maize have an impact on honey bee mortality? *J Econ Entomol* 102:616–623
- OCSPP (2012) White Paper in Support of the Proposed Risk Assessment Process for Bees. Office of Chemical Safety and Pollution Prevention, Office of Pesticide Programs, Environmental Fate and Effects Division, Environmental Protection Agency, Washington
- Oliver R (2012) The extinction of the honey bee? *Am Bee J* 152:697–704
- Pilling E, Campbell P, Coulson M, Ruddle N, Tornier I (2013) A four-year field program investigating long-term effects of repeated exposure of honey bee colonies to flowering crops treated with thiamethoxam. *PLoS One* 8:e77193
- Porrini C, Sabatini AG, Girotti S, Fini F, Monaco L, Celli G, Bortolotti L, Ghini S (2003) The death of honey bees and environmental pollution by pesticides: the honey bees as biological indicators. *Bull Insectol* 56:147–152
- Potts SG, Biesmeijer JC, Kremen C, Neumann P, Schweiger O, Kunin WE (2010) Global pollinator declines: trends, impacts and drivers. *Trends Ecol Evol* 25:345–353
- SAS (2012) JMP 10.0. SAS Institute, Cary
- Somerville D (2001) Nutritional value of bee collected pollen. Rural Industries Research and Development Corporation. NSW Agriculture, 176 pp. [http://www.nbba.ca/wp-content/uploads/2013/12/Nutritional\\_Value\\_of\\_Bee\\_Collected\\_Pollens.pdf](http://www.nbba.ca/wp-content/uploads/2013/12/Nutritional_Value_of_Bee_Collected_Pollens.pdf). Accessed 10 March 2014
- Stanley DA, Gunning D, Stout JC (2013) Pollinators and pollination of oilseed rape crops (*Brassica napus* L.) in Ireland: ecological and economic incentives for pollinator conservation. *J Insect Conserv* 17:1181–1189
- Szabo ND, Colla SR, Wagner DL, Gall LF, Kerr JT (2012) Do pathogen spillover, pesticide use, or habitat loss explain recent North American bumblebee declines? *Conserv Lett* 5:232–239
- Tasei JN, Lerin J, Ripault G (2000) Sub-lethal effects of imidacloprid on bumblebees, *Bombus terrestris* (Hymenoptera: Apidae), during a laboratory feeding test. *Pest Manag Sci* 56:784–788
- Tasei JN, Ripault G, Rivault E (2001) Hazards of imidacloprid seed coating to *Bombus terrestris* (Hymenoptera: Apidae) when applied to sunflower. *J Econ Entomol* 94:623–627
- Thompson H, Harrington P, Wilkins W, Pietravalle S, Sweet D, Jones A (2013) Effects of neonicotinoid seed treatments on bumble bee colonies under field conditions. Food and Environment Research Agency report. <http://www.fera.defra.gov.uk/scienceResearch/scienceCapabilities/chemicalsEnvironment/documents/reportPS2371Mar13.pdf>. Accessed 25 March 2014
- Turnock WJ, Kevan PG, Lavery TM, Dumouchel L (2007) Abundance and species of bumble bees (Hymenoptera: Apoidea: Bombinae) in fields of canola, *Brassica rapa* L., in Manitoba: an 8-year record. *J Entomol Soc Ont* 137:31–40
- Vanbergen AJ, Baude M, Biesmeijer JC, Britton NF, Brown MJF, Brown M, Bryden J, Budge GE, Bull JC, Carvel C, Challinor AJ, Connolly CN, Evans DJ, Feil EJ, Garratt MP, Greco MK, Heard MS, Jansen VAA, Keeling MJ, Kunis WE, Marris GC, Memmott J, Murray JT, Nicolson SW, Osborne JL, Paxton RJ, Pirk CW, Polce C, Potts SG, Priest NK, Raine NE, Roberts S, Ryabov EV, Shafir S, Shirley MDF, Simpson SJ, Stevenson PC, Stone GN, Tormans M, Wright GA (2013) Threats to an ecosystem service: pressures on pollinators. *Front Ecol Environ* 11:251–259
- vanEngelsdorp D, Meixner MD (2010) A historical review of managed honey bee populations in Europe and the United States and the factors that may affect them. *J Invert Pathol* 103:S80–S95
- vanEngelsdorp D, Evans JD, Saegerman C, Mullin C, Haubruge E, Nguyen BK, Frazier M, Frazier J, Cox-Foster D, Chen YP, Underwood R, Tarpy DR, Pettis JS (2009) Colony collapse disorder: a descriptive study. *PLoS One* 4:e6481
- Velthuis HHW, van Doorn A (2006) A century of advances in bumblebee domestication and the economic and environmental aspects of its commercialization for pollination. *Apidologie* 37:421–451
- Whitehorn PR, O'Connor S, Wackers FL, Goulson D (2012) Neonicotinoid pesticide reduces bumble bee colony growth and queen production. *Science* 336:351–352
- Whitlock MC, Schluter D (2009) The analysis of biological data. Roberts and Company Publishers, Greenwood Village
- Williams PH (1998) An annotated checklist of bumble bees with an analysis of patterns of description. *Bull Natl Hist Mus Lond (Ent)* 67:79–152

- Willmer P (2011) Pollination and floral ecology. Princeton University Press, Princeton
- Winston ML (1987) The biology of the honey bee. Harvard University Press, Cambridge
- Winfrey R, Aguilar R, Vázquez DP, LeBuhn G, Aizen MA (2009) A meta-analysis of bees' responses to anthropogenic disturbance. *Ecology* 90:2068–2076