

“Status of Pollinators in North America”, National Research Council, 2007; USDA-NASS

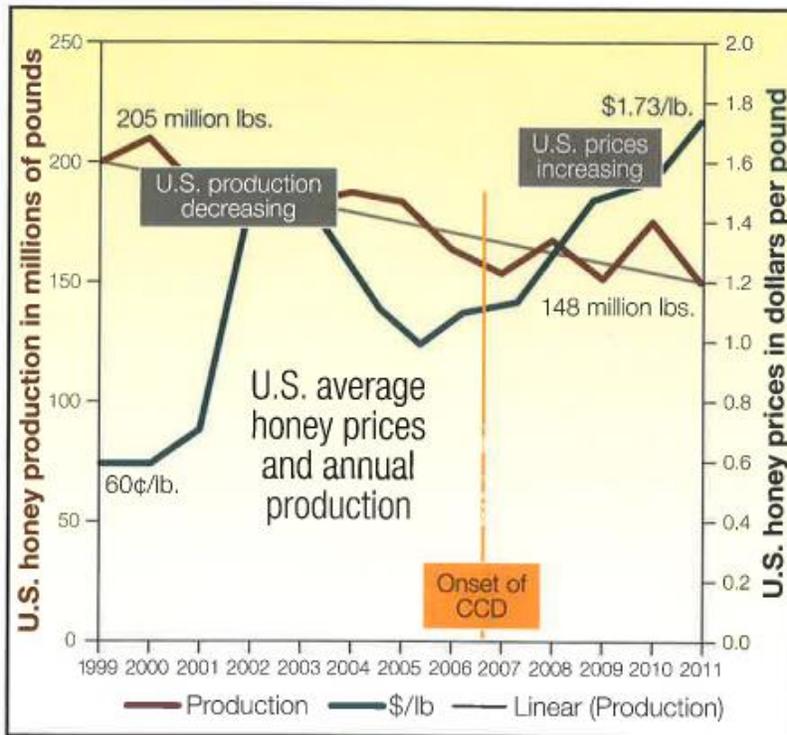


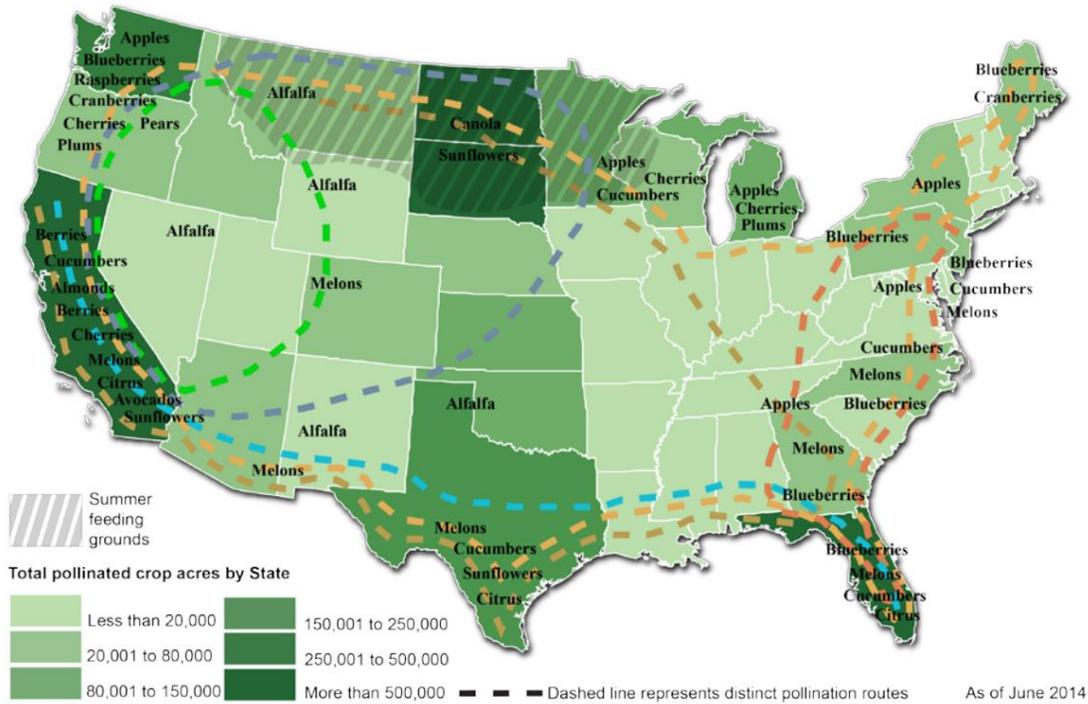
Figure C

Jerry Hayes, Monsanto Honey Bee Advisory Council from USDA-NASS data

Table 1: Top ten sources of pollination fees and shares in U.S., 2012

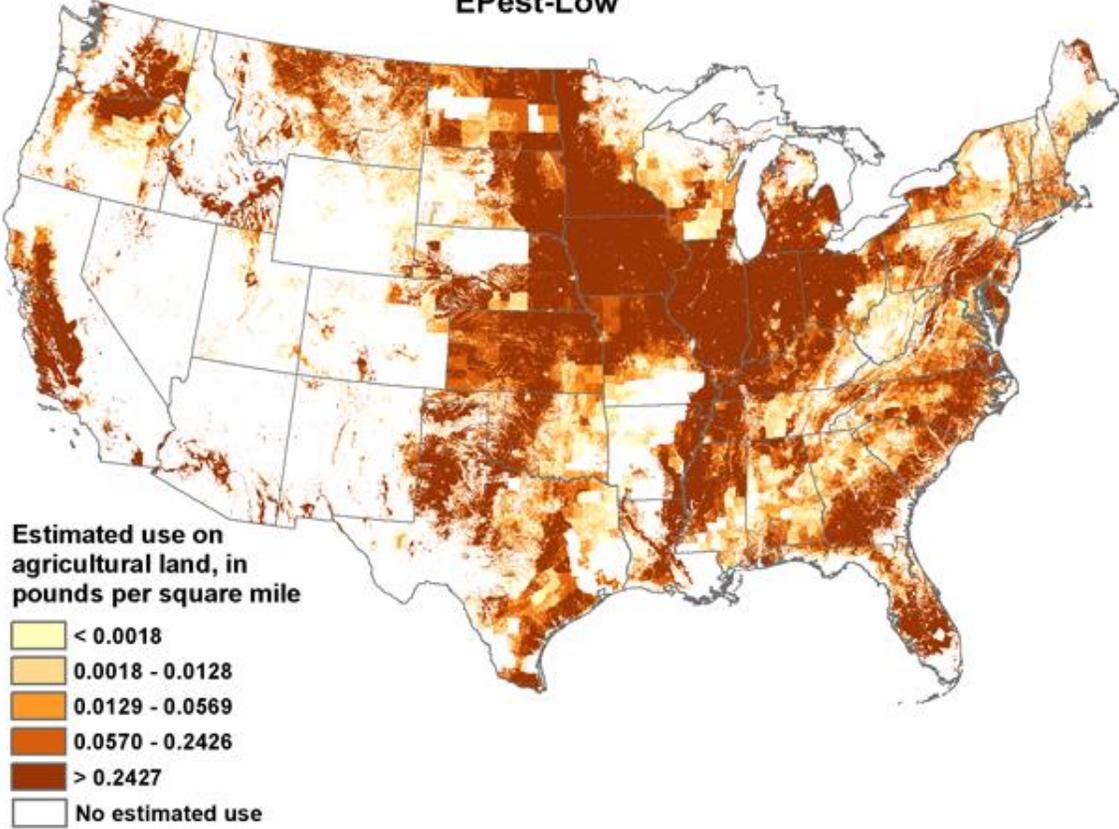
Crop	Pollination fees charged	Proportion of total collected fees
	---U.S. dollars---	---Percent---
Almonds	292,500,000	44.6
Sunflowers	110,460,000	16.8
Canola (seed)	108,927,000	16.6
Grapes	43,294,500	6.6
Apples	23,601,600	3.6
Sweet cherries	13,452,450	2.1
Watermelons	10,462,500	1.6
Dried prunes	8,525,000	1.3
Cultivated blueberries	8,215,200	1.3
Avocados	7,446,000	1.1
Total Top 10	626,884,250	95.6
<i>Other Crops</i>	<i>29,195,133</i>	<i>4.4</i>

Source: USDA, Economic Research Service calculations using data from USDA, Natural Resources Conservation Service and USDA, QuickStats data portal.

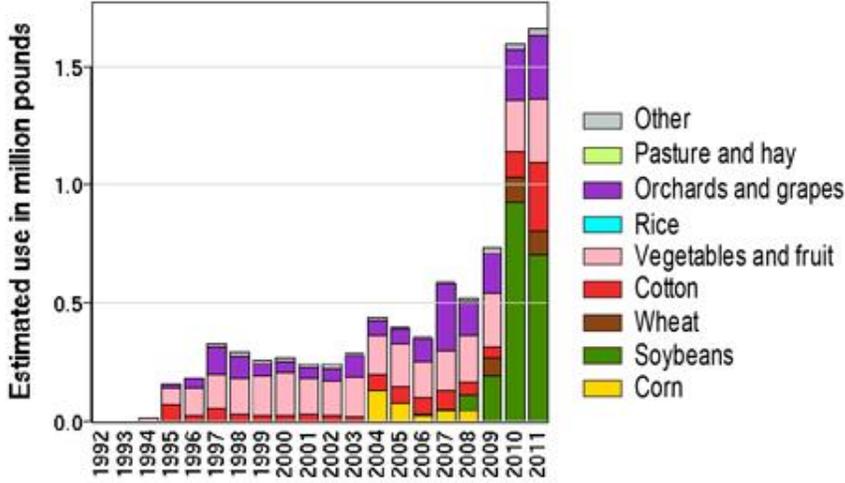


Estimated Agricultural Use for Imidacloprid , 2011

EPEst-Low



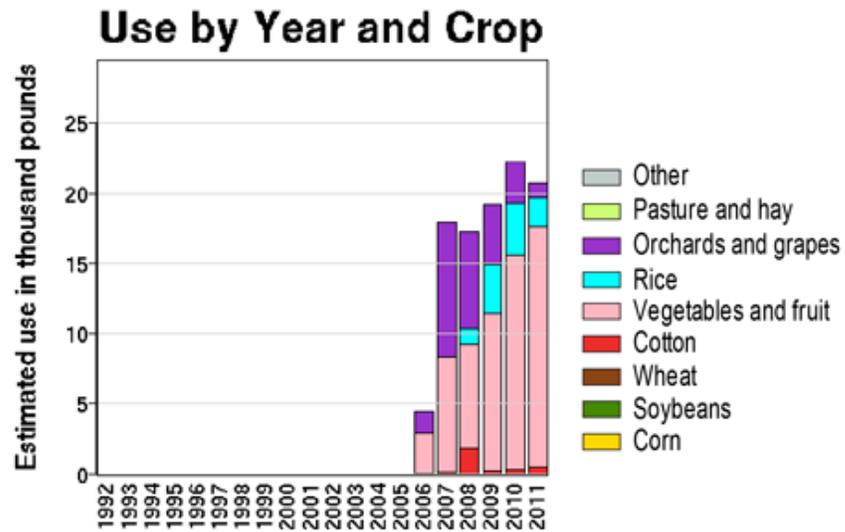
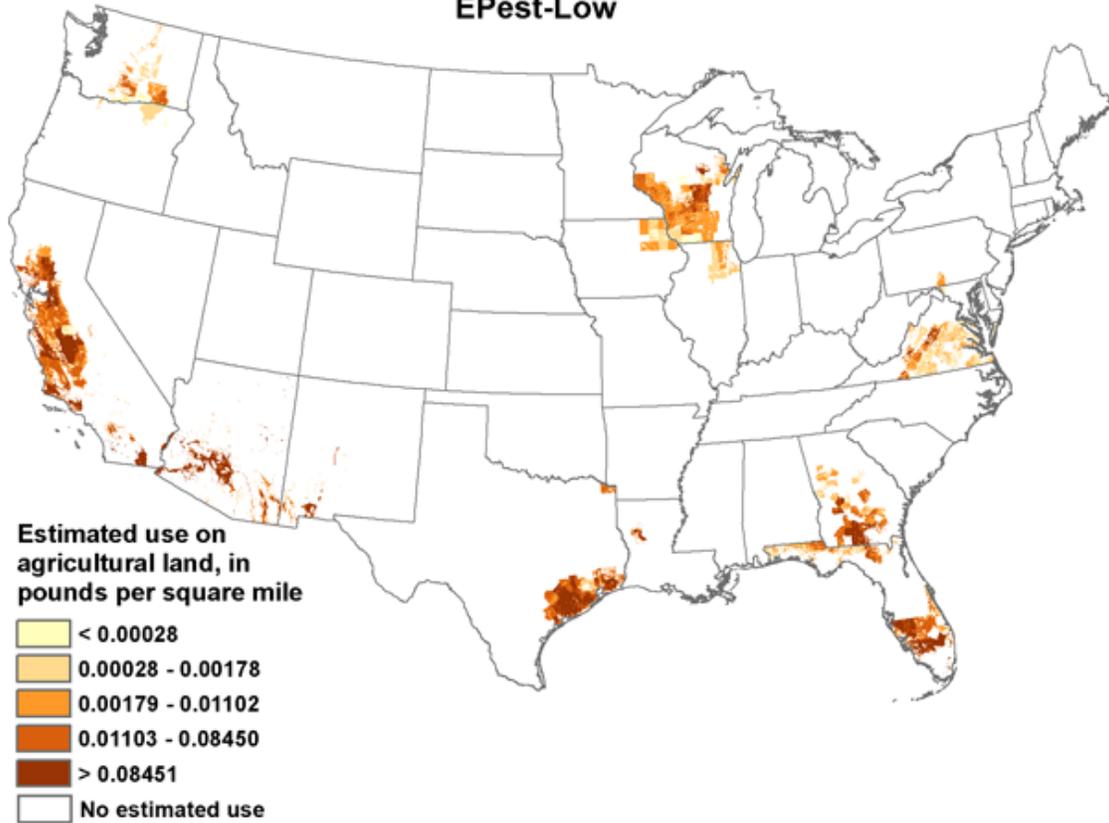
Use by Year and Crop



US Geological Survey, http://water.usgs.gov/nawqa/pnsp/usage/maps/compound_listing.php

Estimated Agricultural Use for Dinotefuran , 2011

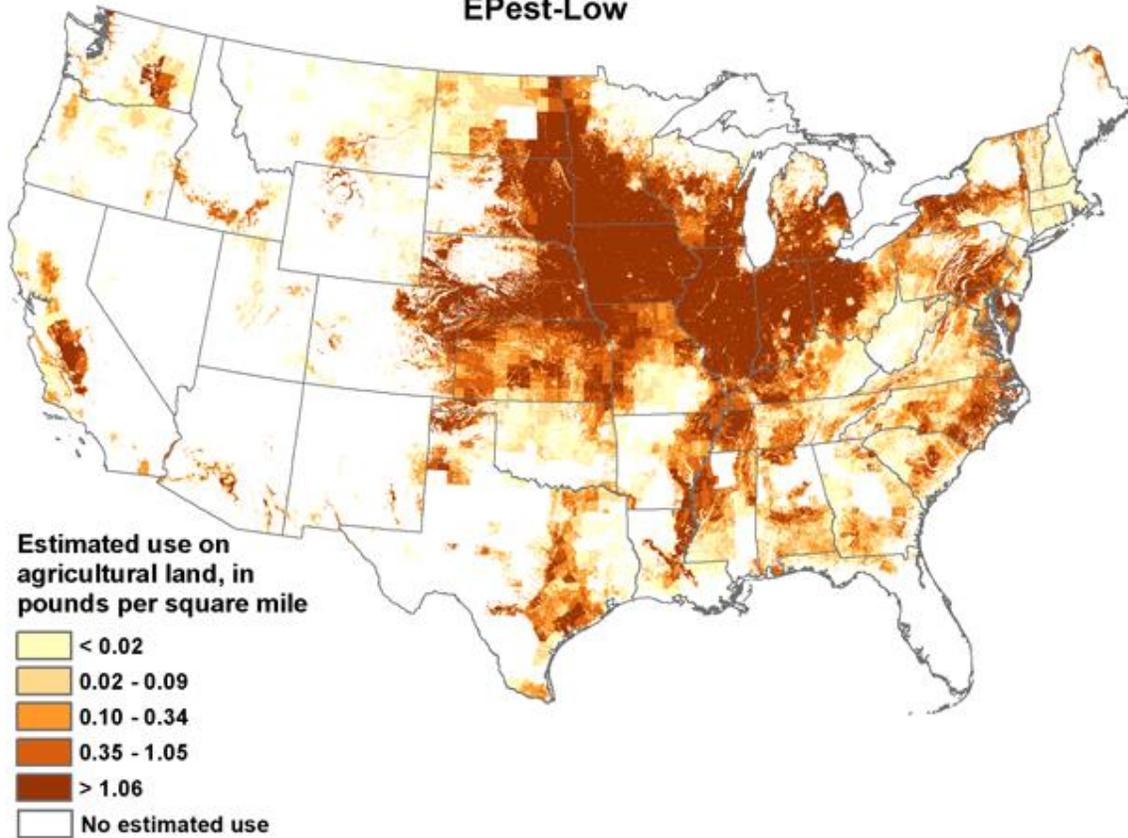
EPest-Low



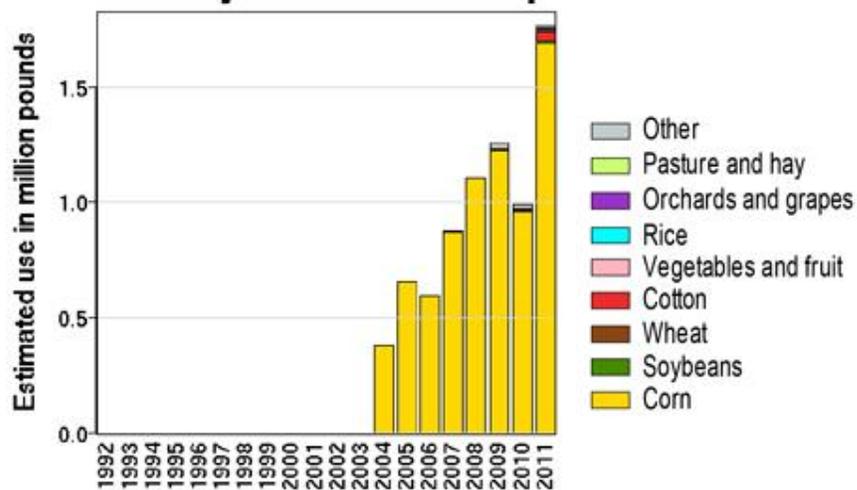
US Geological Survey, http://water.usgs.gov/nawqa/pnsp/usage/maps/compound_listing.php

Estimated Agricultural Use for Clothianidin , 2011

EPest-Low

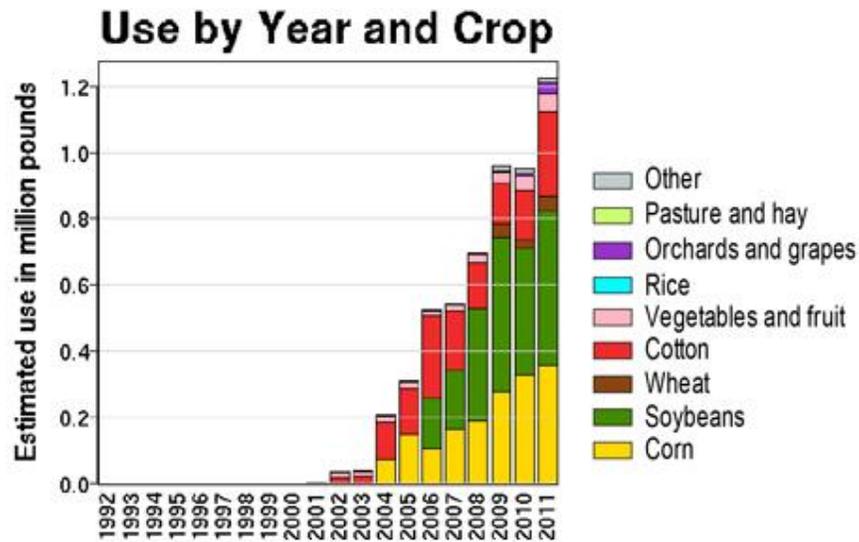
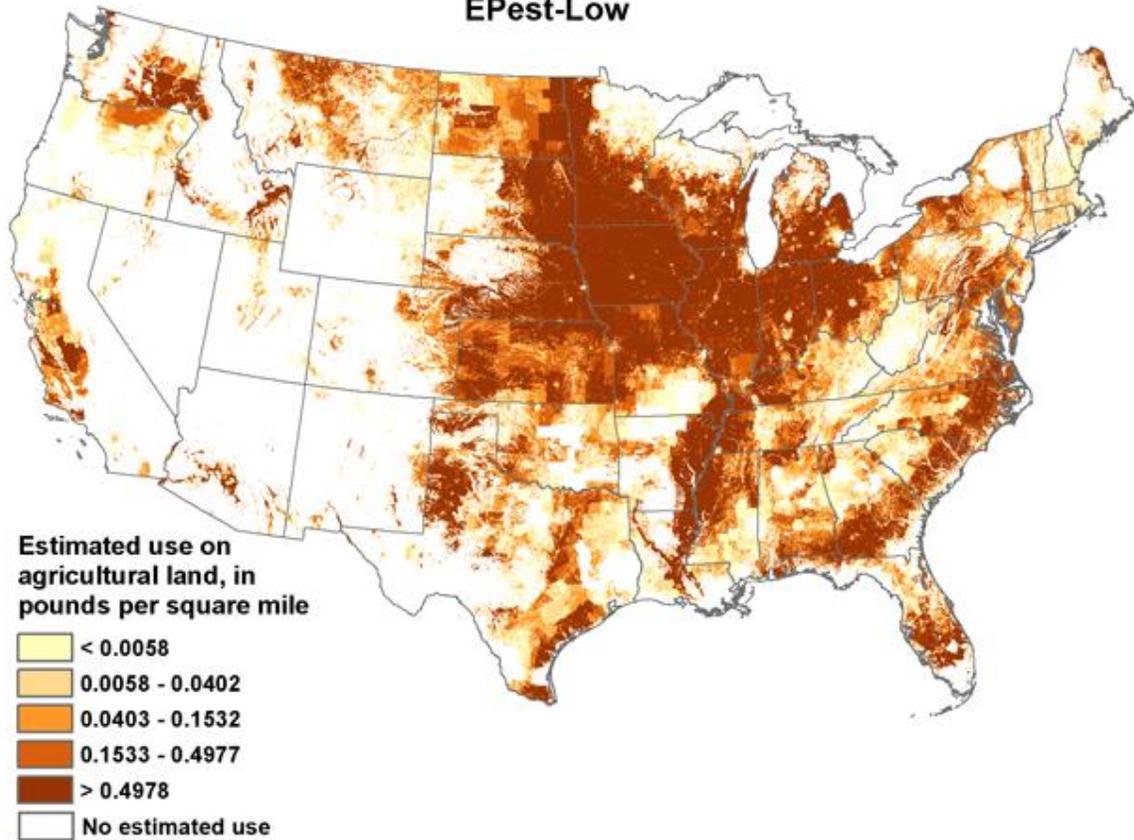


Use by Year and Crop



US Geological Survey, http://water.usgs.gov/nawqa/pnsp/usage/maps/compound_listing.php

Estimated Agricultural Use for Thiamethoxam , 2011 EPest-Low



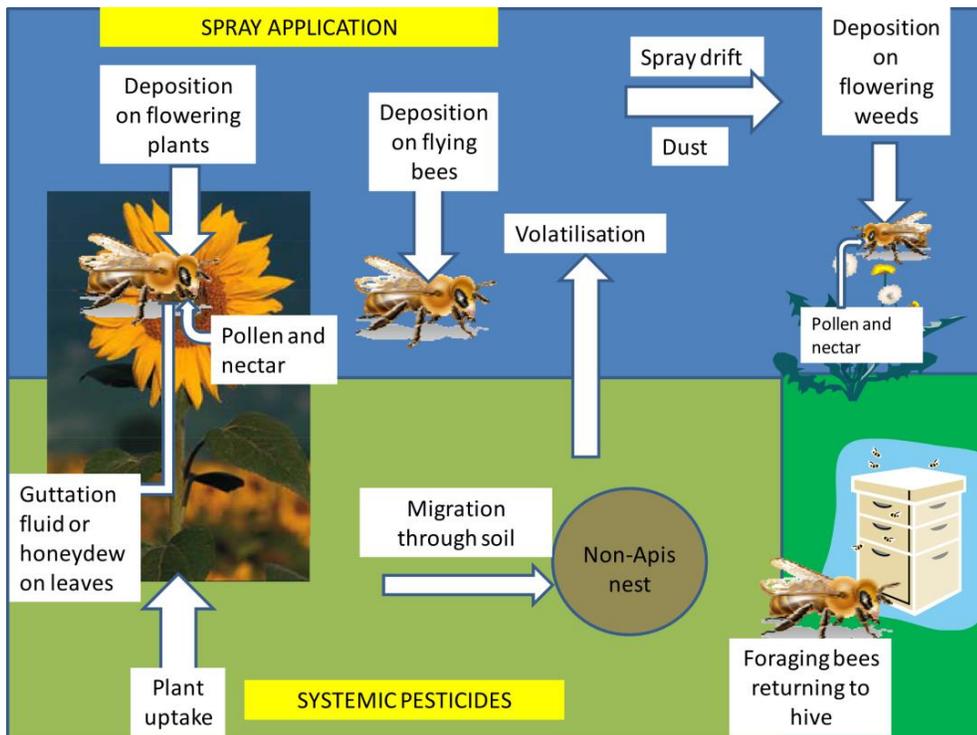
US Geological Survey, http://water.usgs.gov/nawqa/pnsp/usage/maps/compound_listing.php

Neonicotinoid	Known Toxicity to Honey Bees ¹		
		Contact LD ₅₀	Oral LD ₅₀
Acetamiprid	M	7.1 µg/bee ² –8.09 µg/bee ³	8.85–14.52 µg/bee ³
Clothianidin	H	0.022 µg/bee ² –0.044 µg/bee ⁴	0.00379 µg/bee ⁵
Dinotefuran	H	0.024 µg/bee ² –0.061 µg/bee ⁵	0.0076–0.023 µg/bee ⁶
Imidacloprid	H	0.0179 µg/bee ⁴ –0.243 µg/bee ⁷	0.0037 µg/bee ⁷ –0.081 µg/bee ⁸
Thiacloprid	M	14.6 µg/bee ² –38.83 µg/bee ⁹	8.51–17.3 µg/bee ⁹
Thiamethoxam	H	0.024 µg/bee ¹⁰ –0.029 µg/bee ²	0.005 µg/bee ¹⁰

H = highly toxic; M = moderately toxic

Toxicity: Highly toxic: LD₅₀ < 2 µg/bee; Moderately toxic: LD₅₀ 2–10.99 µg/bee; Slightly toxic: LD₅₀ 11–100 µg/bee; Practically non-toxic: LD₅₀ >100 µg/bee.

“Are Neonicotinoids Killing Bees”, Xerces Society, 2012



“Risk assessment for bees”, European Food Safety Authority, 2012