

Table 5. Risk assessment for the neonicotinoid insecticide imidacloprid to honey bees (*Apis mellifera*). Predicted times to 50% mortality (t50) of workers by ingesting nectar or pollen contaminated with imidacloprid, after taking into account that 11% of plants are contaminated [93]. By contrast, standard hazard quotients (HQ) for dietary NOEL of 20 µg L⁻¹ [75] suggest that imidacloprid poses no danger to honey bees.

Residues	Imidacloprid (PEC)	PEC x frequency	Predicted t50*		HQ = PEC/NOEL
			(hours)	(days)	
	(µg L ⁻¹ or kg ⁻¹)				
Nectar	1	0.11	269	11.2	0.06
	3	0.33	211	8.8	0.15
Pollen	0.7	0.08	291	12.1	0.04
	10	1.1	162	6.8	0.50

* based on $\ln t_{50} \text{ (hours)} = 5.11 - 0.22 \ln c \text{ (}\mu\text{g L}^{-1} \text{ or kg}^{-1}\text{)}$ from Table 2. In this case $c = \text{PEC} \times \text{frequency}$.