**Table S2. Summary of community impacts from microcosms, mesocosms and similar studies with neonicotinoids. Treatment and endpoint concentrations (μg/L) in brackets.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Study type** | **Neonicotinoid** | **Treatment (a.i. μg/L water)** | **Taxa affected** | **Endpoints (NOEC, μg/L)** | **Indirect effects (NOEC, μg/L)** | **Reference** |
| Microcosm | imidacloprid | single pulse (1.2 to 12,000)  | Diptera, Plecoptera | Feeding inhibition (12) |  | (Kreutzweiser et al., 2007) |
| Microcosm | imidacloprid | single pulse (12 to 96) | Diptera, Plecoptera | Litter decomposition (<12), survival (48) |  | (Kreutzweiser et al., 2008b) |
| Microcosm | imidacloprid | leaves (3 to 11 ppm) | Diptera, Plecoptera | Litter decomposition (11 ppm in leaves) |  | (Kreutzweiser et al., 2008a) |
| Microcosm | thiacloprid | Single pulse (0.5 to 4) | Ephemeroptera, Gammaridae | Litter consumption (1)Weight loss (4) | Predation increased (0.5) | (Englert et al., 2012) |
| Nanocosm | thiacloprid | 5 pulses (3.3, 10 and 33) over 9 months | Diptera, Cladocera | No competition 🡪 reduction (10) and recovery | Competition 🡪 reduction (3.3) | (Liess et al., 2013) |
| Outdoor stream | imidacloprid | 3 weekly pulses (2 and 20) | Coleoptera, Ephemeroptera, Plecoptera, Trichoptera, Oligochaeta, | Abundance reduction (1.6), diversity (17.6) |  | (Pestana et al., 2009) |
| Outdoor stream | imidacloprid | Single pulse (0.1 to 10) | Ephemeroptera, Oligochaeta | Feeding inhibition (1), survival (<6) |  | (Alexander et al., 2007) |
| Outdoor stream | imidacloprid | Continuous (0.1) | Ephemeroptera | Body length (0.1) |  | (Alexander et al., 2008) |
| Outdoor stream | imidacloprid | 3 weekly pulses (12) twice | Gammarus roseli | Fecundity (<12) |  | (Böttger et al., 2013) |
| Outdoor stream | thiacloprid | single pulse (0.5 to 9,520) | Diptera, Odonata, Trichoptera, Cladocera, Gammaridae, Isopoda  | Delayed mortality up to 30 days post-exposureHC5 = 0.72 μg/L |  | (Beketov and Liess, 2008a) |
| Outdoor stream | thiacloprid | Single pulse (0.1, 3.2 and 100)  | Green algae, Diptera, Ephemeroptera, Odonata, Trichoptera, Isopoda, Oligochaeta | Abundance reduction (3.2) | Algae, Chironomidae and Odonata increased | (Kattwinkel et al., 2016) |
| Outdoor stream | thiacloprid | Single pulse (0.1, 3.2 and 100) over 7 months | Coleoptera, Diptera, Ephemeroptera, Heteroptera, Odonata, Plecoptera, Trichoptera, Amphipoda, Isopoda, Oligochaeta  | NOEC community (0.1)LOEC community (3.2)Univoltine and semivoltine species no recovery | Mulivoltine species recovery (10 weeks) | (Beketov et al., 2008) |
| Pond microcosm | imidacloprid | 2 x 21-d pulses (0.6 and 23.5)  | Baetidae, Chironomidae | Community effects (0.6)  |  | (Ratte and Memmert, 2003) |
| Pond microcosm | imidacloprid | 3 weekly pulses (6 and 40) | Chironomidae, Ephemeroptera | Abundance reduction, emergence & survival (2.3) | Increase in snails (*Radix* sp.) | (Colombo et al., 2013) |
| Rice field | imidacloprid | Spray @100 g/ha (52) |  | Potentially Affected Fraction (40-63%) |  | (Daam et al., 2013) |
| Rice mesocosms | imidacloprid | seedlings @ (240) | Green algae, Coleoptera, Diptera, Ephemeroptera, Heteroptera, Odonata, Archnida, Cladocera, Ostracoda, Copepoda, Mollusca, Oligochaeta | Abundance reduction (~1)Community structure changePredators reduction | Copepoda and Oligochaeta increased | (Sánchez-Bayo and Goka, 2006) |
| Rice mesocosms | imidacloprid | seedlings (190) | Cladocera and Diptera (except Chironomidae) increased | (Sánchez-Bayo et al., 2007) |
| Rice mesocosms | imidacloprid | seedlings @ 100 g/box (50) | Coleoptera, Diptera, Ephemeroptera, Heteroptera, Odonata, Cladocera, Ostracoda, Copepoda, Mollusca, Oligochaeta | Abundance reduction (~1)Community structure changeFish body size  |  | (Hayasaka et al., 2012a) |
| Rice mesocosms | imidacloprid | seedlings @ 100 g/box (40) | Ephemeroptera, Heteroptera, Coleoptera and Ostracoda increased | (Hayasaka et al., 2012b) |
| Stream microcosm | imidacloprid | 3 weekly pulses (12) | Ephemeroptera, Chironomidae, Trichoptera | Abundance reduction (<12) | Gammaridae increased | (Mohr et al., 2012) |
| Stream microcosm | imidacloprid | 3 weekly pulses (12) | Ephemeroptera, Gammaridae | Downstream drift (<12) |  | (Berghahn et al., 2012) |
| Stream microcosm | imidacloprid, thiacloprid, acetamiprid | 1/10 LC50 | Diptera, Ephemeroptera, Gammaridae | Downstream drift (1/10 of LC50 for each compound) |  | (Beketov and Liess, 2008b) |

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