

From: [Meghan Brock](#)
To: [ECY RE Shrimp Control Permit Comments](#)
Subject: Imidacloprid Spray
Date: Thursday, February 13, 2014 10:32:46 AM

There must be another way to control the burrowing shrimp other than spraying with Imidacloprid. Focusing on increasing the native chum salmon runs (sounds like a win, win), growing the oysters on lines or in bags out of the mud (some growers already do this)... The bees are struggling enough globally without throwing more out there that is know to be harmful to them. With bees even a little risk of harm is too great!

My comment is to say please say NO to spraying Imidacloprid or any other chemical that is known to harm bees.

Thank you,
Meghan Brock, mother, teacher, farm owner and bee lover

From: [Meghan Brock](#)
To: [ECY RE Shrimp Control Permit Comments](#)
Subject: Re: Imidacloprid Spray
Date: Friday, February 14, 2014 8:53:01 AM

I was also wondering if you read this portion of the report on this chemical:

2.1 Nature of imidacloprid as a stressor

Imidacloprid is a member of the neonicotinoid class of pesticide. Like the other neonicotinoids, imidacloprid shares structural similarity and a common mode of action with the tobacco toxin, nicotine (CEPA-DPR, 2006). The toxicity of imidacloprid is based on interference of the neurotransmission in the nicotinic cholinergic nervous system. Imidacloprid binds to the nicotinic acetylcholine receptor (nAChR) at the neuronal and neuromuscular junctions in insects and vertebrates. The nAChR is an ion channel, which endogenous agonist is the excitatory neurotransmitter acetylcholine (ACh). The receptor normally exists in a closed state, however, upon ACh binding, the complex opens a pore and becomes permeable for cations. The channel openings occur in short bursts, which represent the lifetime of the receptor-ligand complex. ACh is then rapidly degraded by the enzyme acetylcholinesterase (AChE). In contrast, imidacloprid bound to the nAChR is inactivated very slowly. Prolonged activation of the nAChR by imidacloprid causes desensitization and blocking of the receptor and leads to paralysis and death (CEPA- DPR, 2006).

2.2 Ecological receptors that may be exposed to imidacloprid use

Aquatic organisms will be exposed to imidacloprid when it is applied. Burrowing shrimp are the intended receptors, but exposure of other aquatic organisms in the treatment area is unavoidable from this use. There is enough information to conclude that toxic effects on aquatic plants are unlikely. This risk assessment is therefore primarily oriented towards aquatic animals.

While potential exposure of terrestrial organisms as a result of spray drift from the Protector 2F formulation cannot be completely ruled out, it is unlikely. Imidacloprid is to be applied directly to sediment beds at low tide. Applications made at ground level, such as from a boat, backpack sprayer, or by drip stations typically have limited amounts of drift. Certain terrestrial animals may ingest imidacloprid residues in aquatic food. Birds, mammals, and reptiles could be exposed through dermal contact while in treated waters. Species exposed frequently, such as piscivorous birds, ducks, muskrats, garter snakes, and others, would be most at risk from the use of imidacloprid. There is no reason to expect that terrestrial plants would be sensitive, even in the unlikely event that they would be exposed.

2.3 Considerations of human exposure

Humans may be exposed to imidacloprid in several ways. The highest potential exposure would be from a combination of dermal exposure from recreational swimming and/or wading, and dietary exposure from consumption of fish or shellfish from waters overlying either treatment site. Dermal and inhalation exposure would be the primary routes of exposure for applicators. The Protector formulation labels require applicators to post signs informing recreational users that imidacloprid will be applied for burrowing shrimp control on commercial shellfish beds, and warning the public not to fish, crab, or clam within one-quarter mile of the treated area.

I find it difficult to think that one would know this information and still be willing to spread this in our bay, over our commercial oyster beds!

Sincerely,
Meghan Brock, mother, teacher, farm owner, nature goer and bee lover