

Insect Hour

Dave Goulson: Pesticides, dogs and insect declines

Q&A

Liz Evesham: I can see lots of hands floating up, but if you could put them in the chat, is there, obviously a lot of...

Liz Evesham: Lot of you, to keep track on.

Liz Evesham: I can see lots of people clapping, David.

Dave Goulson: Thank you.

Liz Evesham: So, any questions?

Liz Evesham: I'm certainly going to be looking at what my mother gives to her cat. I know that we... me and my husband are responsible for doing it every month, but we do slip, and in fact, the cat's coat is so much better.

Liz Evesham: So, I certainly won't be giving her any more, if it has got those particular chemicals in.

Liz Evesham: Right, so questions. We've got,

Liz Evesham: Jez, who says, how many dog owners comply with the four-day rule? How many read that on instructions?

Dave Goulson: Yeah, it's hard to find out how often people, you know, break the rules, because they're not often likely to admit it.

Dave Goulson: We have no data on that, but,

Dave Goulson: all of Rosie's work assumed that people followed the instructions, so it's a kind of conservative

Dave Goulson: measure of how much pollution is following each of those pathways. If people are washing their dogs or allowing them to swim earlier than 5 days.

Dave Goulson: Then obviously that's...

Dave Goulson: gonna be worse, and it's gonna add to all of these problems, but even if people are following the advice, it seems there's probably enough goes down the drain to explain the pollution we're seeing.

Liz Evesham: Hmm.

Liz Evesham: We've got another one here, has anyone done river pond analysis of insecticides in Cornwall? And similarly, I think Hampstead Heath, also the... where the study was done, did you look at invertebrates?

Dave Goulson: That wasn't my work, the hamstead Heath Study. I believe there is invertebrate monitoring going on, but I haven't seen a publication yet. That would be really interesting. I mean, we've got all this data on pollution of different English rivers.

Dave Goulson: It'd be really interesting to explore whether there's a, you know, the... you'd obviously expect high levels of pollution to be resulting in... in... reduced populations of insect life in those rivers. There is evidence from the Netherlands that that is the case, but I've not seen an English study yet.

Dave Goulson: Or a British study.

Liz Evesham: Jack says, thank you, Dave. Learned a lot from that. What would be a realistic route to take for the decline of use of the pesticides, especially for the lower-income countries?

Dave Goulson: We're talking about... I guess we're talking about these spot-ons specifically,

Dave Goulson: As I say, the simple first step would be to

Dave Goulson: advise people only to use them if their dog actually has a problem with ticks or fleas. My suspicion is that probably 80% of use or more is prophylactic and is unnecessary.

Dave Goulson: As I mentioned, you know, why not... you wouldn't dream of treating your kids against nits, unless they actually had nits, so why would you... so that would go a long way to solve the problem without... and it would save people money. The only people that would lose out would be the veterinary practices that would lose sales of

Dave Goulson: the pesticide, but I think I could live with that.

Liz Evesham: Thank you. Mike says, you've quite rightly focused on chemicals designed as insecticides. There has also been a lot of concern recently about forever chemicals and microplastics. Has there been any research on their effect on insects?

Dave Goulson: Not so much, actually, as far as I'm aware.

Dave Goulson: There's plenty of evidence that other types of pesticide harm insects, and there's a big...

Dave Goulson: controversy ongoing about glyphosate, for example, which is a herbicide. There's clear evidence that most pesticides, be they fungicides, herbicides, insecticides, are broadly toxic to wildlife.

Dave Goulson: But I'm... quite a lot of pesticides are fluorine-based, and...

Dave Goulson: could be classed as forever chemicals, so... but I can't think of a really good study specifically on forever chemicals and insects.

Liz Evesham: Rachel, interested to know whether there has been any research into impacts in water bodies on sites protected from nature, similar to the Hampstead Heath work.

Dave Goulson: I... I mean, that's a... it's a really good point. I mean, allowing dogs to swim on ponds and rivers in nature reserves would seem like a really bad idea, given what we now know. So maybe people who manage nature reserves should be putting up signs, you know, please do not let your dog swim.

Dave Goulson: as far as I'm aware, no one studied, you know, the impact, but it seems kind of like a no-brainer that that would be a wise precautionary step.

Liz Evesham: Billy says, are there any active studies being done by DEFRA into the... into this issue?

Dave Goulson: Well, they set up a committee called PI, Pesticides in the Environment, specifically to look at this issue, but they set it up a few years ago, I've forgotten how long ago exactly, and it eventually, in 2025, produced a roadmap, but the roadmap seemed to

Dave Goulson: Be very vague and entirely lacked any kind of concrete milestones.

Dave Goulson: they seem to be being painfully slow to act, I have to say.

Dave Goulson: And as far as I'm aware, I haven't funded any further research to investigate the environmental impacts.

Liz Evesham: Ian says, with, imidacloprid, sorry, I haven't pronounced that very well, having a half-life of up to 19 years, surely the contaminated rivers are dispersing these chemicals far and wide.

Liz Evesham: How much of our countryside is contaminated with, neonics, and how much is now contaminating our food crops that are supposedly grown without chemicals?

Dave Goulson: Well, yeah, there certainly are...

Dave Goulson: highly persistent. 19 years is unusual, but... but it depends on the soil conditions and so on. But there are also... it seems pretty clear that the entire global environment, if you remember that... that honey map I showed, that's showing that honey is contaminated around the world.

Dave Goulson: It's pretty clear that we have successfully contaminated all of the world's farmed soils.

Dave Goulson: arable soils anyway, and probably rivers and river sediments, and probably also areas of the sea where rivers flow out, and the sediments from those rivers will settle in shallow seas and be contaminated for years to come, I guess. Much of this hasn't really been explored, but it seems

Dave Goulson: highly likely. Yeah, I mean, the obvious... all we can really do is not use them, and slowly those chemicals will dissipate, but it will take years.

Liz Evesham: Richard asks, our vet is sympathetic, but says fleas are very difficult to get rid of once in the house, hence prophylaxis. Do you have any sympathy at all for this view?

Dave Goulson: No, I think that's bullsh*t, personally. I've got a dog, and I... so, this may sound like a quack cure, but, in desperation, because I didn't... my dog had fleas.

Dave Goulson: I wanted to get rid of the fleas, obviously, but I did not want to use any of these chemicals. I read that something called diatomaceous earth worked, which is basically a powdered

Dave Goulson: Rock containing silica.

Dave Goulson: It's a sedimentary rock made from silica shells of little sea creatures, that you can buy as a powder and sprinkle on your dog. Someone said it worked against fleas, and so I tried it. It did seem to work remarkably well. We haven't had a flea problem since. I only treated it twice, and it is just a more or less inert powder.

Dave Goulson: So... but things like that, it would be good to see some research... proper research done to find out whether, you know, whether I... I just got lucky and the fleas died for other reasons, or whether it actually works. But if there are environmentally benign alternatives, then surely that's better than... than chemicals.

Dave Goulson: But I don't think fleas are that difficult to get rid of. I think that's just, you know...

Dave Goulson: A vet trying to justify his actions and his profit margin.

Liz Evesham: Rogan says, is there any evidence of the two, insecticides you mentioned, resistance building in ectoparasitic species?

Dave Goulson: Well...

Dave Goulson: I can't find it... I've been told by, some vets that they've found that fipronil doesn't work in their area against fleas.

Dave Goulson: suggesting that they have evolved resistance, but I can't find a peer-reviewed publication confirming that that is the case.

Dave Goulson: So, I don't know. There don't seem to have been many studies on the whole area at all.

Liz Evesham: Okay, we've got, Jez, who says, did find, did find a few years ago, a man washing his dog on the... on the pond, on nature, on a nature reserve, just after treating for ticks.

Liz Evesham: This is done on the site as well.

Liz Evesham: I suppose it's not a question, sort of more of a statement.

Liz Evesham: But that's a bit concerning.

Liz Evesham: What can charities do to influence manufacturers?

Liz Evesham: Oh, I think you're frozen.

Dave Goulson: Sorry, I've just come back. The internet connection is a bit wobbly. I completely missed the question, I'm afraid.

Liz Evesham: What can charities do to influence manufacturers?

Dave Goulson: Charities, well, there is an inquiry going on at the moment, DEFRA, there's something going on in the House of Lords, with... if... if you...

Dave Goulson: if anyone's interested, try googling DEFRA Inquiry, House of Lords.

Dave Goulson: flee or something, and you'll probably find it. And there's a call for evidence to be... basically for people to submit their opinions as to what should be done.

Dave Goulson: So... Have your say, if you can find the, the website.

Liz Evesham: Yes, I think we might all be doing that. Mike says, you've quite rightly focused on chemicals designed as insecticides. There's also been a lot of concern recently about... oh, we've...

Dave Goulson: We've had that one.

Liz Evesham: Again, yeah.

Liz Evesham: Any, any I've missed?

Liz Evesham: Oh, did the use of spot-on use prophylactically come from the pesticide industry or the veterinary sector?

Dave Goulson: I would guess it's... I mean, it's... it's what the recommendation is on the packet, is that you just treat your dog every month.

Dave Goulson: So, I assume it's... that's the manufacturer's guidance, which is... which vets are just following, rather than vets having determined that that was the optimum strategy. But I... I'm just making an educated guess, I'm not sure for certain.

Liz Evesham: Okay, I think we've, covered most of them. Oh, Christopher says, is the UK taking any of this seriously?

Liz Evesham: Properly.

Dave Goulson: I don't... I'm really frustrated by what DEFRA have done. I mean, they have got this inquiry going, they did set up the committee, but they haven't actually done anything, and they've known that this was an issue since 2017.

Dave Goulson: And the evidence is... all of Rose's research was done... was commissioned by, DEFRA, essentially. So, you know, it's their own research they should be responding to.

Dave Goulson: But all they're... all they seem to be doing is talking, rather than actually getting on and doing something, which, you know, given we have a biodiversity crisis, it's just not good enough, in my view.

Liz Evesham: And I think you've got a lot of an agreement, from people. They've got their thumbs up and, are thanking you very much. And,

Liz Evesham: that's... I think we've sort of done... mainly covered most of them, as time is running out. So, I think that sort of leaves me to... thank you so much, David. I think you've hit on a very important, concept here that, we all need to take...

Liz Evesham: Responsibility, for not...

Liz Evesham: Well, not killing... killing our pets and killing everybody else in the long term, so,

Liz Evesham: Thank you very much, and, I look forward to reading your new book!

Dave Goulson: Yeah, eat the planet well, aye tomorrow.

Dave Goulson: Sustainable eating, basically, how to save the planet by your shopping choices.

Liz Evesham: Great. Cool. Well, thank you, thank you very much, everybody, and, please sign up to next month's talk.

