

From: [Margaret Kolar](#)
To: [Gerry McChesney](#); [Mendel Stewart](#)
Subject: Fw: brodifacoum resistance - follow-up
Date: 01/31/2012 03:35 PM

fyi

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----- Forwarded by Margaret Kolar/SAC/R1/FWS/DOI on 01/31/2012 03:32 PM -----

**Sonce
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To Margaret Kolar/SAC/R1/FWS/DOI@FWS
cc

01/31/2012 08:56 AM

Subject Re: brodifacoum resistance - follow-up 

From what I can determine, registration for brodifacoum did not occur in the US until 1979 so it could not have been used on the island before 1970.

However, do keep in mind that resistance alleles are thought to always be present in a population and testing the chosen formulation on the specific population is very important. It is seldom one gets 100% efficacy. The usual fix for that is to extend the baiting time but nothing is for certain.

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To Sonce deVries/R8/FWS/DOI@FWS
cc

01/30/2012 05:18 PM

Subject Re: brodifacoum resistance - follow-up 

Actually, what I wanted to know was whether brodifacoum was in use prior to 1970 when the refuge was established. We can verify if any chemicals were used on the Farallons after that date (which I doubt -- but we can check whether there was a record of it). I can't say whether the Coast Guard used it prior to that date. So if the chemical wasn't in use before 1970, we would have good reason to believe it had not ever been used at the refuge.

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To Margaret Kolar/SAC/R1/FWS/DOI@FWS
cc

01/27/2012 02:09 PM

Subject Re: brodifacoum resistance - follow-up 

Hi Marge,

I am not sure what you mean but will try to interpret. I assume you are referring to first and second generation rodenticides of which brodifacoum is in the second generation. The theory IC is subscribing to is that means no rat can live long enough to develop resistance but there is evidence out there that this is not true. They saw it themselves on Palmyra and it may very well be the case on the Farallons since I am sure the people living out there have been using something to keep the mice from carrying the food supply off.

Please call me when you have time so we can really discuss this.

Thanks for the reply.

Sonce

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01/26/2012 03:22 PM

Subject: Re: brodifacoum resistance - follow-up 

Sonce, I'm sorry I was unable to return your call. I've been travelling or in meetings. Do you know when brodifacoum was developed or rather first used? I think that's the issue, if it was before 1970.

Sent from my BlackBerry Wireless Handheld

▼ Sonce deVries---01/26/2012 03:05 PM PST---

From:	Sonce deVries
To:	Margaret Kolar
Cc:	
Date:	01/26/2012 03:05 PM PST
Subject:	Re: brodifacoum resistance - follow-up

Hi Marge,

I am sorry I was not able to talk to you at the meeting last week. Would have been nice to catch up.

I wanted to provide you with some information with regard to a question you asked and the answer you received.

You asked a question about possible brodifacoum resistance in the Farallons mouse population and Dan Grout, IC project manager, responded that there was no potential for resistance in the mouse population.

In my opinion and in the opinion of the EC personnel in the Hawaii field office, that response is incorrect. It was one of the concerns raised by a number of reviewers (myself included) in the plan for the Palmyra Island eradication. The concern was actually raised by IC themselves in a report they wrote after a trip to Palmyra in 2004. The trip report was attached to the FEIS as Appendix C. In it, they (Gregg Howald, IC, as senior author, and FWS Hawaii Office Earl Campbell, Katie Swift and Steve Barclay, plus a number of other IC people, USDA, and the University of

Hawaii) stated that based on the resistance trials they performed on island, they concluded that there was "some tolerance or resistance to brodifacoum in the rat population, likely developed after long-term, chronic rat control." They suggested an alternative toxin in addition to brodifacoum might be needed in future eradication efforts. That suggestion was not implemented in the actual eradication because IC went to some trouble to eliminate the concern in the EIS. That included attributing a quote to Will Pitt in the Hawaii office that he had changed his mind about it being a problem. He never made that statement and did his level best to get this misstatement corrected. IC refused to correct the misinformation and has continued to insist it is not an issue.

I can understand that IC does not want this to be on people's minds. Any hint of potential resistance makes these eradications much more problematic. However, to deliberately misquote a FWS person is going too far.

Therefore, in my opinion, this remains a very valid concern and has to be a factor when selecting rodenticides for the Farallons. It can be assumed to be a concern in any situation when rat/mouse poisons have been used in the past while people were trying to live on these islands.

It will be interesting to see if the eradication was truly successful on Palmyra. I have a hearsay report that rats were found in the camp at some considerable time after they should have been dead.

Please let me know if you have questions.

Sonce

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