In the United States, dogs are most prevalent in the southern states, the Hawaiian Islands, and the Pacific coast. Slugs and snails cause damage to agricultural crops and home gardens, especially in no-till cropping systems. Mollusicides are pesticides designed to kill slugs and snails. A limited number of active ingredients are available for this use in residential settings in the United States. Two of the most common are metaldehyde and iron phosphate.

In 2006, the US Environmental Protection Agency (EPA) re-registered metaldehyde. In doing so, they required new label statements intended to reduce the incidence of accidental exposure to children and pets. In addition to new precautionary statements, manufacturers were required to include a label graphic showing the words “children” and “pets” within a red circle crossed by a slash mark. For products containing metaldehyde intended for use in residential settings, schools, and similar locations, labels must now include language on the front panel requiring that children and pets be excluded from the treated product. There is no longer visible.

Iron phosphate-containing products for slug and snail control are marketed as safer alternatives to products containing metaldehyde, and 28 iron phosphate–containing molluscicides are currently registered with the EPA. A canine iron toxicosis has been well-described in relation to dietary supplements and iron-fortified fertilizers. To date, only one clinical report describing five cases of iron toxicosis in dogs, has been published in relation to iron-containing baits for slugs and snails. In that report, the dogs ingested bait containing iron EDTA, rather than iron phosphate. The bioavailability of iron in foods is increased three-fold when administered at a molar ratio (EDTA:Fe) of 0.5:1. Although it is not reported to be identified on the product label, EDTA appears to be included in multiple iron phosphate-containing molluscicides in the United States.

In the second part of the study, we completed a more detailed review of reports involving canine iron phosphate exposures where clinical signs were compatible with toxicosis.

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**INCIDENTS REPORTED TO THE NATIONAL PESTICIDE INFORMATION CENTER**

Between 2001 and 2011, the NPIC received 1,285 reports of metaldehyde exposure incidents in animals. Although not tested statistically, an apparent increase in the number of reports was observed each year between 2001 and 2005, followed by decreasing numbers each year thereafter (Figure 2). During the same 11-year period, 215 reports involving iron phosphate exposure incidents were received, and the majority of these (195 [91%]) involved dogs. Most (179 [83%]) reports of iron phosphate exposure were received between 2009 and 2011.

**CONCLUSION**

New precautionary language for metaldehyde product labels, required by the EPA beginning in 2006, may have contributed to the apparent decrease in the number of exposure incidents reported to NPIC beginning in 2006. Although no dog deaths were reported following iron phosphate exposure in the present study, pet owners and veterinarians should be aware of the potential for iron toxicosis from this type of exposure. In dogs, the clinical signs appear similar to those described following more common iron exposures from dietary supplements and fertilizers.