

Zinc phosphide baits for pest control.

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Zinc phosphide is the most widely-used fast-acting poison internationally. This presentation summarizes the rationale for widespread use of zinc phosphide in New Zealand. Research from offshore and recent research in New Zealand is presented. The primary concerns with any new toxicant introduced into the New Zealand landscape are non-target risks from primary and secondary poisoning, toxic residues, environmental persistence and health risks. Although zinc phosphide is hazardous to birds, extensive overseas research has demonstrated infrequent mortality of birds despite use of a grain bait for rodent control. Similarly, non-target mortality of mammals during field trials in the USA has been low. The risk of secondary poisoning during both laboratory and field studies has been very low during overseas and New Zealand research. Residues of zinc phosphide in carcasses are almost solely confined to the GI tract (i.e., >99% in stomach and intestines). Zinc phosphide degrades mainly by hydrolysis to phosphine, phosphates and zinc. The toxicant has been demonstrated to persist for >100 days where little or no moisture is present, but in 'normal' conditions most degrades within 30 days. It is not persistent in the environment or in the food-chain. The primary health risks are from acid hydrolysis in enclosed spaces and workers inhaling phosphine or by deliberate ingestion of zinc phosphide. Registration documents have been screened under the ACVM Act and final registration is now awaiting HSNO classifications for 'ZaP' paste. The paste will be packaged into polypails, 'Strikers', paper bags, and 'Defender' bait stations.