Rodenticide resistance and environmental monitoring

Efficacy of brodifacoum in anticoagulant-resistant house mice (*Mus musculus*) of the hybrid L128S and Vkorc1^{spre} introgression strain

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The aim of this study was to assess the efficacy of 25 mg/kg brodifacoum in controlling anticoagulant-resistant house mice (*Mus musculus*) of the hybrid L128S and Vkorc1^{spre} introgression strain in feeding tests and in two practical treatments. Brodifacoum was proven effective in 4-days feeding tests with laboratory reared hybrid resistant mice. Two field studies were conducted with infestations comprising hybrid resistant mice, according to the ECHA guidance on the biocidal products regulation.

In the field study #1, the size of the initial infestation was estimated according to the mean consumption of 349 g/24h rolled oats during the pre-treatment census. After consumption of 1,113 g of bait, the control success was 100% and 99% according to the post-treatment feeding census and the tracking activity census, respectively. In the field study #2, the mean infestation size prior to the treatment was 59 g/24h. 324 g of bait was consumed during the treatment and resulted in a control success at 90% and 91% according to the feeding census and tracking census. The initial infestations comprised 16.7% (#1) and 100% (#2) of house mice of the hybrid L128S and Vkorc1^{spre} strain. During the treatments, 27.8% and 60%, respectively, of succumbed house mice were hybrid resistant. The observed level of control was considered proof of efficacy of 25 mg/kg brodifacoum bait in controlling resistant house mice of the hybrid L128S and Vkorc1^{spre} introgression strain.

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