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The representativeness of a semi-random sampling method for animal welfare assessments on mink farms

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Abstract

*In this study we present a semi-random sampling method developed for the sampling of mink (*Neovison vison*) for on-farm welfare assessments according to the WelFur-Mink system. The only information required for implementation of this method is the number of cages in use in each shed on the farm. The representativeness of samples selected with this method was evaluated in relation to the physical characteristics of the farm and the mink characteristics by simulated sampling on a farm with a complicated structure in the growth period. The selection of 10,000 samples was simulated. The trueness was, in general, high, ie the method has no systematic skewness. The precision was low for certain factors due to the high variation within sheds. The sampling in sections of six adjacent cages means that it is often not possible to select a sample which is an exact representation of the mink and their housing environment. If accepting a deviation of ± one cage section, the estimated probability of selecting a representative sample was high for most of the individual factors. However, the estimated probability of selecting a sample that is representative according to all factors was rather low. This deviation from exact representativeness ought to be evaluated in the light of the increased feasibility and repeatability offered by the method. Also, we expect that the representativeness of samples selected with this method will be higher on other less-complicated farms. We suggest that this simple method balances feasibility and representative sampling in a way that makes it useful in the WelFur-Mink system.*

Keywords: *animal welfare, feasibility, mink, on-farm welfare assessment, simulation study, WelFur*