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Cannabis Use Rates for Deriving Health Protective Pesticide Thresholds

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Pesticide contamination in cannabis poses a health risk to cannabis users. However, unlike other crops which have US EPA tolerances, no residue limits are established for pesticides on cannabis. To protect consumer health, thresholds of pesticide residues in commercial cannabis products are needed. These maximum residue levels should be determined based on the critical toxicological endpoints for the pesticide and the amount of the cannabis product consumed. An accurate characterization of amount of cannabis that consumers use is a critical component in deriving protective thresholds for pesticides in cannabis. Cannabis use data were sought in the peer reviewed literature and government reports, including surveys of dispensary customers in the United States and in other counties. Most of the data found on cannabis use rates were from surveys with self-reported data. These surveys inherently include biases such as, recall bias (inaccurate memory) and social desirability bias. In addition, the format of survey questions can lead to under- or overestimated cannabis use. Average use rates reported in various studies ranged from 0.09 to 3 grams per day, and high end use rates ranged from 0.9 to over 4 grams per day. Individuals with the highest use rates were typically medical users (vs. recreational) and young adults. A cannabis use rate will be useful for assessing potential health risks from pesticides in cannabis products. In the interim, toxicologically based preliminary screening levels can employ a default consumption rate and pesticide specific reference doses to determine the potential risk to human health.