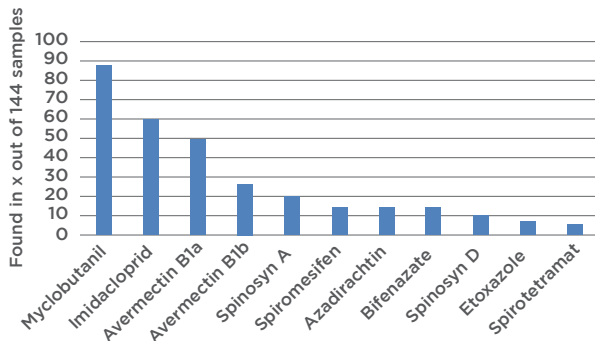


PESTICIDE CONTAMINATION IN CANNABIS

SYTZE W. ELZINGA - THE WERC SHOP®

ARE PESTICIDES FREQUENTLY FOUND?

Survey of pesticide data provided by Colorado Department of Agriculture

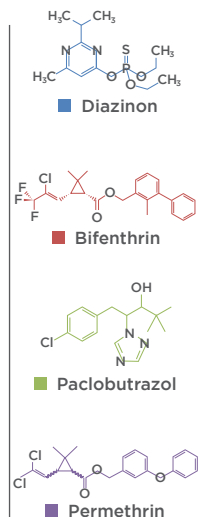


SAMPLE DATA	
Total samples	144
Total pass	37
Total fail	107
NR OF PESTICIDES IN SAMPLE	
0	37
1	23
2	23
3	27
4	14
5	18
6	2
>7	0
Sum	144

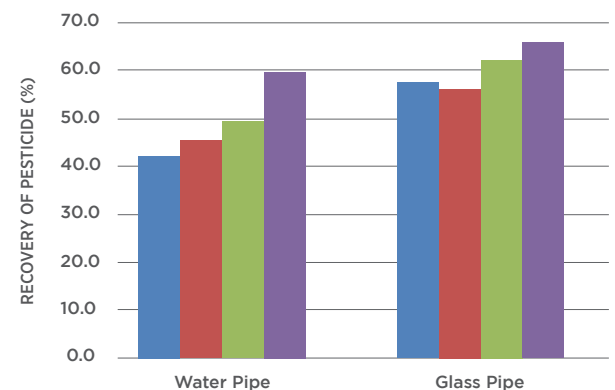
- Our screening of concentrates in California medicinal market found pesticides in 33% of samples
- Paclobutrazol was most commonly found, followed by bifenthrin
- Colorado Department of Agriculture found pesticides in 74% of the samples. Usually multiple kinds were present
- This is a result of the lack of quality control standards in combination with a high crop value

IS THE CONSUMER EXPOSED WHEN CANNABIS IS INHALED?

- Presented data is the average of 3 replicate experiments
- Pesticides do not get destroyed when cannabis is smoked
- 40-70% of the pesticide residue present on cannabis gets inhaled when smoking
- A glass pipe results in a higher transfer rate of pesticides than a water pipe

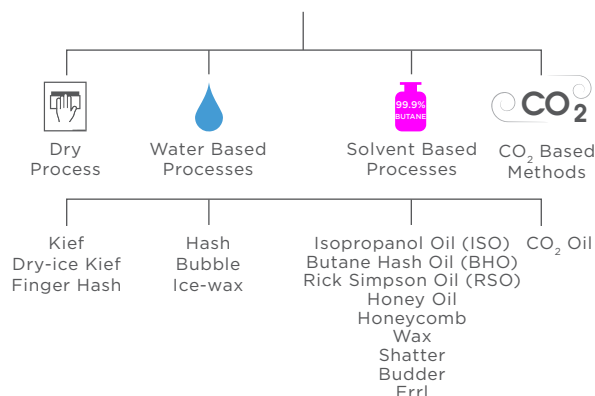


Recovery of Pesticides in Smoke Stream



CONCENTRATION DURING EXTRACTION?

CANNABIS RAW MATERIAL



REFERENCES

- Determination of Pesticide Residues in Cannabis Smoke
Sullivan N, Elzinga S, Raber JC (2013)
Journal of Toxicology Article ID 378168
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