

Reported THC% on Retail Flower Labels is Higher Than Expected

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Introduction

Reports of inflated THC% and "lab shopping" have been circulating for some time, but a side-by-side investigation of the THC% reported on the label and of the flower in the package has not previously been conducted. Lack of standardized testing protocols, limited regulatory oversight, and financial incentives to market high THC all likely play a significant role in this phenomenon. The lack of accurate reporting can potentially impact medical patients controlling dosage, recreational consumers expecting an effect aligned with price, and trust in the industry as a whole.

Objective

Directly compare THC potency (% by dry weight) reported on product labels to HPLC data generated by a single third-party testing lab.

Methodology

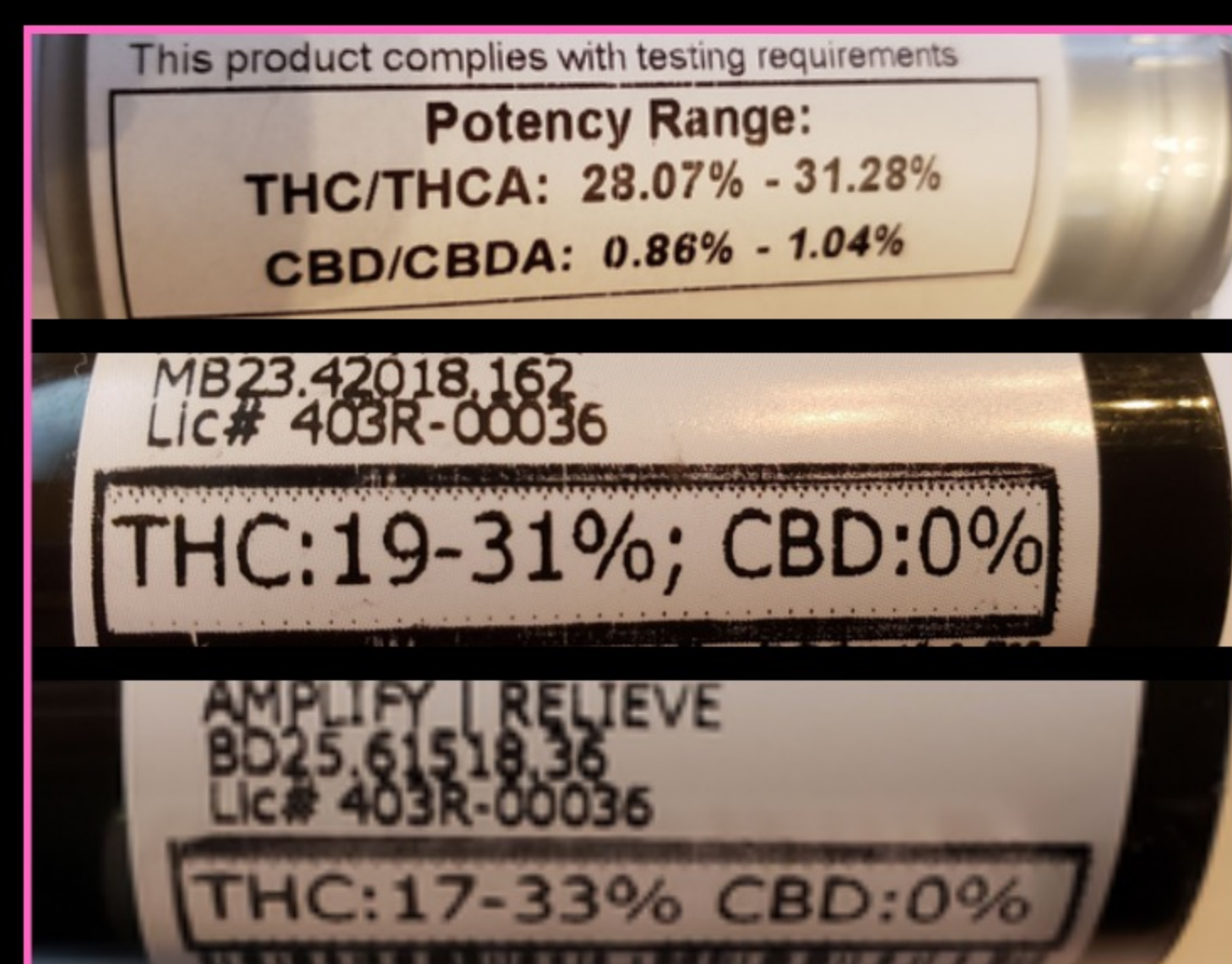
- 10 dispensaries, 12 strains, 23 samples
- Validated HPLC methods
- Determine THC% by dry weight
- Two preparations of each sample to test repeatability
- Preparation were run three times
- Eight samples were repeated to validate consistency

Results

- Compared to the reported THC% on the label
- 18 samples tested had a lower than reported THC%
 - 16 had less than 15% of the reported THC%
 - 13 had less than 30% of the reported THC%
 - 3 had ~50% of the reported THC%
 - One sample had a slightly higher THC% than reported

Observed THC % Mean	Standard Deviation	Reported THC% Mean	Mean % Change	
			Low	High
14.98	2.23	20.27 - 24.10	-23.10	35.60

Table 1. Mean Observed vs. Mean Reported THC % from 23 samples. The mean high and low % change from observed vs reported was calculated from a reported range. Single THC values were calculated into the low % change



Flower packaging with reported THC% by dry weight

Reported THC% was substantially higher than HPLC test results

~70% of labels reported more than 15% higher THC% than observed

Max reported THC% on three samples was ~50% higher than observed

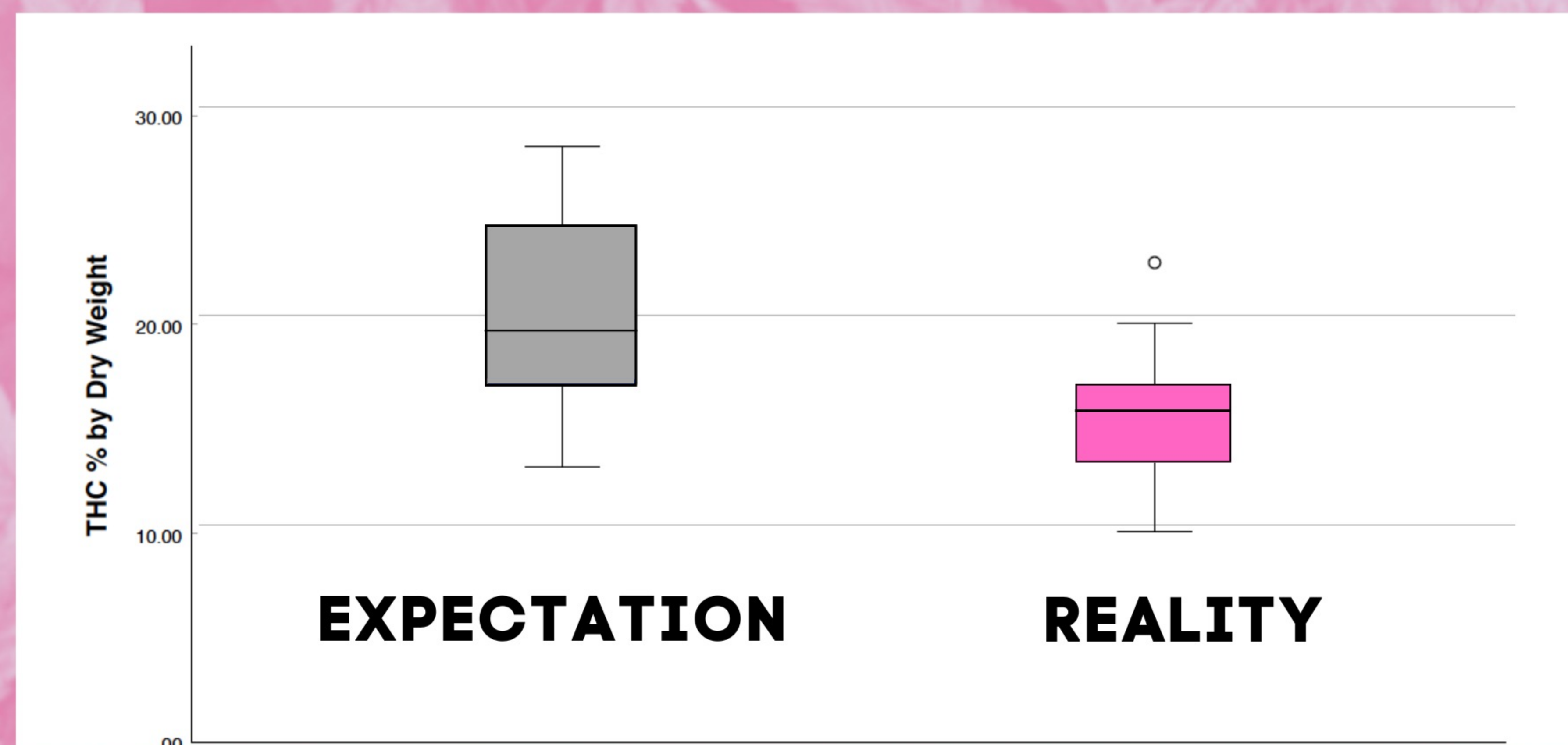
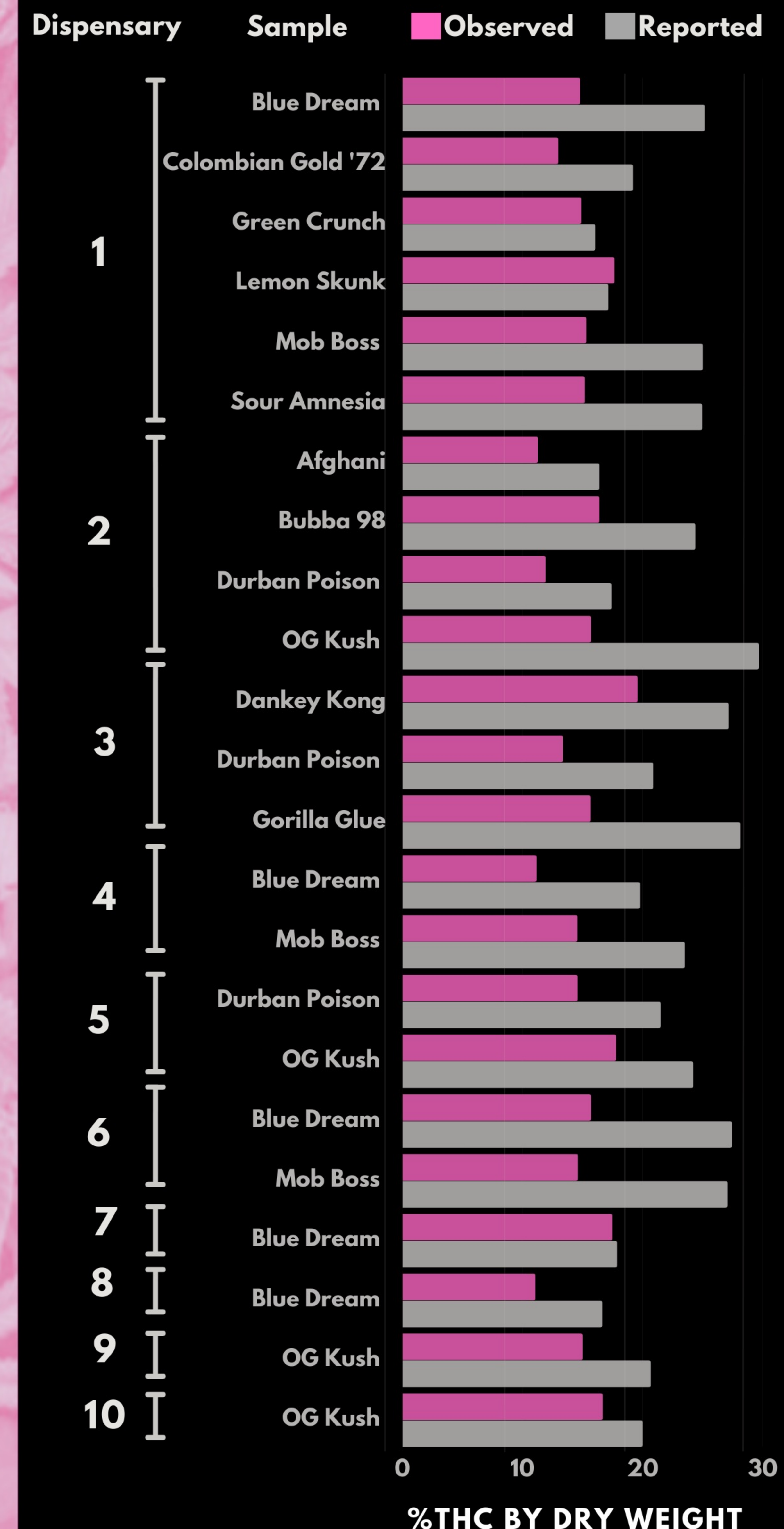


Fig. 1. Box and whisker plot. Mean THC % by dry weight for observed (pink) and reported values (gray).

- 18 labels reported inflated THC%
- 13 had 30% less THC than reported
- 1 tested slightly higher than reported THC%



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