



Cannabis Data Science #94

January 4th, 2023



Question of the Day

- What is the proportion of the variation in THC or CBD in cannabis that is not explained by the environment or random chance?

Heritability in Cannabis | Statistics

Phenotypic variation (σ_p^s) can be defined as

$$\sigma_p^s \equiv \sigma_g^2 + \sigma_e^2$$

where

- σ_g^2 is **genetic variance**;
- σ_e^2 is **environmental variance**.

Heritability (H^2) can be defined as

$$H^2 \equiv \frac{\sigma_g^2}{\sigma_p^s} = \frac{\sigma_g^2}{\sigma_g^2 + \sigma_e^2}$$

Source: Chief Seven Turtles, *Heritability in Cannabis*, Sinsemilla Tips Domestic Marijuana Journal (1988).

Heritability in Cannabis | Takeaways

Key points

- Some populations have more **genetic variation** than others.
- **Environmental variation** depends on conditions and the trait.
- Variation within a clonal variety can be used to estimate environmental variation because no genetic variation exists.

Takeaways

- Select a uniform environment.
- Measure as accurately and consistently as possible.



Thank you for coming.

Insight(s) of the Day

- **Don't try too hard.**
If what you are looking for isn't readily apparent at first, then you should be very cautious!

What is on your mind for next week?