

Quality Control

Chemistry

Accuracy, precision and the difference between them.

Accuracy

- Closeness to the true value
- Affected by systematic error
- Improved by calibration
- Checked against a reference material

Precision

- Closeness of repeats to each other
- Affected by random error
- Improved by repetition and technique
- Quantified by standard deviation

THE DIFFERENCE THAT MATTERS

A method can be precise and inaccurate — consistently wrong. That is the most dangerous combination, because it looks reliable.

Report a mean with a standard deviation and a sample size. Any one of the three alone is uninterpretable.