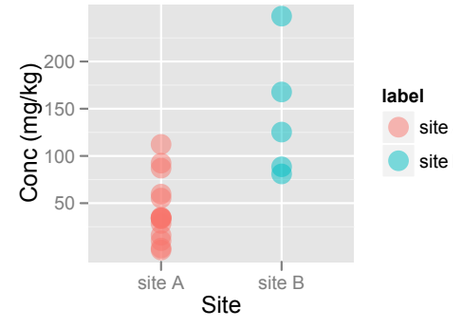
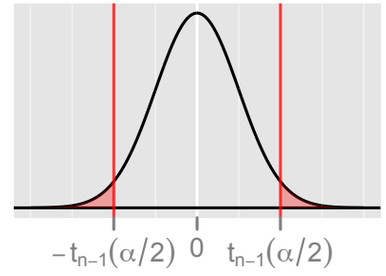
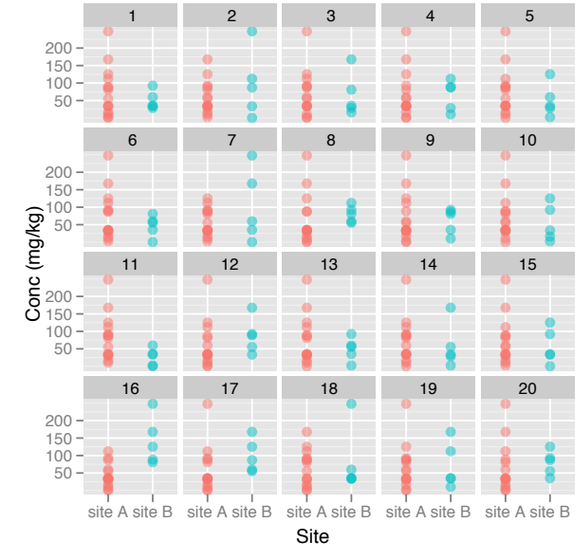
| | Mathematical Inference | Visual Inference |
|---|---|---|
| Hypothesis | $H_0 : \mu_1 = \mu_2$ vs $H_a : \mu_1 \neq \mu_2$ | $H_0 : \mu_1 = \mu_2$ vs $H_a : \mu_1 \neq \mu_2$ |
| | ↓ | ↓ |
| Test Statistic | $T(y) = \frac{\bar{y}_1 - \bar{y}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$ | $T(y) =$   |
| | ↓ | ↓ |
| Sampling Distribution | $f_{T(y)}(t)$;   | $f_{T(y)}(t)$;   |
| | ↓ | ↓ |
| Reject $H_0$ if | observed $T$ is extreme | observed plot is identifiable |