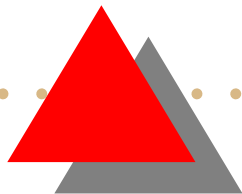# Irrigation

(STATS660.2: Case studies in linear mixed models)
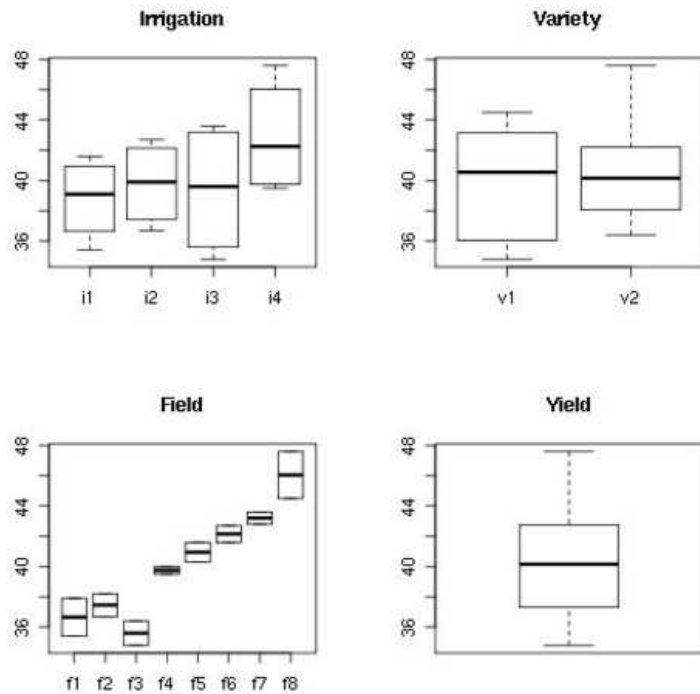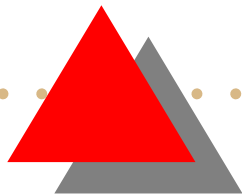
Anonymous

The Data

Figure 1: Boxplots of the yield group according to each of the three effects: irrigation, variety and field. The last boxplot shows the yield total.
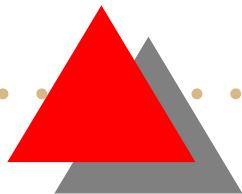
The Model and Hypothesis

$$y_{fiv} = \mu + \iota_i + \nu_v + (\iota\nu)_{iv} + \phi_f + \varepsilon_{fiv}$$
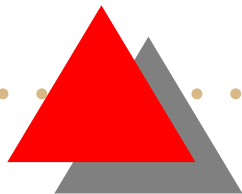
Matrix formulation

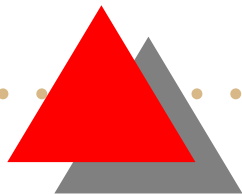# *Anova tables, tests and estimates of variance components.*
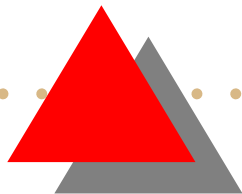
Estimating equations (for u and beta) and solutions.
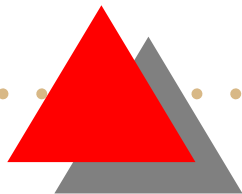
REML estimates (of variances).
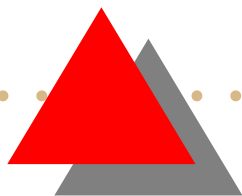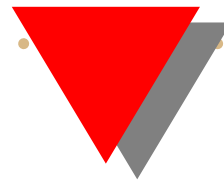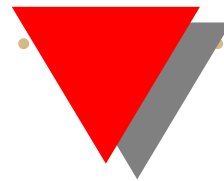
Estimate with all effects fixed.

The SS-formulas in the ANOVA tables.
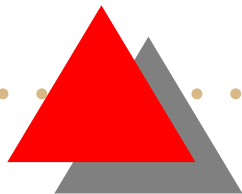
SS computed by hand.

ML estimates.

Compare estimates of fixed effects (sl 30 vs. sl 60)

Compare variance and SS esti-mates (sl 25, sl 35, sl 55, sl 60)

Compare results from assuming fixed vs. random effects.

Discussion