



Barley seed example

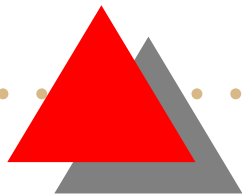
(STATS660.2: Case studies in linear mixed models)

Anonymous

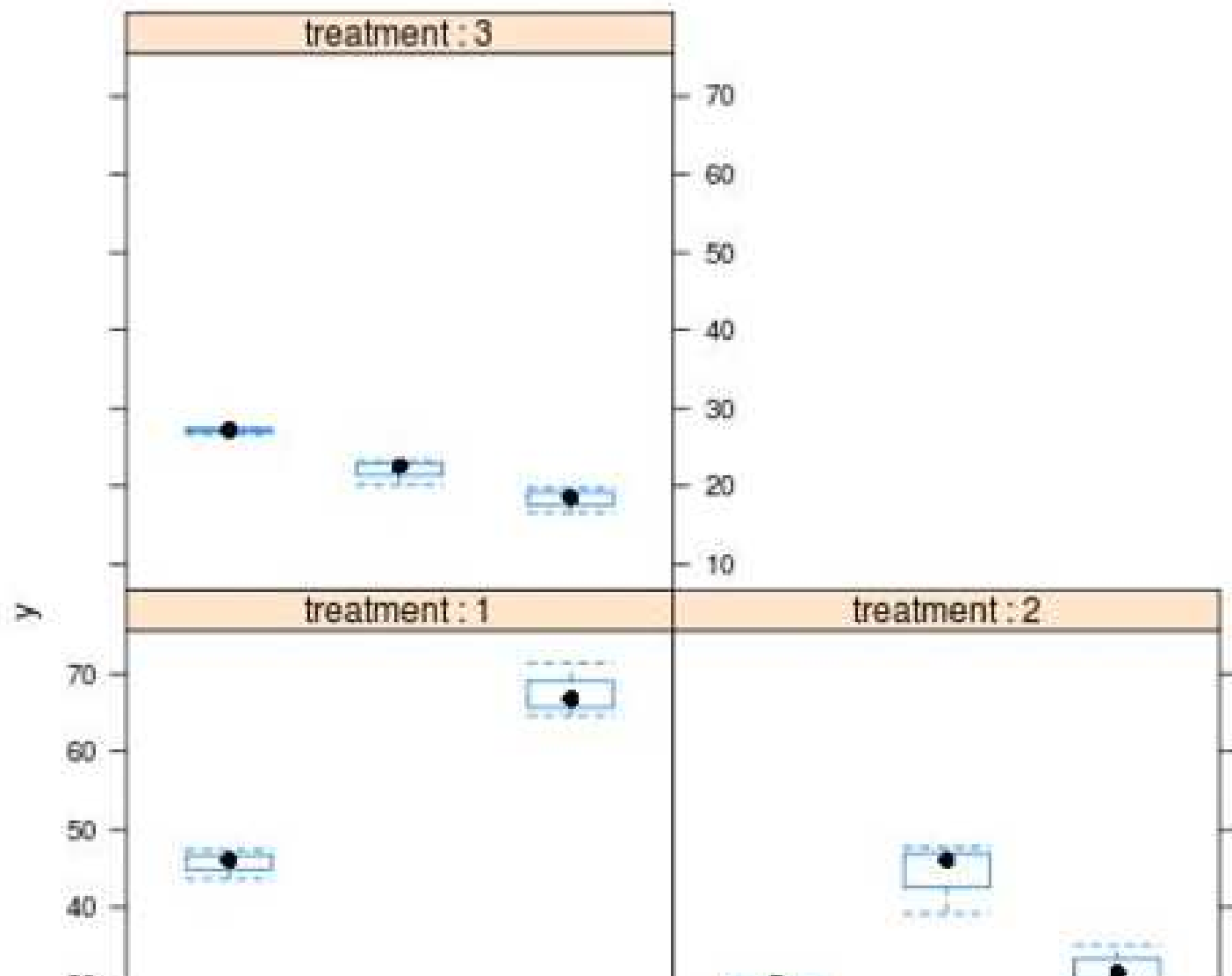




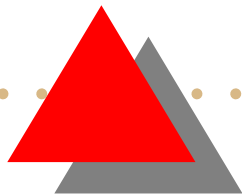
Anova tables, tests and estimates of variance components



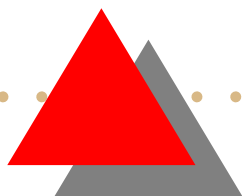
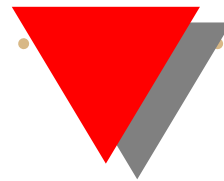
The data



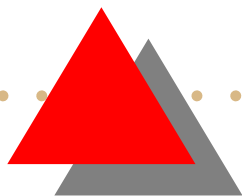
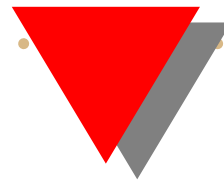
The model and hypothesis



Matrix formulation

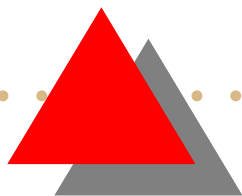


Matrix formulation



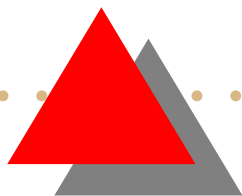


Estimating equations for α and β





*Restricted maximum likelihood
estimates of variances*



Likelihood ratio test of hypothe- sis



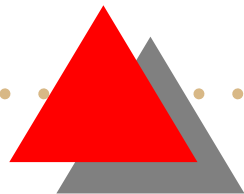


Estimate with all effects fixed

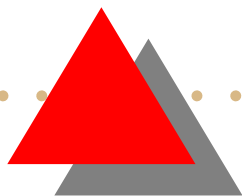
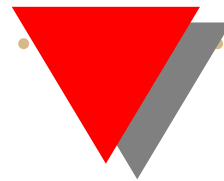




The ss-formulas in the ANOVA tables



SS computed by 'hand'

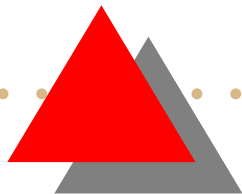




Maximum likelihood estimates



Compare estimates of fixed ef- fects

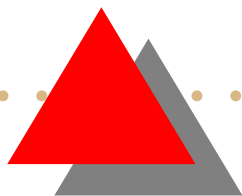


Compare variance and SS estimates

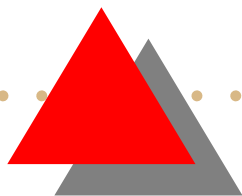




*Compare results from assuming
fixed vs random effects*



Discussion



The model and hypothesis

