

STA101 Problem Set 7

Summer I, 2021, Duke University

Exercises from the OpenIntro book

Chapter 7 exercises 7.7, 7.16, 7.27, 7.38, 7.46.

Additional problems

Problem 6

(Adapted from Exercise 7.33.)

A large farm wants to try out a new type of fertilizer to evaluate whether it will improve the farm's corn production. The land is broken into plots that produce an average of 1,350 pounds of corn with a standard deviation of 100 pounds per plot. The owner is interested in detecting any average difference of at least 50 pounds per plot. How many plots of land in each group would be needed for the experiment if the desired power level is 80%? Assume each plot of land gets treated with either the current fertilizer or the new fertilizer (that is, there are only two groups of plots).