



EJERCICIO 1

(Adaptado de "Statistics for Environmental Engineers", CRC Press)

Discharge Permit. The discharge permit for an industry requires the monthly average COD concentration to be less than 50 mg/L. The industry wants this to be interpreted as "50 mg/L falls within the confidence interval of the mean, which will be estimated from 20 observations per month." For the following 20 observations, would the industry be in compliance according to this interpretation of the standard?

57 60 49 50 51 60 49 53 49 56 64 60 49 52 69 40 44 38 53 66

EJERCICIO 2

(Adaptado de "Statistics for Environmental Engineers", CRC Press)

Biosolids. Biosolids from an industrial wastewater treatment plant were applied to 10 plots that were randomly selected from a total of 20 test plots of farmland. Corn was grown on the treated (T) and untreated (UT) plots, with the following yields (bushels/acre).

UT	126	122	90	135	95	180	68	99	122	113
T	144	122	135	122	77	149	122	117	131	149

EJERCICIO 3

(Adaptado de "Statistics for Environmental Engineers", CRC Press)

Stream Monitoring. An industry voluntarily monitors a stream to determine whether its goal of not raising the level of pollution by more than 4 mg/L. The observations below for September and April were made every fourth working day. Is the industry's standard being met?

September		April	
Upstream	Downstream	Upstream	Downstream
7.5	12.5	4.6	15.9
8.2	12.5	8.5	25.9
8.3	12.5	9.8	15.9
8.2	12.2	9.0	13.1
7.6	11.8	5.2	10.2
8.9	11.9	7.3	11.0
7.8	11.8	5.8	9.9
8.3	12.6	10.4	18.1
8.5	12.7	12.1	18.3
8.1	12.3	8.6	14.1