EXST7015 : Daily Design Question 12

Carefully read the description of the experiment below. Be prepared to answer the questions that follow the design description as a class quiz.

An Agricultural researcher is interest in the effect of competition for light by Sugar Beet plants. Sugar beets average about 22 inches high, and many weeds that infest the sugar beet fields surpass this height. Wild mustard, for example, averages about 26 inches. The researcher establishes a sugar beet field with 60 rows, each 10 m long with suitable buffer zones. Each row is seeded with sugar beets at the usual commercial rate and with wild mustard plants at one of 6 rates (10 rows were randomly allocated to each mustard infestation rate). The rates of mustard infestation were 0, 2, 4, 8, 16 and 32 plants per row). The variable of interest is the sugar beet harvest biomass from each row.

Questions:

What is the treatment arrangement for this experiment?

    (a) single factor (b) factorial (c) nested

What is the experimental design for this experiment?

    (a) CRD (b) RBD (c) LSD (e) Split-plot (d) Repeated Measures

Does it seem to you that the treatments are fixed or random?

    (a) fixed (b) random

What is the experimental unit for this experiment?

    (a) sugar beet plant (b) mustard plant (c) row (d) harvest biomass

What is the sampling unit for this experiment?

    (a) sugar beet plant (b) mustard plant (c) row (d) harvest biomass

What is the dependent variable for this experiment?

    (a) sugar beet plant (b) mustard plant (c) row (d) harvest biomass

If the design is RBD, what are the blocks?

    (a) sugar beet plant (b) mustard plant (c) row (d) harvest biomass

How many degrees of freedom are available for testing the treatments?

    Enter the correct value here: _____