

**EXST7015 : Daily Design Question 01**

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

**A researcher in Food Science is examining the electrical energy required to process corn into flakes. His objective is to determine if there are differences among a dozen different corn hybrids.**

**The experiment consists of obtaining three randomly selected 50-pound samples of each of the 12 hybrids (there are 36 50-pound samples in all). The 36 samples were processed in random order, and the electrical energy and time required to process each sample of 50 pounds was recorded. Several variables of potential interest were measured on the processing and on the resulting flakes. We will concern ourselves only with the energy needed for processing each sample. This is the dependent variable of interest.**

**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 more likely that the treatments are fixed or random?**

- (a) fixed (b) random**

**What is the experimental unit for this experiment?**

- (a) hybrid (b) 50-pound sample (c) electrical energy (d) flakes**

**What is the sampling unit for this experiment?**

- (a) hybrid (b) 50-pound sample (c) electrical energy (d) flakes**

**What is the dependent variable for this experiment?**

- (a) hybrid (b) 50-pound sample (c) electrical energy (d) flakes**

**If the design is RBD, what are the blocks?**

- (a) hybrid (b) 50-pound sample (c) electrical energy (d) flakes**

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

**Enter the correct value here: \_\_\_\_\_**