Glossary:

Experiment: A study designed to be conducted under controlled conditions. An experiment is generally aimed at comparing the effects of various alternative treatments, one of which is applied to each of a number of experimental units.

Experimental unit: The basic object upon which a study (usually an experiment) is carried out, for example, an animal, a tree, a sample of soil, a household, a patient in a clinical trial. Sampling Unit and Observational Unit are similarly defined, but tend to be applied to surveys and observational studies, respectively

simple trials - traditional ANOVA procedure used to compare the means of the comparison groups(several treatment groups)

Treatment: Used in experimental design to define a treatment administered to a set of units levels - number of forms the factor can take are called the *levels* of the factor

Factor: A general term for a parameter in a statistical model generally used to describe a treatment with discrete levels

factorial experiments - of the possible different combinations of treatment levels are of to be studied then the experiment is called a *factorial* experiment

Simple effect – difference in effect of a factor from higher level to lower level keeping the other factors in the experiment at constant level

Main effect: The effect of one factor alone averaged across the levels of other factors.

Average – A measure of a central value

Response – outcome of the dependent variable

Interaction effect - If the effect of one factor on a response variable depends on the level of another factor

Mean effect – Average3 effect of all the treatment combinations (Different levels of all the factors)

Yield – Response(outcome) of the depended variable

Block: A homogeneous grouping of experimental units or subjects in experimental design (also sometimes referred to as **Replicate**)

Variable (Variate) : A value or measurement that varies among experimental units