Intensity of the selection

- The intensity of the selection is also called as selection pressure and it is the mean deviation of the selected individuals in units of standard deviation.
- The intensity of selection is symbolized by “i”. It depends on the proportion of the individuals selected and it can be determined from the tables of properties of normal distribution.
- **i = Selection differential / Phenotypic standard deviation**

Accuracy of selection

- The accuracy for selection is **directly** related to the heritability of the trait.
- The heritability is high, the selection on phenotype will permit an average estimation of breeding value.
- If heritability is very low, many errors will be made.
- Increased accuracy in selection can be obtained by comparing the animals in controlled environmental conditions.
- The techniques may increase the heritability of the trait by reducing the environmental variation. When the accuracy of selection on individual is low, accuracy can be increased by
  - using additional measurements for the trait from the same individual,
  - using measurements of correlated traits and
  - using measurements of relatives.

Selection limit

- Selection limit: When the selection is carried out continuously/regularly , the response to selection will be more/optimal for a few generations, and then it slows down and finally stops/ceased.
- When the response to selection has stopped, the population is said to be at "plateau" or selection limit".
- The main cause for this is fixation of favourable genes. This leads to reduction or absence of genetic variation.
- In this way further improvement depends on introduction of new genetic variation.
- The new genetic variation can be introduced by cross breeding, mutation and genetic engineering.

- (Sources: ICAR NBAGR,IASRI etc)