Hi y x k = e.y., k =

HI = Biological yield / Economic yield HI – can also be expressed as %.

Biological Yield: The total dry matter produced by a crop. Economic Yield: Fraction of the biological yield which is useful for man. B Y x K = E.

Y., K = constant [Coefficient of effectiveness of Harvest Index]

Importance:

A balance between the productive parts of the plant and reserves which form economic yield is essential. A considerable Increase in the yield of the economic product is usually dependent on an increase in total dry matter produced. Factors Affecting Economic Yield i. Source (photosynthetic organs) ii.

Sink (storage organs) iii. Capacity to translocate assimilates from one part to other. iv. Water v.

Nutrient uptake/Transport vi. Plant population vii. Radiation

Recent Views/Approach:

Yield is limited by photosynthetic rate and attention is paid to selection of plants with more erect leaves (or) higher photosynthetic rate or Calvin cycle plants lacking photorespiration.

Constraints in Pulse Production Area 24 mn ha, productivity 550 kg/ha. Pulse requirement – 80 gm/day. Availabiilty > 40-50 g/ day.

Factors:

1. Unfavourable weather conditions 2.

Abnormal soil conditions 3. Variable constraints (a) Lack of high yielding varieties (b) High susceptibility to disease and insect (c) Flower drop (d) Lack of short duration variety (e) Poor response to inputs (f) Instability in performance 4. Seed constraints (a) Poor quality (b) High price (c) Delay in supply 5.

Agronomic constraints (a) Improper showing time (b) Low seed rate (c) Defective method of sowing (d) Inadequate interculture (e) Insufficient irrigation 6. Plant protective constraints 7. Inadequate extension facilities 8.

Socio economic constraints 9. Inadequate research infrastructure 10. Miscellaneous (a) Loss during storage (b) Loss during processing