



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

LECTURE - 9

TOOLS FOR DETERMINING PRODUCTION AND EFFICIENCIES IN CROPPING AND FARMING SYSTEM



Centurion
UNIVERSITY
Shaping Lives...
Empowering Communities...

9.1. Cropping Intensity

Gross cropped area

$$\text{Cropping Intensity} = \frac{\text{Gross cropped area}}{\text{Net cropped area}} \times 100$$

- **Example:** Calculate cropping intensity from the following information
- Net cultivated area in farm = 10 ha
- Cultivated area in *Kharif* (A1)=10 ha, *Rabi* (A2) = 10 ha and *Zaid* (A3)= 10ha
- Gross cultivated area =A1+A2+A3= 30 ha
Cropping Intensity= 30/10 *100= 300 per cent



Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities...*

$$2. \text{ Multiple cropping Index} = \frac{\sum_{i=1}^n a_i}{A} \times 100$$

- $I=1,2,3,\dots,n$
- N = total number of crops
- a_i = area occupied by i th crop
- A = Total land area available for cultivation



Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities...*

Mean Y- S. D

$$3. \text{ Sustainability Yield Index} = \frac{\text{Mean Y} - \text{S. D}}{\text{Y max}}$$

S. D = standard deviation



Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

4. Sustainability Value Index

=

Average net profit – SD

observed maximum net profit



Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities...*

Gross returns

$$5. \text{ B: C ratio} = \frac{\text{-----}}{\text{Cost of cultivation}}$$