Effect on crop

Critical Stages of Plant growth of light:

- Radiation intensity during the third month of maize plant
- Rice at 25 days prior to flowering
- Barley at flowering period

Solar radiation and crop plants

There are three broad spectrums

1. Shorter than visible range:

- Chemically very active when plants are exposed to this radiation the effects are detrimental.
- Atmosphere acts as regulator to this radiation and none of cosmics, gamma and X rays reaches to the earth.
- The UV rays of this segment reaching to the earth are very low it is normally tolerated by the plants

2. Higher than visible wavelength

- Referred to IR radiation
- It has thermal effect on plants.
- In the presence of water vapour, this radiation does not harm plants, rather it supplies the necessary thermal energy to the plant environment.

3. Visible spectrum

- Found between UV and IR radiations, also referred as light.
- Intensity, quality and duration are important for normal plant growth.
- Poor light leads to plant abnormalities.
- Light is indispensable to photosynthesis.
- Light affect the production of tillers, the stability, strength and length of culms.
- It affects the yield, total weight of plant structures, size of the leaves and root development.

BAND	WAVELENGTH	Specific effects on plant
1.	Radiation within 1000 and more	Not specific effect on plant activity. Radiation absorbed by plant is transformed into heat. This Radiation does not interfere with bio logical process.
2.	1000 – 720	Radiation in this band helps in plant elongation activity. The far red region (700 – 920 nm) has important role on photo - periodism, germination of seed, flowering and coloration of fruit
3.	720 – 510	In the special region light strongly absorbed by chlorophyll it generate strong Photosynthetic and photoperiodic activity.
4.	610 – 510	This is green yellow region. Absorption in this spectral region has low photosynthetic Effectiveness and weak formative activity.
5.	510 – 400	It is the strongest chlorophylls and yellow pigment absorption region, in the blue violet range, Photosynthetic activity become very strong. This region has very strong effect on formation of tissue
6.	400 – 315	Radiation In this band produces formative effects. It has drawfing effect on plants and thickening effect on plant leaf .
7.	315 – 280	Radiation in this band has detrimental effect on most plant.
8.	Less than 280	Lethal effect most of the plants get killed due to radiation in this band UV range have germicidal action.