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Lecture-1

Chapter-1 - Introduction to crop physiology and its importance in Agriculture

Definition of Crop and Crop Physiology

Crop- Community of plants grown for specific purpose

Crop Physiology- Study of various life processes of crops.

The subject matter of crop physiology applied for better management of crops.



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Importance of crop physiology in agriculture and horticulture

- ❖ Research physiology to provides practical solutions in agriculture and horticulture.
- ❖ Understanding the physiological aspects of provides a reasonable scientific base for effective monitoring and beneficial manipulation of these phenomenon's.
- ❖ Studying this phenomenon with a view to develop better crop management practices.



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- ❖ Knowledge in **Seed physiology** helps us to predict the future growth and yield of crop.
- ❖ The production of total dry matter is a function of **Leaf Area Index**.
- ❖ Dry matter partitioning is main area of interest of farmers.
- ❖ Majority of Herbicides act by interrupting photosynthetic electron flow.
- ❖ Nutrophysiology is another important area to understand crop physiology.



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- ❖ **photoperiodism** is used to choose photo insensitive varieties.
- ❖ Hormones play important role in agriculture
- ❖ stress physiology helps in production of various stress tolerant genotypes.
- ❖ **Water use efficiency** is the most dependable trait among Several physiological approaches.



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- ❖ **Post harvest losses** of agriculture and horticulture are causing a great distress to farming community. Control of moisture content and maintenance of low temperatures have proved effective in storage of grains.

- ❖ Thus, physiological understanding of crop plants provides the fundamental scientific base about various aspects of metabolism, growth and development. This is immensely important for crop improvement or technology improvement in agriculture or horticulture