SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore – 35

Accredited by NBA – AICTE and Accredited by NACC – UGC with 'A+ Grade
Approved by AICTE , New Delhi and Affiliated to Anna University , Chennai.

DEPARTMENT OF AGRICULTURE ENGINEERING

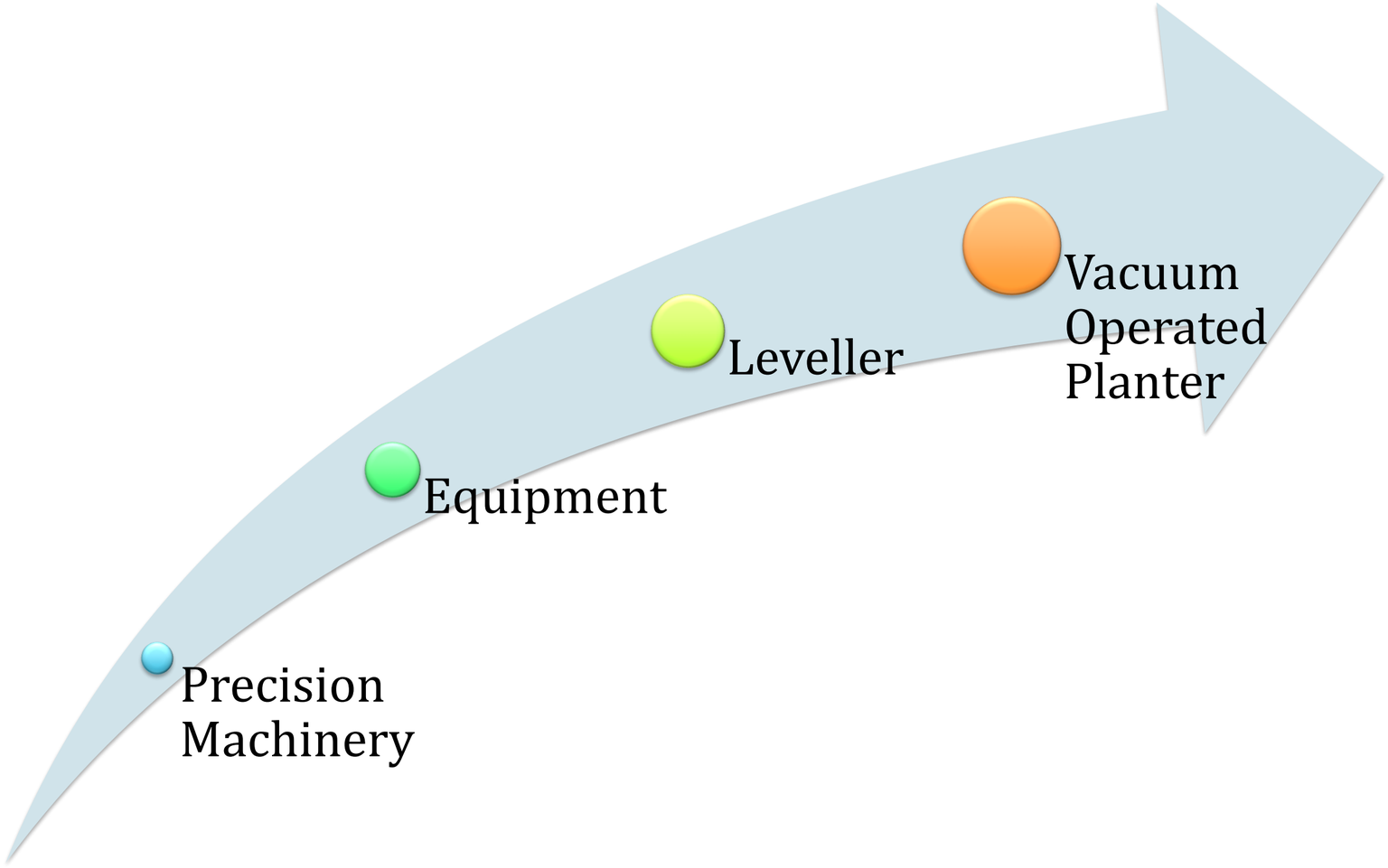
19AGT203 – AUTOMATION TECHNIQUES IN AGRICULTURE ENGINEERING

II – YEAR IV SEMESTER

UNIT 1 – ADVANCED MACHINERY/EQUIPMENT IN AGRICULTURAL ENGINEERING- I

TOPIC 6 – SPRINKLER AND MICRO IRRIGATION SYSTEMS, PROTECTED CULTIVATION

Last Class Review



Micro Irrigation System

- Micro-irrigation system is a modern method of irrigation. In, this method which we deliver water slowly. Usually delivered in the form of discrete droplets, continuous drops, streams, etc. Micro-irrigation system is popular these days for its low cost and water-efficiency.

Types of Micro Irrigations System

- Sprinkler
- Drip
- Spray
- Sub Surface
- Bubbler

Cost of the Micro Irrigation System

- Bucket Kit System
- Drum Kit System
- Micro Sprinkler System

Protected cultivation

- It is a process of growing crops in a controlled environment which means that the temperature, humidity, light and such other factors can be **regulated as per requirement of the crop**.

Objectives of Protected Cultivation

- Protection of plants from abiotic stress (physical or by non-living organism) such as temperature, excess/deficit water, hot and cold waves, and biotic factors such as pest and disease incidences, etc
- Efficient water use with minimum weed infestation.
- Enhancing productivity per unit area.
- Minimising the use of pesticides in crop production.
- Promotion of high value, quality horticultural produce.
- Propagation of planting material to improve germination percentage; healthy, uniform, disease free planting material and better hardening.
- Year-round and off-season production of flower, vegetable or fruit crops.
- Production of disease-free and genetically better transplants.

Limitations of Protected Cultivation

- High cost of initial infrastructure (capital cost).
- Non-availability of skilled human power and their replacement locally.
- Lack of technical knowledge of growing crops under protected structures.
- All the operations are very intensive and require constant effort.
- Requires close supervision and monitoring.
- A few pests and soil-borne pathogens are difficult to manage.
- Repair and maintenance are major hurdles.
- Requires assured marketing, since the investment of resources like time, effort and finances, is expected to be very high.

Schemes for protected cultivation

- The Government of India executes various schemes for protected cultivation at the central and the state levels to popularise these high-tech plant growing techniques.
- National agencies through their leading schemes viz.

o National Horticulture Board (NHB), National Horticulture Mission (NHM), Mission for Integrated Development of Horticulture (MIDH)

o Rashtriya Krishi Vikas Yojana(RKVY) creates awareness and provides financial support to the farmers, so that protected farming for high value horticultural crops could be adopted easily.

See You at Next Class!!!!