

# Lawn

A lawn is a ground covered with perennial fine grass which persists under continuous close mowing and requires proper maintenance.

## Importance of lawn

1. Aesthetic value
2. Recreational value
3. Ability to mitigate run off
4. Climate control- Lawn has a cooling effect
5. Dust filter-Lawn traps dust and smoke particles from air and acts as a filter.

## Types of lawn grasses

### I. Warm season lawn grass

- They are mostly drought tolerant lawn grasses
  - Suitable temperature range is 25-35<sup>0</sup>C
1. . **Bermuda grass/Doob grass/Culcutta Doob (*Cynodon spp* and hybrids)**
    - Also known as doob grass
    - It is a major turf species for sports fields, lawns, parks, golf courses etc.
  2. **Bahia grass (*Paspalum notatum*)**
    - It prefers sandy soils and is tolerant to shade
    - It can survive period of drought
  3. **Buffalo grass - *Buchloe dactyloides***
    - Becoming more popular as a low maintenance grass

#### **4. Carpet grass *Axonopus affinis***

- Grow well on poor and wet soil
- Moderately tolerant to drought and shade and erosion controlling

#### **5. Zoysia grass**

- It is grown in all kinds of soils ranging from sandy to clay soils
- It is extremely drought tolerant

*Zoysia japonica* – Japanese lawn grass

*Zoysia tenuifolia* – Mascarene grass

#### **6. St. Augustine grass (*Stenotaphrum secundatum*)**

- Coarse textured, but fast growing
- Most shade tolerant

#### **7. Centipede grass (*Erenochloa ophiuroides*)**

- Coarse textured, slow growing grass
- Performs well on poor soils under a low maintenance plan

## **II. Cool Season Lawn Grass**

- They are for temperate condition
- Suitable temperature range for their proper growth is 10<sup>0</sup>C-25<sup>0</sup>C

#### **1. Bent grass – *Agrostis* spp.**

- It is considered as most beautiful of lawn grass owing to its texture, deep green colour and low growing habit.
- They are called luxury grass that involves high maintenance.
- It is used for golf courses, baseball fields and very elegant lawns.
- It can tolerate very acid soils.

## **2. Blue grass (*Poa pratensis*)**

- They require medium amount of lawn care
- Ideal for home as well as sports areas
- They are very beautiful with deep bluish or bright blue- green in appearance.

## **3. Rye grass (*Lolium multiflorum*)**

- It grows well and fast from seeds.

### **Requirements of a lawn**

- Should establish fastly
- Should have creeping root system
- Growth rate should be slow
- Free from weeds
- Free from pests and diseases
- Should withstand frequent mowing
- Uniform colour

### **Establishment of lawn**

#### **1. Selection of suitable lawn grass for particular condition**

- All grass species are not equally suitable for all conditions.

#### **2. Land preparation**

- Dig soil up to 45 cm depth and expose to sun in May-June.
- Turn soil 2-3 times, remove stones, rocks and break big clods.
- Spread 10-15 cm thick layer of well rotten weed free farm yard manure and thoroughly mix in soil.
- Irrigate the field thoroughly and allow all weeds to germinate.

### Ideal soil/ growing medium

- Sandy-loam,
  - Well fertile,
  - Well drained with good water holding capacity
  - Having pH of 5-7
  - Sufficient humus or organic matter

### Levelling and grading of ground

- Level the soil for uniformity of growth throughout the entire area
- Leveling is checked visually, flooding the area and stretching the rope
- There should be 20-30 cm slope for every 100 m length

## **3. Planting methods**

### **i. Seeds**

E.g.: Carpet grass, Bermuda grass, *Zoysia japonica*

#### **Seeding**

- This method is common to grow cool season lawn grasses
- Bermuda grass and Kentucky blue grass are developed by seeding.
- Seeding rate is 2-3 kg seeds per 100 m<sup>2</sup>
- About 25 Kg seed is mixed in 200-250 Kg sand and is broadcasted evenly in the prepared field.
- After seeding, soil is raked lightly to cover the seed to a depth of 2-5 mm
- Do light rolling to firm the soil around seed
- Sprinkle water regularly until seedling emerges.

- Establishment cost is cheaper, less labor is required, but lawn is not even.

## ii. Vegetative planting methods

- a) Sodding/turfing
- b) Sprigging/Dibbling
- c) Stolonising
- d) Plugging
- e) Turf plastering

### a) Sodding

- Placing squares of turf grass and adhering soil into a final planting site
- Squares are tightly established to one another to produce a complete cover
- It is an expensive method of vegetative propagation
- It can enable to establish an instant lawn

#### *Establishment procedure for sod include*

- Soil preparation
- Obtaining sod of high quality
- Transplanting
- Post planting care

### b) Sprigging/Dibbling

- Stolon (a horizontal branch from the base of the plant) or rhizomes are planted in small holes
- Sprig is an individual stem or piece of stem of grass without any adhering soil
- Sprigs are planted at a depth of 1 – 2 inches, 4 – 6 inches apart in the furrows.

### **c) Stolonizing**

- It is a form of sprigging
- It is the broadcasting of stolons on the soil surface and covering by topdressing or pressing into the soil.
- Sometimes called broadcast sprigging
- It requires more planting material
- It produces quicker cover than the sprigs

### **d) Plugging**

- Planting of 4 to 10 cm diameter circular, square or block shaped pieces of sod at regular intervals, 15-30 cm apart.
- Most common turf grasses - St. Augustine grass, Zoysia grass, Centepede grass
- Closer the plugs are planted together, faster the sods will develop
- Fertilizer application is required 3 to 4 weeks after plugging

### **e) Turf plastering**

- Commonly followed in sloppy areas where the gradient is very high
- Remove strands of grasses from nursery, chop with one node in each bit. Put this in cow dung slurry. Then spread it on the garden.
- Can be done only in rainy season
- Weed trouble from cow dung is a problem.

## **Irrigation**

- Apply enough water to moisten the root zone as possible
- If the roots grow 15 cm deep, watering should be done to that depth.
- If the soil is mainly clay, apply 2- 4 cm water to moisten root zone to 15 cm depth
- Grass that grows on sandy soils must be watered more often than the grass growing on clay or loam soils.
- Most efficient time of watering is late evening and early morning
- Sprinklers are mostly used for watering

## **Mowing of lawn**

- Cutting of the lawn grass to maintain its attractiveness
- Minimum height of lawn is 5 cm
- Not more than 1/3 of the grass height is removed at a single mowing
- Bermuda grass and blue grass may be mowed every 4 to 5 days when it is actively growing but only once in every 7 to 10 days when growth is slowed.
- Buffalo grass lawns require mowing once in every 10-20 days
- Let grass clippings fall back onto the lawn
- Grass clippings decompose quickly and provide a source of recycled nutrients for the lawn.

## **Rolling**

- Roller is used to level the soil surface
- It makes the soil compact to provide stability to the lawn

- Rolling forms, a thick turf
- Thick turf reduces weed emergence
- Minimises damage in the use of lawn to various purposes
- Roller is drawn manually or attached to a garden tractor.

### **Fertilisation**

- Improves turf grass density, colour and recovering potential.
- Nitrogen is the most important nutrient for promoting good turf colour and growth
- Excess N is harmful and increases mowing requirements
- NPK @20:5:10

### **Weed Control**

- Difficult to selectively control weeds with herbicides after the turf is established.
- Manual weeding is preferred to herbicide treatment.

### **Pests and Diseases**

#### **Pests**

- Termites
- Army worms
- Root feeders like grubs, crickets, wire worms, Ants etc.



## Diseases

- Leaf spot
- Rust
- Brown patch- *Rhizoctonia solani*

## Rejuvenation of lawns

Rejuvenation is a multi-step process that helps to reduce and repair

- compacted soil,
- excessive thatch build-up
- unmanageable weeds and moss. Total lawn replacement is a very expensive and difficult process.

## Methods of Rejuvenation of lawns

- 1. De-Thatching** – Removal of excess thatch (dead grass) build up by raking
- 2. Aeration** –
  - Aeration involves perforating the soil with small holes to allow air, water and nutrients to penetrate the grass roots.
  - The process of aeration allows better drainage, reduced compaction of the soil and encourages root growth.
- 3. Liming** is done to adjust the pH of soil between 5.5 and 7.5.
- 4. Seeding** – Overseed the entire lawn to fill in any thin areas or bald spots.
- 5. Fertilization** – It enhances and accelerates the lawn growth.



Lawn mower



Lawn roller