

**RAMA UNIVERSITY, KANPUR, UTTARPRADESH**

**Faculty of Agricultural Sciences & Allied Industries**



**Dr. Ajay Singh**  
**Assistant Professor (Agronomy)**

**Course: Principles of Organic farming**

**B. Sc. Ag. 3<sup>rd</sup> Year**

# Shelter zones / Shelter belts

These are belts/blocks consisting of several rows of trees established at right angles to the prevailing wind.

## The purposes are:

- a) To deflect air currents,
- b) To reduce the velocity of prevailing winds,
- c) To provide general protection to the leeward areas against the effects of wind erosion,
- d) To protect the leeward areas from the desiccating effects of hot wind,
- e) To provide food, fodder, timber etc.

## The following are the main characteristics of shelter-belts:

- i) Shape and composition: Shelter-belts have a typical triangular shape. This can usually be brought about by raising tall trees in the centre.
- ii) Density and width: A certain degree of penetration by winds is planned as by raising a solid wall, the protection decreases very fast on the leeward side. Shelter-belts up to 50 m width are considered ideal under Indian conditions.
- iii) Height and spacing: The ratio of height and width should be roughly 1:10. However, this figure may vary with local conditions.
- iv) Orientation: Orientation of shelter-belts depends on the direction and velocity of the prevailing winds. Shelter-belts may be raised in quadrangles if the wind direction tends to change very often.
- v) Length: Length is an important consideration as far as shelterbelts are concerned. The minimum length of a shelter-belt should be about 25 times its height,
- vi) Choice of species:

## The following species are recommended:

**Grasses:** *Saccharum spontaneum*, *S. munja*, *Panicum antidotale*, *Cenchrus* sp.

**Shrubs:** *Calotropis procera*, *Clerodendron phlomoides*, *Cassia auriculata*, *Dodonaea viscosa*

**Trees:** *Acacia arabica*, *A. leucophloea*, *Dalbergia sissoo*, *Lannea coromandelica*, *Eucalyptus* spp., *Tamarix articulata*, *Parkinsonia aculeata*, *Prosopis juliflora*, *Prosopis Spicigera*, *Casuarinaequisetifolia*