

# AMARANTHUS

- Belongs to the genus *Amaranthus* and family Amaranthaceae.
- Family Amaranthaceae comprises 65 genera and 850 species, of which only 50-60 species are edible
- Its native of India and is common leafy vegetable grown during summer & rainy season.
- rapid growth, quick rejuvenation after each harvest, high yielding capacity, high nutritive value.
- Leaves & tender stems are rich source of proteins, mineral, Ca, Fe, folic acid, vitamin A & C.
- Centers of diversity are Central and South America, India, south-east Asia
- Secondary center of diversity is west Africa and east Africa
- Among leafy types, *A. tricolor* occupies a predominant position in India (South India) with different morphological forms in colour and shape of leaves
- *A. blitum* and *A. tristis* are the other species which are under cultivation.
- A few other are weeds viz., *A. spinosus*, *A. viridis* and *A. graecizans* which are used as pot herbs, are widely distributed in fallow lands.
- Interspecific and inter-varietal hybridization in nature has caused a wide variation differing in pigmentation of plant parts as well as in the inflorescence.

The important species of leafy amaranth are

*A. tricolor* ( $2n=2x=32$ )

*A. dubius* Mart.ex Thell. ( $2n=64$ )

*A. lividus*

*A. blitum*

*A. tristis* L.

*A. viridis* L.

*A. graecizans* L.

The most popular grain amaranth species are:

*A. hypochondriacus* L.

*A. cruentus* L. ( $2n=32$ )

*A. caudatus* L.



*Amaranthus spinosus*



*Amaranthus viridis*



*Amaranthus tricolor*

Bailey (1966) classified Amaranthus as :

<b>Blitopsis</b>	<b>Amaranthus</b>
have flower clusters in axils	have only terminal flower clusters
consists of the green types	includes important grain types
Self pollinated	Favour cross pollination

The basic unit of the inflorescence is dichasial cymes called **glomerule**  
Dominant green perianth colour is a marker to detect cross pollination in grain types  
**AMARANTHUS SPECIES ARE CHARACTERISTICALLY WIND POLLINATED**  
(**Anemophilous**)

## Varieties recommended

- Co.1( *A. dubius*)
- Co.2 ( *A. tricolor*)
- Co.3 (*A. tristis*)
- Chhoti Chaulai (*A. blitum*)
- Badi Chaulai (*A. tricolor*)
- Pusa Kirti (*A. tricolor*)
- Pusa Kiran (*A. tricolor* x *A. tristis*)
- Puasa Lal Chaulai (*A. tricolor*)
- Arka Suguna (introduction IIHR 13560)
- Arka Arunima
- Amont (*A. cruentus*)

## Climate

- Widely distributed in both temperate and tropical regions of the world
- Grow under varying climatic conditions; day length and respond differently to changes in photo- and thermo- periodism.
- *A. caudatus*, *A. cruentus* and *A. edulis* are short day species, while
- *A. hypochondriacus* is day neutral

## Soil

- Sandy loam slightly acidic is preferred
- Heavy clay soils with very poor drainage or sandy loam with very poor water holding capacity are not suitable

## **Sowing Time**

Throughout the year in south India

In north Indian plains May-June

## **Seed Rate(kg/ha)**

Direct sown: 2kg

Transplanted crop: 1kg

**Spacing:** 20 x 20cm

**Manuring and fertilization**

**FYM@25tonnes**

**N:P:K(kg/ha): 75:25:25**

## **Irrigation**

Need irrigation after 5-7 days till first two months but gradually no irrigation is required when monsoon start ensure proper drainage

## Harvesting

- First cut/harvest may be taken after 25-30 days of sowing/transplanting
- Either whole plant is uprooted by pulling or multi-cuts (4-5) may be taken
- Yield is about 60-80q/ha

## Insect pests

Insects	Control
Leaf webber, caterpillars and ants	Spray Malathion 50 EC@1.5-2ml/l)
Diseases	
Leaf spot, white rust	Spray DM-45@2.5/l
Bacterial leaf spot	Spray streptocyclin@1mg/l