



**Biotica
Research
Today**
Vol 4:5
2022

369
370

Amaranthus (*Amaranthus* sp.) Cultivation in India

Ganesh Kumar Koli^{1*}, Deepak Kumar Koli², Ravindra Kumar Meena¹, Kiran¹ and Deepak Kumar¹

¹Dept. of Genetics and Plant Breeding, CCS Haryana Agricultural University, Hisar, Haryana (125 004), India

²Division of Microbiology, ICAR-Indian Agricultural Research Institute, New Delhi (110 012), India



Open Access

Corresponding Author

Ganesh Kumar Koli

e-mail: mr.ganesh333@gmail.com



Keywords

Amaranthus, Leafy vegetable, Vitamin A, Vitamin C

Article History

Received on: 25th May 2022

Revised on: 26th May 2022

Accepted on: 27th May 2022

E-mail: bioticapublications@gmail.com

How to cite this article?

Koli *et al.*, 2022. Amaranthus (*Amaranthus* sp.) Cultivation in India. Biotica Research Today 4(5):369-370.

Abstract

Amaranthus is the member of Amaranthaceae family and it is a leafy vegetable. Leaves and tender stems of this plant are rich in protein, minerals, vitamin A and C. Well-drained loamy soils are best for this crop. It can be grown in a pH range of 5.5-7.5. Amaranths are highly resistant to drought. Co.1, Co.2, Co.3, Co.4, Chhoti chaplain, BadiChauli, Arkasuguna, Arkasamraksha, Arkavarna, Pusakiran, Pusakeerthi and PusaChaulai are some important varieties of Amaranthus. In North India Amaranthus is sown from the middle of March up to the end of June, whereas in South India it is sown almost throughout the year.

Introduction

Amaranthus (*Amaranthus* sp.) is the most important leafy vegetable crop that belongs to the family of Amaranthaceae. In recent years, cultivation of leafy vegetables became a boon for the farmers with small land-holdings. In Amaranthus there are two types one is leafy type and another one is grain type (Steckel, 2007). Amaranthus well suits in crop rotation because of its very short duration and large yield of edible matter per unit area. Leaves and tender stems of this plant are rich in protein, minerals, vitamin A and C. The fresh tender leaves and stem are delicious when cooked and consumed like leafy vegetables.

Soil and Climate for Amaranthus Cultivation

It can be grown in a wide range of soils; however, well-drained loamy soils are best for this crop. Heavy soils with poor drainage and sandy soils with poor water holding capacity are not suitable for the cultivation of amaranths. It can be grown in a pH range of 5.5-7.5. However slightly acidic is preferred. Amaranthus is a warm-season vegetable crop. So it does well under warm climatic conditions. However it can be grown in all kinds of climatic conditions, the temperature of 22-30 °C is suitable for the cultivation of Amaranthus. Amaranths are highly resistant to drought.

Amaranthus Varieties

Co.1, Co.2, Co.3, Co.4, Chhoti chaplain, BadiChauli, Arkasuguna, Arkasamraksha, Arkavarna, Pusakiran, Pusakeerthi and PusaChaulai.

Season, Seed Rate and Sowing

In North India Amaranthus is sown from the middle of March up to the end of June, whereas in South India it is sown almost throughout the year. The seed rate is about 2 kg ha⁻¹ for direct sowing and 1 kg for transplanted crops.

Amaranthus seeds are very small, so they should be sown shallow, about 1.5 cm deep, mixed with fine soil or sand for even distribution. The seed is sown by broadcasting or by drilling in lines 20-23 cm apart, according to the variety and kind of the crop. In South India, there is also a practice of transplanting Chauli, especially with the variety BadiChauli. Its seeds are sown in a small nursery and the young plants are later transplanted either as a pure crop or along the border of the beds of the other vegetables in rows 30 cm apart and 30 cm plant to plant distance. At the time of sowing there should be enough moisture in the field for proper germination otherwise a light irrigation, should be given after sowing (Arya and Kumar, 2021).

Irrigation

Since Amaranthus is first grown as a short duration crop, it requires plenty of water for growth and high yield. Irrigate before and after sowing and at weekly intervals after germination recommended.

Weeding

One or two weeding or hoeing is sufficient for controlling weeds. Hoeing between the rows not only check weeds but also reduces the number of irrigations.

Application of Fertilizers

Apply FYM 25 t ha⁻¹, Azospirillum 2 kg and Phosphobacteria 2 kg ha⁻¹, N 75 kg and K 25 kg ha⁻¹ as basal dose. For clipping type of Amaranthus (Co3), a higher fertilizer dose of 75 kg of nitrogen, 25 kg ha⁻¹ each of phosphorus and potash is recommended.

Plant Protection

Pests: Leaf eating caterpillar

It can be controlled by spraying Carbaryl 50 WP @ 2 g l⁻¹.

Diseases: Leaf spot

Carbendazim @ 1 g l⁻¹ of water. Spraying sulphur compounds should be avoided.

Harvest and Yield

The general practice of harvesting Amaranthus is that the plants are pulled as a whole. Washed and send to the market as a tender green. Cutting of Amaranthus leaves start when plants are 25-30 cm tall. Only the fully grown side leaves are removed. The tops of the plants may also be cut leaving the lower leaves to produce new shoots in their axils. Picking is, subsequently done at weekly interval.

Leafy Types: 25 days after sowing for Mulaikeerai (10 t ha⁻¹). 40 days after sowing for Thandukeerai (16 t ha⁻¹).

Clipping types: 10 clippings at weekly intervals (30 t ha⁻¹).

Grain types: Co4: 2.4 t grains ha⁻¹ + 8 tonnes of tender greens.

Conclusion

Amaranthus is an important leafy vegetable with high nutrition value. South India it is sown almost throughout the year. The seed rate is about 2 kg ha⁻¹ for direct sowing and 1 kg for transplanted crop. It can be grown in a pH range of 5.5-7.5. The temperature of 22-30 °C is suitable for the cultivation of Amaranthus. It requires plenty of water for growth and high yield. One or two weeding or hoeing is sufficient for controlling weeds. Leaf eating caterpillar and Leaf spot are important pest and disease of this crop. The general practice of harvesting Amaranthus is that the plants are pulled as a whole. It provides 10-16 t ha⁻¹ leafy vegetable yields.

References

- Arya, R.K., Kumar, P., 2021. Shamtawan faslon ki kheti avam upyog, Anand Kalan Manch Publication, Bhiwani, Haryana, pp. 31-34.
- Steckel, L.E., 2007. The Dioecious *Amaranthus* spp.: Here to Stay. *Weed Technology* 21(2), 567-570.