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Amaranthus tricolor - L.

Common Name	Chinese Spinach, Joseph's-coat, Fountain Plant, Tampala , Summer Poinsettia
Family	Amaranthaceae
USDA hardiness	Coming soon
Known Hazards	 No members of this genus are known to be poisonous, but when grown on nitrogen-rich soils they are known to concentrate nitrates in the leaves. This is especially noticeable on land where chemical fertilizers are used. Nitrates are implicated in stomach cancers, blue babies and some other health problems. It is inadvisable, therefore, to eat this plant if it is grown inorganically.
Habitats	A widely cultivated plant, it is not known in a truly wild situation.
Range	Tropical Asia
Edibility Rating 	
Other Uses 	
Weed Potential	No
Medicinal Rating 	
Care 	  



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Summary

Bloom Color: Red. Main Bloom Time: Early summer, Late summer, Mid summer. Form: Pyramidal, Upright or erect.

Physical Characteristics



Amaranthus tricolor is a ANNUAL growing to 1 m (3ft 3in) by 0.5 m (1ft 8in) at a medium rate. It is hardy to zone (UK) 5 and is not frost tender. It is in leaf 10-Apr It is in flower from Jun to August, and the seeds ripen from Jul to September. The flowers are monoecious (individual flowers are either male or female, but both sexes can be found on the same plant) and are pollinated by Wind, self. The plant is self-fertile. Suitable for: light (sandy), medium (loamy) and heavy (clay) soils and prefers well-drained soil. Suitable pH: acid, neutral and basic (alkaline) soils and can grow in very acid soils. It cannot grow in the shade. It prefers moist soil.

Synonyms

A. gangeticus. L. A. melanocholicus.

Habitats

Cultivated Beds;

Edible Uses

Edible Parts: [Leaves](#); [Seed](#); [Stem](#).

Edible Uses:

Leaves - raw or cooked. Often used at the young seedling stage[2, 46, 61], they are also cooked as a spinach and have a very mild flavour[183]. An excellent hot weather substitute for spinach[183]. The leaves contain about 3.5% protein, 0.25% fat, 6.6% carbohydrate, 3.1% ash, 24mg iron per 100g, 464mg calcium per 100g, they are rich in vitamin A and have a fair content of vitamins B1 and C[179]. On a zero moisture basis 100g of the leaves contains up to 2441mg calcium, 1008mg phosphorus, 51mg iron, 34mg sodium, 4475mg potassium, 37,623 micrograms beta-carotene equivalent, 0.68mg thiamine, 2.37mg riboflavin, 11.48mg niacin and 730mg ascorbic acid[218]. The crisp interior of large stems makes a tasty vegetable[183]. It can be eaten raw or cooked as an asparagus substitute[2, 61]. Seed - cooked[22, 177]. Very small, about 1mm in diameter[266], but easy to harvest and very nutritious. The seed can be cooked whole, and becomes very gelatinous like this, but it is rather difficult to crush all of the small seeds in the mouth and thus some of the seed will pass right through the digestive system without being assimilated[K]. The seed contains saponins[218]. If this is the case it is probably best to either soak the seed for at least 12 hours and then rinse thoroughly before cooking or to give the seed a long slow cooking in order to destroy the saponins[K].

Composition

Figures in grams (g) or milligrams (mg) per 100g of food.

Leaves (Dry weight)

- 0 Calories per 100g
- Water : 0%
- Protein: 0g; Fat: 0g; Carbohydrate: 0g; Fibre: 0g; Ash: 0g;
- Minerals - Calcium: 2441mg; Phosphorus: 1008mg; Iron: 51mg; Magnesium: 0mg; Sodium: 34mg; Potassium: 4475mg; Zinc: 0mg;
- Vitamins - A: 37623mg; Thiamine (B1): 0.68mg; Riboflavin (B2): 2.37mg; Niacin: 11.5mg; B6: 0mg; C: 730mg;
- Reference: []
- Notes:

Medicinal Uses

Plants For A Future can not take any responsibility for any adverse effects from the use of plants. Always seek advice from a professional before using a plant medicinally.

Astringent.

The whole plant is astringent[240]. A decoction of the root is used with Cucurbita moschata to control haemorrhage following abortion[218]. A decoction of very old plants is taken internally to improve vision and strengthen the liver.

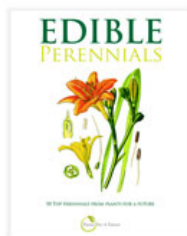
Other Uses

Dye.

Yellow and green dyes can be obtained from the whole plant[168].

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Cultivation details

Landscape Uses:Border, Container, Foundation, Specimen. Prefers a light well-drained fertile soil in a sunny position[200, 206], though it does succeed in heavier soils[206]. Tolerates fairly acid soils[206]. Tolerates a pH in the range 4.3 to 7.8. This is basically a tropical plant and so requires a hot sheltered position in temperate climates if it is to do well[206, K]. Plants should not be given inorganic fertilizers, see notes above on toxicity. A polymorphic species[1], it is often cultivated for its edible leaves, there are many named varieties[206]. This species is often cultivated in Asia for its edible leaves and seed[46, 58]. It is a very ornamental plant and is often grown in the flower garden[200]. Most if not all members of this genus photosynthesize by a more efficient method than most plants. Called the 'C4 carbon-fixation pathway', this process is particularly efficient at high temperatures, in bright sunlight and under dry conditions[196]. Special Features:Attractive foliage, Edible, Suitable for cut flowers, Suitable for dried flowers.

Propagation

Seed - sow late spring in situ. An earlier sowing can be made in a greenhouse and the plants put out after the last expected frosts. Germination is usually rapid and good if the soil is warm[133]. A minimum soil temperature of 10°C is required for germination, germination is better at temperatures above 20°C[206]. A drop in temperature overnight aids germination[133]. Cuttings of growing plants root easily[206].

Other Names

Found In

Weed Potential

Right plant wrong place. We are currently updating this section. Please note that a plant may be invasive in one area but may not in your area so it's worth checking.

Conservation Status

IUCN Red List of Threatened Plants Status :



Related Plants

Latin Name	Common Name	Edibility Rating	Medicinal Rating
Amaranthus albus	Prostate Pigweed	2	0
Amaranthus bidentata		2	1
Amaranthus blitoides	Mat Amaranth	2	0
Amaranthus blitum	Slender Amaranth, Purple amaranth	4	1
Amaranthus campestris		2	1
Amaranthus caudatus	Love Lies Bleeding	4	1
Amaranthus cruentus	Purple Amaranth, Red amaranth	4	0
Amaranthus diacanthus		2	0
Amaranthus dubius	Spleen Amaranth	2	0
Amaranthus frumentaceus		2	0
Amaranthus graecizans	Spreading Pigweed, Mediterranean amaranth	2	0
Amaranthus hybridus	Rough Pigweed, Slim amaranth	4	1
Amaranthus hypochondriacus	Prince's Feather, Prince-of-wales feather	4	3
Amaranthus mangostanus		2	0
Amaranthus mitchellii	Boggabri Weed	2	0
Amaranthus pallidiflorus		2	0
Amaranthus palmeri	Careless Weed	2	0
Amaranthus polygamus		2	1
Amaranthus polystachyus		2	0
Amaranthus powellii	Powell's Amaranth	2	0
Amaranthus quitensis	Ataco	2	0
Amaranthus retroflexus	Pigweed, Redroot amaranth, Wild Beet	3	2
Amaranthus spinosus	Spiny Amaranth	2	3
Amaranthus standleyanus	Indehiscent Pigweed	2	0
Amaranthus tenuifolius		2	0
Amaranthus thunbergii	Thunberg's Pigweed, Thunberg's amaranthus	2	0
Amaranthus torreyi	Torrey's amaranthus	2	0
Amaranthus viridis	Calalu, Slender amaranth	3	2

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Expert comment

Author

L.

Botanical References

200266

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Readers comment

Elizabeth H.

Dale Larson Mon May 1 2006

Where can the seed for this plant be obtained? Dale Larson Rosendal@valkyrie.net

Elizabeth H.

Pete McCallum Wed Aug 23 2006

I found vegetable amaranth seeds in a local (Wheaton, MD) oriental grocery. Imported from Taiwan, the tiny, jet black seeds are labeled "Whiteleaf Amaranth" in two of the few words of English on the seed packet. They've germinated readily in containers in the central Maryland climate. Also, Rodale (Emmaus, Pa) has been developing and commercializing grain amaranth varieties for some 30 years.

Elizabeth H.

Michelle Sat Nov 11 2006

Found Amaranthus Gangeticus (also called "Elephant Head" Amaranthus) seeds being sold as an ornamental on eBay by a Canadian grower, and am growing them in my Texas garden. Very showy flowers!

[eBay](#) <http://stores.ebay.com/Josies-Gardens>

Elizabeth H.

marian chodacki Sat Jul 14 2007

I live in illinois and enjoy growing amaranthus, but have a problem, ones in a while one of them just goes soft on the stem and dies. Does anyone have an answer for me? i do grow them in the sun and they are staked. My e-mail is Marian@chodacki.com thank you

Elizabeth H.

rashmi Sun Apr 12 2009

available at www.vreeken.nl

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Subject : Amaranthus tricolor



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