

Basic Concepts of Vegetable Science

Group	Class	Vegetable crops
Group 5	Root crops	Beetroot, Carrot, Parsnip, Turnip, Rutabaga, Radish, Horse-radish, Spanish salsify, Palak, Methi
Group 6	Bulb crops	Onion, Garlic, Leek, Shallot, Chive, Welsh onion.
Group 7	Tuber crops	Potato, Sweet potato, Cassava, Yam
Group 8	Peas, Pod or leguminous vegetables	Pea, Cluster bean, Broad bean, Garden bean, Lima bean, Soyabean, Cowpea
Group 9	Solanaceous vegetable crops	Tomato, Brinjal, Chillies
Group 10	Cucurbits	Cucumber, Ridge gourd, Watermelon.
Group 11	Fibre crop	Okra
Group 12	Pot herbs or greens	Spinach, Buckweed, Pigweed, Sorrel, Kale
Group 13	Other root crops	Colocasia, Yams, Tapioca, Elephant's foot

Season of growth

Vegetable crops can be grouped into three broad groups depending on their temperature requirement for growth and development.

Kharif	Rabi	Zaid
Beans	Garden beet	Dwarf bean
Brinjal	Cabbage	Dwarf tomato
Bittergourd	Cauliflower	Summer cucumber
Bottlegourd	Carrot	Summer squash
Cowpea	Garlic	

Classification of Vegetables

Photosynthesis

C₃	C₄
Bean	Amaranth
Spinach	
Lettuce	
Carrot	
Potato	
Sweet potato	
Tomato	
Sugar beet	

Area of seed production

Temperate	Sub-temperate	Tropical
Cabbage	Late cauliflower	Tomato
Knol khol	Beet leaf	Brinjal
Kale	Spinach	Okra
Brussel's sprout	Celery	Chillies
Sprouting broccoli	Parsley	Capsicum
Sugarbeet	Asparagus	All cucurbits
Chicory	Chayote	Colocasia
Potato	Subtemperate radish	Ginger
Amaranth	Turnip	Turmeric
Temperate radish	Carrot	Sweet potato
Turnip		
Carrot		
Garden beet		

Classification of Vegetables

Mean temperature requirements (°C)

Narrow range			Middle range			Wide range		
Species	High	Low	Species	High	Low	Species	High	Low
Artichoke	13-18	-5	Brinjal	18-30	-12	Broccoli	8-27	-19
Endive	15-28	-8	Pepper	18-30	-12	Broad bean	5-25	-20
Chicory	10-20	-10	Celery	10-22	-12	Brussel's sprout	10-20	-20
Parsnip	10-12	-10	Celeriac	10-20	-12	Cabbage	10-30	-20
Garden pea	15-25	-10	Fennel	10-23	-13	Leek	10-30	-20
			Spinach	12-25	-13	Onion	10-30	-20
			Asparagus	15-30	-15	Tomato	10-30	-20
			Cucumber	20-35	-15	Garden beet	8-30	-20
			Parsley	15-30	-15	Carrot	9-30	-22
			Pumpkin	15-30	-15			
			Summer squash	15-30	-15			
			Sweet corn	15-30	-15			
			Radish	14-30	-16			
			Okra	18-35	-17			

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Common name	Scientific name	Family	2n
Rakkyo	<i>A. chinensis</i>	Amaryllidaceae	16, 24, 32
Chinese chive	<i>A. tuberosum</i>	Amaryllidaceae	32
Garden pea	<i>Pisum sativum</i>	Leguminosae	14
French bean	<i>Phaseolus vulgaris</i>	Leguminosae	22
Cowpea	<i>Vigna sinensis</i>	Leguminosae	22
Catjung cowpea	<i>V. unguiculata</i>	Leguminosae	22
Yardlong bean	<i>V. sesquipedalis</i>	Leguminosae	22
Winged bean	<i>Psophocarpus tetragonolobus</i>	Leguminosae	18
Cluster bean	<i>Cyamopsis tetragonoloba</i>	Leguminosae	14
Hyacinth bean	<i>Dolichos lablab</i>	Leguminosae	22
Broad bean	<i>Vicia faba</i>	Leguminosae	12
Sword bean	<i>Canavalia gladiata</i>	Leguminosae	22
Jack bean	<i>C. ensiformis</i>	Leguminosae	22
Moth bean	<i>Phaseolus acontifolius</i>	Leguminosae	22
Scarlet runner bean	<i>P. coccineus</i>	Leguminosae	22
Lima bean	<i>P. lanatus</i>	Leguminosae	22
Soyabean	<i>Glycine max</i>	Leguminosae	22
Yam bean	<i>Pachyrrhizus erosus</i>	Leguminosae	22
Potato bean	<i>P. tuberosus</i>	Leguminosae	22
Okra	<i>Abelmoschus esculentus</i>	Malvaceae	72, 108, 144
Cucumber	<i>Cucumis sativus</i>	Cucurbitaceae	14
Muskmelon	<i>C. melo</i>	Cucurbitaceae	24
Long melon	<i>Cucumis melo</i> var. <i>utilissimus</i>	Cucurbitaceae	24
Snap melon	<i>C. melo</i> var. <i>momordica</i>	Cucurbitaceae	24
Mango melon	<i>C. melo</i> var. <i>cultus</i>	Cucurbitaceae	—
Watermelon	<i>Citrullus lanatus</i>	Cucurbitaceae	22
Bottle gourd	<i>Lagenaria siceraria</i>	Cucurbitaceae	22
Bitter gourd	<i>Momordica charantia</i>	Cucurbitaceae	22