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VEGETABLESCIENCE

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GOOGLE SCHOLAR:

<https://scholar.google.com/citations?user=Fj1lUPoAAAAJ&hl=en&authuser=1>



Broccoli

(Brassica oleracea var. italica L.)

Family : Brassicaceae

- ♣ Morphologically, broccoli resembles cauliflower.
- ♣ The plant forms a head consisting of green buds and thick fleshy flower stalks.
- ♣ The terminal head is rather loose, green in colour and the flower stalks are longer than cauliflower.
- ♣ In sprouting broccoli, besides main head, long slender small heads (called spears or sprouts) are developed in the axils of the leaves.
- ♣ The spears become ready for harvest after removal of main head.
- ♣ Both terminal head and the sprouts with bud clusters are consumed as salad or cooked vegetable.

Uses

- ♠ It is becoming popular amongst Indians because of its high nutritive value.
- ♠ It carries organoleptic or anticarcinogenic properties and is a rich source of vitamins, minerals, protein etc.
- ♠ It has about 130 times more Vitamin A contents than cauliflower and 22 times more than cabbage.
- ♠ It is also a rich source of sulphoraphane, a compound associated with reducing the risk of cancer.

CLIMATE

- ▶ It is mainly grown as a winter crop in most parts, however in high hills may be grown as a spring summer crop.
- ▶ Sensitive to temperature as bud clusters grow loose quickly and give rise to bracts under warm weather conditions.
- ▶ Light frost causes considerable damage to the buds, though vegetative growth is not affected to that extent.
- ▶ An optimum temperature of 12-18 °C is suitable for proper head development

Different Types of Broccoli

Purple sprouting broccoli	Biennials, branched, purple spears, variable, early and late forms overlapping.
Purple cape broccoli	Biennials, single purple heads, variable
White sprouting broccoli	Biennials, branched, white spears. Distinct early and late maturing forms of which the late type more strictly with in the botrytis group.
Purple Sicilian broccoli	Single heading pale-purple heads also known in horticulture as purple cauliflower.
Couve broccoli	‘Roxo de Cabeça’ Tall purple heading, sprouting type from Portugal.
Calabrese	Green sprouting broccoli from Calabrian region. Now a world wide crop and virtually single heading. Many hybrid cultivars are available.
Black broccoli	Highly branched annual with dark green spears and sickle shaped leaves, from Rome area.



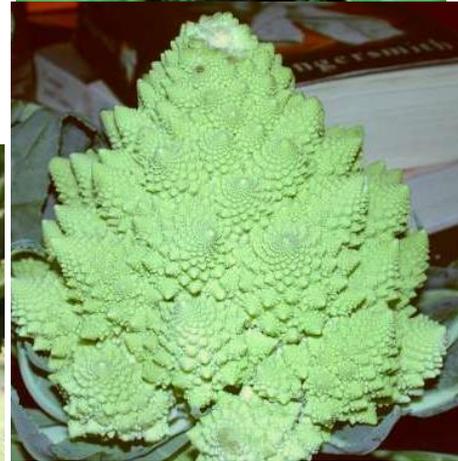
White sprouting



Purple cape



Purple Sicilian



Calabrese



Purple sprouting



Couve



Black Broccoli



Palam Samridhi



Palam Vachitra



Palam Haritika

Palam Kanchan



Nursery Sowing Time

North Indian Plains

Mid-Aug. to Mid-Sept

Himachal Pradesh

Low Hills

September- October

Mid Hills

August – September

High Hills

March- April

- ▶ **Seedlings become ready for transplanting in 4-5 weeks time.**
- ▶ **Seedlings 5mm in diameter are better for field setting and must be about 10-12cm in length at the time of transplanting.**

Seed Rate

400-500 g/ha

Spacing

45cm X 45cm

Field preparation, Manures and fertilizers, Intercultural and weed management, and irrigation requirements are same as cauliflower

Harvesting

- ⌘ It is important to harvest the broccoli heads at correct time i.e.
- Before the buds open
- Bud clusters are compact.
- ⌘ The heads are cut off with about 15cm of the stem attached in case of sprouting broccoli.
- ⌘ After cutting, part of the foliage is removed from the harvested shoots.

Yield



150-200 q/ha

Storage

- ❑ The shelf life of broccoli heads & sprouts is significantly affected by temperature and not much influenced by relative humidity.
- ❑ At temperature 12 – 17°C and RH between 75% it can be easily stored for 3 days.
- ❑ Under cool storage (3°C & 88% RH) the shelf life of heads can be extended upto 31 days.
- ❑ Packaging in LDPE (Low density polyethylene) bags helps in keeping the broccoli more fresh and green under low temperature.



Broccoli plants grow to be about 24" tall. The main group of florets, or "head," grows in the center of the leaves.



Broccoli leaves are large, blue-green, and lobed.



Broccoli leaves and cauliflower leaves are very similar, especially in the immature stage. However, broccoli leaves tend to be blue-green in color (compared to the bright green cauliflower leaves). Broccoli leaves are also broader than cauliflower leaves and have a lobe-like structure(s) at the base of the leaf.