A Technical Guide Cauliflower Production JUNE 2009 Ministry of Agriculture, Forestry + Fisheric St. Vincent and the Grenadines

Produced by

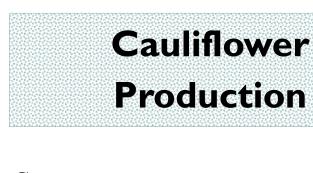
The Communications Unit

Ministry of Agriculture, Forestry & Fisheries

St. Vincent and the Grenadines



Varieties of Cauliflower of different colours



Cauliflower (*Brassica oleracea*, Botrytis group) belongs to the cabbage family. It is often called the 'heading brocolli' or the 'aristocrat' of the cabbage family as it requires more attention for good growth. Cauliflower is grown for its white head, called curd. Depending on the variety (early or late maturing) it takes from as much as 3-6 months before harvesting.

RECOMMENDED VARIETIES

(Early Varieties which take about 60-70 days to mature)

Tropical Snowball No. 55

Tropical Queen

Tropical King

White Barren

SITE SELECTION

Cauliflower is sensitive to heat and should be grown in the higher elevations in the cooler months of the year. Too much heat prevents it from heading.

SEEDLING PRODUCTION

Cauliflower must be grown speedily through its entire life, from seedling to harvest. Anything which slows or delays its growth, such as insects, lack of water or excessive heat or cold, will prevent development of the head.

Sow seeds treated with Sevin in seedling trays, boxes or on cambered bed, in soil that has been treated. Place the seeds no deeper than ½ inch - one seed per hole, then cover lightly. Ensure that there is good drainage and good shading for the developing seed-

lings. They will be ready for transplanting within 6-8 weeks. Throw out all weak and sickly looking ones.

PLANTING

Soil Preparation

Prepare soils with well-rotted pen manure. Prepare cambered beds or ridge and furrows. Plants are placed 12-18 inches apart in rows that are 18 - 24 inches apart. Prepare holes ¼ -1 inch deep or large enough to hold the seedlings. Ensure area is weed free and was not previously planted with either cabbage or broccoli.

Transplanting

Seedlings are ready within 6-8 weeks. Transplant early mornings or late evenings or in the cooler days.

- Wet the seedlings to moisten the soil
- Remove seedling with a small portion of the soil around the roots
- Place in the hole and firm up soil around each seedling.
- Use a starter fertilizer at transplanting.
- Water after transplanting.

FERTILIZING

In the early stage of growth, cauliflower requires Nitrogen fertilizers.

- At transplanting use a foliar fertilizer or a compound fertilizer spread in a circle about 4-5 inches away from the stem of the plant. Cover this with soil.
- 5-6 weeks after planting use $\frac{1}{4}$ small matchbox of Sulphate of Ammonia for each plant. Cover with soil
- 3-4 weeks after the second fertilizer application add another \(^{1}\)4 small matchbox of Sulphate of Ammonia to the soil around each plant. Cover the fertilizer with soil.
- Continue fertilizing at this interval using a compound fertilizer applied in a similar way towards harvesting.

"Consumers are looking for ever new experiences on their dinner plates and colour features very large in their desire for different things.

"These are the results of traditional selective breeding - where different strains have been cross breed and cross bred until these strains have been created.

"We are now trying to ensure that we have the consistency of colour, taste and size before bringing them to the mass market. But you will find them in smaller outlets from this year."

In tests, the garish cauliflowers have proved a hit with shoppers.

While traditionalists may baulk at the unusual colours, it is not the first time that plant breeders have changed the appearance of vegetables.

Until the 17th century most carrots eaten Europe were white, yellow or purple. The orange pigment was added by Dutch plant breeders looking for a way to celebrate Holland's royal family.

The last few years has seen the introduction of purple carrots to supermarkets in Britain, along with yellow tomatoes and purple potatoes.

In America, where colour cauliflowers have been available for several years, they have been a big hit with foodies. The orange cauliflower has higher than normal levels of beta carotene, a form of vitamin A that encourages healthy skin.

The purple colour comes from anthocyanin, which may help prevent heart disease by slowing blood clotting.

Tests of the orange cauliflowers in America found that they contained 25 times the concentrations of beta carotene in normal cauliflowers.

NEW CAULIFLOWERS!

Taken from www/flushrush.com/orange,purple



Cauliflower cheese will never be the same again. Scientists have developed amazing variants of vegetable where the traditional white florets have been changed to a garish orange, purple and green.

The "rainbow cauliflowers" are said to taste the same as the normal varieties, but add a splash of colour to the dinner table.

Some scientists have even claimed that they are healthier for you.

Andrew Coker, a spokesman for the plant company Syngenta - which is developing the plants in Europe - stressed that the colourful cauliflowers were not the result of genetic engineering, but came after decades of traditional selective breeding.

Although its not the first time that orange and green cauliflowers have been seen in Britain, their creators say they will be the first to be commercially available in supermarkets and markets.

They retain their colour even after cooking. "The pictures may look garish, but they are really are this colourful," said Mr Coker.

BLANCHING

To maintain the color (white or ivory), when the heads are 2-3 inches in diameter, protect them from direct sunlight. This prevents sunscalding, which results in off-flavor. Tie the top leaves loosely over the head, taking care not to cramp the head. A suitable clip or clothespins can be used. If tying is not practical a suitable material used for crop cover in the fields may be used. The heads are ready for harvesting 1-2 weeks after tying or covering.

If the heads are not protected, slightly yellowish heads are produced generally with the same quality as the covered heads.

WATERING

Like cabbage, cauliflower has shallow roots and require adequate amounts of water at all times, especially so in the dry season.

PESTS AND DISEASES

As a member of the Brassica family, almost all the diseases and pests that affect, for example, cabbage, affect cauliflower. Cabbage worms are common and can be controlled with recommended insecticides.

Some common diseases are black rot, powdery and downy mildew and alternaria leaf spot.

Downy mildew causes browning of the curds (heads) and is common under wet conditions. It is therefore important to plant on raised, cambered beds in the wetter areas.

HARVESTING

Cauliflower can be harvested within 70 - 120 days depending on the variety. The heads of the early maturing varieties (70 days) can attain sizes of up to 6 inches in diameter. However they should be harvested before they are over-matured and the flower parts begin to separate.

The heads are harvested by cutting the main stem with a sharp knife. They should be used soon after as heat or excessive exposure to cold condition results in loss of quality. Market cauliflower soon after harvesting or refrigerate immediately.

NUTRITIONAL VALUE

Cauliflower should be eaten within 3 days or placed in a plastic bag, stored for no more than 5 days in the crisper of the refrigerator.

Prepare the curds for cooking by removing the jacket leaves, core out the stem and cut in portions. Unlike broccoli, the stem is not as edible and should be removed and discarded.

Cauliflower produces a strong odor when being cooked for long periods - it also loses flavor if it is undercooked. Avoid the use of heads with black specks, browning or other blemishes. Curds with a purplish tint or granular appearance are often seen . These have no effect on the flavour or quality.

| NUTRITIONAL CONTENT OF CAULIFLOWER Serving Size (medium head - 99 gm) | | |
|--|----------------------|------------------------|
| | | |
| Calories 25 Calories from Fat 0 | | |
| TOTAL FAT Saturated Fat | 0 gm 0 gm | 0% 0% |
| CHOLESTEROL | 0 mg | 0% |
| SODIUM | 30 mg | 1% |
| TOTAL CARBOHYDRATE Dietary fibre Sugars | 5 gm 2 gm 2 gm | 2% 8% |
| PROTEIN | 2 gm | |
| Vitamin A Vitamin C Calcium Iron | | 0% 100% 2% 2% |
| 1 medium size head (1½ lbs) will serve about 4 pe | ersons. | 1 |