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# EXPORT VALUE OF FENNEL

Fennel produced in India is largely consumed within the country. It is time to step up its production and hence its export.



Traditionally, people believe that fennel bowl in kitchen indicates wise wife and healthy family. The leaves of fennel are used for garnishing. Also, leaves and stalks are used in salads. It is an essential ingredient in Italian sausages, widely used to sprinkle on pizza. Dried fruits, having a pleasing fragrance and aromatic taste, are used as a masticatory. These are also

in Gujarat, Rajasthan, Karnataka, Maharashtra, UP, Punjab and Bihar. Gujarat alone accounts for 90 per cent of the fennel production in the country.

Fennel requires a fairly mild climate and is cultivated as an old weather crop. The dry and cold weather favours high seed production. Prolonged cloudy weather at the time of flowering is conducive to diseases and pests. Appropriate temperature for seed germination is 20-29°C, whereas the crop requires

**F**ennel—generally known as *saunf* (*Foeniculum vulgare*)—belongs to the Apiaceae family. Fennel plant is used for its seeds, which have a pleasing fragrance and aromatic taste. It is a biennial herb and a very useful spice crop of India. A native of southern Europe and the Mediterranean region, it is mainly grown in the *rabi* season in India.

Fennel is called ‘marathon’ in Greece—a name derived from the word ‘maraino,’ which means to grow thin. Etymologically the word ‘fennel’ has developed from ‘diminutive foenum,’ which means ‘little hay.’ The famous battle of Marathon was fought on a field of fennel and was named after this crop.

used for flavouring soups, meat dishes, sauces, pastries, confectionaries and liquors. The fruits are stimulant and carminative.

Fennel’s seeds, leaves and roots have medicinal properties. It cures appetite loss, gassy colic in children, dysentery, eye strain, throat pain, stomach pain and headache, and improves eye sight. Fennel is rich in vitamin A and contains a fair amount of calcium, phosphorous and potassium. Nutritional value of fennel per 100 gram of raw bulb is given in Table I.

Fennel is widely cultivated in the temperate and subtropical regions of the world. France, Germany, Romania, Russia, Italy, India and the US are the major fennel-growing countries. In India it is mainly cultivated

Table I  
Nutritional Value of Fennel

(per 100 grams)

Item	Value
Carbohydrate	7.29 gm
Fat	0.20 gm
Thiamine (vitamin B10)	0.01 mg
Niacin (vitamin B3)	0.64 mg
Vitamin B6	0.047 mg
Vitamin C	12 mg
Iron	0.73 mg
Phosphorus	50 mg
Zinc	0.20 mg
Dietary fibre	3.1 gm
Protein	1.24 gm
Folate (vitamin B9)	27 ig
Calcium	49 mg
Magnesium	17 mg
Potassium	414 mg

Source: *Spice India*, Vol. 22, No. October 2010

Table II  
Area, Production and Yield of Fennel in India

Year	Area (hect)	Production (tonnes)	Yield (kg)
2000-01	25,822	27,332	1058
2001-02	39,924	38,530	965
2002-03	22,898	27,602	1205
2003-04	43,036	51,752	1202
2004-05	39,820	51,026	1284
2005-06	40,909	61,307	1498
2006-07	61,128	92,260	1509
2007-08	84,479	131,652	1558
2008-09	74,149	114,277	1541
2009-10	43,466	61,652	1418
2010-11	41,368	58,265	1408

Source: Spices Board, Cochin

15-20°C for good vegetative growth. Black cotton soil with sufficient lime is the most suitable for its cultivation. Also, the soil pH ranging from 6.5 to 8 is helpful for fennel's growth.

The field preparation is more important for the maximum yield of crop. Land should be ploughed three to four times in heavy, and two to three times in lighter soils up to a depth of 15-20 cm. Fennel is a long-duration crop. Therefore to obtain a good yield, it is better to sow/transplant in the beginning of October for *rabi* season and August for *khari* season.

Fennel seedlings should be transplanted at a spacing of 60×40 cm<sup>2</sup> in irrigated crop, whereas at a spacing of 45×10 cm<sup>2</sup> in rain-fed crop. Generally, 7-8 times more transplanted spacing is given to irrigated crop depending on the soil and climate. In 2010-11 fennel was cultivated under an area of 41,368 hectares with production of 58,265 tonnes in India. The productivity of fennel was 1408 kilograms per hectare during the period. The area, production and yield of fennel in India during the period 2000-01 to 2010-11 are shown in Table II.

## Plant protection

Fennel plant gets affected by various diseases and pests at different stages of its growth:

**1. Damping of seedlings.** Damping-off is a fungal disease that occurs in the nursery. Infected plants show symptoms of dehydration/wilting.

**2. Collar rot.** This disease appears in plots where water stagnation near the plant stem is more. Collar portion of the plant starts decaying and the plant turns yellow in colour and dies later on.

### 3. Ramularia blight.

At the beginning of this disease, small ash spots are observed on the leaves. These spots get enlarged and turn brown. In the case of severe attack, whole plant turns brown, resulting in drying up of the plant.

**4. Sugary secretion.** It is a physiological disorder due to which flowers secrete a sugary substance; attracting fungus from outside. Due to this disorder, quality and production of the crop are affected. This

phenomenon is observed in plots which have been highly manured and irrigated under heavy dewfall and cold condition. Sugary secretion spreads on flower parts and stem. Due to this mold, other fungus develop on plants causing black and gummy appearance. The sugary secretion attracts aphids too and these insects attack the plants. Combined effect of the above gives false appearance of disease, but sugary secretion is not really a disease. In order to control this disorder, irrigation and manuring should be stopped.

**5. Aphids.** Aphid sucks the sap of tender parts of plants, affecting the growth adversely.

## Trade

World trade for seed spices is as good as for powdered spices. Out of the twelve seed spices grown in India, six including coriander, cumin, celery, fennel, chilli and fenugreek are in good demand. Fennel produced in India is largely consumed within the country. Only a small amount is occasionally exported. Fennel seeds are classified for trade purpose according to their place of origin. Some of the well-know types are from Mumbai, Bihar, and UP. Fennel seeds from Lucknow are considered to be the best in the country. Fennel exports from India and their value are shown in Table III.

## Some measures

In order to improve the export of fennel, the Spices Board should take the following measures:

1. Set up 'spices park' with international standards
2. Avoid middle-level adulteration
3. Set up regional-level laboratories to improve the quality

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Table III  
Export of Fennel

Year	Quantity (tonnes)	Value (Rs million)
2000-01	4417	188.2
2001-02	4347	169.6
2002-03	4160	178.4
2003-04	4218	169.3
2004-05	4355	182.1
2005-06	5725	278.2
2006-07	3575	238.0
2007-08	5250	285.0
2008-09	8675	431.5
2009-10	6800	562.4
2010-11	7250	658.8

Source: Spices Board, Cochin