

King Chilli (*Chinense capsicum Jackquin*): Treasure of North-East India

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INTRODUCTION:

Chinense capsicum Jackquin is a member of the Solanaceae family popularly known as Bhut Jolokia, is one of the hottest chilli cultivars in the world and holds immense agricultural. One of the most valuable fruits and vegetables in the world, chiles are cultivated on more than 1.4 million hectares of fresh and dry chillies in India, with a yield of roughly 18.8 MT (Krishna *et al.*, 2007). Because of its sensory qualities of colour, heat and pungent flavour, chillies are utilised as spices or food additions in many national cuisines. Although the concentration varies depending on the cultivar, chillies are a rich source of vitamins A, C, and E (Bosland and Votava, 2000). Chillies are utilised as fresh, canned, pickled, frozen, fermented, dehydrated, or powdered. A wide variety of capsicum crops, including king chilli, can be grown and produced in the area due to its high foothill conditions and abundant nitrogen (Rongsennungla *et al.*, 2012; Sharma, 2014). It is mostly grown in states of Nagaland, Assam, Manipur, Meghalaya, Arunachal Pradesh and

Mizoram to a lesser extent (Baruah *et al.*, 2014). In December 2008, Nagaland State received a certificate of geographical indication registration (GI tag) for King Chilli (Anon., 2008). Capsaicin and dihydrocapsaicin are responsible for pungency in King chilli (Singh *et al.*, 2024). Since it is non-climacteric fruit, during postharvest handling and storage huge quantity of green chilli has been found to be wasted in the field due to the lack of proper processing and preservation technology. After harvesting of king chilli, to increase the shelf-life of green king chilli is very challenging due to its perishability; it is subject to quick worsening the shelf life during storage, transportation and marketing.

CULTIVATION AND PRACTICES

Soil and Climate

- ☞ King Chilli is cool season crop perform well at 12 to 36 °C for proper flowering and fruiting, higher temperature promotes vigorous growth that affect the fruit set.
- ☞ Good fruit yield temperature: 25-28°C
- ☞ King chilli commonly grown in hilly

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region during february to march and in plains region during september to October.

Harvesting: Uniform diameters fruit

Harvesting Stage: Green, yellow and

Table: King chilli compositions (Malakar *et al.*, 2019)

Sl.No.	Compositions	Green stage fruit
1.	Moisture (g/100g)	84.56 ±0.76
2.	Ash (g/100g)	1.46 ±0.07
3.	Protein (g/100g)	1.45±0.06
4.	Carbohydrate (g/100g)	6.89 ±0.07
5.	Fiber (g/100g)	1.67 ±0.01
6.	Fat (g/100g)	0.1 ±0.01
7.	Energy (K.Cal)	42.78 ±0.12
8.	Vitamin C (mg/100g)	118.45 ±0.66
9.	TSS (°Brix)	3.19±0.02
10.	L	32.65 ±0.79
11.	a	-12.09±0.18
12.	b	22.55±0.57



Fig.: (A) Fresh Red King Chilli, (B) Dried Whole King Chilli and (C) Powdered and packed King Chilli

Soil and Soil pH:- King chilli can be grown successfully in Sandy loam or clay loam soil with 5.5-6.0 pH.

Seedling rate: 400-500g seed per hectare

Fruits Production: 50-60 Days after transplanting

ripened red.

Post Harvest Management and products

Packaging: Shrink wrap film preferable (preferable), LDPE (low density polyethylene film pouches

Fresh green and red fruit: Fresh consumptions, pickle

Dried: Whole red and powdered

Storage temperature: 10 °C, 3% O₂ and 5% CO₂, Relative Humidity: 80-90%.

CONCLUSION

Commercialisation of King chilli has obstacles relating to post-harvest losses, short shelf life, lack of standardised harvesting stages, and limited processing and storage facilities. Productivity and profitability may be greatly increased by addressing these limitations by better farming techniques, post-harvest management, value addition, and scientific research. In conclusion, king chillies are a distinctive part of Northeast India's agricultural legacy and have enormous potential for export, value addition, and sustainable rural development. Its full economic and commercial potential may be achieved by strategic interventions in post-harvest technology, processing, and manufacturing.

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