

## **Post-harvest management and value addition of Bhut Jolokia (*Capsicum chinense*)**

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*Bhut jolokia*, botanically known as *Capsicum chinense*, is extensively cultivated in North Eastern Region of India especially in the states of Assam, Nagaland and Manipur. It is also known by other names like *Bih jolokia*, *Borbih jolokia*, *Naga jolokia*, *Nagahari*, *Naga Morich*, *Raja mirchi*, King chilli etc. It has a long standing association with ethno-agricultural activities of people of this region. Vedic and several other ancient literatures also describe its use in traditional medicine for curing many ailments. The local inhabitants commonly use this chilli for making pickles and adding hotness to non-vegetarian food stuffs. Once, this chilli has been officially recorded in the Guinness Book of World Records as the “World’s Hottest Chilli” with 1,001,304 SHU as per report of Dr, Paul Bosland of the Chile Pepper Institute, New Mexico State University. We also reported earlier a slightly higher SHU level of 10,41,427 in *Bhut jolokia* through HPLC analysis of the sample collected during summer of 2004. Due to its extra-ordinary pungency level, it is especially suitable for preparation of ‘oleoresin capsicum’ as well as extraction of capsaicin. Very high capsaicin output per unit weight of dry powder makes it possible to lower down the cost of extraction of capsaicin from Bhut jolokia. It is also very much suitable for making sauces. Additionally, its dark orange-red skin is a viable source for ‘oleoresin paprika’.

The chilli has been called by different names. In Assam, it is mostly known as *Bhut jolokia*, the reason being probably its introduction into Assam by the *Bhutias* from Bhutan long back. Some people think that due to its extreme pungency, the ghosts (*bhoot* in Assamese) can be repelled. Its hotness causes extreme irritation in the throat as if one has consumed poison. The poison is called as “*bih*” in Assamese. Thus, the name “*bih jolokia*” has surfaced. The Assamese people also name this chilli as ‘*Naga jolokia*’ since it resembles the extreme temperament of the Naga warriors of Nagaland. The word ‘*jolokia*’ is the generic term in Assamese for chillies. In other parts of North East India, the chilli is known as “king chilli” or “*raja mirchi*” (the *mirch* or *mirchi* means chilli).

There are many variations in size, shape and color of the *Bhut jolokia*. The usual colour of the pods when ripe is red, but chocolate coloured fruits are also available. The chilli is available in the two seasons of the year. In the plains region, the chillies are available from late April to August. The hills crops are available from September to mid-January.

## **Postharvest Management**

Unlike other chillies, the *Bhut jolokia* has a moisture level of above 85% with a very soft texture which ultimately reduces significantly the shelf life. Commonly, the farmers harvest the chillies in the morning or afternoon and despatch to market next day. The retailers have to sale the chillies in a day or two to avoid wastage. This happens because of high temperature and humid condition of North East during the season aggravated by the soft tissue and high moisture content of the chilli. There is need for research to look into lengthening the shelf life period of the chilli. I am aware of the works being carried by Dr. Ananta Saikia, Professor in the Department of Horticulture, Assam Agricultural University, Jorhat for improving the shelf life of the chilli. We are waiting for the outcome.

## **Value Addition**

After harvest at full red stage, the chillies has to be cleaned and washed with clean water followed by drying under hot air blast. For export purpose, the entrepreneur should be cautious about the hygiene aspects as per the requirements of the importing country. The cleaned chillies should be used for further processing. There are several products that can be produced from the chilies. Some of them are:

1. Chillies in whole dried form
2. Ground or powdered form
3. Crushed or flakes
4. Paste and mash
5. Oleoresin
6. Distilled oil for flavour
7. Pickles in oil or brine
8. As ingredient in sauce
9. Pepper spray
10. Capsaicin extraction

## **Conclusion**

*Bhut jolokia* has long been cultivated in Assam and commercially from 2005. Since it is a natural hybrid, the pungency of the chilli has been decreased significantly due to continuous cultivation. Moreover, the farmers of Assam are not aware of the possibility of pungency reduction due to cross pollination from other chillies being cultivated along with *Bhut jolokia*. There is an urgent need to educate the farmers in this aspect. Moreover, there is need for intervention by the Government of Assam for improvement of infrastructure for better post-harvest handling of the chilli.