

Food Safety

Give a wide berth to chemically ripened mangoes

Mangoes have a rich legacy and are known for their nutritive value. But in today's environment, they are also a cause of concern. As the mango season breaks in, it challenges the demand-supply mechanism, leaving room for unethical ways to manage demand upswings.

By Santanu Bhattacharjee



As the summer season peaks, mangoes can be seen everywhere! The king of fruits is a common love most of us share in the sultry months. I still have fond memories of plucking mangoes from the tree and savouring it till the last bite. As a die-hard aficionado of mangoes, I wait for this season every year, to delight my taste buds with an assortment of different varieties. We Indians have been fortunate enough to have hundreds of varieties with each region having its own speciality and price range. A quick take on the historic journey of mango tells us that the fruit has been with us for about 4,000 years now and has been savoured by various empires and monarchies down the ages. So much so, some emperors have even favoured this fruit as a tool of diplomacy and it has travelled across nations. Mangoes even find mention in Vedic literatures and the fruit's leaves are considered to be auspicious, signifying life.

Not only does mango have a rich history but the fruit also carries its goodness in abundance of nutrition. It is rich in Vitamin A along with natural detoxifying agents like flavonoids, carotenes, and polyphenols. The fruit is also rich in dietary fiber and contains the right amount of simple sugars.



Moreover, mangoes are loaded with phytonutrients and trace elements like Vitamin C. Apart from these nutrients, mangoes contain 25 different kinds of carotenoids, which help to keep our immune system healthy and provide protection against pathogens.

With such a rich legacy and nutritive value, mangoes in today's environment are also becoming a cause of concern. As the season breaks in, it challenges the demand-supply mechanism, leaving room for unethical routes to manage demand upswings. The not-so-mature mangoes are harvested for market and, in the process, are treated with a chemical called Calcium Carbide, popularly known as 'Masala'. This agent acts as a ripening agent and ripens the fruit in a much faster way but also leaves behind traces of arsenic and phosphorus. It is a very strong reactive chemical and when it comes in contact with moisture, it produces acetylene gas. Acetylene is believed to affect the human nervous system by reducing oxygen supply to the brain and may cause mouth ulcers, gastric irritation or even food poisoning. The use of such chemicals as ripening agents has been considered hazardous by food safety authorities and is not permissible under Indian laws. The chemical, which ripens mangoes within hours, is banned in most parts of the world. However, it is easily available in our country. Several studies have shown that Calcium Carbide is carcinogenic and can cause several disorders in a normal human body.

What could be the objective behind such malpractice? Largely, it is aimed to cut short the time to manage the demand and supply chain, but it also offers monetary benefits to the flouters. A mango loses almost 7%-10% moisture under natural ripening process, which reduces its weight and may impact its market realization. In order to make an easy buck, these wrong doers resort to such unethical tactics without once thinking of the harm their practices pose to consumers' health.

Another aspect to ponder upon is that the natural ripening of mangoes is a time-taking process and requires a period of few days. In order to trigger this natural process, a dedicated infrastructure of ripening chambers is necessary but that involves significant investment.



So as a normal consumer, one should be watchful of such unethical and sharp practices. Mangoes ripened through the unethical way lose their sheen, taste, aroma and nutritional value. But the fruits can be polished to give them a glossy veneer. It is therefore difficult for consumers to even identify artificially ripened mangoes. The best way to savour your favourite fruit is to opt for semi-ripened mangoes and let them ripen at home. And the easiest way to identify the right mango and to assess if it is fully mature is by checking its shoulder, which should be swollen. Also, the mango you choose should be free from decay, insect infestation, sap burn, hail damage, shrivels, cut skin, etc. In addition, you can apply a small amount of pressure on the fruit to determine its hardness. In other words, the buying decision needs take into account factors like the fruit's outer appearance and aroma rather than merely its glowing skin.

After you are done with the selection of mangoes, you can naturally ripen them at home by simply wrapping them in a sheet of paper and storing them in a tray or a box kept in ambient room temperature. You should then cover the mangoes with newspapers or a sheet of cloth. After three days, your safe matured mangoes will be ready for savouring.

India's food safety authority has also notified the measures to ensure the safeness of mangoes through ethical ways of ripening by using 'Ethylene', which is a natural ripening agent and accelerates the ripening process. It is important to note that ethylene has no adverse effect on our health as well as on the fruits ripened by it, which are safe for consumption. But these measures are followed by only a handful of players from the organised sector. As in the case of the high level of awareness against the harmful use of alcohol and cigarettes to the human body, it's high time now to create a similar kind of awareness against slow poisons like calcium carbide. **PG**



The writer is Business Head – Safal Retail.
Views expressed are personal.

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