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Watch out for artificial ripeners



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Fruits are the best natural food as these are the richest source of nutrition. The consumption of fruits has increased considerably in recent years due to improved financial standards, awareness about their benefits and their availability round the year, thanks to cross-border trading. The fruit trade involves transportation to distant places. Highly perishable ones such as mango, papaya and banana cannot be stored and transported to long distances after ripening as they tend to get spoiled. Therefore, traders generally harvest raw fruits and ripen these artificially at the destination market before sale.

Considering the importance of artificial ripening in the supply chain of certain fruits, the Food Safety & Standards Authority of India (FSSAI) permits the use of ethylene for the purpose. Due to the high cost of the gas and the requirement of sophisticated infrastructure (gas chambers), traders often use unsafe and banned ripeners such as calcium carbide sachets or gas which can be harmful to our health.

Artificial ripening of fruits by acetylene gas, commonly known as carbide gas or calcium carbide, is prohibited as per the provisions in sub-regulation 2.3.5 of the Food Safety and Standards (Prohibition and Restriction on Sales) Regulations, 2011. It permits the use of ethylene at a concentration up to 100 ppm (100 microgram/litre) depending upon the crop, variety and maturity for artificial ripening of fruits. Of late, the FSSAI has approved the use of ethephone.

Pesticide residue

The FSSAI has prescribed maximum residual limits (MRL) of pesticides for different foods under the Food Safety and Standards (Contaminants, Toxins, and Residues) Regulations, 2011. The MRL for insecticides has been prescribed for fruits and vegetables also. For example, the maximum residual limit for pesticide chlordane is 0.1 ppm for fruits and 0.2 ppm for vegetables. The MRL fixed for pesticide dicofol is 5 ppm for fruits and vegetables.

Acid content

Acids are added to fruit juice to bring the pH within the range 3-3.3, which is necessary for product-making (pH is a measure of acidity, a lower value means greater acidity). Acidity levels vary in different types of fruits and also in different samples of the same fruit. Limes are very acidic and have a pH lower than 3.3. Sodium bicarbonate is added to the fruit juice to reduce the acidity. The only acids that are allowed to be added to jams are citric acid, tartaric acid and malic acid. In practice, citric acid (found in lemon juice) is mainly used; it is widely available with chemists or pharmacies. If citric acid is not available, lemon juice is often used as an alternative.

Use of colour

During boiling, fruit pulps and juices get darker in colour. In the case of some fruits, the change of colour is only marginal and hence these are still acceptable for product-making. Other fruits get darkened too much and become unattractive to consumers. Processors, therefore, add some artificial colour to these products to improve their appearance. Natural fruit colours can also be used to improve the shade of products, for example, adding dark red fruits or berries can give a more attractive and natural colour to jams. Most consumers prefer to eat preserves that are free from artificial colouring. The processors are required to ensure that they add only those colours to fruit products which are allowed by the regulatory body, and that too within the permitted limit.

Total soluble solids

The aim of boiling a fruit product is to reduce the water content of the mixture and concentrate the fruit and sugar in as short a time as possible. As per Food Product Standards and Food Additives Regulations, 2011, the final total soluble solids (TSS) content of a jam should be 65 to 68 per cent. The TSS is a measure of the amount of material that is soluble in water. The correct sugar content is critical for proper preservation of the product. If the final TSS of the jam is lower than 65-68 per cent, the shelf life will be reduced.

Stickers on fruits

The FSSAI has issued an advisory that stickers should not be pasted on the fruits as these contain non-edible glues. As per the advisory, if the stickers are to be pasted, the same

should be done on the wrapper of paper or plastic around the fruits. Further, the consumers have been advised to properly clean the spot of the stickers or cut the portion of the fruits containing the sticker, so as to avoid eating any residue of harmful glue. Stickers mostly don't contain valuable information regarding the fruit quality; these are pasted only to falsely enhance its value.

Export scenario

Rs 9,411 crore Export of fruits and vegetables from India during 2017-18

Rs 4,229 crore Fruits

Rs 5,182 crore Vegetables

1% India's share in global market

n Mangoes, walnuts, grapes, bananas and pomegranates account for the lion's share of fruits exported from India. Onion, okra, bitter gourd, green chilli, mushroom and potato contribute largely to the vegetable export basket.

n Major destinations for Indian fruits and vegetables are UAE, Sri Lanka, Netherlands, Bangladesh, Malaysia, Nepal, UK, Saudi Arabia and Qatar.

Source: Agricultural & Processed Food Products Export Development Authority (APEDA)

New packaging norms

Food businesses need to comply by July 1 with new packaging regulations that bar use of recycled plastics and newspapers to wrap food articles, according to Food Safety & Standards Authority of India.

Regulations prohibit material made of recycled plastic, including carry bags, for packaging, storing, carrying or dispensing articles of food.

Taking cognisance of carcinogenic effect of inks and dyes, norms also prohibit use of newspaper and such other materials for packing or wrapping of food articles and includes respective Indian standards for printing inks for use on food packages.

The new norms will replace all provisions with respect to packaging requirements prescribed in the Food Safety and Standards (Packaging and Labelling) Regulations, 2011.

Primary objective of packaging is to protect food from micro-biological, chemical, physical and atmospheric contamination and preserve it.

Good packaging ensures there is no change in sensory properties or composition of food when packed.