Exotic fruits and vegetables: the requirements of modern consumption

Abstract

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European consumers are sated customers with a profusion of commercial proposals in their towns. And there is no longer any question of protected areas.

The minimum requirements are as follows:

1. taste quality: ripeness, varieties, aromas;
2. presentation, with precise grades and follow-up;
3. batch homogeneity throughout the season;
4. marketing and promotion operations planned in direct contact with distributors;
5. rational agriculture with third-party control;
6. strict date management and guaranteed freshness;
7. batch traceability from the field and crop management sequence;
8. labelling: barcode or PLU code (an essential service for the distributor), etc.

Quality is not necessarily perceived in the producer country. Specific client requirements must be taken into account. The British, the Germans and the French do not perceive quality in the same way; their culinary histories are not the same. Neither is there any question of having fibrous mango with a strong taste of turpentine, for example, etc.). Ripeness is essential, and must of course be handled in conjunction with storage. Throwing produce away on arrival is very expensive. Rigorous taste tests must be used. Customers travel and are beginning to know the good taste of fruits picked from the trees, and which they do not find in the shops. Ecology and the environment are strongly in favour everywhere in Europe. Everything done in the direction of rational agriculture receives an echo: Max Havelaar, EUREP GAP, the coming French decree, etc.

The lines of work for the coming years are:

1. Taste quality fruit by fruit: non-destructive quality testing is in the starting blocks, etc.
2. Controlled, mastered taste quality: sugars, acidity, juice percentage, firmness, aromas, texture, etc.
3. Communication highlighting terroirs.
4. Exceptional varieties not yet known to consumers and distributors (outside producer countries).
5. A specification containing a description of the crop management sequence and the efforts made to ensure good traceability, the smallest possible amounts of residues of pesticides, hormones or growth activators, preservatives, etc.
6. 'Clean' packaging: environment friendly, recyclable, recycled, etc.
7. Ready-to-eat with guaranteed ripeness ■

The importance of the storage of tropical fruits under modified atmosphere: application to mango

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Lengthening the life of mango is aimed in particular at improving the quality of exported fruits. Indeed, these are frequently picked too green, resulting in very poor quality and unsatisfactory ripeness. It is therefore important to harvest riper fruit, without risk of over-ripening during transport.

Conservation of fruits under modified atmosphere (MA) consists of creating an atmosphere different to that of the air (21% O_2 and 0.03 % CO_2). The carbon dioxide content is thus increased and oxygen decreased to slow the overall metabolism (both respiratory and biochemical) of the fruits. This atmosphere is created when a balance is established between fruit respiration (all fruits continue to live after harvesting and respiration continues) and the packaging.

A number of results of measurement of respiration performed according to mango varieties show that these respiration rates can differ by 100% (the case of comparison of Keitt and Kent). It is also noted that the respiratory quotient (RQ) differs considerably according to the variety. Complementary studies showed that this factor is related to the state of maturity of the fruit and not the variety itself.

Packaging enabling the creation of an MA can consist of a plastic film whose characteristics make it possible to determine the atmosphere or coating serving the same purpose but placed on the surface of the fruit directly in contact with the epiderm. The plastic film may vary in composition and have different permeability to gases. Favouring to a certain degree the passage of oxygen and carbon dioxide will cause a change in the atmosphere.