

SPICES





Spices Processing Toolkit



SPICES

1.- Spices – General Information

The spices are a complex variety of aromatic products that enhance the unknown aspects of the ingredients. The term “spice” appeared in Europe and it designates several products from vegetable origin (flower, fruit, seed, peel, stem, root) with accentuated aroma and/or flavor. Besides being used in cookery for seasoning and food conservation, the spices can be included into composition of the oils, cosmetics, incenses, and medicines. Two important spices are the black pepper and the curcuma.



2.- Black pepper

Originary from the Southeastern Asia, the black pepper is one of the most important spices in the world. Also known as Indian pepper, it is a creeper plant belonging to the Piperaceae family. The optimum temperatures for its cropping ranges from 23o C to 28o C. The precipitation above 1,500 annual mm are enough for the good performance of this crop. The air relative humidity has influence, mainly upon the pollination of the flowers, and should be around 80%. For its cropping, the pepper shrub demands soils with good physical characteristics and rich in organic matter, therefore the soils excessively sandy and those poorly drained should be avoided. In general, it is cropped in those tropical climate places.

When immature, the black pepper grains show green coloration. When ripe, however, they are red. Only after a dehydration process, this pepper acquires its characteristic dark color. The white pepper is obtained from the maceration and removal of the black pepper peels.

The spicy flavor of the black pepper is due to the presence of a substance so-called piperine. Either the whole and ground grains are used as seasoning, preservers for foods, as well as in food processing.



3.-Curcuma

Curcuma is an feeding addictive used as seasoning and natural colorant classified as spice. The *Curcuma longa* L. is a perennial plant of the ginger family (Zingiberaceae) with a thick rhizome from the which the large and oblong leaves with long petioles appear. It is originary from southern Asia and its largest world producer is India.

Curcuma, tumeric, yellow root, haldi or India saffron are some of the names the *Curcuma longa* is known. From approximately 70 existing species, the *Curcuma longa* is the one stimulating higher commercial interest due to its dyeing power, since its characteristic yellow color rather attracts the attention.

The curcuma is constituted of 13.1% moisture, 6.3% protein, 5.1% fat, 3.5% ashes, and 69.4% carbohydrates.

The plant is vegetatively propagated, by using its rhizomes as "seeds". The rhizomes grow clustered in the underground, organized into a structure usually denominated as "œhand" where the smaller or secondary rhizomes (fingers) are grouped around a larger one so-called "top" (primary rhizome). The *Curcuma longa* L. presents the advantage for not requiring special cares during its cropping, since it is well grown in several regions with tropical and subtropical climate, at altitudes varying from the sea level at 1500 m as well as at temperatures from 20 to 30 °C. In India, the curcuma may be harvested between the months of December and March. Originary from the Southeastern Asia, the black pepper is one of the most important spices in the world. Also known as Indian pepper, it is a creeper plant belonging to the Piperaceae family. The optimum temperatures for its cropping ranges from 23o C to 28o C. The precipitation above 1,500 annual mm are enough for the good performance of this crop. The air relative humidity has influence, mainly upon the pollination of the flowers, and should be around 80%. For its cropping, the pepper shrub demands soils with good physical characteristics and rich in organic matter, therefore the soils excessively sandy and those poorly drained should be avoided. In general, it is cropped in those tropical climate places.

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4.-Post Harvest Losses of Vegetables

In the tropics, a proportion of the harvested vegetables is lost because the inadequate management, storage and processing techniques. It is difficult to know the real extent of post-harvest losses, because the data are often conflicting.

Several steps may be taken to limit the losses of vegetables. The most common points for control are the following ones:

- Vermin and insect infestation during the whole of the post-harvest chain.
- Yield losses due to early harvesting.
- Vegetable losses due to transport of material.
- Vegetable losses during reception process.
- Physical losses due to poor primary and secondary processing techniques.

