ELGi™
IMPRESSORS
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Cracking the tough nut


Cashew kernel before peeling

Cashew nut, the third widely consumed edible tree nut, is a single seeded fruit of a tropical evergreen tree. This nut develops over from a sweet tasting false fruit, which is of red or yellow colour. These are largely grown in India (the world's largest producer of cashew kernels), Brazil, Vietnam and some of the African countries.

The cashew tree, native to Brazil, was introduced to India in the sixteenth century by the Portuguese, as a means of controlling coastal erosion. Cashew processing, using manual techniques, was started in India in the first half of the twentieth century.

Traditionally in India, extraction of the kernel from the shell of the cashew nut has been a manual operation. The nut is heated which makes the shell brittle and loosens the kernel from the inside of the shell. The kernel is shelled from the roasted raw nut by beating it with a short stick. The shells are then further treated to remove the Cashew Nut Shell Liquid (CNSL). CSNL is the thick vesicant oil found in the leathery cover of the shell. Once the kernel is removed from the shell, it is dried in order to loosen the red skin adhering to the kernel for easy peeling. A few processors adopt conventional tray drier commonly known as "Borma". The testa, which is a reddish skin covering the kernel, is peeled off using a small blunt knife. One person can peel about 17-22 kg of kernels per hour. Processed nuts are then sorted out and graded into different sizes.

Unlike in other developing countries, only recently mechanized processing has been adopted to crack the roasted cashew nuts in India. Mechanized processing, using automated cutting, shelling and peeling machines, has enhanced productivity and resulted in higher percentage of white whole kernels.

In the peeling segment, the introduction of mechanical principles combined with high pressure air compressors has transformed the peeling operation. In this process, the kernels after Borma treatment

are fed to peeling machine through a feeder. The kernels advance into the lower part of the cylinder. The peeling springs, mounted in packs on an eccentric shaft, touch them gently while rotating. From the above action the kernels pass to a pneumatic chamber which is fed by compressed air. With a short blast of compressed air from this chamber, the testa is removed from the kernel. With this process, about 120-200 kg of cashews are peeled per hour a day. This mechanized system has high efficiency and the amount of breakages is also low when

The peeling process requires compressed air at a pressure of 6 kgf/cm2. The quality of compressed air used to remove the testa is key: as compressed air comes directly in contact with cashews.

Elgi is the first company to make significant inroads into this processing industry in India. With an indisputable reputation for quality, built up over the years, Elgi proposes further consolidation in the industry, providing cashew processing solutions through clean compressed air. The compressors are also available with various types of air accessories including filters for removing oil & dirt particles, and to improve air quality. Low maintenance and efficient after-sales service are the hallmarks of the company's products.