Development and test of sheller cleaning machine

The research on shelling technology and equipment of fresh oil-tea fruit has just started in recent two years, and the cleaning technology is still blank because of the difficulty of research. Only a kind of shelling machine for oil-tea fruit has been reported by patent 201020194564 in China. The main structure of the maize sheller is an inner and outer cage shelling device welded by a circle of threaded steel bars. A conical shelling chamber with large feeding end and small discharging end is formed between the inner and outer cages. Tea fruits are crushed by rubbing between the inner and outer cages. The inner and outer walls of the cage are equipped with a guide screw blade for conveying extruded tea seeds.

The clearance of the cone shell chamber should be adjusted according to the size of the tea fruit to be processed, so it is not convenient to use. The gap between adjacent threaded steel bars designed by microwave drying machine is larger than the outer diameter of crushed fruit after shelling and separating of Camellia oleifera fruit. The outer diameter of crushed fruit and tea seed are also larger or smaller. Crushed fruit and tea seed may be squeezed into inner cage or outer cage. Therefore, the principle and structure can not be very good for separating fruit shell and tea. Seed.

Other agricultural products such as Castanea henryi in Fujian, Chestnut in Zhejiang, Longan in Liangguang and so on, as well as the research on nut shelling technology, have been reported more. For example, the DGT-A/B multi-functional Nut Sheller developed by Guangxi Subtropical Crop Research Institute in 2008 is suitable for the shelling of chestnut, Camellia oleifera, walnut, macadamia nut and other types of dried fruits, but it is the main one. It is used for shelling of macadamia nuts, and shell and grain sorting equipment, manual sorting. Fantao et al. developed a peeling machine for Camellia oleifera fruit. The shell was crushed by two extrusion rolls. Although the peeling rate was high, the kernels were easily crushed and had no cleaning function. To sum up, there is still a blank in the technology and equipment of Camellia oleifera fruit shelling, fruit shell and tea seed sorting. The market hopes that there will be a kind of combination equipment which can not only effectively shell Camellia oleifera fruit, but also separate the fruit shell and tea seed.

According to the folk retting tedding Camellia fruit experience, Qing selected tea than shelling the time-consuming of the shell, so the design of the machine is a proper cleaning function, can put most of the tea tea seed shell and cleaning it; two is to consider the terrain and road south tea picking and other natural conditions, equipment can not design the production is too large and Heavy shelling transitions should be considered convenient; third is considering transportation and site conditions, equipment can split off tea fruit,

can also take off just picked fresh fruit tea camellia fruit shells is carried out in the cavity between the shell and the drum in the bar. 3 bar ends are evenly distributed on the circumference of shell hulling disk with different diameters, a cone-shaped installation, two hulling disk according to the left hand direction staggered 20 degrees to 30 degrees to install, so shelling rod rotates can transport material. The diameter of the shelling plate is determined according to the diameter of the lower sieve plate of the drum, and a small shelling tray is installed near the end of the hopper.