Experimental study on shelling of a full automatic cashew sheller

In order to further improve the shelling effect of cashew nut sheller, the effects of pushing speed, spring compression distance in cutter device and the state of cashew nut on the percentage of whole kernel, sliding fruit and lying fruit during shelling were studied. The results showed that the effect of pushing speed on the shelling efficiency of Cashew Nut Sheller was very significant (P 0.05). When feeding cashew nuts, the whole kernel rate and slippery fruit rate were significantly affected (P 0.05); when the knife edge distance was 9.1 mm, the pushing speed was 19.8 r/min, and the spring compression distance was 16.70 mm, the method a was adopted. 1 when the fruit was entered, the whole kernel rate was 69.76%. Key words: cashew nut; shelling; spring; speed.

Cashew nut (Anacardium occidentale L.) is an evergreen tree of Lacqueraceae. It is an important dry fruit and oil tree species in tropical China. Its kernels are one of the four most famous nuts (walnut, almond and hazelnut) in the world, and are loved by people all over the world. In the 20th century, researchers and entrepreneurs at home and abroad began to study cashew processing machinery (cashew processing downstream products). So far, no breakthrough has been made in the equipment. In recent years, a number of related equipment have emerged, such as manual shelling equipment (semi-automatic shelling equipment) automatic shelling equipment, microwave drying machinery and so on, but the shelling rate and production efficiency are not ideal. The rate of manual shelling is high, but its efficiency is low, and its automatic shelling efficiency is high, but its shelling rate is low. The research group screened and graded cashew at the early stage.

Previous studies focused on the effects of different factors on the shelling rate of cashew nuts. In this study, the effect of cutter device (spring compression distance) on the shelling rate of cashew nuts was added, which indicated that the shelling of cashew nuts was related not only to the state of the fruit, but also to the cutting device. Because of the peculiar shape of cashew nuts, this study did not find a very suitable way to ensure that cashew nuts enter the cutting device according to the desired state, so the later research work needs to design a better transmission device to effectively improve the whole kernel rate of cashew nut sheller.