

DEVELOPMENTS IN MECHANIZED HARVESTING OF LITCHI AND LONGAN

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The harvesting process of litchi and longan still relies manual hand-picking operation throughout the world. The shortage of harvesting equipment, high labor costs, insufficient workforce, and low level of mechanization have become the main factors hindering the development of the litchi and longan industry in China. With the development of mechanization technology becoming an important guarantee for improving the quality and efficiency of the modern fruit industry, the mechanized harvesting of litchi and longan is indeed an inevitable trend. This article provides an analysis and summary of the current stage of mechanized harvesting technology for litchi and longan, focusing on key technologies such as assisted harvesting, vibration harvesting, robot harvesting, fruit recognition and positioning for unmanned aerial vehicles (UAVs), harvesting strategies, and end effector design. The article also discusses the future research trends for intelligent, low-loss, and efficient development of litchi and longan harvesting technology, aiming to provide ideas and references for the comprehensive improvement of mechanized production levels in China's litchi and longan industry.

Keywords: litchi, longan, harvest machinery, machine vision, development trend