ABSTRACT

Coconut milk production in Indonesia, especially among micro, small, and medium enterprises (MSMEs), still relies heavily on inefficient conventional equipment that separates the grating and squeezing processes. This results in low time efficiency, high labor intensity, and suboptimal production volumes. This study aims to design and develop an integrated coconut processing machine capable of improving coconut milk production efficiency in terms of both time and output volume. The method used is Quality Function Deployment (QFD), which begins by identifying user needs through interviews and observations, then translating them into technical specifications using the House of Quality (HOQ). The design was developed using an ergonomic design approach and the integration of two main processes grinding and pressing into a single hybrid machine system. The research results show that the proposed machine can increase production efficiency by 34% compared to existing machines, with shorter processing times and higher coconut milk production volumes. Additionally, the ergonomic and safe machine design provides comfort for operators during operation. In conclusion, the coconut processing machine developed using the QFD method successfully meets user needs, improves production efficiency, and contributes positively to the productivity of SMEs in the coconut industry.

Keywords: *Grating machine, squeezing machine, efficiency, QFD, SMEs*