ABSTRAK

USULAN RANCANGAN ALAT PENCETAK *CENIL* NANAS YANG MEMENUHI ASPEK ERGONOMIS MENGGUNAKAN PENDEKATAN RASIONAL DI UMKM ALMEIDAH

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UMKM Almeidah di Desa Siwarak, Kecamatan Karangreja, Kabupaten Purbalingga merupakan usaha pengolahan nanas yang memproduksi *cenil* nanas secara manual. Proses pencetakan *cenil* yang dilakukan tanpa alat bantu menyebabkan bentuk dan ukuran produk tidak seragam serta menimbulkan gangguan muskuloskeletal pada pekerja akibat postur kerja yang tidak ergonomis. Penelitian ini bertujuan untuk mengidentifikasi risiko gangguan muskuloskeletal pada proses pencetakan *cenil* nanas serta merancang alat pencetak yang ergonomis sesuai kebutuhan pekerja dan konsumen. Metode yang digunakan meliputi penilaian postur kerja menggunakan *Rapid Upper Limb Assessment* (RULA), pengukuran keluhan pekerja dengan kuesioner *Nordic Body Map* (NBM), serta perancangan alat menggunakan pendekatan rasional yang didukung *Ergonomic Function Deployment* (EFD), *Morphological Chart*, dan data antropometri pekerja. Hasil penelitian menunjukkan bahwa pekerja memiliki tingkat risiko muskuloskeletal sedang hingga tinggi, dengan skor RULA sebesar 4 pada aktivitas pencetakan. Rancangan alat usulan berupa sistem pencetak *cenil* terintegrasi dengan meja, kursi, alat penipis, dan wadah penampung yang ergonomis. Kesimpulan penelitian ini menunjukkan bahwa rancangan alat pencetak *cenil* nanas mampu meningkatkan keseragaman produk, memperbaiki postur kerja, serta berpotensi mengurangi risiko gangguan muskuloskeletal dan meningkatkan produktivitas.

Kata kunci: *Cenil* nanas, Perancangan produk, RULA, NBM, Rasional

ABSTRACT

PROPOSED ERGONOMIC DESIGN OF A CENIL NANAS MOLDING TOOL USING THE RATIONAL DESIGN APPROACH AT ALMEIDAH MSME

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Almeidah MSME located in Siwarak Village, Karangreja District, Purbalingga Regency is a pineapple-processing enterprise that produces cenil nanas manually. The molding process carried out without assistive tools results in non-uniform product shape and size and causes musculoskeletal complaints among workers due to non-ergonomic working postures. This study aims to identify the risk of musculoskeletal disorders in the cenil nanas molding process and to design an ergonomic molding tool that meets the needs of workers and consumers. The methods used include work posture assessment using Rapid Upper Limb Assessment (RULA), measurement of workers' complaints using the Nordic Body Map (NBM) questionnaire, and tool design using the rational design approach supported by Ergonomic Function Deployment (EFD), Morphological Chart, and workers' anthropometric data. The results indicate that workers experience moderate to high musculoskeletal risk, with a RULA score of 4 during the molding activity. The proposed tool design consists of an integrated cenil molding system with an ergonomic table, chair, dough flattening tool, and collection container. The conclusion of this study shows that the proposed cenil nanas molding tool design can improve product uniformity, enhance working posture, and has the potential to reduce the risk of musculoskeletal disorders while increasing productivity.

***Keywords*:** *Cenil* nanas, *Product Design*, RULA, NBM, *Rational*