

Ramot Purba. NPM. 220331100068. Klasifikasi Mutu Beras Giling pada Industri Penggilingan Padi di Lamongan Utara. Di bawah Bimbingan **Dr. Moh. Fuad Fauzul Mu'tamar, S.TP., M.Si.** dan **Dr. Millatul Ulya, S.TP., M.T.**

ABSTRAK

Beras merupakan pangan pokok utama masyarakat Indonesia sehingga mutu beras menjadi aspek penting yang memengaruhi nilai jual dan penerimaan konsumen. Penentuan mutu beras pada sebagian besar industri penggilingan padi di Lamongan Utara masih dilakukan secara visual sehingga berpotensi menghasilkan penilaian yang subjektif. Penelitian ini bertujuan untuk menganalisis mutu fisik beras serta mengklasifikasikan mutu beras giling pada industri penggilingan padi di Lamongan Utara berdasarkan syarat mutu khusus pada SNI 6128:2020 menggunakan metode Decision Tree. Penelitian dilakukan pada 30 sampel beras yang berasal dari 30 unit penggilingan padi berbeda. Parameter yang digunakan meliputi kadar air, butir kepala, butir patah, butir menir, benda asing, dan butir gabah. Penentuan kelas mutu dilakukan berdasarkan SNI 6128:2020, sedangkan proses klasifikasi menggunakan perangkat lunak RapidMiner Studio. Hasil pengujian mutu fisik menunjukkan bahwa rata-rata kadar air sebesar 12,22%, butir kepala 84,87%, butir patah 14,22%, butir menir 0,88%, benda asing 0,015%, dan butir gabah 0,27 butir. Berdasarkan kriteria SNI 6128:2020, sebanyak 12 sampel (40%) termasuk kategori Premium, 12 sampel (40%) kategori Medium 1, dan 6 sampel (20%) kategori Medium 2. Hasil perhitungan Information Gain menunjukkan bahwa parameter butir kepala, butir patah, butir menir, dan benda asing memiliki nilai yang sama tinggi, yaitu 0,971, sedangkan butir gabah memiliki nilai 0,175. Model Decision Tree yang dibangun berdasarkan keempat parameter utama tersebut menghasilkan performa klasifikasi yang sama dengan nilai akurasi sebesar 96,67%. Hasil penelitian menunjukkan bahwa metode Decision Tree mampu mengklasifikasikan mutu beras secara cepat, objektif, dan akurat sesuai standar SNI 6128:2020.

Kata kunci: Beras Giling, Klasifikasi, Mutu Beras, Pohon Keputusan

Ramot Purba. NPM. 220331100068. *Classification of Milled Rice Quality in the Rice Milling Industry in North Lamongan.* Supervised by **Dr. Moh. Fuad Fauzul Mu'tamar, S.TP., M.Si.** and **Dr. Millatul Ulya, S.TP., M.T.**

ABSTRACT

Rice is the primary staple food of Indonesian society; therefore, rice quality is an important aspect that influences its market value and consumer acceptance. Quality assessment in most rice milling industries in North Lamongan is still carried out visually, which may result in subjective evaluations. This study aimed to analyze the physical quality of rice and classify milled rice quality in the rice milling industry of North Lamongan based on the specific quality requirements of SNI 6128:2020 using the Decision Tree method. The study was conducted on 30 rice samples collected from 30 different rice milling units. The parameters analyzed included moisture content, head rice, broken rice, brewers rice, foreign matter, and paddy grains. Quality classes were determined according to SNI 6128:2020, while the classification process was performed using RapidMiner Studio software. The results of the physical quality analysis showed that the average moisture content was 12.22%, head rice 84.87%, broken rice 14.22%, brewers rice 0.88%, foreign matter 0.015%, and paddy grains 0.27 grains. Based on the criteria of SNI 6128:2020, 12 samples (40%) were classified as Premium, 12 samples (40%) as Medium 1, and 6 samples (20%) as Medium 2. The Information Gain analysis indicated that head rice, broken rice, brewers rice, and foreign matter had equally high values of 0.971, whereas paddy grains had an Information Gain value of 0.175. The Decision Tree models developed using these four main parameters produced the same classification performance, with an accuracy of 96.67%. The results demonstrate that the Decision Tree method is capable of classifying rice quality quickly, objectively, and accurately in accordance with the SNI 6128:2020 standard.

Keyword: *Classification, Decision Tree, Milled Rice, Rice Quality*