Analysis Quality Control of Palm Sugar Industry with Six Sigma Method (Case at UD. Ngudi Lestari 1 Subdistrict of Kebasen, Banyumas)

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ABSTRACT

The study aims to identify palm sugar production process, amount of defect product, and quality control of palm sugar production at UD. Ngudi Lestari 1. The data that was use are data production and amount of defective product from seven days that did by four production process everyday. Analysis quality control that used six sigma method has function to approach zero defect product. Palm sugar production at UD. Ngudi Lestari 1 started by process of production planning, receipt of production planning, preparation of raw materials, cooking, formed,, sorting, and packing. The average of raw materials that needs for every process are 15 liter nira, 149,03 kg local palm sugar and 50 kg sugar. The size that produce are BL, flat, coin and jumbo. The result of defective products proportion for size BL 1,90%, flat 2,16%, coin 1,15% and jumbo 3,04%. Implementation of six sigma method at define step found nine characteristic of potential defect and the result of control chart show that production in UD. Ngudi Lestari 1 still uncontrollable. It is marked by process that out of control limit about 75%. The result of sigma value is good enough that is 4,39 and has meaning every one million times oportunity will result for about 1.926 unit defective. The amount of defect product base on pareto chart dominated by the colour of palm sugar that miss of standard. The factor that causing defective products are raw materials, labor, production equipment, and production step. Raw material is one kind of factor that has large influence for the final quality of palm sugar. Controlling is important to be done for the degree of nira's brix that bottom of standard and the variation of local palm sugar for decreasing defective product.

Keywords**:** *quality control, six sigma, defective product, palm sugar*