

ANALISIS RISIKO PENURUNAN MUTU PADA PROSES PRODUKSI UDANG VANNAMEI (*Litopenaeus vannamei*) BEKU

ABSTRAK

Udang vannamei (*Litopenaeus vannamei*) merupakan salah satu komoditi perikanan yang memiliki nilai ekonomis tinggi baik di pasar domestik maupun global. Kompleksitas proses produksi udang vannamei beku yang panjang dan melibatkan banyak pihak serta ketidakpastian karakteristik bahan baku menjadikan kondisi tersebut rentan terjadinya suatu risiko penurunan mutu produk. Tujuan penelitian ini adalah mengidentifikasi, menganalisis serta memberi usulan pengendalian risiko untuk menanggulangi potensi bahaya atau sumber risiko agar dapat meminimalisir penurunan mutu yang merugikan perusahaan. Penurunan mutu yang dimaksud pada penelitian ini adalah *defect* pada produk udang vannamei beku. Metode penelitian yang digunakan adalah kualitatif dengan pendekatan kuantitatif dan metode pengumpulan data penelitian melalui observasi lapang, wawancara dan kuesioner. Pengambilan sampel menggunakan teknik *purposive sampling*. Analisis pengukuran dan evaluasi risiko menggunakan Diagram Fishbone, Diagram Pareto dan metode *Failure Mode And Effect Analysis* (FMEA) untuk menentukan tingkat keparahan (*severity*), tingkat kejadian (*occurrence*) dan tingkat deteksi (*detection*), sehingga diperoleh nilai risk priority number (RPN) dan risk value score (RSV) yang dapat menentukan prioritas perbaikan pada potensi bahaya atau sumber risiko penurunan mutu pada proses produksi udang vannamei beku.

Hasil dari identifikasi risiko terdapat 29 potensi bahaya atau sumber risiko penyebab penurunan mutu atau *defect* pada produk yang terbagi menjadi 3 kategori yaitu kategori risiko *material* atau lingkungan sebanyak 3 potensi bahaya atau sumber risiko, kategori risiko *man* atau karyawan sebanyak 15 potensi bahaya atau sumber risiko dan kategori risiko *machine* atau peralatan sebanyak 11 potensi bahaya atau sumber risiko.. Pengendalian risiko dilakukan secara mitigasi dan preventif, pada masing – masing sumber risiko. Hasil evaluasi risiko menggunakan metode FMEA berdasarkan penilaian RPN dan RSV menunjukkan bahwa terdapat 10 potensi bahaya atau sumber risiko untuk *defect blackspot, blacktail* dan *discolouration*. Terdapat 5 potensi bahaya atau sumber risiko *dehydration*; 5 potensi bahaya untuk *damage, broken tail, pieces, taillness* dan *broken shell*. Terdapat 3 potensi bahaya atau sumber risiko *defect broken back, vein, improper cut, throat meat* dan *swimmerets*; 2 potensi bahaya atau sumber risiko *defect curl*, 2 potensi bahaya atau sumber risiko *defect clumping*, 2 potensi bahaya atau sumber risiko *defect moulting, scare shell, soft tail* dan *cyst* serta 3 potensi bahaya atau sumber risiko untuk *defect foreign material*. Strategi penanganan terbagi menjadi 2 yaitu secara preventif dan mitigasi, Untuk tindakan pengendalian risiko preventif adalah dengan dilakukan briefing pada karyawan dan pengawasan lebih ketat oleh ketua regu dan QC line untuk pencegahan defect produk. Sedangkan untuk strategi pengendalian risiko secara mitigasi untuk pilihan pengendalian risiko antara redisposisi produk atau *rework* produk serta perbaikan yang dapat memutus potensi bahaya atau sumber risiko.

Kata kunci : *Pengolahan udang beku, udang vannamei, risiko, analisis risiko, FMEA*

ABSTRACT

Vannamei shrimp (*Litopenaeus vannamei*) is one of the fishery commodities that has high economic value both in the domestic and global markets. The complexity of the long and multi-party frozen vannamei shrimp production process and the uncertainty of the characteristics of the raw materials make these conditions vulnerable to a risk of product quality degradation. The purpose of this research is to identify, analyze and provide risk control proposals to overcome potential hazards or sources of risk in order to minimize quality degradation that is detrimental to the company. The quality decline referred to in this study is a defect in frozen vannamei shrimp products. The research method used is qualitative with a quantitative approach and research data collection methods through field observations, interviews and questionnaires. Sampling was done using *purposive sampling* techniques. Risk measurement and evaluation analysis uses Fishbone Diagram, Pareto Diagram and *Failure Mode And Effect Analysis* (FMEA) methods to determine severity, occurrence and detection level, so that risk priority number (RPN) and risk value score (RSV) are obtained which can determine the priority of improvement on potential hazards or sources of risk of quality degradation in the frozen vannamei shrimp production process.

As a result of risk identification, there are 29 potential hazards or risk sources that cause quality degradation or defects in products which are divided into 3 categories, namely the material or environmental risk category as many as 3 potential hazards or sources of risk, the risk category of man or employee as many as 15 potential hazards or risk sources and the machine risk category or equipment as many as 11 potential hazards or sources of risk.. Risk control is carried out in a mitigated and preventive manner, at each source of risk. The results of the risk evaluation using the FMEA method based on the RPN and RSV assessments showed that there were 10 potential hazards or risk sources for blackspot defects, blacktails and discolouration. There are 5 potential hazards or sources of risk of dehydration; 5 potential hazards for damage, broken tail, pieces, tailness and broken shell. There are 3 potential hazards or risk sources of defect broken back, vein, improper cut, throat meat and swimmerets; 2 potential hazards or risk sources of defect curls, 2 potential hazards or risk sources of defect clumping, 2 potential hazards or risk sources of defect moulting, scare shell, soft tail and cyst as well as 3 potential hazards or risk sources for defect foreign material. The handling strategy is divided into 2, namely preventive and mitigation, for preventive risk control measures are by briefing employees and stricter supervision by the team leader and QC line for the prevention of product defects. As for the risk control strategy by mitigation, for risk control options between product redispotion or product rework and repairs that can cut off potential hazards or risk sources.

Keywords : *Frozen shrimp processing, vannamei shrimp, risk, risk analysis, FMEA*