QUALITY EVALUATION OF IMPORTED WHOLE LENTILS AND ITS COMPLIANCE WITH SRI LANKA STANDARDS

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ABSTRACT

Lentil *(Lens culinaris Medik.)* are an important food crop worldwide, valued for their nutritional content, which includes high-quality protein (20%- 30%), carbohydrates (60%), and essential micronutrients like calcium, iron, manganese, and selenium. Sri Lanka is a major consumer of lentils but depends entirely on imports to meet its domestic needs. Due to the increasing reliance on imported lentils, establishing standardized protocols is essential to ensure their physical, microbiological, and chemical safety. Sri Lanka imports approximately 100,000 to 120,000 MT of lentils each year, mainly as whole red lentils and split red lentils. This study conducted a preliminary quality assessment of imported whole lentils to verify compliance with the SLS 1573: 2017 standard. Thirty-five samples from different consignments were analyzed for key quality parameters, including moisture content (%), proportion of defective seeds, foreign material content (%), presence of live insects, 1000 seed weight (g), color, seed size, and total protein according to standard methods including SLS 1549: Part 1, SLS 1527, SLS ISO 520, were used respectively. Results showed a moisture content ranged from 8.42% to 11.31% within the allowable limit of 14%. The percentage of defective seeds ranged from 0.66% to 15.29%, a few exceeded the maximum permitted level of 10%. The foreign material content ranged from 0.04% to 5.98%, most samples complied with the SLS requirement of 5%. The 1000-seed weight ranged from 30.77g to 56.87g, exceeding the minimum requirement of 20g, indicating medium seed size. Live insects were observed in some samples. The protein content ranged from 22.25% to 28.42%, which falls within the typical range of 20%-30% for pulses. Negative correlation was found between protein content and defective seed percentage. A significant negative correlation was also observed between color parameters and defective seed %, indicating that higher defect levels were associated with darker and less vibrant seed color. These findings provide valuable baseline data for evaluating the quality of imported whole lentils and highlight the importance of systematic quality monitoring to ensure compliance with Sri Lanka standards.

Keywords: Whole lentil, Quality assessment, Safety, Sri Lanka Standards

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