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APPLICATION OF REGRESSION ANALYSIS IN SUGAR INDUSTRY

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Abstract

In India sugar industry is largest agro based processing industry after the cotton textile. Sugar industry covers around 7.5% of total rural population and provides an employment to 5 lakh rural people. About 4.5 crore farmers are engaged in sugarcane cultivation in India. Through this project we are investigating the factors affecting on the production of sugar. In this study we had taken three sugar cane industries and observe various parameters and fit Regression model to prediction sugar production in quintals. From the fitted model observe that Crushed sugar cane, bagasse production are contributes significantly to the production of sugar.

Key Words: Sugar, Regression, Bagasse, Sugar cane, R-sq(adj)

Introduction:

Today, agriculture of sugarcane has a large economic activity in over 100 countries, particularly in those developing economics who have a high proportion of poor and unemployed. Sugar industry is an important agro-based industry that impacts rural livelihood of about 50 million sugarcane farmers and around 5 lakh workers which are directly employed by sugar industry. The Indian sugar industries have approximately 80000 crores of annual output . Sugar production in India has been cyclic in nature. Every 2-3 years of high sugar production are followed by 2-3 years of low sugar production. From the sugar season 2010-11 onwards the country could consistently achieve sugar production more than the domestic requirement and could also generate surpluses for export. This study is aimed to fit regression models to predict sugar production by using various factors also to determine which factors are significantly contributed to production of sugar.

Research Methodology:

For this study we had collected data from three sugar factories from Satara and Pune district as Balasaheb Desai Co-operative sugar industry Ltd. Daulatnagar, Patan Sahyadri Co-operative sugar industry Ltd. Yashwantnagar, Karad Malegaon co-operative sugar industry Ltd. Baramati. We had studied different factors such as Crushing, Production sugar, Molasses, Bagasse, Sugarcane Rate, Travelling Cost, sugar cane production, area under cane.

By Performing Regression analysis Multiple Linear regression the model were obtain.