



Determining the Optimum Production Portfolio in Agricultural Sector: Province of Denizli Case

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Abstract

Agriculture is a field which is critically important for the economy of every country. Countries pursue different agricultural production strategies in different regions in accordance with their needs. In this study, a production planning model was developed based on Modern Portfolio Theory for the production of summer and winter vegetables in Denizli, which has a significant agricultural production potential for the Aegean region. The historical data of the specified products were obtained from Turkish Statistical Institute (TUIK). As the analysis method, Markowitz mean variance model and efficient frontier concepts were used. The optimum production portfolios, which have different product ranges and through which the manufacturers can make maximum profit according to their risk appetite, were determined. This study serves as a guide way to the manufacturers for the cultivation plans in future seasons.