Current Approaches in Applied Statistics - I

Editors: Assoc. Prof. Yalçın TAHTALI • Assoc. Prof. İbrahim DEMİR
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Preface

This book, titled Current Approaches in Applied Statistics, is a compilation of recent academic studies produced by researchers from different disciplines. The book covers not only theoretical contributions in the field of statistics, but also the innovative dimensions of methods used in a wide variety of application areas.

Today's rapidly increasing volume and diversity of data has led statistics to transcend being a science based solely on mathematical foundations and take on a critical role in many fields, from health sciences to engineering, social sciences to environmental research. Reflecting this broad sphere of influence, this book aims to present readers with both theoretical approaches and application examples from different disciplines.

The chapters in this book, prepared with contributions from international researchers, highlight the current importance of statistics, the methodological challenges encountered, and new solutions. Readers will encounter content that is useful both academically and practically in areas such as statistical modeling, data mining, machine learning, biostatistics, and social statistics.

We believe this work will provide researchers, graduate students, and practitioners with a comprehensive overview of current approaches to statistics. We thank all the authors and reviewers who contributed to this book and hope it will make a valuable contribution to the scientific community.

Contents

Chapter 3

An Turkey's Biodiesel Potential and the Economics of Related Agricultural Products

Berra Kocakoç[1]

Gülistan Erdal[2]

Abstract

With the rapid increase in the world population and the intensification of industrialization, the need for energy to sustain human life is also increasing day by day. As the use of energy resources has reached a significant level today, environmental pollution, greenhouse gas emissions, and the resulting climate change, along with the limited capacity of raw materials and energy sources, have led people to seek alternative energy sources.

Renewable energy sources are becoming increasingly important due to their low cost, minimal environmental impact, and very low levels of greenhouse gas emissions. These renewable energy sources include solar, wind, geothermal, and biomass energy.

Biomass is an energy source derived from all natural materials of non-fossil origin, including plant- and animal-based matter. The most important characteristics of biomass are its environmental friendliness and sustainability.

Biodiesel is a biomass-derived energy source in liquid form. It is obtained through processing oils derived from oilseed crops as well as used cooking oils.

This study examines the production quantities and cultivation areas of vegetable oils used in biodiesel production, along with the import and export statistics of these products in Turkey. Based on these data, the potential of biodiesel production and its evaluation have been assessed.

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