EXTRACTION AND CHARACTERIZATION OF RICE BRAN OIL

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EXTRACTION AND CHARACTERIZATION OF RICE BRAN OIL

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Then let man look at his food, for that We pour water in abundance; and We split the earth in fragments, and produce therein corn, and grapes and nutritious plants and olives and dates, and enclosed gardens dense, with lefty trees, and fruits and fodder, for us and convenience to you and your cattle.

(Al-Quran)

Lord Muhammad (peace be upon him) said,

"The Calamity of Knowledge is forgetfulness; and to lose knowledge is this, to speak of it to the unworthy.

Who are the learned? Those who practice what they know".

This thesis is dedicated

To

My Gracious Father

HAJI GHULAM NABI

Who is symbol of guidance in my life and induced a sense of deep love to struggle. Who is the source of strength, inspiration and proud for me and

My Sweet Mother

Who brought me from heaven to earth and who always prays for my success and prosperity and under her feet is my paradise. And

My beloved Wife

Who has left everything for me. And is source of courage and happiness for me.

DECLARATION

I MUHAMMAD AMJAD ALI S/O **GHULAM NABI** ID **13001140023** Session **2013-2015** hereby declares that the matter printed in the theisis titled **"Extraction and characterization of rice bran oil"** is my own work and has not been printed, published and submitted as research work, thesis or publication in any from in any university, Research institution etc. In Pakistan or abroad.

Dated:_____ _____

(Muhammad Amjad Ali)

RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled **“Extraction and characterization of rice bran oil”** has been carried out and completed by **ID: 13001140023.** The quantum and the quality of the work comtained in this thesis are adequate for the award of Degree of M.S/M.Phil.

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ABSTRACT

Rice is used as staple food throughout the world from Australia to American continent. Processing of this rice produces a number of value able byproducts. Rice bran is one of these byproducts. Other byproducts include rice hull and rice husk. Rice bran oil is rich in starches, minerals, vitamins, proteins and oil. Rice bran oil can be extracted using physical and chemical processes. In this study rice bran oil is extracted from the pallets of rice bran using soxhlet apparatus. N-hexane is used as solvent. After its extraction saponification value, acid value and ester value are determined. Crud, protein value, ash value, moisture content and fiber value of rice bran are also determined. Saponification value 148.80, Acid value 46.0, Ester value 102.80, Crude protein value 11.62%, Ash value 12.8%, Moisture content 8.2%, and Ester value is 17%.