

EXTRACTION AND CHARACTERIZATION OF RICE BRAN OIL



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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

*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 contained 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%.

