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Dedication

I would like to dedicate this
research

TO the soul of my father & my
mother

.....

To my husband

To my sisters and daughters

ABSTRACT

Two processed *A.seyal* and *A.senegal* samples of gum arabic have been studied in order to establish the physico chemical properties and functionality of processed gum samples in comparison with unprocessed gum arabic. Some of the determined physico - chemical properties have the following values :

Moisture content : Moisture content for processed *A.seyal* was found to be 7.3% whereas that for *A.senegal* was 7.6% , which differs from the values reported by other authors for non-processed *A.seyal* gum , which were 8.5% , 12.6% , and 11.6% the value for non-processed *A.senegal* gum were 10.7% , 11.8% and 14.8 % .

Ash content : Ash content for processed *A.seyal* & processed *A.senegal* was found to be 0.25 % and 0.34% respectively. which differs from the values reported by other authors for non-processed gum which were , 2.74 , 2.9% , 0.7% for non-processed *A.seyal* and 6.5% , 2.6%, 3.9% for non processed *A.senegal*.

Intrinsic viscosity : Intrinsic viscosity for processed *A.seyal* and *Asenegal* was found to be 11.5ml/g and 14.5ml/g respectively these values were similar to the values of non-processed samples which were found to be 11.4ml/g , 14.2ml/g . for non-processed *A.seyal* and 14.6 ml/g , 16.4 ml/g for non-processed *A.senegal* .

Specific optical rotation : *A.seyal* , processed sample has specific rotation ranging from +49.7 to + 50.2 . The average value was +49.9. and the value

for *A.senegal* , processed sample was found to be -29.2 which agrees with the values reported by other authors for non-processed sample which were +49.4 , +51 , + 54 . for *A.seyal* and -26 , -31.3 , -29.4 for non-processed *A.senegal*.

Nitrogen Content :

The nitrogen content for. *Aseyal* gum was found to be where as that for *A.senegal* gum was found to be 0.34% which does not differe from the values reported by other authors for non-processed gum , which were 0.13 , 0.11 and 0.33 , 0.35 respectively .

Theacid equivalent weight and glucuronic acid:

For processed *A.seyal* gum were found to be 1154 and 16.8% respectively , where as those for processed *A.senegal* were 1315.8 and 14.7.

pH values :

The pH values for processed and row gum were almost equales , hence processed dose not affect the pH value of the gum .

Emulsifing Index :-

The relative emulsifying abilities of processed gum does not changed by the treatments.

Conductance :

Spraydring processed has affected the conductance at infinite dilution for *A.seyal* was found to be where as that of *A.senegal* was

Which was different from those values reported for non-processed samples which were found to be for *A.seyal* and for *A.senegal* sample .

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