

INTRODUCTION

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Thickening agents used in food industry are considered a problem nowadays because of the changes in the world prices every days.

From this standpoint it was of a great important and interest to food technologists to find a way for more available and cheapest agent to fullfill the demand for thickening substances used in different food industry.

Of those agents which draw attention in recent years to thicken or improve body; cover flavours; smooth flavours; provide bulk; aid in carbonation retention, and control ice crystal formation", are the carbohydrate gums which include modified gums as well as natural gums.

Guar gum is the most widespread thickening agent is extracted from guar seeds. These seeds are affiliated to legume seeds of the family "Fabacea". Guar, "Cyamopsis tetragonoloba", was first domesticated in India. It is widespread in many countries due to its wide use in diversified aspects.

The traditional use of Guar mentioned by Whistler et al.(1979)are as follows:

In Human Consumption:

The immature pods are dried, salted and preserved for future use or immature pods are dried and fried like potato chips, or the green pods are cooked like french beans.

In Cattle Feed:

The plant are cut and fed as green forage, and the beans are boiled in a large kettle and fed to cattle as protein concentrate.

In Medicinal purposes:

The plants are ashed and mixed with oil and used as a poultic on cattle boils. The leaves are eaten to cure night blindness, and the seeds are used as chemotherapeutic agent against small pox. The boiled guar seeds are used as poultices for the plague, enlarged livers, and swelling of broken bones. Also seed are used as a laxative.

In other commonly use:

Guar are ploughing to improve soil as green manure.

In Food industry:

Guar is recently introduced as a thickening agent; beside guar holds great promise for supplying much needed protein in the man diet.

The role of guar gum become enlargement especially in diabetic food using high fructose as a natural sweetening agent, because of the problem of liquidity of fructose which did not develop any thickening or viscosity to the product. Guar gum pretend its high characteristic to compete with the sugar for hydrating the component and consequently developing high viscosity required. The gum also reduces the tendency of juices to separate and improves the shelf life of the final products.

Khater (1977) has mentioned that; guar gum has 5-8 times the thickening power of starch. It is used to thicken and stabilize some kinds of salads and ice cream; and enriching bread with protein ; as it can be mixed with flour in percentage of 8%, and also for keeping the fresh characteristic for long time.

The most economic important of using guar in food industry is it allows a reduction of the solid contents of the product and yields a substantial cost savings in many cases.

Object of study

The present investigation was carried out to; study the following points which could light the way to get more benefit to introduce guar gum in food industry:-

1. The chemical composition of guar seeds to evaluate its potentialty,
2. To study the polysaccharides content to get knowledge of its nature , and the chemical structure of this polymer ,
3. To study the physical and chemical properties of guar gum as a thickening agent in comparison to other known agent used ,
4. To study the technological aspects of using guar gum in some food products, i.e. juices and james.