

ABSTRACT

Jams and marmalades are some of the most popular food products because of their low cost, all year long availability and appealing sensory properties. These products are described as gels with pectin as the gelling agent used in its formulation. Gels are a form of matter intermediate between a solid and a liquid. They consist of polymeric molecules cross-linked to form tangles, and interconnected molecular network immersed in a liquid medium. However, the jams and marmalades require stabilization by hydrocolloids. The most common hydrocolloid stabilizer is pectin which is available as a low methoxy pectin or high methoxy pectin. Unfortunately, under mechanical stress, pectin gels may be damaged leading to the release of colloidal water. The release of the colloidal water is termed as syneresis. This problem may be solved by integrating pectin with other stabilizers having thickening properties. Jams were prepared using plums and pineapples while marmalades were prepared from oranges and lemons. Gum Arabic from *Acacia senegal* var. *kerensis* was added in the range of 1% - 5% which fell within the additives category. The prepared jams and marmalades underwent sensory evaluation using semi-trained panelists. The prepared jams and marmalades showed no evidence of syneresis. The jams and marmalades were subjected to a sensory panel who scored the different attributes against a 7-point hedonic scale. Gum Arabic at different levels was found to have a significant contribution to the consumer acceptance of the fruit spreads prepared. This is the first time that syneresis reduced jams and marmalades containing gum Arabic from *Acacia senegal* var. *kerensis* are being reported. Sensory evaluation was carried out on different fruit spreads used in the study to assess the impact of gum Arabic from *Acacia senegal* var. *Kerensis*. The parameters include taste, texture, spreadability, aroma, flavour, colour and general acceptability. Red plum jam and Pineapple jam had its best performance for general acceptability use at 5% level of gum Arabic whereas 4% gum Arabic level performed best for general acceptability for Orange marmalade and 5% level best for Lemon marmalade in terms of general acceptability.

Keywords

Gum Arabic, Syneresis, Jam, Marmalade