

EVALUATION OF GENIPIN STABILITY OBTAINED FROM GENIPAP FRUIT (*Genipa americana* L.)

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Abstract

The iridoid blue-based pigments (IBBP, especially genipin) extract of genipap represents a natural alternative as blue colorant food applications. In this study, we evaluated the pH influence on genipin stability which was monitored during 30 days. Among the conditions tested, the color of genipap extract was more stable at pH 2.6-5.0, suggesting that it is compatible for coloring acidic foods.

Key words:

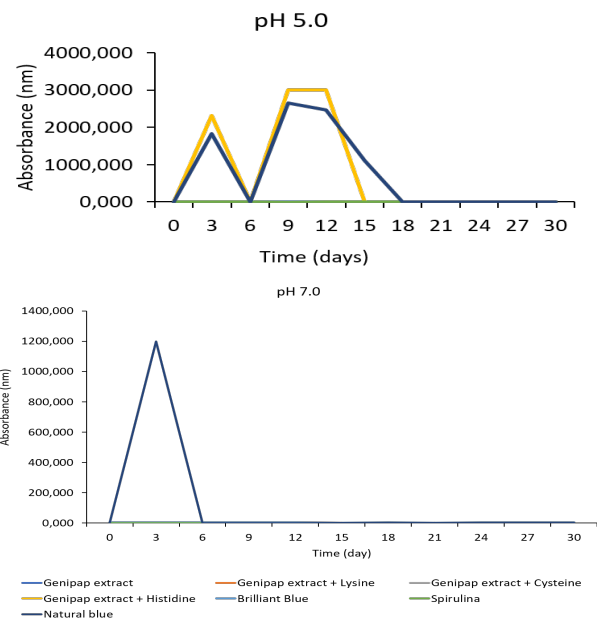
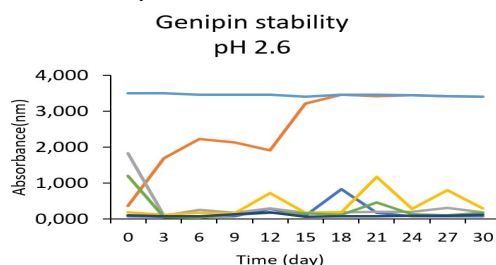
Iridoids, blue natural colorant, funcional pigment

Introduction

Since ancient times Amazonian indigenous tribes uses natural colorants obtained from macerated unripe fruits of genipap for dyeing and painting the body as well as to heal diverse diseases. These “magical properties” are attributed to the presence of a natural iridoid called genipin, that if in the presence of oxygen reacts with primary amines and proteins producing blue-black pigments. Thus, genipin can be used as an alternative of natural blue colorant in the beverage industry or as supplements to improve the nutritional value of foodstuffs or as food colorants. This study aimed to assess the influence of pH on the stability of blue pigment obtained from unripe genipap. The colour stability of the genipin in citrate-phosphate buffer at the different pHs buffer (pH 2.6, 5.0 and 7.0) in comparison to the amino acid solution (cysteine, histidine and lysine) and commercial standard colorants (brilliant blue, spirulina and blue natural, Sensient®) were monitored during 30 days which ratio of absorbance at 600nm was measured at predetermined intervals of 3 days plus the total phenol content.

Results and Discussion

During the experiment, all samples showed visible colour changes. The pH 7.0 influenced significantly for genipin degradation. In addition, after 3 days of standing all samples showed some change in the absorbance of samples.



Conclusions

In conclusion, it was observed that the color stability of genipap extract is compatible with acid food applications. The next steps will be to assess the microencapsulated genipin aiming the stability improvement of the blue pigment of genipap.

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