

Press KIT

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## & Antioxydant properties caramels

**Nigay SAS has been carrying out researches for a better knowledge of caramel for many years. In order to do so, they worked with several laboratories to show the antioxidant properties of caramel.**

**A scientific article describing the results of these studies has just been published:**

*Investigation of the antioxidant capacity of caramels: combination of laboratory assays and C. elegans model - Journal of Fonctionnal Foods - Volume 78 (2021) 104308.*

Caramel is produced by a controlled heating of sugars (sucrose - glucose syrup, ...) with or without presence of caramelization promoters to provide a wide range of ingredients (aromatic caramels, burnt sugars or specialities) or additives (caramel colours).

Caramelization is close to the Maillard reaction and begins with a dehydration of the sugars then a polymerization of the molecules formed. These multiple reactions create a complex mixture of compounds ranging from small molecules responsible for the typical taste of caramel (maltol - furaneol...) to large molecules responsible for the brown color of caramel.

**Several methods have been tested simultaneously:**

- 1- Chemical analysis using a blue molecule called ABTS in solution which discolors in the presence of antioxidant
- 2- Analysis of the effect of caramel on the lifespan of blood cells when they are attacked by strong oxidants
- 3- Analysis of the impact of caramels on the lifespan of Caenorhabditis elegans worms in the presence of strong oxidants

**=> 40% increase in worm lifespan after 18 hours of exposition**

These three studies, using radically different methods, have jointly shown that caramel has antioxidant properties in caramels. The greater the degree of caramelization, the greater the antioxidant activity's will be. Further studies will be carried out to identify the molecules or families of molecules responsible for this activity.

**In conclusion, caramel contributes significantly to the consumption of antioxidants that can lead to interesting nutritional benefits. Based on 2012 EFSA exposure data, the current daily intake of caramel color would provide antioxidant equivalent to a glass of orange juice or a cup of coffee. The aim of the following studies will be to explore these potential benefits due to the antioxidant properties in caramels.**

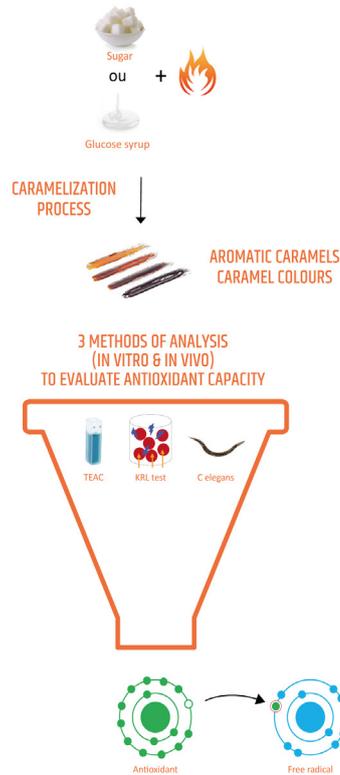


[WWW.NIGAY.COM](http://WWW.NIGAY.COM)



# AT A GLANCE!

“ The art and science  
of *caramelization* ”



Who's the Expert  
caramels ?



The family-run business is specialized in the production of caramels used in many forms (liquid, paste, powder, pieces) by artisans and food industries. Producing aromatic caramels, caramel colours, burnt sugars and caramel specialities, Nigay is unique in its dedication to the art and science of caramelization which has made its name «The expert in caramels» around the world.

With a turnover of nearly 78 million euros (67% in exports), the company ships its products on the 5 continents. Focused on human values and driven by their profession, Henri and Yves Nigay lead a team of more than 250 people. They aim to perpetuate their caramel expertise and to pass it on to the 6th generation thanks to anchored company values: Passion, Tradition, Innovation, High Standards & Ethics.

## PRESS CONTACT

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