

COLOUR-THE MARKER MATURITY FRUITE OF SEA BUCKTHORN BERRIES

Irina DIANU^{1*}, ORCID: 0000-0001-8632-8987
Artur MACARI¹, ORCID: 0000-0003-4163-3771
Natalia NETREBA¹, ORCID: 0000-0003-4200-1303
Alexei BAERLE², ORCID: 0000-0001-6392-9579
Olga BOEȘTEAN¹, ORCID: 0000-0002-0390-3550
Iuliana SANDU¹, ORCID: 0000-0003-1266-3154

¹Technical University of Moldova, Department of Food Technology, Chisinau, Republic of Moldova

²Technical University of Moldova, Department of Oenology and Chemistry, Chisinau, Republic of Moldova

*Corresponding author: Irina DIANU, irina.dianu@tpa.utm.md

The sea buckthorn (*Hippophae rhamnoides* L.), is widely cultivated on the territory of the Republic of Moldova, is distinguished by a consistently high fruit yield and is of particular importance in the food industry.

In this work, the colour change of white catina fruits during the ripening period was examined.

The timing of harvesting of white currant fruit is very essential, differs from one variety to another and depends on the soil and climatic conditions, the agronomic measures applied [1].

During the ripening period, the colour of white currant fruit changes from green to yellow-orange due to the accumulation of carotenoids. In parallel with the accumulation of carotenoids, the vitamin content and antioxidant capacity increase significantly [2].

The aim of this work is to analyse the evolution of colour, as a ripening marker, during ripening of white hawthorn fruits.

Color changes were compared as a marker of ripening of white hawthorn during ripening/ripening of Cora and Mara varieties, 2021 harvest, Dubasari district, Pohrebea village, Republic of Moldova.

Color indices of white currant were determined on the surface of the fruit by CIELAB method using "CROMA METER CR-400" apparatus.

The values of the red-green component a^* , in the variety Mara increased from 15.98 to 24.9, in the variety Clara from 12.58 to 22.3, this is explained by the decrease of the green hue. The values of the yellow-blue component b^* are also increasing, the Mara variety from 46.51 to 53.2 and the Clara variety from 55.27 to 64.2, which shows the progression of the yellow colour. Once the ripening age is reached the b^* component values remain constant.

The H^* shade angle for Mara is 1.240 to 0.990, which represents a lighter shade, and for Clara a darker shade from 1.350 to 0.90. The overall colour difference, ΔE^* was more considerable in the Mara variety.

It has been shown that at the point of eating maturity, the a^* and b^* component values remain constant, indicating that instrumental colour analysis can be used as a marker of ripening stage.

Keywords: white currant, baking marker, evolution, hue angle.

Acknowledgments: The authors would like to thank the Moldova State project 20.80009.5107.13 "Elaboration of the technology for the production of sea buckthorn in ecological system and of the processing of fruits and biomass".