The acute supplementation of combination juice of yellow watermelon (citrullus lanatus thunb.) - plantain (musa paradisiacal var. Sapientum l.) suppress post-exercise blood lactic acid production in rats

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Abstract	Background: Yellow watermelon contains citrulline, which can suppress lactic acid production, while plantains contain potassium which is important for muscle performance. The yellow watermelon and plantain combination juice potential to be a natural sports drink that delays muscle fatigue by suppressing lactic acid production after exercise.Objectives: To determine the effect of yellow watermelon-plantain juice on lactic acid in rats after swimming test.Materials and Methods: This true experimental study used a post-test-only with controlled group design. Thirty Sprague Dawley rats, eight-week-old, male, were divided into five groups, namely positive control (C+), negative control (C-), dose 1 (P1), dose 2 (P2), and dose 3 (P3). The C (+) group received no juice and was not tested swimming, the C (-) group received no juice but was tested swimming, P1 received combined juice up to 1.8 g and tested swimming, P2 received combined juice up to 3, 6 g and tested swimming, P3 received combined juice up to 1.8 g with the addition of 0.27 g granulated sugar and tested swimming. The juice is given 30 minutes before the test. The swim test was performed for three minutes; after that, the blood was taken to test the lactic acid levels. The data were analyzed using the one-way ANOVA and the advanced post-hoc with the least significant difference test.Results: The lactic acid levels in C (+), in C (-), P1, P2, and P3 groups after swimming test were 1.38 mMol / L; 7.14 mMol / L; 3.74 mMol / L; 1.66 mMol; and 2.91 mMol/L. There were differences in levels of lactic acid ($p < 0.05$) in each group after the combination juice intervention was given.Conclusion: Combination juice of yellow watermelon-plantain has an effect on lactic acid levels after swimming test. Dose 2 (3.6 g) was the best because it produces the lowest lactic acid after the swimming test.
Publisher Name	Department of Nutrition Science, Faculty of Medicine, Universitas Diponegoro
Publish Date	2021-06-30
Publish Year	2021
Doi	DOI: 10.14710/jgi.9.2.73-79
Citation	
Source	Jurnal Gizi Indonesia (The Indonesian Journal of Nutrition)
Source Issue	Vol 9, No 2 (2021): Juni
Source Page	73-79
Url	https://ejournal.undip.ac.id/index.php/jgi/article/view/25785/19695
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