

Northumbria Research Link

Citation: Howatson, Glyn, McHugh, Malachy, Hill, Jessica, Brouner, James, Jewell, Andrew, van Someren, Ken, Shave, Robert and Howatson, S. A. (2009) Influence of tart cherry juice on indices of recovery following marathon running. *Scandinavian Journal of Medicine and Science in Sports*, 20 (6). pp. 843-852. ISSN 1600-0838

Published by: Wiley-Blackwell

URL: <http://dx.doi.org/10.1111/j.1600-0838.2009.01005.x>
<<http://dx.doi.org/10.1111/j.1600-0838.2009.01005.x>>

This version was downloaded from Northumbria Research Link:
<http://nrl.northumbria.ac.uk/id/eprint/480/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)

Influence of tart cherry juice on indices of recovery following marathon running

G. Howatson^{1,4}, M. P. McHugh², J. A. Hill³, J. Brouner⁴, A. P. Jewell⁵, K. A. van Someren⁶, R. E. Shave⁷, S. A. Howatson⁴

¹ School of Psychology and Sport Sciences, Northumbria University, Newcastle upon Tyne, UK,

² Nicholas Institute of Sports Medicine and Athletic Trauma, Lenox Hill Hospital, New York, USA,

³ St. Mary's University College, Twickenham, UK,

⁴ School of Life Sciences, Kingston University, Kingston-upon-Thames, UK,

⁵ Faculty of Health and Social Sciences, St. George's Medical School, London, UK, ⁶ English Institute of Sport, Marlow, UK,

⁷ Centre for Sports Medicine and Human Performance, Brunel University, Uxbridge, UK

KEYWORDS

Recovery • inflammation • muscle damage • antioxidants • Montmorency cherries

ABSTRACT

This investigation determined the efficacy of a tart cherry juice in aiding recovery and reducing muscle damage, inflammation and oxidative stress. Twenty recreational Marathon runners assigned to either consumed cherry juice or placebo for 5 days before, the day of and for 48 h following a Marathon run. Markers of muscle damage (creatinase kinase, lactate dehydrogenase, muscle soreness and isometric strength), inflammation [interleukin-6 (IL-6), C-reactive protein (CRP) and uric acid], total antioxidant status (TAS) and oxidative stress [thiobarbituric acid reactive species (TBARS) and protein carbonyls] were examined before and following the race. Isometric strength recovered significantly faster ($P=0.024$) in the cherry juice group. No other damage indices were significantly different. Inflammation was reduced in the cherry juice group (IL-6, $P<0.001$; CRP, $P<0.01$; uric acid, $P<0.05$). TAS was ~10% greater in the cherry juice than the placebo group for all post-supplementation measures ($P<0.05$). Protein carbonyls was not different; however, TBARS was lower in the cherry juice than the placebo at 48 h ($P<0.05$). The cherry juice appears to provide a viable means to aid recovery following strenuous exercise by increasing total antioxidative capacity, reducing inflammation, lipid peroxidation and so aiding in the recovery of muscle function.