

## The Bilberry Blues

In my last editorial, AMR 12.3, example 4 outlined a problem with a fraudulent "independent laboratory" used by a company that provides copies of their "analysis" with each product purchased by a practitioner. To further explain my frustration with analytical procedures and laboratories, I must first go back to a study published in AMR 5.2, "The Effect of Bilberry Nutritional Supplementation on Night Visual Acuity and Contrast Sensitivity." For this U.S. Navy-commissioned study, I prepared, under GMP conditions, the active capsules using Indena bilberry extract, and placebo capsules utilizing magnesium aspartate and synthetic food dyes. After independent laboratory analysis, the principal examiner contacted me with the news that the placebo capsules had been reported to have approximately 50 percent of the bilberry activity of the active capsules. Upon questioning the methods used, it was found the laboratory had used spectrophotometric analysis, measuring only light absorption, to determine the concentration of the bilberry. Upon re-analysis utilizing proper HPLC methods the placebo was found to have no trace of bilberry.

That was seven years ago. The dirty little secret is that much of the bilberry still sold today does not contain the labeled amount of anthocyanins from authentic bilberry. It has taken a study led by Indena researchers, recently published in the *Journal of AOAC International* (2007;90(4):911-919), to demonstrate that with proper, validated HPLC analysis, not only did 35 percent of products sold in the United States not match label claim, 10 percent did not even contain the active principal. This confirms the conversations I have had with an excellent independent laboratory over the last few years. They report that many bilberry raw material samples and finished products they have been asked to analyze have contained simply inactive ingredients colored with synthetic dyes.

In this issue is an excellent piece of original work by David Carlson et al analyzing absorption of the sodium salt of R-lipoic acid (RLA). The other shoe, which has not dropped, is akin to the bilberry problem outlined above. RLA has only appeared commercially in the last few years and yet immediately has suffered the taint of authenticity, stability, and absorption because of unscrupulous marketers. In the never-ending battle, the next new product marketed by a PhD on the Internet, which is already being misrepresented, is dihydrolipoic acid. The amazing thing is that the analysis "documenting" the authenticity and stability of this product is provided by the same fraudulent "independent laboratory" referenced in the first sentence of this editorial. The smoke and mirrors in this industry continues....

A.F. Czap,  
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