Blackcurrant - A source of human health beneficial phytochemicals

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Background and Benefits

Blackcurrants have been used in jams, juices, yoghurts, pies, wines and ice cream for many years. Although massively popular across Europe and Asia blackcurrants were previous banned in the US as they were a vector of white pine blister rust, a perceived threat to the US logging industry. However resistant blackcurrant varieties are now available and this treat no longer exists. This is timely since many reports have highlighted the potentially health beneficial photochemical composition of blackcurrant.

Blackcurrant has a significantly large Vit C content, more than virtually any other commonly consumed soft fruit, and emerging research is further highlighting the benefits of this small black berry based largely on the polyphenolic content of the fruit and its associated products

The rich, dark colour common in blackcurrants is due to high content of anthocyanins, predominantly 3-glucosides and 3-rutinosides of cyanidin and delphinidin. We have found that these components exhibit potent OH scavenging abilities and protection of endothelial cells in models systems.

Furthermore the anthocyanins have been shown to impact upon the α-glucosidase phase of starch digestion thereby aiding in a reduction of sugar release during starch food digestion the release, a key point in a civilisation plagued with increasing levels of obesity, diabetes and heart disease.

Blackcurrants are a good source of glycosylated flavonols such as quercetin, myrecetin and kaempferol. Modeling studies at the fundamental cellular level have shown that these compounds can interact with the bodies own innate Antioxidant Response Elements, such as the transcription factor Nrf2, and more specifically stimulate expression of the detoxification enzymes such as NAD(P)H:quinone oxidoareductase 1 etc.

More recently, studies by BerryPharma (www.BerryPharma.com) have shown that the bioavailabilities of blackcurrant extracts prepared by different methods exhibit different bioavailabilities despite being >98% anthocyanins, and that there is an aged-related bioavailability response. Furthermore, this age response is translated through to gene expression. Interestingly, some of the genes up-regulated following blackcurrant extract consumption are related to stress and immune responses

Conclusion

Blackcurrant is already well established in Europe as a desirable and popular soft fruit and, as the health benefits surrounding it accrue, it will continue to make in roads into other markets world wide. Keep abreast of all developments regarding blackcurrant and health at http://www.blackcurrantfoundation.co.uk/

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