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Comparison of photosynthetic pigments and anti-oxidative efficacy of marine microalgae, spirulina (*Arthrospira platensis*) on the cultivation environments

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The cyanobacterium, spirulina (*Arthrospira platensis*) is used as food supplement because of their nutraceutical ability. The photosynthetic pigment and antioxidant activity of spirulina cultivated indoors and outdoors were compared with USA and Indian spirulina. The contents of chlorophyll a were higher in outdoors>indoors, USA> ndian. The contents of carotenoids pigment were in the order of outdoor>indoor>USA>Indian. Whereas c-phycocyanin pigment contents were higher in indoors>outdoors>USA>Indian. Also, the result of DPPH radical scavenging efficacy and total polyphenol contents were higher in the order of USA, outdoors>India>indoors and outdoors>USA>indoors, India, respectively. As a result, outdoors cultivated spirulina has more photosynthetic pigments than indoor and antioxidant activity is also better. A noteworthy feature was that USA and Indian spirulina have less content of photosynthetic pigment but more effective antioxidant activity than indoors cultivated spirulina. It may means, the two spirulina were grown at outdoor cultivation. In overall, spirulina grown outdoors has more antioxidant activity than indoors because of the complexity of light intensity and quality.

Biography

Young-Seok Han has completed his PhD from Incheon National University and Postdoctoral studies from Incheon National University. He is the Director of NeoEnBiz Co. Ltd. (the premier organization in the environmental biotechnology) and he has published more than 20 papers in reputed journals.

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