Effects of cultivation methods on lobetyolin content and antioxidant activities of different parts of *Codonopsis pilosula*¹

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Abstract

The roots of *Codonopsis pilosula* have been used in traditional Chinese medicine, exhibiting various beneficial activities which increase energy and support immunity. It is a perennial with twining stems and thick cylindrical roots. The purpose of this study was to analyze the active ingredient content and antioxidant capacity of various parts of the whole plant of *C. pilosula*. The effect of different cultivation methods on contents of lobetyolin, DPPH radical scavenging capacity, total flavonoids and phenolics were investigated. The results showed that the root length, root diameter and root weight of *C. pilosula* were higher by trellis netting cultivation than general cultivation without plant support. Lobetyolin was detected in roots, stems, leaves and flowers of *C. pilosula*. The content of lobetyolin in the aerial part of the plant support the content of lobetyolin in the roots was slightly higher than in the aerial part of the plant. The highest DPPH free radical scavenging capacity was found in the leaves by trellis netting cultivation. The contents of total flavonoids and phenolics were highers that aerial part of the plant support. The results of this study showed that aerial part of the plant support. The results of this study showed that aerial part of the plant also has lobetyolin and antioxidant capacity, which can be revalued and reused as feed additives and other processed products to increase overall plant utilization.

Keywords: Codonopsis pilosula, lobetyolin, DPPH radical scavenging capacity, flavonoids, phenolics, feed additives

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