

THE DETERMINATION OF VITAMIN B₁₂ IN COMFREY AND COMFREY PRODUCTS

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Comfrey (*Symphytum* sp.) is a medicinal herb of the family Boraginaceae which is widely used in folk medicine and as an animal fodder, a salad vegetable and as an ingredient for beverages. Claims have been made that comfrey contains vitamin B₁₂ (Hills 1976) which is anomalous, as very few plant foods have been reported to contain this vitamin. Because of the potentially low levels of vitamin B₁₂ in vegetarian diets, comfrey has been recommended as a dietary source of this vitamin. Some carcinogenic pyrrolizidine alkaloids have been found in *Symphytum* spp. (Culvenor et al. 1980). Further, leaves and roots of *Symphytum officinale*, when fed to rats, have been shown to be hepatocarcinogenic (Hirono et al. 1980). Because of the potential health risk associated with the consumption of comfrey and comfrey products, and as part of a general investigation into the vitamin B₁₂ content of food, we aimed to determine if the levels of this vitamin in comfrey and comfrey products would make a significant contribution to the diet.

Comfrey products were purchased from 'health food shops' and comfrey was obtained from the National Herbarium, Melbourne. The finely ground sample was extracted with sodium acetate buffer, pH 4.6, for 2 hours at 100° and assayed for vitamin B₁₂ using *Lactobacillus leichmannii* (Association of Vitamin Chemists 1966). The following results were obtained.

	No of Samples *	Vitamin B ₁₂ (ng/g)			Mean Recovery (%)
		Mean	Range	SD	
Comfrey products:					
'Norganic' tea bags	6	2.85	1.6-3.5	0.66	40.2
'Triad' loose tea	6	3.37	2.7-4.0	0.42	87.2
'Golden Life' tablets	5	1.20	0.8-1.6	0.26	72.0
Comfrey:					
mature leaf	4	6.33	3.7-8.4	1.58	
mature stem	4	2.93	2.4-4.2	0.55	
root	4	2.55	1.9-3.1	0.64	

* each sample was assayed in triplicate

The low levels of vitamin B₁₂ found indicate that relatively large amounts of these products must be consumed to contribute significantly to dietary intake. The potential risk to health is likely to outweigh the benefit of consuming comfrey as a source of vitamin B₁₂.

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