• 系統編號	RG9201-0112		
• 計畫中文名稱	市售不同黃豆產品中異黃酮素之質與量的評估		
• 計畫英文名稱	Evaluation of Isoflavones in Commercial Soy-Related Products		
• 主管機關	行政院衛生署	• 計畫編號	DOH90-TD-1077
• 執行機構	台北醫學大學保健營養系		
• 本期期間	9001 ~ 9012		
• 報告頁數	32 頁	• 使用語言	中文
• 研究人員	林士祥 Lin, Shyh-Hsiang		
• 中文關鍵字	黃豆；異黃酮；抗氧化；含量；分佈；高效液相層析法；硫氰酸鐵法		
• 英文關鍵字	Soybean；Isoflavone；Antioxidation；Content；Distribution；High performance liquid chromatography (HPLC)		

• 中文摘要

亞洲人罹患某些慢性病的機率遠比西方人爲低。歸究其原因，發現飲食種類之不同爲一影響因素。在過去幾年的研究裡，黃豆中的異黃酮素(Isoflavone)是受矚目的其中一種。然而，許多食品加工過程可能會對黃豆中所含之異黃酮素有所影響。因此，本實驗探討不同黃豆產品中異黃酮素之含量及其抗氧化性質。主要利用高效能液相層析(HPLC)法來測定黃豆產品中異黃酮素之含量及成分分佈情形，再以硫氰酸鐵法來測定其體外之抗氧化能力。本實驗結果得知黃豆產品均含有異黃酮素但含量及分佈差異極大。豆漿、豆腐、及黃豆蛋白食品爲異黃酮素之豐富來源。加工方式會影響異黃酮素之成分分佈比例。未經發酵之產品中之異黃酮素多以 Genistin 爲主，而發酵過之產品如豆腐乳則以 Genistein 爲主要之異黃酮素。在體外抗氧化力方面，未經發酵之產品具有較高之抗氧化力。惟對人體之功效實應以人禮或動物實驗之結果爲準，故仍須做進一步之評估。

• 英文摘要

Asian people have lower rates in getting many chronic diseases, which may result from different types of food consumed. Soybean products are popular in Asian countries but not in western countries. It has been pointed out that soy foods contain the ingredients that can prevent chronic diseases. Among those ingredients, isoflavones are the ones that have drawn much attention. However, due to various processing methods, isoflavones in soybean products may encounter different losses. The purpose of this study was to investigate the isoflavone content and the in vitro antioxidant ability of various traditional soybean products that can be found easily in supermarkets. We utilized HPLC to analyze the distribution and content of four major isoflavones, daidzein, daidzin, genistein, and genistin. The in vitro antioxidant ability was carried out by using "ferric thiocyanate" method to investigate the inhibition percentage

of linoleic acid. The results showed that the distribution and content of isoflavones differed in different products. Genistin was the major isoflavone in unfermented products while genistein dominated in fermented bean curd but not in miso. The unfermented products had better antioxidant ability according to the results from in vitro test. However, the in vivo antioxidant is needed for further investigation.