

• 系統編號	RG9309-7024	
• 計畫中文名稱	絲瓜來源幾丁質(chitin)/去乙醯幾丁質(chitosan)於藥學領域之應用開發	
• 計畫英文名稱	The Pharmaceutical Applications of Chitin and Chitosan Obtained from Luffa Aegyptiaca	
• 主管機關	行政院農業委員會	• 計畫編號 91 農科-1.1.1-糧-ZB(2)
• 執行機構	台北醫學大學藥學系(所)	
• 本期期間	9104 ~ 9112	
• 報告頁數	2 頁	• 使用語言 中文
• 研究人員	-- --	
• 中文關鍵字	絲瓜；幾丁質；去乙醯幾丁質；賦型劑	
• 英文關鍵字	Luffa aegyptiaca；Chitin；Chitosan；Excipient	
• 中文摘要	<p>本計畫之目的,為完成絲瓜幾丁質與去乙醯幾丁質的分離製備與直打物性評估.經由去乙醯化實驗中可以發現,去乙醯化的程度與產率會隨著作用溫度與時間的增加而提高,而分子量會隨之下降.在粉體特性分析方面,將實驗所得的絲瓜幾丁質與去乙醯幾丁質分別和其他五種粉體比較(市售的去乙醯幾丁質 Wako10、Wako100、Wako500、靈芝去乙醯幾丁質和市售幾丁質所製備之去乙醯幾丁質),經由實驗可以發現,絲瓜幾丁質和市售製備的去乙醯幾丁質之流動性表現無明顯差異,但比絲瓜去乙醯幾丁質或靈芝去乙醯幾丁質不佳,其中以 Wako500 之流動性最佳.而在直打物性的評估方面,選用五種不同物性之去乙醯幾丁質(絲瓜去乙醯幾丁質、靈芝去乙醯幾丁質、Wako10、Wako100 和 Wako500)評估影響直壓成錠性之因素.評估項目包括:直壓成錠性、排錠壓力、有效做功、臨界成錠壓力、抗張強度和彈性恢復強度.直打物性試驗結果顯示絲瓜和靈芝的去乙醯幾丁質具有較不良的成錠性,而壓製特性顯示這五種去乙醯幾丁質在排錠壓力,有效作功及臨界成錠壓力上無顯著差異.但壓力抗張強度上卻是絲瓜去乙醯幾丁質、靈芝去乙醯幾丁質和 Wako500 低於 Wako10 與 Wako100,而絲瓜去乙醯幾丁質的彈性恢復程度較大之結果可說明為何有較差之抗張強度.</p>	
• 英文摘要	<p>The study was to accomplish the isolation and the preparation of chitin and chitosan from Luffa aegyptiaca and physical characterization of direct compressibility. From the deacetylation study, the degree of deacetylation will increase with increasing temperature and extending reaction time, but the molecular weight of corresponding products was in an opposite way. Powder flowability was in the following order as: chitin from LA ~ chitosan from commercial chitin < chitosan from LA < Sacchachitosan.</p>	

Five different chitosan products (chitosan from *Luffa aegyptiaca*, Sacchachitosan ,Wako10, Wako100 and Wako500) varied in physical properties were selected for evaluation of main factors influencing the success of direct compression. The factors included : direct compression, ejection force, effective work, yield pressure, tensile strength and elastic recovery. Compressibility of Sacchachitosan and chitosan from LA was poor in the formation of tablet. Yield pressure calculated from Heckel plot for each product also demonstrated to be insignificantly different. However, the tensile strength of tablets prepared with chitosan from LA, Sacchachitosan, and Wako 500 was much lower than the others. Higher degree of elastic recovery might be the reason to explain why chitosan from LA could form tablets with weaker strength.