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STUDY OF TABLETTING PROPERTIES OF MODIFIED
RICE STARCH PREPARED BY SPRAY DRYING
TECHNIQUE AND CROSSLINKING REACTION

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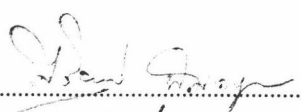
ผลการศึกษาพบว่าแป้งข้าวเจ้าเมื่อเปรียบเทียบกับแป้งชนิดอื่นที่ผลิตได้ในประเทศ มีคุณสมบัติเหมาะสมที่สุดที่จะพัฒนาเป็นสารช่วยชนิดตอกโดยตรง โดยการตัดแปลงให้อยู่ในรูปของกลุ่มเม็ดแป้งทรงกลมด้วยเทคนิคสเปรย์ทราย และปฏิกิริยาครอสลิงค์ เมื่อนำแป้งข้าวเจ้ามาล้กดโปรตีนออกก่อนที่จะนำมาทำปฏิกิริยาครอสลิงค์นาน 6 ชั่วโมง แล้วมาผ่านการล้สเปรย์ทรายภายใต้สภาวะที่เหมาะสมจะได้กลุ่มเม็ดแป้งข้าวเจ้าที่มีคุณสมบัติการตอกอัดเป็นเม็ดที่ดีที่สุด

เมื่อเปรียบเทียบกับคุณสมบัติในการตอกอัดเป็นเม็ดของแป้งข้าวเจ้าตัดแปลงที่ได้พัฒนาขึ้นนี้กับผลิตภัณฑ์แป้งตัดแปลงอื่นที่มีจำหน่ายในท้องตลาด พบว่ามีคุณสมบัติในด้านการตอกอัดสูงกว่าและเวลาการกระจายตัวสั้นกว่า

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ลายมือชื่อนิสิต 

ลายมือชื่ออาจารย์ที่ปรึกษา 

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Among various locally available native starches, rice flour was found to be the most suitable to be developed into a directly compressible diluent. The starch was modified into the form of spherical starch aggregates by spray-drying technique and crosslinking reaction. Rice starch aggregates which were deproteinized and crosslinked for 6 hrs. before being spray-dried exhibited the best tableting properties.

When compared with other commercial modified starch products, modified rice starch derived by the process in this study gave higher tablet hardness with shorter disintegration time.

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LIST OF ABBREVIATIONS

A.G.U.	Anhydroglucose unit(s)
A.O.R.	Angle of Repose
B.D.	Bulk Density
B.U.	Brabender Unit(s)
Cl.	Crosslinked
Cont.	Continued
Conc.	Concentration
D.P.	Deproteinized
DSC	Differential Scanning Calorimetry
D.T.	Disintegration Time
DTA	Differential Thermal Analysis
F.R.	Feed Rate
Fl.R.	Flow Rate
hrs.	hour(s)
g.	gram(s)
kp.	kilopond(s)
lb.	pound(s)
M.C.	Moisture Content
mg.	milligram(s)
min.	minute(s)
ml.	millilitre(s)
mm.	millimetre(s)

P.	Atomizing Pressure
S.A.	Starch Aggregates
S.D.	Standard Deviation
sec.	second(s)
S.E.M.	Scanning Electron Microscopy
T.	Time
T.D.	Tapped Density
Temp.	Temperature
um	micrometre(s)
Wt.	Weight
W/W	Weight by Weight
%	Percent
°C	degree Celsius