

Introduction of rice thickener and glue



In the beginning:

Now you have the unique opportunity !

We are facing at price increasing of thickener and glue made from cereal, due to growing population and alternative energy demands as like “Shale gas” and “Biomass Ethanol”. However rice price is stable, compared with another cereal.

We have succeeded to develop the thickener and glue for “Food industry” and “ Paper industry”.

This new material is made of rice purely, without using any chemical process.

Its worthy properties are below.

- 1: Made from 100% rice purely so healthy. It is 30~50 μ m dry powder, so easy to handle.
- 2: Viscosity is very stable between low and high temp , compared with another modified starch.
And easy to be dissolved in cool and hot water.
- 3: Strength of adhesive bonding is enough for paper, because made from sticky rice amylopectin.

If you are interested, please kindly contact with us.

(To contact, please check last page.)

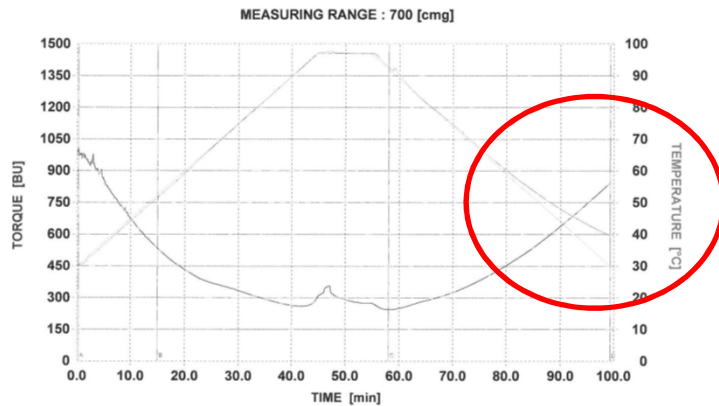
Brabender viscograph data: Our developed material

JM-600 (Sticky rice grade) 30% in water

JM-600 (Sticky rice grade) 10% in water

BRABENDER VISCOGRAPH E (USB)
Version 2.4.9

Parameter			
Operator	BRABENDER	Date	2012/06/20
Sample	12sonota(25)	Method	
Moisture	10.3 [%]	Correction	10.3 [%]
Sample weight	167.22 [g]	Corr. to 10.3%	167.2 [g]
Water	332.78 [ml]	Corr. to 10.3%	332.7 [ml]
Note			
Speed	75 [1/min]	Meas. range	700 [cmg]
Start temperature	30 [°C]	Heat./Cool. rate	1.5 [°C/min]
Max. temperature	97 [°C]	Upp. hold. time	10 [min]
End temperature	30 [°C]	Fin. hold. time	0 [min]

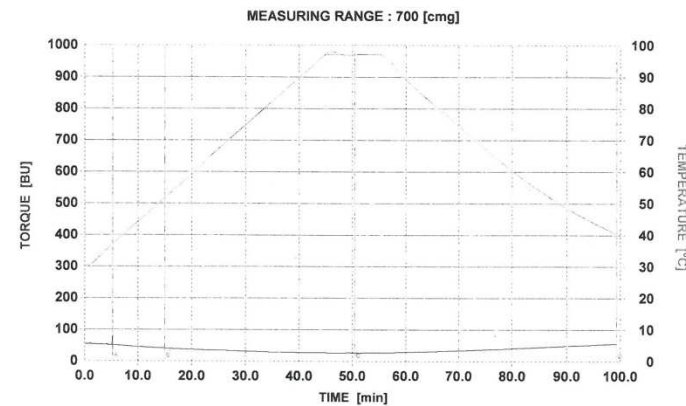


Evaluation: moti(2) Takai Foods

Point	Name	Time [HH:MM:SS]	Torque [BU]	Temperature [°C]
A	Beginning Gel	00:00:15	1007	30.3
B	Max B	00:15:00	534	51.7
C	min	00:58:00	244	92.5
D	End	01:39:20	843	39.6

BRABENDER VISCOGRAPH E (USB)
Version 2.4.9

Parameter			
Operator	BRABENDER	Date	2012/06/15
Sample	12sonota(24)	Method	
Moisture	10.5 [%]	Correction	10.5 [%]
Sample weight	55.87 [g]	Corr. to 10.5%	55.8 [g]
Water	444.13 [ml]	Corr. to 10.5%	444.2 [ml]
Note			
Speed	75 [1/min]	Meas. range	700 [cmg]
Start temperature	30 [°C]	Heat./Cool. rate	1.5 [°C/min]
Max. temperature	97 [°C]	Upp. hold. time	10 [min]
End temperature	30 [°C]	Fin. hold. time	0 [min]



Evaluation: moti(2) Takai Foods

Point	Name	Time [HH:MM:SS]	Torque [BU]	Temperature [°C]
A	Beginning Gel	00:05:15	50	37.0
B	Max B	00:15:00	41	51.7
C	min	00:50:25	26	96.9
D	End	01:39:20	56	40.5

*JM-600 is made from Japanese sticky rice purely.
Not concerned with its rice plants, we can give same functions.



Brabender viscograph data: Our developed material

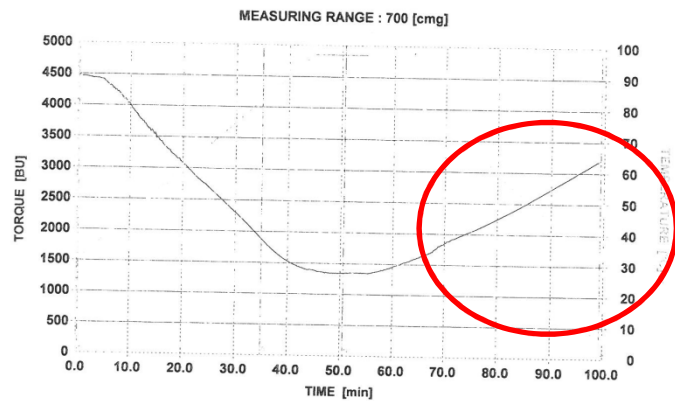
JU-1500 (Non glutinous rice grade) 30% in water

JU-1500 (Non glutinous rice grade) 10% in water

Version 2.4.9

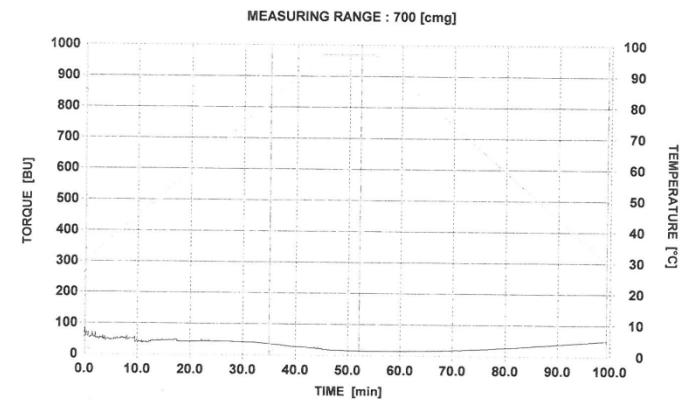
Parameter			
Operator	BRABENDER	Date	2012/08/09
Sample	12sonota(40)	Method	
Moisture	10.1 [%]	Correction	10.1 [%]
Sample weight	166.86 [g]	Corr. to 10.1%	166.8 [g]
Water	333.14 [ml]	Corr. to 10.1%	333.2 [ml]
Note			
Speed	75 [1/min]	Meas. range	700 [cmg]
Start temperature	30 [°C]	Heat./Cool. rate	1.5 [°C/min]
Max. temperature	97 [°C]	Upp. hold. time	10 [min]
End temperature	30 [°C]	Fin. hold. time	0 [min]

Parameter			
Operator	BRABENDER	Date	2012/08/09
Sample	12sonota(39)	Method	
Moisture	10.1 [%]	Correction	10.1 [%]
Sample weight	44.49 [g]	Corr. to 10.1%	44.4 [g]
Water	455.51 [ml]	Corr. to 10.1%	455.6 [ml]
Note			
Speed	75 [1/min]	Meas. range	700 [cmg]
Start temperature	30 [°C]	Heat./Cool. rate	1.5 [°C/min]
Max. temperature	97 [°C]	Upp. hold. time	10 [min]
End temperature	30 [°C]	Fin. hold. time	0 [min]



Evaluation: Uruti(2) Takai Foods

Point	Name	Time [HH:MM:SS]	Torque [BU]	Temperature [°C]
A	Beginning Gel	00:00:15	4482	29.8
B	Max	00:35:00	1880	82.3
C	Min	00:50:35	1337	97.2
D	End	01:39:20	3210	40.0



Evaluation: Uruti(2) Takai Foods

Point	Name	Time [HH:MM:SS]	Torque [BU]	Temperature [°C]
A	Beginning Gel	00:00:10	58	30.0
B	Max	00:35:00	36	81.7
C	Min	00:52:10	15	96.4
D	End	01:39:20	50	31.8

*JU-1500 is made from Japanese non glutinous rice purely.
Not concerned with its rice plants, we can give same functions.



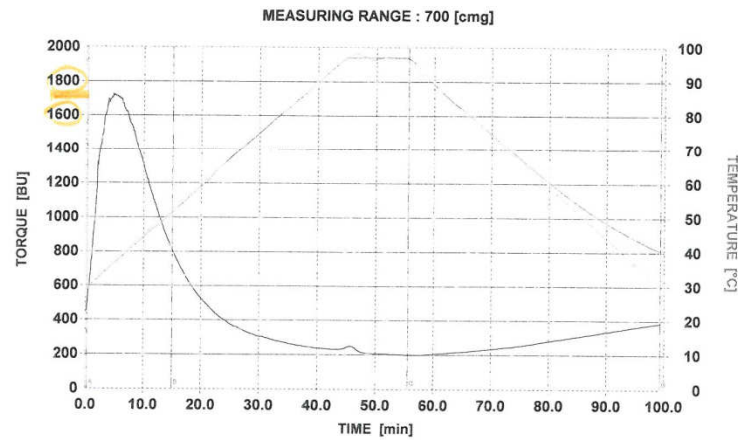
Brabender viscograph data: another similar material

Gelatinization rice 10% in water

Gelatinization rice starch 10% in water

BRABENDER VISCOGRAPH E (USB)
Version 2.4.9

Parameter			
Operator	BRABENDER	Date	2012/06/13
Sample	12sonota(23)	Method	
Moisture	13.4 [%]	Correction	13.4 [%]
Sample weight	57.74 [g]	Corr. to 13.4%	57.7 [g]
Water	442.26 [ml]	Corr. to 13.4%	442.3 [ml]
Note			
Note			
Speed	75 [1/min]	Meas. range	700 [cmg]
Start temperature	30 [°C]	Heat./Cool. rate	1.5 [°C/min]
Max. temperature	97 [°C]	Upp. hold. time	10 [min]
End temperature	30 [°C]	Fin. hold. time	0 [min]

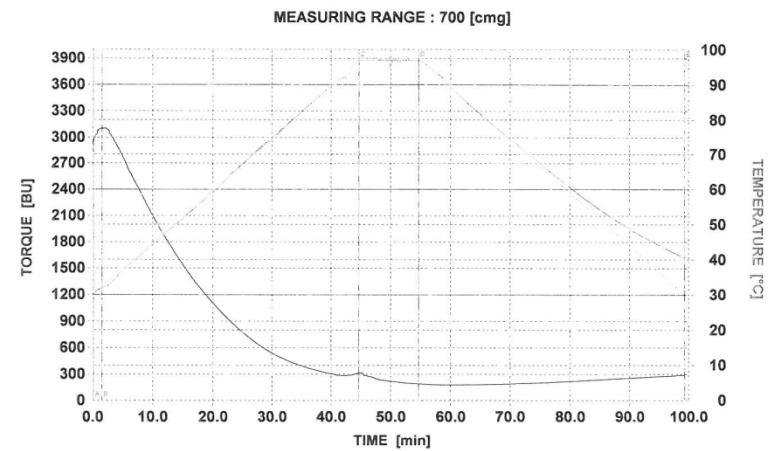


Evaluation: moti(2) Takai Foods

Point	Name	Time [HH:MM:SS]	Torque [BU]	Temperature [°C]
A	Beginning Gel	00:00:15	494	30.0
B	Max B	00:15:00	810	51.6
C	min	00:55:35	198	96.8
D	End	01:39:20	385	40.3

BRABENDER VISCOGRAPH E (USB)
Version 2.4.9

Parameter			
Operator	BRABENDER	Date	2012/06/20
Sample	12sonota(26)	Method	
Moisture	11.4 [%]	Correction	11.4 [%]
Sample weight	56.43 [g]	Corr. to 11.4%	56.4 [g]
Water	443.57 [ml]	Corr. to 11.4%	443.6 [ml]
Note			
Note			
Speed	75 [1/min]	Meas. range	700 [cmg]
Start temperature	30 [°C]	Heat./Cool. rate	1.5 [°C/min]
Max. temperature	97 [°C]	Upp. hold. time	10 [min]
End temperature	30 [°C]	Fin. hold. time	0 [min]



Evaluation

Point	Name	Time [HH:MM:SS]	Torque [BU]	Temperature [°C]
A	Beginning of gelatinization	00:00:10	2951	30.3
B	Maximum viscosity	00:01:35	3118	31.9
C	Start of holding period	00:44:40	314	97.6
D	Start of cooling period	00:54:40	189	96.8

Brabender viscograph data: another similar material

High molecular weight dextrin 30% in water

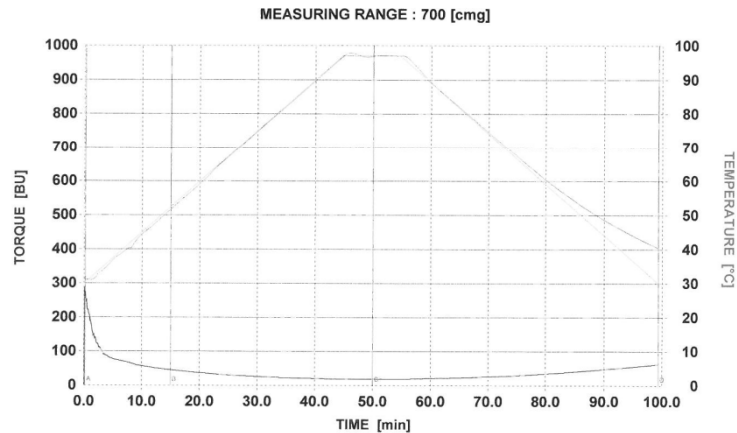
BRABENDER VISCOGRAPH E (USB)

Version 2.4.9

Parameter

Operator	:	BRABENDER	Date	:	2012/06/28
Sample	:	12sonota(27)	Method	:	
Moisture	:	5.6 [%]	Correction	:	5.6 [%]
Sample weight	:	158.88 [g]	Corr. to 5.6%	:	158.8 [g]
Water	:	341.12 [ml]	Corr. to 5.6%	:	341.2 [ml]
Note	:			:	
Note	:			:	
Speed	:	75 [1/min]	Meas. range	:	700 [cmg]
Start temperature	:	30 [°C]	Heat./Cool. rate	:	1.5 [°C/min]
Max. temperature	:	97 [°C]	Upp. hold. time	:	10 [min]
End temperature	:	30 [°C]	Fin. hold. time	:	0 [min]

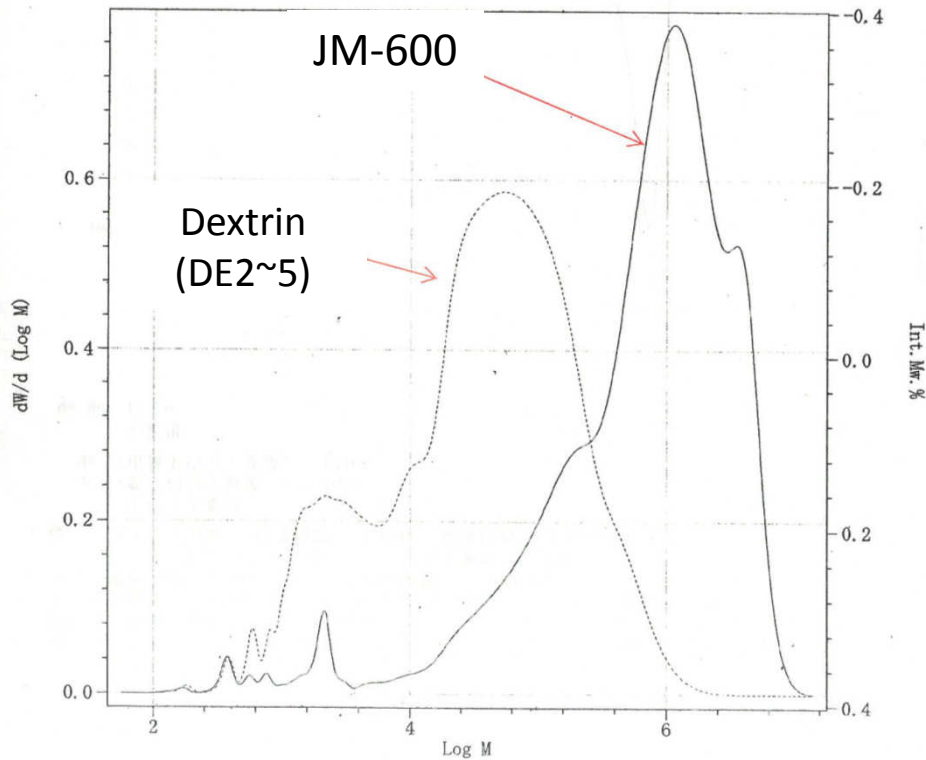
Attention:
These values are typical, not
quality assured.



Evaluation: moti(2) Takai Foods

Point	Name	Time [HH:MM:SS]	Torque [BU]	Temperature [°C]
A	Beginning Gel	00:00:10	261	31.2
B	Max B	00:15:00	45	51.8
C	min	00:50:00	19	96.9
D	End	01:39:20	62	40.4

Molecular weight data: vs highest molecular weight dextrin



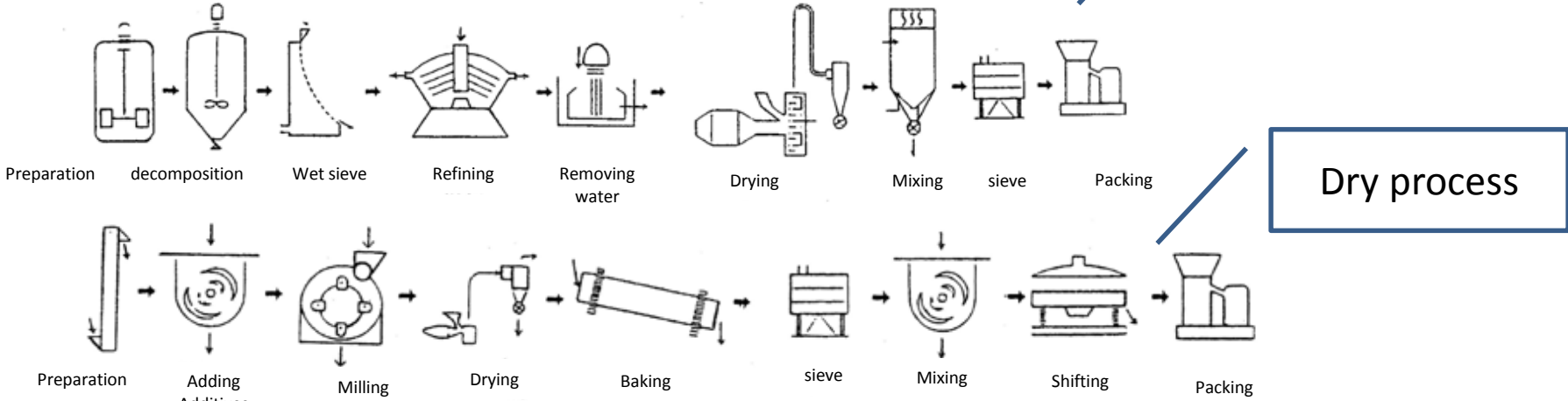
***Tested by GPC**
(Gel Permeation Chromatography)

* These values are typical, not quality assured

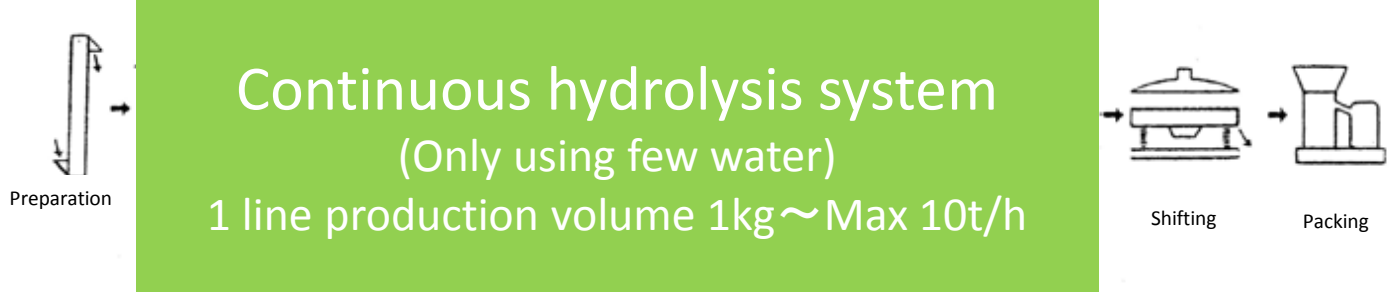
Samples	Mn	Mw	Mw/Mn
JM-600	23,940	1,384,800	57.84
Dextrin (DE2~5)	7,080	100,500	14.19

Our production process: vs current process to produce dextrin

* Current production



* Our new method



You can save a lot time and energy, compared with current production.



To contact

Sales division: TEL+81-258-66-2487 FAX+81-258)-66-7685

E-mail marutaka@seagreen.ocn.ne.jp

Our web-site URL: <http://www.takai-foods.co.jp/>

Not only consumer, we are looking for business partner such as trader.
If interest, please kindly contact with us.