THE EFFECT OF PREPARATION AND STERILIZATION CONDITIONS ON THE PHYSICAL PROPERTIES OF KONJAC CHUNK

張信彰、張基郁,陳鴻章

E-mail: 9017523@mail.dyu.edu.tw

ABSTRACT

THE PURPOSE OF THIS STUDY WAS TO INVESTIGATE THE INTERRELATIONSHIPS OF REACTIVE MECHANISM OF DIFFERENT FACTORS IN THE PREPARATION OF KONJAC AND ANALYZE THE PHYSICAL PROPERTICES (ELASTICITY: 0.99, HARDNESS: 6307G/ MM2 IN ADDITION, THE BEST CONDITION OF PREPARATION THE KONJAC)OF KONJAC MARKET PRODUCTS AS STANDARDS FOR COMPARISON IN ADDITION,THE BEST CONDITION OF PREPARATION THE KONJAC WAS IDENTIFIED PHYSICAL RESULTS SHOWED THAT THE BEST QUALITY OF KONJAC COULD BE OBTAINED UNDER 4％OF KONJAC, PH10.80 (ADJUSTED BY NA2CO3), WITH THE STIRRING RATE OF 1000RPM, STIRRING TIME OF 10 MIN STORAGE FOR 4 HRS AND THEN WATER BOILING (80℃)FOR 30 MIN. THE PH VALUE WAS A KEY POINT OF QUALITY. THE HIGHER CONCENTRATION (WITHIN 2.5-5.0％) OF KONJAC, THE GREATER ELASTICITY AND THE LESS HARDNESS COULD BE OBTAINED. THE STRENGTH OF GELATIN AND ELASTICITY WERE REDUCE. WHEN THE PH WAS LESS THAN 10.00 NO ODOR WAS SMELLED BY USING TRISODIUM PHOSPHATE OR TRIPOTASSIUM PHOSPHATE INSTEAD OF NA2CO3 TO ADJUST THE PH. THE SMALLER PARTICLE SIZE OF KONJAC, THE GREATER ELASTICITY COULD BE OBTAINED. THE STIRRING SPEED WOULD EFFECT THE EASTICITY WHILE THE STIRRING TIME DID NOT EFFECT THE PHYSICAL OF KONJAC. LOWER STORAGE TEMPERATURE HELPED TO INCREASE THE ELASTICITY AND REDUCE THE HARDNESS HOWEVER, STORAGE KONJAC IN THE ROOM TEMPERATURE EFFECT THE ELASTICITY AND HARDNESS. THE STORING TIME DID NOT EFFECT THE PHYSICAL PROPERTIES. THE CONDITION OF WATER BOILING WOULD EFFECT THE QUALITY OF KONJAC. THE BETTER STABILITY WAS ACHIEVED UNDER BOILING AT 80℃ FOR 20-40 MIN. CANNED KONJAC (211×400) WAS TESTED UNDER 116℃, 38MIN; 121℃, 16MIN; AND 127℃, 6 MIN FOR THE TOLERANCE OF STERILIZATION. THE AFOREMEN-TIONED STERILIZATION COUNDITION DID NOT EFFECT THE COLOR AND CONTRATION. THE QUALITY OF PRODUCTS WAS TESTED BY TPA, THE RESULT OF ELASTICITY WAS GOOD. THIRTY PANNCLS TASTED THE CANNED KONJAC, THE RESULTS OF EVALUATION WERE ACCEPTABLE. THE PHYSICAL PROPERTIES OF KONJAC WERE NOT EFFECT DURING OR AFTER THE CANNING PROCESS INCLUDING STERILIZATION. THE CANNED KONJAC WAS EVALUATED BY PANNEL TEST AND THE RESULTS WERE ACCEPTABLE. IN CONCLU-SION, A VARIETY OF KONJAC COULD BE MADE BASED ON ITS SPECIAL PHYSICAL PROPERTIES AND ITS ECONOMIC COST.

Keywords : KONJAC, PREPARATION, STERIZATION PHYSICAL PROPERTIES

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