

Effects of binder of porcine plasma transglutaminase with thrombin and fibrinogen on gel properties in animal products ⁽¹⁾

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Abstract

The purpose of this experiment was conducted to investigate the optimized meat binder (TGase with thrombin and fibrinogen binding agent; TGTF binder) from pig blood transglutaminase (TGase) matched up thrombin and fibrinogen on the physical properties changes of egg white, yolk and milk. Different percentage of TGTF binder powder including 0.5, 1.0, 1.5 and 2.0% were added to egg white, yolk and milk. Clotting time of gel, gel strength and textual profile analysis (hardness, springiness, cohesiveness, adhesiveness and gumminess) were measured. Results showed that with the addition of TGTF increases, colloid coagulation time have shown a decrease ($P < 0.01$), which has the shortest colloid coagulation of milk coagulation time and the yolk is the longest setting time and gel strength has gradually upward trend ($P < 0.01$). In the aspect of textual profile analysis, added TGTF binder could enhance the protein and egg yolk colloid hardness, elasticity, cohesiveness and gumminess ($P < 0.01$) and also could enhance the milk of hardness, elasticity and plastic viscosity ($P < 0.01$).

Key words: Porcine blood transglutaminase, Thrombin, Fibrinogen, Egg white, Yolk, Milk.

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