Clarification is an important step in the processing of fruit juice. It can be achieved by centrifugation, enzymatic treatment or applying clarifying agents such as gelatin, bentonite, silica sol, and polyvinyl pyrrolidone. These processes can be labor-intensive, time-consuming and discontinuously operated. The scope of this work was to study the application of chitosan, a natural and abundant coagulant as an alternative for clarification aid of passion fruit juice. Experiments were carried out in a Jar test apparatus, and the variables chitosan concentration, pH, slow agitation speed, and slow agitation time were analyzed in a $2^4$ experimental design. The observed responses were turbidity, color, total soluble solids, and viscosity. Preliminary tests have shown that a previous centrifugation of the passion fruit pulp is required for achieving beginning of clarification with chitosan. Statistical analysis has shown that in general, the analyzed Jar test parameters are less important than pH and chitosan concentration for the coagulation process. The best conditions for chitosan coagulation were: pH 6, 300 ppm for chitosan concentration, 50 rpm for slow agitation speed and 3 min for slow agitation time. After centrifugation, clarification with chitosan was able to reduce over 98% of turbidity, 90% of color and 44% of viscosity of the centrifuged juice, indicating that coagulation with chitosan is a suitable process for clarification of passion fruit juice and that chitosan is able to reduce passion fruit juice viscosity at the same level than enzymatic treatments.