Vacuum impregnation (VI) allows the inclusion of bioactive substances directly into the porous structure of food maintaining its original structure. The vegetables have been used in numerous studies, obtaining positive results and enhancing its intrinsic functionality. Aloe vera have been used since ancient times in traditional medicine, its real value, according to an extensive literature related to help improve certain pathological conditions, becoming a component with potential value. The aim of this study was to analyze the response of VI, HDM (hydrodynamic mechanism) and DRP (deformation-relaxation phenomena) parameters and mechanical properties of broccoli (B. oleracea var. Italica) and cauliflower (B. oleracea var. botrytis) to determine the feasibility of implementing the VI to get enrich them in aloe vera. HDM and DRP parameters were obtained by applying VI as a means of impregnation using an isotonic solution of aloe vera gel (AGS) in two concentrations (5 or 30 g/L) and subjecting the samples to pressure for a determinate time. The results showed that increasing the concentration significantly affected AGS stage VI with external liquid. In broccoli was achieved incorporation of 46% v/v dispersion using 5 g/L, percentage decreased to 37% by impregnation medium 30 g/L. On cauliflower, a high concentration of aloe in the impregnation medium (30 g/L), significantly reduced effective impregnation (on average 7% v/v). By using a less concentrated dispersion (5 g/L) was obtained by 15%. The plant matrices studied are presented as suitable for vegetable matrices enriched with aloe vera, retaining its natural characteristics and cellular structure.