

The invention relates to the field of processing raw vegetable material, in particular soybeans, and can be used in food and feed industries and also as a therapeutical and prophylactic agent. First, the coating is removed from the soybeans, then they are soaked, afterwards the swollen beans are separated from the water in which they were soaked. After that they together with fresh drinking water having a temperature of 65-75 °C, in an amount which provides the final content of dry matters in a mixture as regards to the formulation dosed from a height of 350-450 mm into a rotary and pulsation unit of the cylindrical type for dispersing. Therefrom the obtained free-running mass comes to an intermediate container by gravity, it is constantly mixed there. With the aid of a pump, the mass afterwards is sent to three-stage rotary and pulsation homogenizing unit of the disk type for dispersing. Further centrifugal spraying is carried out for which purpose the comminuted mass is sent to a vertical cylindrical chamber with a cone bottom into which specially treated saturated steam forming a pressure of 2-3.7 kg/cm² is brought and along the axis of the chamber, by sucking upwards, a centrifugal blade wheel is mounted which rotates with a speed of no less than 53 m/s forming an organized swirling motion of the steam that ensures intensive spraying of the mass which is processed and fast heating thereof up to a temperature of 120-140 °C. After that drops settle on the surface of the film of the hot liquid which flows down along the internal surface of the conical bottom and through a food hydraulic lock under the pressure of steam in the chamber is transported into a two-stage rotary and pulsation unit of the disk type for dispersing. The the finely dispersed sterilized product mass is injected into the chamber, in which a pressure is maintained of 0.9 kg/m², where it is immediately cooled through self-boiling up to a temperature that does not exceeds 100 °C, with intensive emission of gases, which are removed by a vacuum pump, and the treated product mass is collected in the lower part of the chamber. After that through the food hydraulic lock of the chamber the product mass is injected into a vacuum chamber, with a pressure of 0.12 kg/m² maintained therein, where it boils again immediately cooling up to a temperature of no more than 60 °C emitting the gases eliminated by the vacuum pump, and the deaerated product mass is sent to a recuperative heat exchanger with the surface being cleaned for cooling up to the temperature of the ready production that does not exceed 30 °C and stabilizing the structure of a disperse system. A non-waste method is developed for making soybean milk of whole soybeans which allows converting all the constituents into the form suitable for human organism without destructing the useful compounds, imparting the organoleptic properties to the produce that ensure the food attractiveness, applicability to long-term storage, while the energy consumption for producing is minimum.