

ABSTRACT

Tempe is a type of fermented food made from soybeans with high protein. The processing of tempe at the level of the craftsman differs between one region and another as well as between one craftsman and another. The difference in the tempe production process is in the soaking and cooking section of soybeans. CV. Mitra Pangan Sejahtera uses the twice immersion method. The treatment of soy fermentation causes one of the obstacles in the process of making tempe, namely its short shelf life. Fresh soybeans can generally be stored for two and a half days starting to become tempeh. While CV. Mitra Pangan Sejahtera, tempe produced will last for one to two days with the condition of the tempe starting to rot on the second day. Great influence on the quality of tempe produced due to factors using raw materials, mixed ingredients, inoculum (microbes) and how to make tempeh. CV. Mitra Pangan Sejahtera has fourteen core stages in the process of making tempe. The process of separating the epidermis is included in the manufacturing process which affects the quality of tempeh. This research uses the reverse engineering method because it conducts in-depth analysis of the tools used and develops an existing skin separator based on user needs. Screening and scoring is done to choose one of the best concepts out of 48 concepts that might be applied. The result of the concept chosen from the soybean skin mixer is the need for a driving motor as a substitute energy source for operator power. The speed regulation automation issued by the motor can be regulated by the inverter. The mechanism for separating the skin and soybean uses water strength and a blade equipped with nylon. After that, the concept will be carried out by designing and manufacturing the epidermis separator that can improve the quality of the tempe CV. Mitra Pangan Sejahtera.

Keywords: hygiene efficiency, tempeh, soybean skin separator, reverse engineering