The purpose of this research was to know koji concentration of Aspergillus oryzae and size of the fermentation time exactly in best fermented sweet potato flour producing.

The study was conducted by using linear regression with 6x6 factorial. The design of the treatment will be carried out in this study consisted of two factors, the first factor is concentration of koji consist of $a_1$ (0.5%), $a_2$ (1.0%), $a_3$ (1.5%), $a_4$ (2.0%), $a_5$ (2.5%), and $a_6$ (0.3%). The second factor is size of the fermentation time consist of $b_1$ (12 hours), $b_2$ (24 hours), $b_3$ (36 hours), $b_4$ (48 hours), $b_5$ (60 hours), and $b_6$ (72 hours). The sweet potato flour analysis’s used of water, protein, starch, amilosa, gel consistention, and pasting properties (amilograph).

The results showed that koji concentration of Aspergillus oryzae and size fermentation time was also correlated to the characteristics of fermented sweet potato flour. The result of fermented sweet potato flour samples were selected based on the nature of the analysis amilograph is fermented sweet potato flour of the treatment size of fermentation time 72 hours and concentration koji of Aspergillus oryzae 1%.