RESEARCHING THE CONDITIONS OF EXTRACTION ISOFLAVONE BY ETHANOL FROM OKARA
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Summary
This article describes results of research on factors that affects the process of extracting isoflavones from okara using extraction and shaking method with ethanol solvent. During the research, okara obtained from Vietnam soya milk factory (Vinasoy) is preserved in two types: frozen okara, which is preserved at -18°C; and dry okara, which is dried until the humidity of okara is 4.13%. Through the research process, we find that the concentration of ethanol that is suitable for extracting isoflavones is 80%. The research results show that factors that affect the efficiency of extracting isoflavones is: temperature, duration, and a ratio of solvent and residue. In addition, the frozen okara provides higher efficiency than dry okara. When using experimental planning method with full element $2^3$, the result shows that the optimal conditions for extracting isoflavones from dry okara are: temperature 70°C, extracting duration 45 minutes, and ratio of solvent/okara 35/1. The raw extract obtained under the above conditions is analyzed by HPLC system to determine the concentration of isoflavones. Results show that the total aglycone is 27.87mg/100g, in which the daidzein concentration is 10.04mg per 100g of the extract and genistein concentration is 17.83mg per 100g of the extract.

Keywords: Okara, extraction, ethanol, soybean, HPLC, isoflavone, experimental planning method.