

## ABSTRACT

The present research work describes the effect of pH, temperature and amount of seeds (Psyllium Husk) on the yield of hydrogel. Response Surface Methodology along with Box Behnken design (BBD) was applied to optimize the extraction conditions. Hydrogel was extracted under different conditions by changing three independent variables: temperature 70 -90 °C, amount of water 200-300 mL and pH 4-9. Model summary suggests the value of predicted-R-square is 96.32% which is a positive and that indicates the design is significant for the research of Psyllium Husk. Low p-value for all factors showed that our model is significant for all factors except pH\*pH. Expected amount of the yield is predicted by using regression equation. The optimal conditions for extraction process were given as: amount of water, 300 mL, temperature, 87.77°C and pH, 9. According to the predicted value from the BBD, the yield of the Psyllium Husk experiment was  $0.196 \pm 0.188$  g under optimal conditions.