

## 3<sup>rd</sup> International Conference and Exhibition on **FOOD Processing & Technology** July 21-23, 2014 Hampton Inn Tropicana, Las Vegas, USA

## Aqueous extraction of betalain from Kodipasalai (Basella alba) fruit : A statistical approach

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The objective of the experiment was to examine the effect of independent process variables like extraction temperature, time and mass of Alba fruits on the aqueous extraction of the natural pigment, betalain from *Basella alba*. The optimum conditions for the aqueous extraction of betaxanthin and betacyanin from the fruits were performed using a three-factor and three-level Box-Behnken design (BBD) under response surface methodology. The pigments were extracted from *Basella alba* at temperature (40-70°C), time (30-90 min) and mass of fruit (0.5-1.5 g) using water as solvent. The data obtained from the experiments were analyzed by Pareto analysis of variance. Further, the data was fitted to a second-order polynomial equation using multiple regression analysis. The optimal conditions based on both individual and combinations of all responses (extraction temperature – 69.5°C, time – 89.94 min and mass - 1.99 g) were found out. At this optimum condition, the total betaxanthin and betacyanin content were found to be 39.73 mg/100g and 158.46 mg/100g with desirability value of 0.999. The experimental values closely agreed with the corresponding predicted values.