

## **ABSTRACT**

In the present study composite flour blends of wheat (WF) and green gram flour (GGF) were prepared to investigate their proximate, functional, rheological and antioxidant properties. The composite flours with varied mass ratios (WF: GGF) were prepared in six variants, namely T1 (100:0), T2 (80:20), T3 (60:40), T4 (40:60), T5 (20:80) and T6 (0:100). Results showed that the level of GGF in the composite flour contributed to total flour protein, while carbohydrate, moisture, and fiber were found at high levels in WF enriched flour blends. Other properties such as ash, crude fat, and energy were similar across the blends. Furthermore, minerals (K, Ca, Mg, Fe, and Zn) in the composite flours were observed at high levels in the GGF enriched flours (T4-T6). The major functional properties (pH, aw, water and fat absorption capacities, foam capacity and stability, gelatinization temperature, least gelation capacity, swelling capacity and bulk density) were enhanced by a high proportion of GGF in the blend. On the other hand, the rheological performance of the blend gradually degraded with the GGF content. In addition, GGF improved the antioxidant properties (radical scavenging ability and metal chelating activity) of the flour blend, whereas WF only had minute antioxidant activity. Overall, the addition of GGF in the flour mixture with WF tended to provide potential health benefits and improve flour functional properties.