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Introduction

The horse gram (Dolichos biflorus L.) commonly known as kulthi is a traditional unexploited tropical grain legume and well known for its hardiness, adaptability to poor soil and adverse climatic conditions. The horse gram is a cheapest source of protein. Further it is also rich in minerals such as calcium. The chemical composition is comparable with commonly cultivated legumes. Like other legumes, this is deficient in methionine and tryptophan. Horse gram is an excellent source of iron and molybdenum. Comparatively, horse gram seeds have higher trypsin inhibitor and hemagglutinin activities and polyphenols than

for the period (24 h). e germination of the horse gram was carried out as per standard method [4]. e germinated horse gram seeds were dried in oven (50°C) for period (5-6 h) . e dried germinated horse gram seeds was ground in hammer mill (Milcent, Anand. Gujarat. India).

Preparation of buns forti ed with GHF

e prepared GHF was used for buns preparation. e buns were prepared by straight dough method (Figure 1). e recipe for preparation of buns forti ed with GHF (Table 1). e buns were prepared by incorporation of GHF (Table 2).

Determination of chemicals characteristics of horse gram and germinated horse gram seeds

e chemicals characteristics such as moisture content, carbohydrate, protein, lipid and ash were determined as per standard procedure [5].

Organoleptic evaluation

e sensory evaluation buns forti ed with varying levels germinated horse gram our on sensory quality of buns was carried out by trained panel of ten judges on a 9.0 point Hedonic scale [6].

Statistical analysis

e data generated in the experiments were recorded and subjected to statistical analysis using standard procedure [7]. e standard errors (SE) and critical di erences (CD) at 5% level of signi cance were worked out for comparison of treatments and presented in the respective tables.

Results and Discussion

e e ect of germination on chemical characteristics of horse gram was found increased in moisture content and ash of horse gram from 10.18-10.40% and 2.88-3.10 respectively during germination the period (24 h) (Table 3). e protein content of horse gram was found decreased from 26.50-26.1%. is is due to utilization of amino acid and peptides during growth and increase in proteolytic activity [8]. e carbohydrate and lipid content were found slightly decreased during germination of the horse gram seeds. is is because of increase in amylase and lipase activity. e nonsigni cant increase in ash content was observed.

e sensory evaluation of buns forti ed with GHF scored less than the control sample (Table 4). Further the sensory quality attributes scored less value for higher level of GHF and increased for low level of GHF forti ed buns respectively. e buns forti ed with GHF (5 10% and 15%) were acceptable than the buns forti ed with GHF (20%). e buns forti ed with GHF (20%) signi cantly a ected ($P < 0.05$) the colour of crust and crumb, texture and avour. Finally it can be concluded that the buns forti ed with GHF were found to contain high amount of proteins, minerals and sensory qualities were found acceptable.

References

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