The mixed fruit jam and jelly products were prepared by without any chemical preservatives.

The freshly prepared mixed fruit jam and jelly products were exposed to electron beam irradiation at doses of 2.5, 5, 7.5 and 10 kGy.

The proximate values of control and irradiated samples were analyzed immediately after irradiation and at monthly intervals up to 12 months of storage period.

In irradiated jam and jelly products, there was no variation observed in crude fibre, protein, lipids values whereas total solids, total and reducing sugar values were increased slightly based on irradiation dose and storage period.

The results of this study revealed that electron beam irradiation at this dose level (2.5 to 10 kGy) did not alter the proximate composition of jam and jelly products in comparison with control samples.

In microscopic structure analysis of jam and jelly products, did not showed any notable differences between irradiated and control samples.

UV-Visible spectrum analysis, no radiolytic products was found in both jam and jelly products after electron beam irradiation at this dose level (2.5 to 10 kGy) in comparison with control samples.
The effect of electron beam irradiation on antioxidant properties of jam and jelly products were studied. No significant changes were observed during the experimental period.

The concentrations of phenols, DPPH radical scavenging activity and ferrous reducing power (FRP) of jam and jelly products had significantly higher for irradiated samples than that of control samples. During storage, the decrease in vitamin C content was observed in both irradiated and control samples.

The effect of irradiation on minerals content of jam and jelly products were studied. No significant changes were observed in minerals contents during the study period.

The effect of electron beam irradiation on the sensory characteristics of jam and jelly products such as colour, flavor, taste, texture and overall acceptability were evaluated by means of acceptance test with nine point hedonic scale.

The sensorial acceptability of irradiated samples (2.5, 5, 7.5, 10 kGy) of jam and jelly products were recorded as good upto the end of storage.

The effect of electron beam irradiation on microbial quality of jam and jelly products were evaluated upto 12 months of storage.

The total bacterial and fungal load was less in irradiated samples of jam and jelly products when compared to control samples.

Microbial load of irradiated samples of jam and jelly products were found within the permissible limit of microbial standards upto end of the storage period.