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Effect of prebiotic on the viability and survival of probiotic (*Bifidobacterium infantis*) in synbiotic yoghurt

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Probiotic provides various health benefits to the host that is why probiotic based fermented food products gaining importance and acceptability worldwide. Among dairy based probiotic products yoghurt is one of them and has a strong market demand globally. Prebiotics selectively stimulate the growth and activity of probiotics. The present study was designed to develop synbiotic yoghurt with the incorporation of *Bifidobacterium infantis* and pectin. *Bifidobacterium infantis* was isolated and characterized morphologically, physiologically, biochemically. The viability and survival of *Bifidobacterium infantis* was studied in yoghurt prepared with different concentration of pectin i.e. 0%, 0.5%, 1% and 1.5%. Yoghurt was assessed for viable cell count, tolerance of probiotic to gastric juice and bile salt, viscosity, proteolytic activity and sensory evaluation. Results revealed that probiotic viability and survival increased in the presence of prebiotic and maximum survival was observed in T3 as compare to control. Viscosity increased significantly $P<0.05$ as the concentration of pectin increased among the treatments. Furthermore, as the concentration of prebiotic increases *Bifidobacterium infantis* were able to tolerate well in simulated gastrointestinal conditions (pH 2, 0.3% bile salt). As far as sensory evaluation was concerned, among all the treatments, T2 assigned maximum score by the panelist. The current research findings revealed that the pectin can be used as potential prebiotic to improve viability of probiotics.

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