

Table 1--Sugar Alcohols and Plaque pH, Acid Production

Study	Study Design	Subjects	Methods	Results	Comments
Gehring and Rufnagel, 1983 (Ref. 45)	Study to describe 2 intra- and extrorad measurements of plaque pH.	6 male or female Ss, ages 19-31 years	Intraoral pH measurements of dental plaque were performed with a modified surface glass electrode. Extrorad pH was measured on dental plaque using a single rod measurement chain with a flat membrane.	Baseline pH between 6.5 and 7.0. X had the least effect on plaque pH intra-orally. MANN and SOR showed similar decreases in pH to 6.0-6.3. HSH and ISO showed some pH drop to 6.0 or slightly below.	
Grenby et al., 1989 (Ref. 76)	In vitro study to compare dental properties of Lac with five other sweeteners	Plaque microorganisms were collected from panel of volunteers	Lac, GLU, S, SOR, MANN, and X in 1% solutions were made in sterile 1% pentose-p media. Plaque was incubated 24 hr. in media with sweetener with standard segments of intact surfaces of extracted human molar teeth. At the start and finish of incubation and at 30- and 60-min intervals during the first 7 hr., pH, and total acid were measured. Polysaccharide synthesis was also measured.	Lac > S > MANN and SOR > Lac > GLU > S > MANN and SOR > X	
Havumar et al., 1978 (Ref. 46)	In vitro study to evaluate acid formation in growing cultures by oral bacteria.	Caries-free and caries active subjects were used to obtain fresh isolates of Streptococci and Actinomycetes strains.	Sugar substitutes used: SOR, X, LAC, MALT, Sorbose and HSH. Micro-titer plates were filled with phenol red broth with addition of 1% GLU or sugar substitute, yeast, and inoculated with bacterial suspension without carbohydrate. After 72 hr., a color change indicated acid formation. pH was measured. The growth of <i>S. mutans</i> was measured in GLU broth with or without added X, pH was measured.	No acid production from X. S. mutans in vitro fermentation by oral microbes was shown with all sugar substitutes except X. Authors state that S. mutans slowly fermented the other sugar alcohols.	