The purpose of this experiment was to determine if different interfering agents can replace light corn in a lollipop recipe while still maintaining sweetness levels to create a healthier alternative lollipop. Three types of lollipops were created using the same recipe only substituting honey for light corn syrup as an interfering agent in one batch and substituting tapioca syrup in the other batch. Eleven subjects then tasted each lollipop, one at a time, and completed a sweetness level survey after tasting each lollipop. Subjects had a few sips of water between tastings to clear the taste. The results of the experiment were that the subjects scored the lollipop made using light corn syrup an average sweetness of 7.2 (on a 10 point rating scale) whereas honey on average scored 4.5 and tapioca syrup scored 5.9. The results indicate that the light corn syrup seemed to be sweeter than the other two interfering agents, however, the differences between the light corn syrup and tapioca syrup was only 1.3 which may be close enough for people to consider the tapioca syrup which had less trans-fat than the light corn syrup making it a healthier alternative lollipop.