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Time-intensity Analysis of Sourness of Commercially Produced Gummy Jellies Available in Japan

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The flavor release of commercial gummy jellies was studied. Time-intensity (T-I) assessments, electromyography (EMG) of the jaw-closing muscles, and mechanical tests were conducted to characterize the gummy jellies. After a preliminary sensory test and round-table discussion by expert panelists, six samples of gummy jelly were selected from 25 products to represent the various gummy jelly products produced in Japan. Six trained panelists participated in the T-I assessment coupled with EMG measurement. Sourness was perceived shortly after starting to chew; it reached a maximum intensity after sufficient mastication (18-32 chewing strokes) and lasted for a relatively long time (16.8-45.9 s) after the main chewing activity had finished. The results obtained from EMG measurements and T-I assessments showed that sourness was perceived mildly and late with very tough samples, strongly and early with tender and rubbery samples, and mildly and early with samples that were easy to chew. Thus, sourness and texture are closely related in the gummy jelly products commercially available in Japan.

Keywords: [electromyography](#), [gummy jelly](#), [mastication](#), [sensory evaluation](#), [sourness](#), [time-intensity](#)

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