

Thesis Title Study on the Utilization of Lactose in
Thai Adults Consuming Yogurt and Milk.
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ABSTRACT

The breath hydrogen test was used to determine whether lactose in yogurt is better digested than lactose in milk in lactase-deficient subjects. Sixty-one healthy Thai adults, ranging in age from 18 to 47 years old, participated in the test to identify lactose maldigesters after drinking of 250-ml sweetened cow's milk (M_1). Breath hydrogen was collected before and every half an hour intervals after milk consumption for 8 hours. Based on the highest hydrogen production of ≥ 25 ppm at least two postdose measurements, twenty-nine out of sixty-one subjects were classified as lactose maldigesters. Of these, twenty-two had gastrointestinal symptoms after ingestion of milk. Two cups of plain yougrt (250 g) were given to each twenty-nine lactose maldigesters to evaluate the tolerance to yogurt (Y_1). Consumption of yogurt resulted in significantly reduction of breath hydrogen ($P < 0.001$). Twenty-five lactose maldigesters produced one-third or

less (1466 ± 127 ppm.min) hydrogen excretion as compared when milk was ingested (7447 ± 518 ppm.min), and were named "good respondents". The other four lactose maldigesters, named as "poor respondents", produced more than one-third hydrogen concentration after yogurt ingestion (4043 ± 1557 ppm.min) as compared when drinking milk. However this difference is significant at the $p < 0.05$ level. In addition, ingestion of yogurt also resulted in decreasing of gastrointestinal symptoms intensity in most of the subjects. After repeated consumption of milk (M_2) and yogurt (Y_2) in the good respondent group and only yogurt consumption (Y_2) in the poor respondent group, the data showed similar results. Thus this study provided clear evidence that yogurt can enhance the digestion of lactose by reducing both peak and total breath hydrogen production and decreasing the intensity of gastrointestinal symptoms in lactase-deficient subjects.