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The effect of 6-n-propylthiouracil taster status on fruit and vegetable intake and hedonic ratings in a group of Irish children

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6-n-Propylthiouracil (PROP) is a bitter-tasting compound found in some fruit and vegetables. The ability to taste this compound is determined genetically, controlled in part by alleles of bitter receptor gene TAS2R38⁽¹⁾. Individuals vary in their ability to taste this compound and may be categorised into non-tasters (NT) medium tasters (MT) and super tasters (ST) through their rating of a PROP-impregnated disc as described previously⁽²⁾. Previous studies have shown that vegetable acceptance in young children is lower in PROP-taster groups⁽³⁾. The aim of the present study was to examine hedonic ratings for twelve common fruits and vegetables, and overall intake in group of twenty-four Irish children aged between 10 and 11 years in relation to their PROP-taster status. Children were asked to rate twelve common fruits and vegetables on a five-point scale. Overall fruit and vegetable intake was assessed through an average 3-day diet history – deemed the most appropriate method of assessment, due the scale of the study and the time allocated.

PROP rating range.....	1–2		3–7		8–10		Significance of difference
	NTs (n 0)		MT (n 11)		ST (n 12)		
			Mean	SD	Mean	SD	
Weight (kg)	–		36.6	8.09	37.8	7.15	NS
Height (m)	–		1.47	0.07	1.45	0.06	NS
BMI(kg/m ²)	–		19.9	2.77	18.8	2.44	NS
Fruit and vegetable intake (portions per d)	–		4.05	1.23	3.63	0.94	NS
Hedonic fruit ratings	–		1.49	0.86	1.73	0.44	NS
Hedonic vegetable ratings	–		2.30	0.85	2.28	0.32	NS

There were no significant differences in fruit and vegetable ratings or fruit and vegetable intake in subjects categorised either by PROP rating or by PROP group. This finding was in disagreement with previous studies, but may have been related to: low subject numbers in the study; the fact that subjects were rated by taste and not by genotype; subjects rating the taste of PROP on a narrow 1–10 scale that may have masked differences that would be seen using the wider 'general labelled magnitude scale'⁽⁴⁾. The results presented here are from the pilot of a larger on-going study aiming to examine the eating habits and reasons for food choice in Irish children and their parents.

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