

The challenge of translating nutrition research into public health nutrition, University College, Dublin, 18–20 June 2008

The development of a food-packaging database based on intakes of packaged foods in Irish teens (13–17 years)

A. Connolly, E. Boylan, A. Nugent, A. Hearty and M. J. Gibney

UCD Institute of Food & Health, School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Republic of Ireland

Consumption of packaged foods by Irish children has previously been investigated⁽¹⁾. Following on from this investigation a food packaging database was developed to quantify and provide information on the types of packaging materials used with foods consumed by Irish teens, particularly those that may have migratory compounds. This information was collected from a sample of 441 Irish teens aged between 13 and 17 years in The National Teens' Food Survey⁽²⁾. Using 7 d food diaries the participants were asked to record a detailed description of the food they consumed, weight and the packaging used. Packaging was collected and forwarded to the coordinating centre and entered into a Microsoft Access database, in which seventeen packaging groups were developed, e.g. plastic, canned. Each eating event in the food survey was recorded and entered into the database at brand level and nineteen food groups were created to aid further analysis using SPSS v12 (SPSS Inc., Chicago, IL, USA). Data from the packaging database was merged with the food consumption data at brand level. Based on eating occasions from the survey, packaging usage was compared across the nineteen food groups.

Table. Packaging groups and most common food groups associated with them

Packaging type	<i>n</i>	%	Most common food group	%
Plastic (excluding metallised)	18 996	40.9	Beverages, including milk, and yogurt	14.5
Unknown	7073	15.2	Beverages	35.1
Paper or board	6664	14.3	Sugars, preserves, confectionery and savoury snacks	23.9
Loose or unpackaged	4046	8.7	Fruit and fruit juices	23.9
Tetra-Pak	2410	5.2	Milk and yogurt	57.4
Metallised plastic	2114	4.5	Sugars, preserves, confectionery	76.8
Plastic and paper or board	1117	2.4	Butter, spreading fats and oils	71.1
Canned	968	2.1	Beverages	47
Glass and metal	876	1.9	Soups, sauces, miscellaneous products	43.5
Plastic and metal	828	1.8	Milk and yogurt	35.7
Foil	613	1.3	Sugars, preserves, confectionery	69.8
Glass and plastic	276	0.6	Sugars, preserves, confectionery	25.7
Metal with paper and board	201	0.4	Sugars, preserves and confectionery	19.4
Soup- and sauce-type packet	199	0.4	Soups, sauces, miscellaneous products	77.9
Glass	50	0.1	Soups, sauces, miscellaneous foods	26.0
Glass with paper and board	26	0.1	Beverages	53.8
Waxes	15	0.0	Cheeses	78.6
Total	46 472	100		

The Table lists all types of the packaging groups recorded over the 46 472 eating occasions, with plastic by far the most common packaging group recorded ($n = 18\,996$, 40.9%). Milk and yogurt (14.1%) was the most common food group noted within the plastic group. These results illustrate the high percentage of foods packaged using non-metallised plastic in particular, and may warrant further investigation on the possible migratory effects this packaging may have on the food in the human diet.

1. Duffy E, Hearty AP, Gilenan MB & Gibney MJ (2006) *Food Addit Contam* **23**, 623–633.
2. Irish University Nutrition Alliance (2008) *The National Teens' Food Survey*. <http://www.iuna.net>