

Glyphosate Residues in UK Food 2011

October 2012

This briefing examines reported glyphosate residues in UK foods sampled in 2011 as part of the Pesticides Residues monitoring overseen by the Expert Committee on Pesticides Residues in food (PRiF)ⁱ. Where possible the timing of the glyphosate application is noted.

Recent research in Franceⁱⁱ showed increases in numbers of tumours, as well as liver and kidney abnormalities, in rats fed GM maize and glyphosate in a two-year feeding trial. The study exposes the potential impacts of long-term exposure to GM Roundup Ready maize and glyphosate.

People and farm animals can be exposed to glyphosate residues in their food and feed. Some uses of the world's most widely-used weedkiller significantly increase the chance and level of exposure, including:

- GM crops tolerant to glyphosate (marketed as Roundup Ready, or RR, soya, maize, oilseed rape and cotton) can be sprayed numerous times during the growing season.
- Dessicating cereals, oilseed rape and legumes (eg, peas and lentils) close to harvest.

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Food sampled, date of purchase	Number of samples with/without glyphosate residues	MRL* mg/kg	No time MRL exceeded	Maximum recorded range mg/kg	Comments
Whole wheat flour, UK January-March 2011	2/3	None	N/a	1.1/0.1-1.1	Probably crop desiccation
Rice, Italy import April-June 2011	1/6	0.1 (set at limit of detection)	1 at same level	0.1	Uncertain glyphosate use
Ordinary bread, UK April-June 2011	1/19	None	n/a	0.4	Probably crop desiccation
Ordinary bread, UK April-June 2011	7/28	None	n/a	0.2/0.1-0.2	Probably crop desiccation
Wholemeal bread, UK April- June 2011	4/13	None	n/a	0.9/0.1-0.9	Probably crop desiccation
Ciabiata bread, UK April-June 2011	2/2	None	n/a	0.2/0.2(both)	Probably crop desiccation
Pitta bread, UK April-June 2012	1/7	None	n/a	0.3	Probably crop desiccation
Tinned lentils, UK manufacture July-September 2011	3/21	0.1 (set at limit of detection)	1	0.5/0.1-0.5	Probably crop desiccation
Tinned pulses, UK manufacture July-September 2011	None/21	10	None	n/a	
Tinned pulses, EC manufacture July-September 2011	1/3	10	None	0.3	
White bread, UK September-October 2011	8/34	None	n/a	0.2/0.1-0.2	Probably crop desiccation

Wholemeal bread, UK September-October 2011	9/18	None	n/a	0.5/0.1-0.5	Probably crop desiccation
Bread wraps, UK September-October 2011	1/23	None	n/a	0.2	Probably crop desiccation
Dried lentils, UK manufacture October- December 2011	12/32	0.1 (set at limit of detection)	12	2.7/0.3-2.7	Probably crop desiccation
Dried lentils, EC import October – December 2011	4/22	0.1 (set at limit of detection)	4	0.6/0.2-0.6	Probably crop desiccation
Beans, UK October-December 2011	2/7	2	None	0.6/0.2-0.6	Probably crop desiccation
Chick Peas, UK manufacture October-November 2011	1/4	10	1	11	Probably crop desiccation
Beans, EC import October-December 2011	3/13	2	1	2.7/0.5-2.7	Probably crop desiccation

*MRL = Maximum Residue Limit

Conclusions

Glyphosate residues were found in two food types in 2011 (bread and lentils/pulses). No maximum residue level (MRL) has been set for glyphosate in bread – a major oversight given the use of the chemical to desiccate wheat crops prior to harvest. Wholemeal bread appears to have higher residues than other breads, but the sample is too small to draw any fine conclusions.

Lentils are another matter. The MRL for lentils was breached 16 times in 54 samples in 2011. Other dried beans and pulses also breached their MRLs.

The problem in wheat and pulses appears to be the use of glyphosate to desiccate the crop prior to harvest. Monsanto is attempting to get the EU's MRL for lentils raised by between 100 and 150 times to ensure that it's crops can meet the MRL in future. The company previously gained a similar increase in the MRL for soybeans raising it from 0.1 mg/kg to 20 mg/kg to facilitate its use both as a desiccant and on RR varieties.

The priority for regulators should be protecting public health. The accumulating evidence that glyphosate/Roundup is responsible for health problemsⁱⁱⁱ suggests there should be an immediate prohibition on its use on growing crops and a review of all the MRLs to minimise exposure via food and feed.

Notes

ⁱ The Expert Committee on Pesticide Residues in Food, 2012, [Reports on the Pesticide Monitoring Programme First, Second, Third and Fourth Quarters 2011](#)

ⁱⁱ Séralini G-E, Clair E, Mesnage R, Gress S, Defarge N, Malatesta M, Hennequin D, Spiroux de Vendômois J, 2012. "Long-term Toxicity of a Roundup Herbicide and a Roundup-tolerant Genetically Modified Maize". *Food and Chemical Toxicology*

ⁱⁱⁱ GM Freeze and Greenpeace, 2011. [Herbicide Tolerance and GM Crops: Why the world should be ready to round up glyphosate](#)