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GM Foods: evaluating the Farm Scale Trials: report of the Environmental Audit Committee of 2 March 2004

PG Economics Ltd¹ notes inaccuracies and the use of unrepresentative material contained within this report. It is evident to us that in drawing conclusions for the report the Select Committee has taken evidence presented by some Green pressure groups 'at face value', without researching and checking the accuracy or otherwise of such evidence. In particular the section 'The north American experience' (paragraphs 27-31) contains the following inaccuracies and/or misrepresentation of the 'real' experience in north America:

1. *Experience of growing GM crops in north America has NOT been 'pre-dominantly negative'*. Whilst some organisations and individuals portrayed a negative image to the Committee in the provision of evidence, this picture is totally unrepresentative of the actual experience. A simple question to ask in relation to this is, if the experiences were as negative as portrayed then why, in 2003, was 81% of the US soybean crop, 40% of the US maize crop, 84% of the US canola crop, 48% of the Canadian soybean crop, 58% of the Canadian maize crop and 68% of the Canadian canola crop planted to GM varieties? In total this amounts to 41.7 million hectares, an area that is nine times greater than the total UK arable crop area. The simple answer is that the majority of farmers (the 'stewards of the land') have positive experiences (eg, low tillage cultivation, reduced use of toxic pesticides, higher and more secure yields) – for a review of literature on this subject read 'Consultancy support for the analysis of the impact of GM crops on UK farm profitability' (appendix 5), a report PG Economics completed for the Cabinet Office in 2003, that has been available on the Cabinet Office web-site since July 2003;
2. *Evidence from the Canadian Farmers Union*. Evidence from this organisation should be put into context. This body represents only 2%-3% of Canadian farmers and is therefore not representative of canola farming experience in Canada. For a more rounded and representative perspective read research undertaken by the Canadian Canola Council in 2001 – reviewed in the PG Economics report for the Cabinet Office referred to above. This report identified \$300 million worth of additional production and/or reduced cost of production. Evidence from bodies like the Soil Association should also be placed in context – its well publicised report 'Seeds of Doubt' (2002) from which most of their evidence will have been based, was largely drawn from reading press articles and undertaking interviews with a total of 25 farmers, two-thirds of which were organic farmers. This is against a background of there being, for example, over half a million farmers in the US alone growing soybeans. Such evidence is therefore biased and unrepresentative;

¹ PG Economics Ltd is an agricultural economics consultancy that specialises in examining the impact of new technology. It conducts objective analysis and is independent of any interest groups. PG Economics staff are not employees of or on retainer contracts for biotechnology companies. We have undertaken work for both organisations with interests in GM technology and those with interests in non GM production methods

3. *The Canadian experience.* Some facts to take into consideration include the following:
- All farmers growing GM (herbicide tolerant) canola crops are provided with advice on managing volunteers. This covers aspects of an integrated weed management system, the majority of which is equally applicable to non GM varieties and other herbicide tolerant (non GM) canola crops;
 - Some analysts (eg, Van Acker) suggest that there is a widespread problem of herbicide resistant volunteers in Canada. However, the Canola Council's 2001 research amongst both GM and non GM growers of canola did not find the issue to be problematic for farmers. Furthermore several research papers exist that demonstrate that volunteer GM herbicide tolerant oilseed rape is not a significant problem and can be relatively easily controlled (eg, Downy 2000, Pekrun et al 1998). Lastly Monsanto even offers a free volunteer removal service to farmers but reports few calls and requests for the service;
 - The reference to 'a lamentable picture of the potential effect upon biodiversity and agriculture in general of the contaminatory effect of GM wheat cultivation' (paragraph 27), is inaccurate and out of context. No GM (herbicide tolerant) wheat is currently planted commercially anywhere in the world and hence there is no experience or evidence to support such a statement. The claims made in this evidence submitted to your Committee are speculative and based on assumptions about herbicide usage patterns and behaviour by farmers that may not exist in the future. Furthermore they bear little, if any relevance to the UK context largely because the scenario examined in the evidence presented to your committee is one in which glyphosate tolerant canola is grown in a rotation with glyphosate tolerant wheat. Glyphosate tolerant canola or oilseed rape has not and is not expected to be bought forward for regulatory approval for planting in the EU (the GM trait currently in the EU regulatory approval process is glufosinate tolerant oilseed rape). Also, if glyphosate tolerant wheat were to ever be made commercially available to European farmers, this is at least ten years in the future. In sum, we are extremely unlikely to ever see glyphosate tolerant oilseed rape and wheat being made available commercially to UK farmers;
 - Despite claims stating otherwise, organic canola is still grown in Canada. This area is extremely small (about 2,000 hectares or 0.04% of total canola plantings in Canada) but its insignificance as a crop largely reflects a lack of demand for domestically grown organic canola, and difficulties in growing the crop within an organic rotation (eg, is high nutrient requirement relative to other break crops and the difficulty in controlling weeds). It is also possible for organic and GM canola to co-exist satisfactorily provided both GM and non GM growers adopt good husbandry practices and make sensible use of measures to minimise co-existence problems arising (eg, organic farmers using only organic seed (or testing conventional seed used prior to planting) and/or planting *brassica rapa* varieties that flower slightly earlier than the more commonly planted *brassica juncea* varieties.
4. *Cited evidence of GM crops leading to increased use of herbicides to deal with resistance problems (eg, drawing on various papers from Charles Benbrook).* As above, this evidence is essentially not representative of actual experience:
- Whilst some (a very small number) may have experienced incidences of weeds developing resistance to herbicides such as glufosinate and glyphosate (the herbicides used on GM crops in North America), this is an issue of herbicide resistance *per se* and not a GM-specific issue. Farmers have been managing such issues in conventional agriculture for years – they do not cause significant

problems - again see the PG Economics report for the Cabinet Office for a review of literature on the subject;

- USDA pesticide usage data does not support Benbrook's assertions. Benbrook makes adjustments and amendments to USDA data in order to draw conclusions about US farmer herbicide usage on GM crops (eg, for 2003) and hence assert that herbicide usage on GM crops has increased. These are not supported by USDA data and therefore to imply otherwise is misleading and inappropriate. He also fails to highlight the eco-friendly nature of glyphosate compared with alternatives used before the introduction of GM crops;
- There is a reasonable body of evidence in North America that shows that the use of herbicide tolerant GM crops has resulted in reductions in total herbicide usage (eg, Gianessi et al 2002, Fernandez Cornejo et al 2003, Canola Council 2001) and/or resulted in switches to more environmentally benign products. Again much of this work was reviewed by PG Economics in its report to the Cabinet Office in 2003.

Web-site link to original Environmental audit Committee Report

www.parliament.uk/parliamentary_committees/environmental_audit_committee.cfm