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Co-existence: National Approaches and Public Perception

Mr. President, Committee members,

Thank you for the opportunity to present to you this afternoon. I speak to you today as a representative of Teagasc, which is the National authority tasked with the provision of research, training and advice to the agri-food industry in Ireland. In recent years, Teagasc has invested heavily in establishing a biotechnology research programme. Over €5 million has already been invested to date, in developing a state-of-the art biotechnology facility at the Crops Research Centre in Oak Park, Carlow.

The Crop Biotechnology Initiative at Teagasc is committed to the sustainable development of the Irish tillage industry through the provision of biotechnology-based applications and knowledge. Indeed as Irish growers face an uncertain future they have many questions about the sustainability of their industry. For example;

What is the continued viability of existing crop systems?

What about the cultivation of crops for non-food use

What is the potential of novel crops and associated tillage systems?

This last question relates specifically to GMOs and of course the issue of how GMOs are to co-exist with conventional varieties.

A process to establish national co-existence guidelines for Irish farmers commenced in 2003 following publication of the Commission's Recommendation 2003/556. The draft strategy that was prepared through a partnership process presents a combined mandatory and voluntary arrangement to best meet the objective of implementing co-existence measures. This document has provided the impetus for a public consultation; arising from which it is anticipated that draft legislation will be prepared by the end of this year.

Oilseed rape was excluded from the government's co-existence strategy because of a scarcity of Irish-specific research. In response, we at Teagasc are researching modified management regimes

to ensure statutory EU labelling thresholds are not exceeded in the future cultivation of GM oilseed rape. We are evaluating the economic viability of these management regimes, and the implications for GM oilseed rape producers and conventional producers. We are also researching (in collaboration with our INRA colleagues) the impact of poor crop management on the segregation of herbicide tolerant oilseed rape prior to sowing and post-harvest. This is a critical issue which must be examined if our co-existence strategy is to preserve the genetic identity of conventional oilseed rape stocks.

Gene flow is of course intrinsic to co-existence. It describes a crop's ability to spread its pollen and / or seed. At Teagasc we have established a novel gene flow index for each of Ireland's primary crops. This informative quantitative system allows us to numerically grade each crop according to its ability to spread its pollen and seed. This index system has highlighted those aspects of a crop's biology that require additional measures to minimize gene flow in accordance with our national coexistence guidelines.

We are also researching issues central to the co-existence of GM and non-GM potato. This research focuses on the potential of potato to resist late blight disease. Annual losses in Ireland to late blight are estimated to be in the region of €10.2M and the application of preventative fungicides to the remaining crop costs upwards of €7.5M annually. Our multi-disciplinary project is investigating the potential for pollen and tuber-mediated gene flow under Irish conditions. We are testing the durability of the transgene against Irish strains of late blight. We are also researching the potential economic impact to Irish growers of such GM potato, which we have established can benefit the grower by up to €198 / ha.

Looking ahead, our research programme is focussing on the potential of GM crops in two areas: Firstly, the development of crops modified for bio-energy purposes. Secondly, the development of crops engineered for the production of human therapeutics, such as insulin. While an additional tier of co-existence-based guidelines may be required to ensure the segregation of these Pharma-crops from other crop systems. We believe that the present co-existence strategy will provide a solid framework upon which to address the biosafety concerns associated with such Pharma crops

Our research shows that the potential exists for specific GM crops to be more profitable for Irish farmers than conventional crops. Assuming that seed and co-existence costs are offset by savings in pest or disease control costs and/or by higher yields. It is important to note that the time

efficiency or ‘convenience factor’ associated with GM crop cultivation is also significant. This will undoubtedly appeal to the 34% of farmers in Ireland who farm on a part-time basis and who may not benefit directly in terms of profitability but rather in terms of improved labour productivity.

So what do Irish farmers think? Surveys completed in 2000, indicated that over 60% of Irish farmers would consider cultivating GM crops. This year the Irish Farmers Association has publicly stated that GMOs can play a positive role in Irish agriculture. However, in the 6 years since the last survey, the sector has undergone significant change. So to accurately gauge farmer’s attitudes towards GM technology adoption we at Teagasc will be conducting further surveys in 2006 that will specifically examine the issues of co-existence.

And what about the Irish consumer? According to the recent Eurobarometer survey, 55% of Irish consumers are in support of GM food. Yet a fundamental problem remains; the majority of consumers have a hard time seeing any clear benefits associated with genetically engineered crops. Indeed, I am regularly asked: “*what will a GM crop do for me?*” When I respond that we can develop crops to increase their bio-energy potential or produce such therapeutics as insulin, they are surprised yet encouraged by what can be done.

It is critical therefore that the consumer’s lack of awareness is addressed through information and demonstration. We are starting a new research project in the coming months that will we hope go some way to achieving this. By explaining the core issues in an impartial format we intend to provide a balanced opinion to the Irish consumer. We will achieve this by translating our research data in to a non-scientific format before disseminating it through our website www.gmoInfo.ie and the popular press.

So to conclude, if you were to ask me the question; ‘Can GM crops co-exist with conventional systems in Ireland?’ The answer would be yes; with the adoption of the National Co-existence guidelines we do believe that the cultivation of GM crops will not threaten the genetic identity of non-GM crops. Indeed, GM technology can present novel opportunities to the Irish farming sector at a time when it faces an uncertain future. While the sector and the public at large still have questions and concerns, we believe that these can be addressed through our on-going research programme.