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Excluding Coexistence of GMOs? The Impact of the EU Commission's 2010 Recommendation on Coexistence

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In the midst of the European Union (EU) genetically modified organisms (GMOs) regime, coexistence of GM and non-GM crops alongside each other remains technically within the competence of the Member States. Post EU authorization of a GM crop, Member States may legally take appropriate measures to limit or prevent the presence of GMOs within non-GM crops. In July 2010, as part of a Cultivation Package, the Commission created a new Coexistence Recommendation that supports a flexible approach to more stringent coexistence measures by the States, while attempting to maintain control over the legitimate objectives justifying the measures. This article analyzes the impact of the 2010 Recommendation upon coexistence in the context of the existing practices and the previous 2003 Recommendation, taking into account its status as a soft law document and the 'domino effect'. It is argued that the 2010 Recommendation may have greater practical and legal ramifications for coexistence than might first be thought. In attempting to create guidelines that allow a more flexible and inclusive approach towards national measures, the 2010 Recommendation may act as a catalyst to eventually exclude GM cultivation within Member States.

INTRODUCTION

The cultivation of genetically modified organisms (GMOs) has proven a controversial issue within the European Union over the decades, as crucial interests are placed in conflict with each other in an area of scientific uncertainty. The EU GMO legislation focuses on three interests in particular and aims to balance the free movement of GM products within the internal market with a high level of environmental and human health protection.[1] However, despite attempts by the Commission to either take heavy-handed approaches[2] or to cajole or compromise with Member States,[3] some States continue to object to GM cultivation and even impose national prohibitions.[4] Consequently, the

[1] See, e.g., Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC, [2001] OJ L106/1, Recitals 5 and 47 and Articles 1 and 4; and Regulation 1829/2003/EC of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed, [2003] OJ L268/1, Recitals 2, 3 and 9 and Articles 1 and 4.

[2] For instance, the Commission has taken legal action against Poland and Austria for national prohibitions before the European Court of Justice (CJ) 13 September 2007, Joined Cases C-439/05 and C-454/05 *Land Oberösterreich and Austria v. Commission*, [2007] ECR I-07141; and CJ 16 July 2009, Case C-165/08 *Commission v. Poland*, [2009] ECR I-6843. It has also attempted unsuccessfully to lift national prohibitions on cultivation where based upon safeguard clauses within the secondary legislation.

[3] For example, there have been attempts through the insertion of Article 26a on coexistence into Directive 2001/18 by Regulation 1829/2003, increasing protective elements within the legislation and most recently in the creation of the Cultivation Package as discussed below.

[4] See, e.g., those that are the subject of the following Commission Proposals to compel States to remove safeguard measures as unjustified: Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line T25)* pursuant to Directive 2001/18/EC (26 April 2005), COM (2005)161; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in France of genetically modified hybrid swede rape *(Brassica napus L. ssp. oleifera Metzg.MS1Bn x RF1Bn)* pursuant to Directive 2001/18/EC (26 April 2005), COM(2005)162; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Greece of genetically modified spring swede rape *(Brassica napus L. ssp. oleifera)* derived from transformation event Topas 19/2, pursuant to Directive 2001/18/EC (26 April 2005), COM(2005)164; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Luxembourg of genetically modified maize *(Zea mays L. line Bt 176)* pursuant to Directive 2001/18/EC (26 April 2005), COM(2005)165; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in France of genetically modified spring swede rape *(Brassica napus L. ssp. oleifera)* derived from transformation event Topas 19/2, pursuant to Directive 2001/18/EC (26 April 2005), COM(2005)166; Proposal for a Council Decision concerning the provisional restriction of the use and sale in Germany of genetically modified maize *(Zea mays L. line Bt 176)* pursuant to Directive 2001/18/EC (26 April 2005), COM(2005)167; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line MON 810)* pursuant to Directive 2001/18/EC (26 April 2005), COM(2005)168; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize (*Zea mays L. line Bt 176)* pursuant to Directive 2001/18/EC (26 April 2005), COM(2005)169; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line MON 810)* pursuant to Directive 2001/18/EC of the European Parliament and of the Council (9 October

effectiveness of the EU GMO regime is undermined and continues to breach World Trade Organization (WTO) law, as national prohibitions based on environmental and health concerns were within those aspects condemned by the WTO Dispute Panel within the *Biotech* dispute.[5] In July 2010, the Commission created a Cultivation Package[6] in order to attempt to appease Member States and provide for a more effective EU GM cultivation regime, which would also be compliant with WTO law.

This article focuses upon one aspect of this Cultivation Package:[7] the new 2010 Coexistence Recommendation. The 2010 Recommendation is intended to provide guidance to the Member States in implementing Article 26a of Directive 2001/18,[8] which provides for the supposed autonomy of the Member States in managing the cultivation of GM crops alongside other non-GM crops. Article 26a was a crucial provision for the States and the central compromise to encourage the lifting of national outright bans[9] and the *de facto* moratorium;[10] it was to encourage Member States to facilitate an effective GM regime that would hopefully be compliant with WTO law, although clearly it was not entirely successful.

Article 26a allows Member States to choose their own 'appropriate measures' to ensure coexistence by avoiding the unintended presence of GMOs in other products. In the Commission's words, 'coexistence' 'refers to the ability of farmers to make a practical choice between conventional, organic and GM-crop production, in compliance with the legal obligations for labelling and/or purity standards'.[11] Coexistence measures are intended to facilitate the harmonious cultivation of each agri-type, without excluding any type.[12] In order to achieve this, Member States may utilize *ex ante* measures limiting or preventing admixture,[13]

2005), COM(2006)509; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line T25)* pursuant to Directive 2001/18/EC of the European Parliament and of the Council (9 October 2005), COM(2006)510; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Hungary of genetically modified maize *(Zea mays L. line MON810)* expressing the Bt cryIA(b) gene, pursuant to Directive 2001/18/EC of the European Parliament and of the Council (23 November 2006), COM(2006)713; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line MON810)* pursuant to Directive 2001/18/EC of the European Parliament and of the Council (9 October 2007), COM(2007)586; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line T25)* pursuant to Directive 2001/18/EC of the European Parliament and of the Council (9 October 2007), COM(2007)589; Proposal for a council Decision concerning the provisional prohibition of the use and sale in Hungary of genetically modified maize *(Zea mays L. line MON810)* expressing the Bt cry1Ab gene, pursuant to Directive 2001/18/EC of the European Parliament and of the Council (21 January 2009), COM(2009)12; Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line T25)* pursuant to Directive 2001/18/EC of the European Parliament and of the Council (10 February 2009), COM(2009)51; and Proposal for a Council Decision concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line MON810)* pursuant to Directive 2001/18/EC of the European Parliament and of the Council (10 February 2009), COM(2009)56; and Commission Communication of 13 July 2010 on the freedom for Member States to decide on the cultivation of genetically modified crops COM(2010) 380 final, at 2, at footnote 4 referring to recent bans on Amflora potato.

[5] WTO DP, 29 September 2006, European Communities – Measures Affecting the Approval and Marketing of Biotech Products (WT/DS291/R, WT/DS292/R and WT/DS293/R), 847. In particular see Section VIII Conclusions and Recommendations of the Panel's Report. The Dispute Panel deemed that the safeguard measures were neither justified by the scientific evidence available nor by Article 5.7 of the Sanitary and Phytosanitary Agreement (Marrakesh, 15 April 1994) (SPS Agreement), as it was held that there was sufficient evidence to carry out a risk assessment. As the Commission has recently highlighted, the issues remain to be remedied and the United States may still resume its litigation. See 'Considerations on Legal Issues on GMO Cultivation Raised in the Opinion of the Legal Service of the Council of the European Union of 5 November 2010', SEC(2010) 1454 final, at paragraph 52 within Part 4.2.

[6] This is comprised of an explanatory Communication, a Coexistence Recommendation and a Proposal for a Regulation to insert an opt-out clause for cultivation post-authorization (see nn. 94–96 below).

[7] See M. Dobbs, 'Legalising General Prohibitions on Cultivation of Genetically Modified Organisms', 11:12 *German Law Journal* (2010), 1347, for a discussion on the Proposal for an opt-out clause which forms the other central element of the Cultivation Package.

[8] See n. 1 above.

[9] There are nine national bans under the 1990 regime. See European Commission, 'State of Play on GMO Authorisations under EU Law', MEMO/04/17, press release (28 January 2004).

[10] Denmark, France, Greece, Italy and Luxembourg declared at the Council meeting of 24/25 June 1999 that they would 'take steps to have any new authorizations for growing and placing on the market suspended' until their concerns over risk assessments, traceability and labelling were resolved through new legislation. See '2194th Council Meeting-Environment-Luxembourg, 24/25 June 1999', Europa Press Release 9409/99, No. 203; R. Binimelis, 'Coexistence of Plants and Coexistence of Farmers: Is an Individual Choice Possible?', 21:5 *Journal of Agricultural and Environmental Ethics* (2008), 437.

[11] Commission Recommendation 2003/556/EC on guidelines for the development of national strategies and best practices to ensure the coexistence of genetically modified crops with conventional and organic farming, [2003] OJ L189/36, Recital 3, and Section 1.1 of the annexed guidelines ('2003 Coexistence Recommendation').

[12] This notion was repeated throughout the 2003 Coexistence Recommendation, ibid.; it is also present in the Communication of 9 March 2006 from the Commission to the Council and the European Parliament, Report on the implementation of national measures on the coexistence of genetically modified crops with conventional and organic farming COM(2006) 104 ('2006 Coexistence Report'), and in the Commission Communication of 10 April 2007 on the mid term review of the Strategy on Life Sciences and Biotechnology, COM(2007) 175.

[13] Admixture may occur through a variety of means – in particular through seed impurities, out-crossing via cross pollination in the context of maize, and also farming activities such as sowing and harvesting. Therefore, coexistence measures must consider each stage. See J. Corti-Varela, 'The End of Zero-risk Regulation of GM Crops in Europe: The Battle of Co-existence Rules', paper presented at 'The End of Zero Risk Regulation: Risk Toleration in Regulatory Practice Conference', Second Annual Cambridge Conference on

or *ex post* measures providing for liability following admixture.

This article examines the impact of the Commission's new 2010 Recommendation on Coexistence guidelines[14] as a soft law document upon the choices of Member States when deciding upon individual coexistence measures; this is supplemented by an examination of the impact upon the future of coexistence generally in conjunction with the 'domino effect'. In particular, it is questioned whether the 2010 Recommendation will promote or undermine coexistence nationally and on the EU level. It is argued that the 2010 Recommendation provides the Member States with a stronger foundation to protect non-GM crops and thereby to exclude GM cultivation gradually if they so desire. In order to analyze the impact of the Recommendation, it is first necessary to understand the context within which the Recommendation was created. Consequently, some of the current complexities of choosing coexistence measures are briefly introduced, before turning to the response of the Commission in July 2010.

COMPLEXITIES OF COEXISTENCE

Coexistence remains a complex matter, practically and legally.[15] It is part of the general EU GM legislative regime, which centres on the Deliberate Release Directive 2001/18[16] and Regulations 1829/2003 on GM food and feed[17] and 1830/2003 on the labelling and traceability of GMOs,[18] which were influenced by the *de facto* moratorium[19] and WTO *Biotech* dispute.[20] The new legislation enhanced human health and environmental protection via a more thorough risk assessment procedure, explicit references to the precautionary principle and a prior authorization procedure specific to GM food and feed amongst other amendments.[21] As noted, Article 26a was also inserted as a compromise with the Member States and provides for national action post EU-authorization.

Under Directive 2001/18, once the national competent authority has forwarded a summary of the notifer's dossier and opinion as to whether authorization should occur, the authorization process for cultivation is concluded at the EU level. Following an evaluation of the risks, the decision-making stage was traditionally accomplished via the comitology process as determined by Decision 1999/468,[22] although this will now be regulated by Regulation 182/2011[23] due to Article 291 of the Treaty on the Functioning of the European Union (TFEU).[24] Once authorized, the crops may be grown throughout the EU's internal market in accordance with the licensing conditions. Within this highly harmonized regime, Member State action is provided for by safeguard clauses[25] and by Article 26a of Directive 2001/18 regarding coexistence measures.

As mentioned above, coexistence measures are technically within the competence of the Member States; however, they do not have unlimited autonomy as indicated by the term 'appropriate' in Article 26a. They are restrained by hard law provisions – in particular Article 22 of Directive 2001/18 which states that the States 'may not prohibit, restrict or impede the placing on the market of GMOs'. As an exception to Article 22 and the free movement of GMOs, implementation of Article 26a would be interpreted strictly before EU courts[26] and Member States will need to demonstrate that their measures are effective, necessary and proportionate *stricto*

Regulation, Inspection and Improvement, Cambridge, 11–12 September 2007, at 3–6, found at <http://www.cbr.cam.ac.uk/pdf/Corti_Varela_Paper.pdf>).

[14] Commission Recommendation on guidelines for the development of national coexistence measures to avoid the unintended presence of GMOs in conventional and organic crops, [2010] OJ C200/1 ('2010 Coexistence Recommendation').

[15] Cf. M.R. Grossman, 'The Coexistence of GM and Other Crops in the European Union', 16:3 *KJLPP* (2007), 355.

[16] Ibid.

[17] Ibid.

[18] Regulation (EC) No 1830/2003 of the European Parliament and of the Council of 22 September 2003 concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC, [2003] OJ L268/24.

[19] See I. Sheldon, 'Europe's Regulation of Agricultural Biotechnology: Precaution or Trade Distortion?', 2:2 *JAFIO* (2004), Article 4; and see E. Tsioumani, 'Genetically Modified Organisms in the EU: Public Attitudes and Regulatory Developments', 13:3 *RECIEL* (2004), 279.

[20] T. Bernauer and E. Meins, 'Technological Revolution Meets Policy and the Market: Explaining Cross-national Differences in Agricultural Biotechnology Regulation', 42:5 *EJPR* (2003), 643.

[21] See G.C. Shaffer and M.A. Pollack, 'The EU Regulatory System for GMOs', in M. Everson and E. Vos (eds), *Uncertain Risks Regulated: Facing the Unknown in National, EU and International Law* (Routledge-Cavendish, 2008), 269; and M. Lee, *EU Regulation of GMOs-Law and Decision Making for a new Technology* (Edward Elgar, 2008).

[22] Council Decision 1999/468/EC laying down the procedures for the exercise of implementing powers conferred on the Commission, [1999] OJ L 184/23, Article 5, as amended by Council Decision 2006/512/EC amending Decision 1999/468/EC laying down the procedures for the exercise of implementing powers conferred on the Commission, [2006] OJ L200/11.

[23] Regulation 182/2011/EU of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers, [2011] OJ L55/13. Article 5 contains the examination procedure and applies where Article 5 of Decision 1999/468, ibid., previously was applicable.

[24] Consolidated Version of the Treaty on the Functioning of the European Union, [2008] OJ C115/47 ('TFEU').

[25] Primarily in Directive 2001/18, n. 1 above, Article 23, Regulation 1829/2003, n. 1 above, Article 34, and TFEU, ibid., Article 114, where environmental and health threats arise post authorization. For information on their use, see F.M. Fleurke, 'What Use for Article 95 (5) EC?', 20:2 *Journal of Environmental Law* (2008), 267.

[26] Exceptions to the free movements are interpreted strictly by the Court of Justice of the EU (CJEU). See CJ 1 February 1977, Case 47/76 *Bauhuis*, [1977] ECR 5.

sensu[27] in achieving a legitimate objective permitted under Article 26a. Furthermore, most coexistence measures will not be legally effective within the EU unless the notification requirements under Directive 98/34/EC[28] are complied with. The Commission also established a Coexistence Bureau composed of experts to develop technical guidelines[29] and created Recommendations on Coexistence Guidelines[30] regarding what it deemed to be suitable measures, concerns and factors. Even the Coexistence Network,[31] composed of Member States' representatives but chaired by the Commission, leads to further centralization.[32] Via a combination of hard and soft provisions, the Commission has attempted to garner greater control over the issue of coexistence than Article 26a might initially suggest.[33] As watchdog of EU law, it also has the possibility to challenge Member States before the Court of Justice of the EU (CJEU), comprised of the Court of Justice (CJ, ex European Court of Justice) and the General Court (GC, ex Court of First Instance)[34] if it considers their coexistence measures 'inappropriate' and in breach of EU law.

VARIATIONS IN COEXISTENCE PRACTICES

Despite the Commission's efforts to, in effect, harmonize the approach to coexistence, substantial variations exist among the Member States as to what they believe to be appropriate *ex ante* and *ex post* coexistence measures.[35] For example, the following distances apply for conventional and organic maize respectively: Ireland, 50 m and 75 m;[36] Netherlands, 25 m and 250 m;[37] and Germany, 150 m and 300 m.[38] Regarding liability, some States such as Ireland have left the issue to the common law or the existing environmental liability regime. France stands in stark contrast to this: specific legislation provides for up to two years imprisonment and a €75,000 fine in the case of breach of a perimeter condition or failure to destroy the crops when ordered to do so by the competent authority, or up to three years and €150,000 in the case of damage to GM crops.[39] There is also provision for civil responsibility for any financial damage due to admixture of GMOs '*même en l'absence de faute*'/'*de plein droit*' (strict liability).[40] As an alternative, other States, such as Portugal, apply fault-based liability and use compensation funds.[41]

Some of these variations relate to technical difficulties, such as what measures would be effective in preventing or minimizing admixture below the desired level and to testing and identifying the presence of GMOs.[42] This aspect is complicated by the scientific uncertainty that surrounds GMOs, the difficulty in assessing the impact of various sources of admixture and local factors or conditions that may affect admixture significantly. In this regard, the 2003 Recommendation's guidelines

[27] CJ 17 December 1970, Case 11/70 *Internationale Handelsgesellschaft*, [1970] ECR 1125; and T. Tridimas, *The General Principles of EU Law* (Oxford University Press, 2007), at 139. States will, however, have an element of discretion in choosing the level of protection to be achieved as, although the GMO regime is harmonized, this particular choice is within the competence of the States. See CJ 14 July 1983, Case 174/82 *Sandoz*, [1983] ECR 2445, paragraph 16, regarding discretion of States in the absence of harmonization.

[28] Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations, [1998] OJ L204/37; and see M. Lee, n. 21 above, at 112.

[29] See Commission working document, accompanying the Communication on the mid-term review of the Strategy on Life Sciences and Biotechnology, COM(2007) 175 final, SEC(2007) 441.

[30] See 2003 Coexistence Recommendation, n. 11 above; and 2010 Coexistence Recommendation, n. 14 above.

[31] In order to facilitate the exchange of information between Member States and enable decisions upon effective and suitable coexistence measures, Commission Decision 2005/463/EC of 21 June 2005 establishing a network group for the exchange and coordination of information concerning coexistence of genetically modified, conventional and organic crops [2005] OJ L164/50.

[32] M. Lee, 'Multi-level Governance of GMOs in the EU: Ambiguity and Hierarchy', in L. Bodiguel and M. Cardwell (eds), *The Regulation of GMOs: Comparative Approaches* (Oxford University Press, 2010), Chapter 5.

[33] See M. Lee, n. 21 above, at 116; also M. Lee, 'The Governance of Coexistence Between GMOs and Other Forms of Agriculture: A Purely Economic Issue?', 20:2 *Journal of Environmental Law* (2008), 193.

[34] See TFEU, n. 24 above, Article 258.

[35] See, e.g., 2006 Coexistence Report, n. 12 above, Annex, Commission Staff Working document, SEC(2006) 313, ('2006 Working document'); Commission Staff Working document, 'Implementation of national measures on the coexistence of GM crops with conventional and organic farming', SEC(2009) 408 final ('2009 Working document') accompanying the Commission Report on the coexistence of genetically modified crops with conventional and organic farming, COM(2009)153 ('2009 Coexistence Report'); M.R. Grossman, n. 15 above, at 370–389; and J. Corti-Varela, Note 13 above, at 6–9 and Annex II.

[36] See 'Summary of crop management measures', in N.P. McGill *et al*., 'Coexistence of GM and Non-GM Crops in Ireland', Report of the Working Group (Department of Agriculture, Fisheries and Food, Ireland, 2005), Appendix 5.

[37] See Verordening van het Hoofdproductschap Akkerbouw van 10 november 2005 houdende regels over de teelt van toegelaten of vergunde gg-gewassen naast de teelt van biologische en gangbare gewassen (verordening HPA coëxistentie teelt 2005), JBA.nr. 322 notified within Notification 2006/97/NL, Articles 39(a) and 9(b).

[38] Verordnung über die gute fachliche Praxis bei der Erzeugung gentechnisch veränderter Pflanzen (Gentechnik-Pflanzenerzeugungsverordnung – GenTPflEV) Bundesgesetzblatt Jahrgang 2008 Teil I Nr. 13, at 658.

[39] Article 7 of Loi n° 2008-595 du juin 2008 relative aux organismes génétiquement modifies, JORF (Journal Officiel de la République Française-Official Gazette of the French Republic) [26/6/08, p.10218 inserting Article L.671-15 into the Rural Code.

[40] Ibid., inserting Article L.663-4 into the Rural Code.

[41] See J. Corti-Varela, n. 13 above.

[42] See F.E. Ahmed, *Testing of Genetically Modified Organisms in Foods* (Food Products Press, 2004); Second Report from the Commission on the experience of Member States with GMOs placed on the market under Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms, COM(2007) 81 final, at 6; and Co-EXTRA, 'GM and Non GM Supply Chains: Their CO-EXistence and TRAceability-Outcomes of Co-Extra' (Co-Extra, undated), found at <http://www.coextra.eu/pdf/report1472.pdf>.

suggested relevant factors[43] and potential methods;[44] however, they did not deal with the details of implementation in practice. Other sources of information and advice are available including various significant studies on the mechanisms of admixture[45] and the Coexistence Bureau and Network, who play significant roles here respectively in examining the scientific and technical aspects and in sharing information and experiences between the Member States. However, the question of the implementation and balance of coexistence measures remains complex and conflicting.

The variations are also affected by a range of more philosophical and political issues, including choice of objectives and admixture targets and whether GM free-areas are permissible.

OBJECTIVES, ADMIXTURE TARGETS AND LABELLING THRESHOLDS

Article 26a requires that national measures be 'appropriate', without specifying what this entails. Consequently, it is necessary to interpret the provision in light of the remainder of Directive 2001/18 and EU law. In this respect, where a derogation from the internal market rules exists, this derogation will be limited by requirements that its use be justified by a legitimate objective and proportionate in attaining this.[46] Depending on the context, these legitimate objectives will vary and may be non-exhaustive,[47] exclude certain objectives[48] or be limited to those listed.[49] In the case of Article 26a, the goal is to avoid admixture but without reference to the relevant objective justifying these measures. The 2003 Recommendation provides guidance as to the Commission's restrictive interpretation of the potentially relevant objectives and aspects thereof.

The 2003 Recommendation commences by recognizing that coexistence measures are essentially linked to the freedom of choice of farmers and consumers,[50] but then swiftly limits the grounds for justifying coexistence measures solely to whether there is an impact upon economic aspects of farmer choice.[51] Although economics are relevant to the viability and proportionality of measures, this intense focus in effect artificially raises economics to an independent objective.

Despite the content of the 2003 Recommendation, producer and consumer choice is not merely an economic matter, but is influenced by a wider range of issues that are not easily delineated.[52] The TFEU does provide protection for economic viability of agricultural enterprises,[53] but this is alongside EU awareness of the special importance of farmers and the agricultural community, including the multifaceted nature of agriculture and the benefits it provides.[54] The blanket exclusion of other interests such as environmental and health protection,[55] consumer protection, morals and cultural benefits,[56] whether as aspects influencing the choice or as independent objectives, appears overly restrictive and is one which the Courts would be unlikely to uphold.

Regarding environmental protection, although I would argue that it is a valid consideration for coexistence

[43] See 2003 Coexistence Recommendation, n. 11 above, Guidelines, Section 2.2.
[44] Ibid., Section 3.
[45] See, e.g., P. Barfoot *et al*., *Genetically Modified Maize: Pollen Movement and Crop Coexistence* (PG Economics, 2004), found at <http://www.pgeconomics.co.uk/pdf/Maizepollennov2004final.pdf>. See also R. Binimelis, n. 10 above, who provides a brief overview of literature on coexistence measures, as well as a case study of the cultivation of GM maize in Catalonia and Aragon.
[46] This is clearly demonstrated by the TFEU, n. 24 above, Articles 36, 45, 52, 65 and 114. It is also visible within the CJEU's caselaw as demonstrated by the role of mandatory requirements to justify measures of equivalent effect to quantitative restrictions. See CJ 20 February 1979, Case C-120/78 *Rewe-Zentrale AG v. Bundesmonopolverwaltung für Branntwein (Cassis de Dijon)*, [1979] ECR 649.
[47] See, e.g., in the case of the mandatory requirements following *Cassis* (ibid).
[48] This is generally the case with economic objectives. See, e.g., CJ 25 June 1998, Case C-203/96 *Chemische Afvalstoffen Dusseldorp BV v. Minister van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer*, [1998] ECR I-4075, paragraph 44. Legislation may also expressly exclude grounds/objectives, as in the case of the proposed regulation to provide Member States with an opt-out clause post EU authorization of GMOs for cultivation, which excludes environmental and health protection from its ambit (nn. 95 and 102 below).
[49] As in the case of TFEU, n. 24 above, Article 36. See, e.g., CJ 17 June 1981, Case C-113/80 *Commission v. Ireland*, [1981] ECR 1625.
[50] See 2003 Coexistence Recommendation, n. 11 above, Recitals 3 and 2, respectively, and Guidelines, Section 1.1.
[51] Ibid., Recital 5.
[52] See R. Binimelis, n. 10 above; and Council Regulation 834/2007/EC on organic production and labelling of organic products and repealing Regulation 2092/91/EEC, [2007] OJ L189/1, Recital 1, which refers to the 'dual societal role' that the production method plays as regards consumer choice and protection of the environment, animal welfare and rural development.
[53] See, for example, Article 39(1)(b), TFEU, Note 24 above, includes ensuring a 'fair standard of living for the agricultural community' as an objective of the common agricultural policy.
[54] See, e.g., Communication on Community Guidelines for State Aid in the Agriculture Sector, [2000] OJ C28/2, at Part 2, which states: 'The new policy explicitly recognizes that farming plays a number of roles including the preservation of the environment, traditional landscapes and the wider rural heritage, while emphasising the creation of alternative sources of income as an integral part of rural development policy.' See also Council Decision 2006/144/EC on Community strategic guidelines for rural development (programming period 2007 to 2013), [2006] OJ L 55/20, Recital 2 and Guidelines, Section 2.1, which states: 'The European model of agriculture reflects the multifunctional role farming plays in the richness and diversity of landscapes, food products and cultural and natural heritage.'
[55] According to the 2003 Coexistence Recommendation, n. 11 above, environmental and health issues are considered to be dealt with by Directive 2001/18 satisfactorily: Recital 4, and Guidelines, Section 1.2.
[56] See R. Binimelis, n. 10 above, at 451.

measures, it is explicitly rejected by the Commission[57] and would be likely to receive a similar approach from the Court. As mentioned above, the GM legislation aims for a high level of protection via various means.[58] However, it seems contradictory that the Commission recognize that specific regional and local factors may affect the suitability of coexistence measures, yet will not allow for the possibility that the impact of these same factors on environmental protection may not be dealt with satisfactorily by authorization conditions[59] or conservation Directives[60] and may impinge upon other sensitive areas not protected by specific EU legislation.[61]

There exists the possibility to resort to the Article 23 safeguard clause in Directive 2001/18 and Article 114(5) TFEU. However, although serving important roles within the regime these two provisions impose heavy burdens on States wishing to rely upon them.[62] Both Article 23 and Article 114(5) TFEU require new scientific evidence that the authorized GMO poses a threat; this is a difficult criterion to meet and has yet to be fulfilled in the eyes of the Commission, the European Food Safety Authority or the EU Courts.[63] Article 114(5) TFEU also requires that the problem should arise post the harmonizing measure (i.e., the authorization) and be 'specific' to the Member State. In *Land Oberösterreich*, the State failed to establish that the local conditions, including small farms and a high level of organic farming, were sufficient to make any problem 'specific' to the State.[64] Consequently, not only are environmental factors a relevant concern, but coexistence measures could facilitate a comprehensive approach to environmental protection with the requirement of proportionality as a control upon national action. Nonetheless, as discussed below, it is likely that the EU Courts would uphold the Commission in continuing to accept the EU legislation as providing sufficient protection due to the high level of EU harmonization and excluding environmental or health protection as a legitimate objective for coexistence measures.

Despite the Commission focusing on the economic aspects, financial loss associated with the EU labelling thresholds alone would seem insufficient to explain the depth of variations between national coexistence measures and in particular those relevant to organic crops compared to conventional crops. It also appears unjustifiable to limit coexistence measures to protecting economic interests of other producers, when Article 26a does not specify such limitation and other legitimate interests such as morals and protection of the rural community are clearly at stake.

The choice of admixture targets is clearly central to the nature and proportionality of the coexistence measures.[65] For the Commission focusing on economic impacts, this is linked strongly to whether labelling as GM will be required. The aim is not to prevent admixture entirely, but to limit it to an acceptable level,[66] which for the Commission is linked to that of the labelling thresholds[67] (i.e., 0.9%,[68] whether for conventional or organic produce[69]) thereby reducing Member States' autonomy and discretion. Yet the variations in distances between conventional and organic maize noted above clearly indicate that Member States tend to aim lower at least for organic crops[70] – an extra level of protection not provided for within the Recommendation. Some Member States aim for minimal levels for conventional crops also,[71] as demonstrated by Germany's substantial separation distances.[72] Consequently, the Commission has mentioned concerns that some coexistence measures are therefore disproportionate.[73]

Control of admixture and the maintenance of the independent existence of varying types of agriculture are also relevant to the freedom of choice of consumers,

[57] See 2003 Coexistence Recommendation, n. 11 above. Environmental and health issues are considered to be dealt with by Directive 2001/18 (n. 1 above) satisfactorily: Recital 4, and Guidelines, Section 1.2.

[58] See Directive 2001/18/EC, ibid., Recitals 5 and 47 and Articles 1 and 4; and Regulation 1829/2003/EC, n. 1 above, Recitals 2, 3 and 9, and Articles 1 and 4.

[59] Directive 2001/18, ibid., Article 19, specifies that any consent shall, for example, specify conditions for the protection of 'particular ecosystems/environments and/or geographical areas'.

[60] In particular, see Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, [1992] OJ L206/7; and Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, [1979] OJ L103/1.

[61] See 2006 Working document, n. 35 above, at 13.

[62] See F.M. Fleurke, n. 25 above; M. Dobbs, n. 7 above, at Section B.I; and M. Lee, n. 21 above, at 90–98.

[63] See M. Dobbs, n. 7 above, at Section B.I.

[64] See *Land Oberösterreich*, n. 2 above, and General Court (GC, ex Court of First Instance), 5 October 2005, Joined Cases T-366/03 and T-235/04 *Land Oberösterreich and Republic of Austria v. Commission*, [2005] ECR II-4005, at paragraphs 66–67.

[65] For example, within P. Barfoot *et al.*, n. 45 above, the authors note that much less severe measures than are currently in place in Member States may suffice, for example, six metres isolation distance. However, in assessing coexistence measures, they were using the reference of 99.1% purity, or, in other words, a target of 0.9% admixture while, as the authors acknowledge, Member States often aim lower and take into account worst case scenarios.

[66] See M. Lee, n. 21 above, at 106.

[67] See 2003 Coexistence Recommendation, n. 11 above, Guidelines, Sections 1.1, 2.1.2, 2.1.4 and 2.2.3.

[68] See Article 12 (2) of Regulation 1829/2003, n. 1 above.

[69] See 2010 Coexistence Recommendation, n. 14 above, Guidelines, Section 2.2.3, states that unless a specific threshold is set for organic crops in accordance with the Organic Regulation, then the ordinary legal thresholds will apply equally to them, and that national measures should refer to the legal thresholds. The threshold for labelling of 0.9%, established in accordance with Regulation 1830/2003, applies also to organic products which are regulated under Council Regulation 834/2007/EC on organic production and labelling of organic products and repealing Regulation 2092/91/EEC, [2007] OJ L189/1.

[70] See 2009 Coexistence Report, n. 35 above, Section 7.2.

[71] See 2006 Coexistence Report, n. 12 above, at 6; and 2006 Working document, n. 35 above, at 12, regarding Hungary, Luxembourg and Austrian Länder in particular.

[72] See n. 38 above.

[73] See 2006 Working document, n. 35 above, at 12.

who judge products by the labels on them. Traditionally one would not suppose that a product labelled 'organic' would contain GMOs, even though it has been suggested by Advocate General Léger that a reasonably well-informed and reasonably observant consumer might now expect a low level of presence of GMOs in all foods due to the apparent general knowledge that there is environmental contamination of crops with GMOs.[74] It is possible for this to be ameliorated via labels of 'GM-Free', either mandated by the States or as private standards, or organic labels where these are only to be accredited where they are assured to be GM-Free. This, however, is reliant on a system that not only monitors and tests for admixture, but also controls and restricts it effectively.

GM-FREE REGIONS

Although the 2003 Recommendation specified that no type of agriculture was to be excluded via national measures and the Commission has stated that general regional or national bans would not be legitimate coexistence measures,[75] nonetheless it would seem logical that minimal GM-Free areas are a possibility where established as necessary and proportional in the context.[76] This also follows from the potential use of buffer zones and separation distances.[77] Therefore, States could be permitted to exclude specific crops in small localities. As with GM-Free labelling, these GM-Free areas would enable organic and other 'quality products'[78] farmers in particular to be assured that their produce was indeed non-GM. Although this does involve Member States excluding GM cultivation in local areas, this would appear permissible where necessary and thereby facilitating national and EU-level coexistence.

A further possibility beyond State mandated GM-free zones is through voluntary exclusions.[79] Notifications under Directive 98/34/EC are not required where the GM-free zone is the *status quo*, a declaration of intent (aspirational statement) or due to the voluntary agreement of all farmers in the region[80] (i.e., where the State is not imposing a legal restriction on producers). Throughout the EU, groups of farmers and local authorities have come together to create these regions.[81] Clearly this will be simpler in some countries and areas than in others, especially where organic or small agrarian type farming is the norm.

ISSUES POSED BY THE ORIGINAL COEXISTENCE REGIME

The current practices vary amongst the Member States for technical and philosophical reasons. Questions arise as to which admixture level to aim for, whether it is even possible to detail exhaustively relevant factors and, more fundamentally, which legitimate objectives may justify coexistence measures, whether agri-economic, freedom of choice, ethical, social or other. These varying practices and underlying foundations conflict with the 2003 Recommendation's reasoning. The Member States' competence to take measures is not unlimited and the Commission has the right to take action to challenge national measures where beyond the scope prescribed by EU law. Yet, although the Commission has brought actions against Member States for general bans imposed under Article 114 (4) and (5) TFEU,[82] criticized the use of Article 23[83] and critiqued various national coexistence measures,[84] it has yet to bring proceedings against a State for breach of EU law relating to their coexistence measures.

As the issue is complex and local conditions vary considerably throughout the EU, uniform application of coexistence measures is impossible, as is attempting to straitjacket national measures. However, nor is it desirable within the EU for the Commission to condone national measures implicitly that conflict with the Commission's own interpretation of EU law as reflected in

[74] CJ 26 May 2005, Case C-132/03 *Ministero della Salute v. Coordinamento delle Associazioni per la Difesa dell'Ambiente e dei Diritti degli Utenti e dei Consumatori (Codacons)*, [2005] ECR I-4167, Opinion of AG Léger, at paragraph 81–2: they might expect slight impurities or foreign substances – especially as the 'contamination of the environment by GMOs is a well known phenomenon'. For the Advocate General, as the authorization procedure is to protect against harm, labelling is to provide information to the consumer. The reasonable consumer should be aware of the likelihood of adventitious presence below 1%, and there is no need to label. The exemption should apply equally to infant food.

[75] See, e.g., 2006 Coexistence Report, n. 12 above, Section 3; and 2006 Working document, n. 35 above, at 6 and 8. For such measures, States would currently need to attempt to justify them under alternative EU legislation such as Article 114(5) TFEU.

[76] See 2009 Coexistence Report, n. 35 above, Section 7.3, which states that 'the establishment of such regions would need to be notified to the Commission' or otherwise might not be applicable, indicating that such areas would not be automatically in breach of EU law.

[77] See 2003 Coexistence Recommendation, n. 11 above, Guidelines, Section 3.2.1.

[78] The EU provides protection for what are described as 'quality products'. See Regulation 510/2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs, [2006] OJ L93/12; and Regulation 509/2006 on agricultural products and foodstuffs as traditional specialities guaranteed, [2006] OJ L93/1.

[79] See 2003 Coexistence Recommendation, n. 11 above, Guidelines, Section 3.3.

[80] See 2006 Working document, n. 35 above, at 8.

[81] Charter of the Regions and Local Authorities of Europe on the Subject of Coexistence of Genetically Modified Crops with Traditional and Organic Farming (Florence, 4 February 2005).

[82] See, e.g., *Land Oberösterreich*, n. 2 above; and *Commission v. Poland*, n. 2 above.

[83] See, e.g., Commission Decision 2008/495/EC concerning the provisional prohibition of the use and sale in Austria of genetically modified maize *(Zea mays L. line MON810)* pursuant to Directive 2001/18/EC of the European Parliament and of the Council, [2008] OJ L172/25.

[84] See M. Lee, n. 21 above, at 112; and Detailed Opinions referenced in footnote 30 therein.

its Recommendation[85] through failing to challenge them before the EU Courts.

THE COMMISSION'S 2010 CULTIVATION PACKAGE

By 2010, a substantial reworking of the post-authorization cultivation framework was clearly required. Not only did coexistence measures vary substantially as indicated above, but Member States continued to impose national prohibitions on the cultivation of GMOs on the basis of threats to the environment or human health and Article 23 Directive 2001/18 in particular.[86] Due to the comitology procedure and the role of the Council,[87] the Commission was incapable of forcing Member States to lift these prohibitions[88] despite stating that the measures fail to meet the necessary criteria.[89] Yet earlier national prohibitions and the failure by the EU to lift them were condemned by the WTO's Dispute Panel in the *Biotech* dispute as unjustified restrictions on trade and in breach of the Sanitary and Phytosanitary Agreement (SPS Agreement).[90] Simultaneously, calls had also been made by Member States for greater freedom relating to whether cultivation was carried out within their territories.[91] Consequently, internal and external pressures were in play upon the EU to amend the GM cultivation regime in order to improve its effectiveness and acceptability to Member States and before the WTO. A further compromise was sought that would provide greater flexibility to Member States post-authorization without challenging the scientific risk analysis and which would encourage the States to take less severe measures than national prohibitions.

This new compromise is found within the Commission's Cultivation Package of July 2010, which expressly recognizes that the 2003 Coexistence Recommendation did not and could not encapsulate all relevant local factors and conditions pertaining to the choice of coexistence measures,[92] and that the current EU legislation did not provide Member States with the desired flexibility regarding cultivation.[93] This package entails an explanatory Communication,[94] a Proposal for a Regulation to create an opt-out clause from cultivation[95] and a new 2010 Coexistence Recommendation.[96]

As the Communication highlights, the Recommendation and Proposal are to provide Member States with greater flexibility[97] and leeway to restrict or even to prohibit GMO cultivation within the EU legal framework, rather than risking Member States distorting the role of the safeguard clauses through utilizing the provision to impose and retain restrictions where conditions are deemed unfulfilled.[98] In particular, as well as dissuading the States from utilizing the safeguard clause through providing less severe alternatives, the omission of environmental and health protection from the proposed Article 26b and the 2010 Coexistence Recommendation can be seen as an attempt to comply with WTO law and specifically the SPS Agreement following

[85] L. Levidow and K. Boschert, 'Coexistence or Contradiction? GM Crops versus Alternative Agricultures in Europe?', 39:1 *Geoforum* (2008), at 181–183. The Commission has expressed concerns that some notified measures were disproportional in a number of States (see 2006 Working document, n. 35 above; and M. Lee, n. 32 above).

[86] See n. 4 above.

[87] Council Decision 1999/468, n. 22 above, Article 5, applied in relation to assessment of safeguard measures. If the Council voted by qualified majority against the Commission's proposal to take action against the State in question, the Commission had to either drop the matter or propose an alternative that the Council would approve. The Council has blocked every proposal by the Commission regarding Member States' prohibitions of cultivation based on Article 23. However, since the Cultivation Package, based on Regulation 182/2011, n. 16 above, the Council has been replaced in effect by an 'appeals committee'. Consequently, it may be possible in the future for the Commission to force the lifting of national prohibitions on cultivation. The Commission will be aware, however, that this would prove a highly contentious action.

[88] See, e.g., Commission Decision 2008/495/EC, n. 83 above, which details the Council's previous refusal to take action against Austria regarding a prohibition on cultivation also, as well as the Commission's decision to propose action only on food and feed.

[89] Commission Proposals, n. 4 above. These Proposals have relied upon Opinions of the European Food Safety Authority, which have all stated that the Member States have failed to provide new scientific evidence indicating threats to the environment or human health, e.g., 'Scientific Opinion of the Panel on Genetically Modified Organisms on a request from the European Commission related to the safeguard clause invoked by Austria on oilseed rape MS8, RF3 and MS8xRF3 according to Article 23 of Directive 2001/18/EC', 1153 *EFSA Journal* (2009), 1.

[90] Sanitary: Phytosanitary Agreement (Marrakesh, 15 April 1994). The Dispute Panel held that a satisfactory risk assessment could be carried out and there was insufficient scientific evidence to then justify national prohibitions. See n. 5 above.

[91] Note Submitted by Austrian Delegation, Genetically Modified Organisms: A Way Forward (25 June 2009), found at <http://register.consilium.europa.eu/pdf/en/09/st11/st11226-re01.en09.pdf>.

[92] See Commission Communication on the freedom for Member States to decide on the cultivation of genetically modified crops, n. 4 above, Section 2.1.

[93] Ibid., Section 3.

[94] Commission Communication on the freedom for Member States to decide on the cultivation of genetically modified crops, n. 4 above.

[95] Proposal for a Regulation amending Directive 2001/18/EC as regards the possibility for the Member States to restrict or prohibit the cultivation of GMOs in their territory, COM(2010) 375 final.

[96] See 2010 Coexistence Recommendation, n. 14 above.

[97] See Commission Communication on the freedom for Member States to decide on the cultivation of genetically modified crops, n. 4 above; and 2010 Coexistence Recommendation, n. 4 above, Recital 7.

[98] See Commission Communication on the freedom for Member States to decide on the cultivation of genetically modified crops, n. 4, at 6. The Commission has been incapable of lifting national cultivation bans taken under Article 23 of Directive 2001/18 due to the Council blocking proposals to take action. See Decision 2008/495/EC, n. 83 above.

the *Biotech* dispute.[99] Although not all parties within the EU are in agreement as to the legal issues as affected in light of the WTO, it is clearly a strong consideration in amending the GMO regime.[100] Together, the proposed Article 26b and Coexistence Recommendation help to balance the EU GMO regime, allowing for the effective continuance of a system of science-based authorization at an EU level with an element of freedom for States to decide upon cultivation nationally.[101]

If promulgated, the proposed Article 26b opt-out clause would provide Member States with a legal basis to prohibit or restrict cultivation of GMOs nationally for legitimate grounds, other than environmental or health protection,[102] as these are meant to be protected via the prior authorization procedures and safeguard clauses within the legislation.[103] This would not be an absolute veto power for Member States; the measures would still have to comply with EU law,[104] including the identification of a relevant legitimate objective[105] and accordance with the principles of non-discrimination and proportionality,[106] similarly to areas which are as yet not harmonized. However, while the Proposal to create an opt-out clause in the form of Article 26b within Directive 2001/18 is an interesting step towards de-harmonization, it is as of yet at an early stage and further analysis of its potential impact is beyond the scope of this article.[107] Instead, it is to the 2010 Coexistence Recommendation that we now turn as the subject of the remainder of the discussion.

THE 2010 COEXISTENCE RECOMMENDATION: ENCAPSULATING THE STATUS QUO?

The 2010 Recommendation is more subtle in its approach than the Proposal. It moderates the content of the 2003 Recommendation in an attempt to provide States with greater flexibility in controlling GM cultivation within their territories without excluding it entirely. A more flexible approach and attitude is apparent throughout much of the 2010 Recommendation in contrast to the 2003 Recommendation. For instance, the 2003 Recommendation noted that specific circumstances within the region (e.g., farm structures, cropping patterns and natural conditions) are important factors,[108] as well as the proximity of GM and non-GM crops temporally and spatially.[109] However, whereas the 2003 Recommendation attempted to

[99] In this regard, see the Commission's legal counsel's opinion (n. 5 above, at Part 4.2) in relation to the proposed Article 26b, arguing that the Article would comply with WTO law through reference to objectives such as public morality within Article XX(a) of GATT (Marrakesh, 15 April 1994); see also M. Dobbs, n. 7 above. Although coexistence measures may act for instance as a quantitative restriction, justification is likely to prove simpler than if based on potential threats and the precautionary principle where the Dispute Panel has demonstrated a strict stance.

[100] As noted (ibid.), the Commission intentionally omitted environmental and health protection from the objectives within the proposed Article 26b and the Coexistence Recommendation. Regarding the proposed Article 26b, it focused on public morality as a viable justification internationally. The Economic and Social Committee, Parliament and Council all raised concerns relating to the legality before the WTO. However, for the main part, they considered that morality was overly vague, environmental considerations should instead be permitted and possible justifications should be listed. Although accepting that the Article itself would be compliant, the institutions considered that the proposed Article could facilitate Member States in taking actions that would breach WTO law. See Opinion of the European Economic and Social Committee on the Proposal for a Regulation of the European Parliament and of the Council amending Directive 2001/18/EC as regards the possibility for the Member States to restrict or prohibit the cultivation of GMOs in their territory, [2011] OJ C54/51, at Part 5.6; European Parliament's Environmental Committee's Draft Report on the proposal for a regulation of the European Parliament and of the Council amending Directive 2001/18/EC as regards the possibility for the Member States to restrict or prohibit the cultivation of GMOs in their territory, COM(2010)0375 – C7-0178/2010 – 2010/0208(COD), at 17–18, found at <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-456.911+01+DOC+PDF+V0//EN&language=EN>; and Opinion of the Legal Service of the Council, 2010/0208 (COD) 15696/10, partially found at <http://register.consilium.europa.eu/pdf/en/10/st15/st15696.en10.pdf>.

[101] See Commission Communication on the freedom for Member States to decide on the cultivation of genetically modified crops, n. 4 above, at 7.

[102] This is stated within the content of the proposed Article 26b (see Proposal for a Regulation amending Directive 2001/18/EC as regards the possibility for the Member States to restrict or prohibit the cultivation of GMOs in their territory, n. 95 above).

[103] See Commission Communication on the freedom for Member States to decide on the cultivation of genetically modified crops, n. 4 above; and CJ 21 March 2000, Case C-6/99 *Association Greenpeace France and Others v. Ministère de l'Agriculture et de la Pêche and Others*, [2000] ECR I-1651, paragraph 44, where the Court ruled that Directive 90/220 dealt with environmental and human health risks in compliance with the precautionary principle via, *inter alia*, the safeguard clause in its Article 16 and the risk assessment procedure. See also 2010 Coexistence Recommendation, n. 14 above, Guidelines, Section 1.2.

[104] The Proposed Regulation also states that any measures should also be in conformity with international obligations of the EU, in particular in light of the WTO (see Commission Communication on the freedom for Member States to decide on the cultivation of genetically modified crops, n. 4 above, at Recital 8).

[105] In response to concerns of the Council and the Parliament amongst others (see n. 100 above), the Commission has since provided a suggested non-exhaustive list of acceptable objective justifications. Within these, environmental objectives are accepted where not already covered by the EU risk assessment. See 'Indicative List of Grounds for Member States to Restrict or Prohibit GMO Cultivation', SEC(2011) 184 final, found at <http://register.consilium.europa.eu/pdf/en/10/st16/st16826-ad01.en10.pdf>.

[106] See Proposal for a Regulation amending Directive 2001/18/EC as regards the possibility for the Member States to restrict or prohibit the cultivation of GMOs in their territory, n. 95 above, Recital 8 of the Proposed Regulation and Section 3.1.2 of the Explanatory Memorandum.

[107] For further discussion on this Proposal, see M. Dobbs, n. 7 above.

[108] See 2003 Coexistence Recommendation, n. 11 above, Guidelines, Sections 1.4, 1.5, 2.1.6 and 2.2.6.

[109] Ibid., Guidelines, Section 2.2.1 and 2.2.2.

prescribe relevant factors and concerns,[110] the 2010 Recommendation merely acknowledges them as a reason to provide Member States with greater flexibility.[111]

More specifically, while the 2003 Recommendation focused tightly on the labelling thresholds for conventional and organic crops,[112] the 2010 Recommendation also acknowledges explicitly that Member States may legitimately use measures that seek to prevent admixture below the labelling threshold, especially where organic crops are at stake.[113] Unlike in 2003, the Commission acknowledges that there are special attributes to organic farming and produce[114] for farmers and consumers, and that this may involve striving to avoid admixture entirely for this type of farming. It acknowledges that some farmers and operators may wish to 'ensure that their crops have the lowest possible presence of GMOs'.[115] Indeed, the Commission now expressly acknowledges that Member States 'should consider the possibility'[116] to impose exclusion zones on GMOs where less restrictive measures would be insufficient, where previously it had maintained that GMO cultivation was not to be excluded. Consequently, the 2010 Recommendation entails a much more flexible/lenient approach than that present in the 2003 Recommendation.

Nonetheless, the increased flexibility is not as wide-sweeping as it first appears. The 2010 Recommendation continues to limit the focus of coexistence measures to economic issues. Although recognizing the possibility of GM-free areas and targeting below labelling thresholds, this is only supported where the economic interests would otherwise be detrimentally affected.[117] Consequently, proportionality for the Commission is still linked to economic loss even if not necessarily to the labelling thresholds.

Further, it should be apparent that even if the 0.9% threshold were targeted, the very nature of coexistence and use of buffer zones involves an element of exclusion. Also, many Member States aim at admixture targets for organic, and occasionally conventional, crops that are well below the 0.9% threshold, providing them with extra protection through greater buffer distances. Thus, even the statements regarding lower admixture targets and GM-free regions[118] appear as more of an acknowledgement of the *status quo* rather than involving a veritable change in the coexistence regime.

As expressed above, the encapsulation of these provisions within a Commission Recommendation is important.

A SUBSTANTIVE IMPACT ON COEXISTENCE?

Even if similar to the practices of the Member States, the 2010 Recommendation's departure from the approach within the 2003 Recommendation may nonetheless have important consequences, both politically and legally. First, it indicates a new approach by the Commission, which one would expect to see reflected to a reasonable extent within its assessment of coexistence measures notified by Member States. Second, the status of the Recommendation as an example of soft law[119] has great potential if national coexistence measures are challenged before the Courts for breach of EU law.

Although Article 292 TFEU provides for the creation of Recommendations, Article 288 TFEU excludes Recommendations from having legally binding force. However, Recommendations may nonetheless play a strong role as examples of soft law rather than as mere informative or aspirational statements.[120] Rather than 'rules of law', EU soft law includes 'rules of conduct'[121] which, in principle, have no legally binding force but which nevertheless have practical effects'[122] or legal effects.[123] These practical and legal effects include

[110] Ibid., Guidelines, Section 2.2 (totalling three pages).
[111] See 2010 Coexistence Recommendation, n. 14 above, Recital 7 and Guidelines, Section 1.1.
[112] See 2003 Coexistence Recommendation, n. 11 above, Guidelines, Section 2.2.3.
[113] See 2010 Coexistence Recommendation, n. 14 above, Guidelines, Section 1.1.
[114] This was also seen in the Communication on the European Action Plan for Organic Food and Farming, COM(2004) 415, at Section 1.4, where organic farming was stated to be beneficial to public health, social and rural development, animal welfare and the environment.
[115] See 2010 Coexistence Recommendation, n. 14 above, Guidelines, Section 1.1. This more closely reflects Regulation 834/2007/EC on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91, [2007] OJ L189/1, which states in Recital (10) that 'the aim is to have the lowest possible presence of GMOs in organic products', and Article 9 which states that no GMOs should be used in organic agriculture.
[116] See 2010 Coexistence Recommendation, ibid., Guidelines, Sections 2.4.
[117] Ibid., Guidelines, Sections 2.3.1–2.3.3.
[118] Ibid., Guidelines, Section 2.4. Member States may unilaterally declare areas as GM-free, provided that less restrictive measures would not suffice.
[119] L. Senden, *Soft Law in European Community Law* (Hart, 2004).
[120] CJ 13 December 1989, Case C-322/88 *Grimaldi*, [1989] ECR 4407; and A. Arnull, 'The Legal Status of Recommendations', 15:4 *European Law Review* (1990), 318.
[121] CJ 28 June 2005, Joined Cases C-189/02P, C-202/02P, C-205/02P to C-208/02P and C-213/02P, *Dansk Rørindustri v. Commission*, [2005] ECR I-5425, at paragraph 209; and O. Stefan, 'European Competition Soft Law in European Courts: A Matter of Hard Principles?', 14:6 *ELJ* (2008), 753, at 764.
[122] F. Snyder, 'The Effectiveness of European Community Law: Institutions, Processes, Tools and Techniques', 56:1 *Modern Law Review* (1993), 19, at 32. Although multiple definitions are available, Snyder's is the generally accepted one, and for the purpose of this discussion there is no need to investigate further the possible differences. For further detail, see L. Senden, n. 119 above, at 111–112.
[123] Extension to Snyder's definition as found in O. Stefan, n. 121 above.

self-binding consequences for the author and interpretative value more generally on the condition that upholding Recommendations as soft law does not entail a breach of hard law provisions.[124]

The use of soft law by the Courts is frequently linked as serving and benefiting from the general principles of EU law[125] such as legal certainty, legitimate expectations, equal treatment and *patere legem quam ipse fecisti* (one should abide by the rules which one has set oneself).[126] However, the Courts have also been known to avail of soft law without providing any such justifications,[127] despite controversy over the use of soft law.[128]

The legal effects of soft law are primarily seen in its role as an interpretative aid by the judiciary. In this regard, soft law's interpretative role is discretionary before the EU courts,[129] while mandatory nationally[130] with the proviso that neither EU nor national Courts are bound to comply with it. Consequently, the Recommendation can influence the Courts' interpretation of Article 26a, conditional on not leading to a conflict with hard law. In this manner it could be used to further justify the margin of discretion traditionally granted to the States where legislating in non-harmonized or partially harmonized areas.[131] GM-free areas and strict measures that aim at low admixture levels below the labelling threshold are clearly contemplated within the Recommendation indicating that these measures may be proportional.

More controversially, although soft law lacks binding force, it may have self-binding effects[132] if a number of criteria are fulfilled.[133] These criteria are not always clear; however, it appears that in order to have self-binding effects, the soft law document must generally be clear, precise and unconditional,[134] be published[135] and be *intra vires*.[136] However, the Courts may permit the author to conflict with the binding content upon providing good reasons.[137]

Although the emphasis on flexibility may lead to the 2010 Recommendation appearing vague, a number of elements could be acceptable as self-binding – for example, to prevent the Commission claiming that GM-free areas or coexistence measures targeting far below the labelling thresholds are automatically prohibited. Once the Member States have raised a minimal level of evidence of proportionality, the Commission would then have to establish on the specific facts that these measures were disproportionate, and therefore inappropriate, despite the acknowledgements in the 2010 Recommendation.

However, a caveat remains relating to whether the 2010 Recommendation is actually capable of being self-binding. Traditionally, the self-binding aspects of soft law have been seen in areas such as State Aid and staff cases,[138] with little application by the Courts beyond this. Nonetheless, there appears to be an increasing spill-over more recently into other areas[139] like competition law.[140] Further, the principles upon which soft law relies are general – that is, not limited to the traditional areas of soft law's application. There appears to be no legal or philosophical reason why this self-binding aspect should therefore be limited to the traditional areas.

The status of the Recommendation as soft law, in contrast to hard law, has a further important effect in relation to its potentially binding effects. While hard law applies and may be enforced against all parties, soft law is generally seen at most as self-binding (i.e., upon the author or those who agree to it).[141] Consequently, where the Recommendation imposes limitations upon the Member States, it is unlikely that these will be binding,[142] although the Court may interpret Article 26a in light of them. This is crucial in relation to the legitimacy of the objectives or interest being protected via the

[124] CJ 8 April 1976, Case 43/75 *Defrenne v. Sabena*, [1976] ECR 455; and also L. Senden, n. 119 above, at 56 ('soft law that derogates from hard law must be denied all legal effects') and 236.
[125] On general principles of EU law, see T. Tridimas, n. 27 above.
[126] See L. Senden, n. 119 above, at 418 and 467.
[127] Ibid., at 448.
[128] D.M. Trubek *et al*., ' "Soft Law", "Hard Law" and European Integration: Toward a Theory of Hybridity', in G. de Búrca and J. Scott (eds), *Law and New Governance in the EU and the US* (Hart, 2006), 65.
[129] See L. Senden, n. 119 above, at 472.
[130] See *Grimaldi*, n. 120 above, at paragraph 18.
[131] See, e.g., *Santos*, n. 27 above, at paragraph 16.
[132] CJ 5 June 1973, Case 81/72, *Commission v. Council*, [1973] ECR 575; and GC 17 December 1991, Case T-7/89 *Hercules*, [1991] ECR II-1711, paras 53–54.
[133] The principle of legal certainty requires that in order to have legal effects any legislation must be clear and precise and brought to the notice of the person concerned. See GC 15 July 1998, T-115/94, *Opel Austria*, [1997] ECR II-39, paragraph 14.
[134] Where a wide discretion is left to the authors, the Courts will only carry out a very limited review. See CJ 1 December 1983, Case 190/82, *Blomefield v. Commission*, [1983] ECR 3981, paragraph 27.
[135] See *Opel Austria*, n. 133 above.
[136] Where, *contra legem*, the soft law document may not have binding effects. See *Dansk Rorindustri*, n. 121 above, at paragraph 261; O. Stefan, n. 121 above, at 764; and *Blomefield*, n. 134 above, at paragraph 21.
[137] See *Dansk Rorindustri*, n. 121 above, at paragraph 204, stating that the author may depart from the content of the soft law document on providing reasons compatible with the relevant general principle of EU law.
[138] See L. Senden, n. 119, above, at 474–476; and see, e.g., Case 81/72 *Commission v. Council*, n. 132 above.
[139] See L. Senden, n. 119, Section 10.5.
[140] See O. Stefan, n. 121 above, at 755, in particular.
[141] See L. Senden, n. 119 above, Section 6.6; and GC 5 December 2000, Case T-136/98, *Campogrande v. Commission*, [2000] ECR II-1225.
[142] It should be noted, however, that it has been suggested that where founded on equal treatment a soft law document may also bind those relying upon it. See L. Senden, n. 119, at 407.

coexistence measures as the Member States will be capable of utilizing a broader range of objectives than within the Recommendation.

The Commission continues to see coexistence as an economic issue[143] and consequently any measures must relate to the economic impact on farmers or others down the production/consumption line. Yet even if one curtails one's examination of interests to those of protecting non-GM producers and their freedom of choice, the economic impact is merely one side of the issue. Quality producers are seen as providing social, cultural and even environmental and health benefits to the community. They also may have ethical reasons for choosing to be organic or non-GM farmers. As mentioned above, it would be a Herculean task to isolate each of these aspects from the economic impact and the general goal of protecting these agri-types.

Although the Commission may influence national coexistence measures and is the first port of call in assessing their acceptability, the EU Courts have final say. The CJEU has yet to rule on the acceptability of coexistence measures, including therein the objectives, admixture targets and proportionality, as they have yet to be challenged for breach of EU law. It would seem likely that the CJEU would not follow the Commission's interpretation of the objectives as limited to the economic aspect of producer choice. The starting point for any such case would depend on the objective chosen by the Member State for justifying their chosen measures.

If a State were to rely upon economics as an independent objective, this would be rejected as the Courts are unwilling to accept economic interests as a legitimate objective to justify derogating national measures.[144] However, if a State were to rely on the economic protection of farmers or agri-types in order to ensure coexistence, it is probable that this would be acceptable. Although unilateral action by States in order to protect the financial interests of farmers is seriously disapproved of by the CJEU,[145] such protection is within the scope of 'appropriate measures' which promote coexistence. However, the protection is not necessarily limited to this aspect.

In the case where Member States attempt to justify measures based on a broader version of producer choice or alternative objectives, it would seem unlikely that the CJEU would limit itself to the Commission's narrow interpretation here; as noted above, the EU recognizes that agricultural benefits and producer choice are broader than an economical issue and Article 26a does not limit the objectives in such a manner. Even though it is unlikely that the Commission's limitation to economic interests would have legal effect, it is unsatisfactory that the Commission should persist in its attitude that these are the only relevant interests that may justify coexistence measures.

The situation differs if a State were to attempt to rely on the objectives of environmental or human health protection. From *Commission v. Poland*[146] it would appear that if raised, specific local conditions or factors would be insufficient to justify a prohibition on authorized GMOs in order to protect the environment or health where not already provided for within the EU legislation.[147] As these issues are considered dealt with satisfactorily by the authorization procedures and safeguard measures[148] and Article 26a does not indicate that it may be used to forward this objective, the CJEU is extremely unlikely to accept environmental or health protection as an objective justifying national coexistence measures.

As a consequence of the Recommendation's status as soft law rather than merely policy, the legal impact is actually quite far-reaching as it may act as an interpretative tool and even bind the Commission before the Courts if challenging national measures as 'inappropriate' (e.g., regarding the admixture targets, organic farming and GM-free areas). It thereby can counter any such interpretative value of the 2003 Recommendation also. However, it simultaneously provides more flexibility to Member States than a hard law provision might, as limitations such as those relating to the economic aspects of farmer choice are not binding upon the States and, as discussed, the objectives are unlikely to be interpreted in such a restrictive manner by the CJEU.[149] It also provides legitimacy to the stricter coexistence measures by Member States, especially where providing greater protection for organic products or even local exclusion zones. Although some Member States currently do take such measures, the variations also indicate that others are more cautious in their coexistence measures. This Recommendation may also encourage

[143] See Commissioner for Environment Stavros Dimas' speech at the conference 'Co-existence of Genetically Modified, Conventional and Organic Crops: Freedom of Choice', Vienna (5 April 2006), stating that coexistence measures could protect the environment as well as economics.

[144] See *Dusseldorp*, n. 48 above, at paragraph 44.

[145] CJ, 9 December 1997, Case C-265/95, *Commission v. France*, [1997] ECR I-6959, paragraphs 61–64.

[146] See *Commission v. Poland*, n. 2 above.

[147] Poland originally attempted to rely on these factors to claim that the risk assessment procedures under Directive 2001/18 were inadequate and to justify to the Commission a general national prohibition (n. 2 above, at paragraph 18). This argument was not raised before the Court of Justice. However, the Court proceeded to say that any derogation must be via exceptions provided for within the legislation. See *Commission v. Poland*, n. 2 above, at paragraphs 61–62.

[148] See n. 103 above.

[149] Although a hard law document with a more flexible content would provide greater legal leeway to Member States in terms of binding force, if the content of this Recommendation were to be of binding force, then Member States would face greater restrictions in choosing their coexistence measures.

the more lenient Member States to take stronger coexistence measures, as now expressly condoned.

COEXISTENCE IN NAME ONLY?

The previous sections examined the potential impact of the 2010 Recommendation on individual Member State's coexistence measures, in particular to take stricter measures and even exclude GM cultivation locally. As noted, this reflects a change in the attitude of the Commission from previously where it repeatedly stated that no type of cultivation was to be excluded. However, the 2010 Recommendation only condones exclusions locally and where proportional.

The Recommendation is not a reversal on coexistence policy regarding exclusion, but instead reflects that necessity may prevent cultivation of GM crops in every nook and cranny. Instead coexistence should be understood on a wider level – specifically that of the EU. The intention is not to exclude GM cultivation at the EU level, but to provide Member States with some flexibility in exercising their competence locally and indirectly encourage EU-wide coexistence within an effective GM regime. However, the Recommendation is more far-reaching than just affecting individual measures. It has the possibility to impact on a wider EU level politically, but also practically via the 'domino effect'.

'DOMINO EFFECTS' AND CONTINUED EXISTENCE

Coexistence, as part of the legislative regime covering deliberate release of GMOs for placing on the market, is not intended as merely a once off experiment. Although clearly the legislation and Recommendation may be adapted, as has already occurred, they are intended to apply effectively for a substantial period of time. This is demonstrated by the duration of cultivation licences up to a period of ten years.[150] In this respect, of huge significance is the issue of *continued* coexistence – that is, ensuring the viability of each type of agriculture not merely for one year, but the foreseeable future.

Consequently, any examination of coexistence must not be carried out in isolation, but instead include the impact of prior cultivation, coexistence measures and admixture levels for the future; in-depth analysis of the cumulative admixture over time is required.[151] This knock-on or 'domino effect'[152] can work in two directions. First, if the coexistence measures aim at preventing admixture above X% on individual instances/years, but not at excluding it entirely, then if the neighbouring non-GM farmers retain a portion of the seed to replant,[153] this will lead to them commencing growth with a percentage of GM already the following year. Further, this neighbouring crop may cause admixture with other neighbouring non-GM crops. This source of admixture prior to sowing, as with seeds purchased with percentages of GMOs below the labelling threshold, must be taken into account in determining and later adjusting coexistence measures.[154] If the same coexistence measures are kept in place then this will lead to the level of GMOs in non-GM crops eventually rising above the original admixture threshold.[155] In contrast, if the isolation distances are extensive and rigid, then it is possible that GM crops will progressively be prevented entirely as they retreat further and further from non-GM crops.[156] Either way, where a chosen threshold is aimed for, this threshold will eventually be reached.[157] There is therefore a question of whether to segregate gradually or initially the crops entirely and prevent any admixture as much as possible, increase the thresholds[158] or continue as is and use *ex post*

[150] See Directive 2001/18, n. 1 above, Article 15.

[151] This is reflected in the 2003 Coexistence Recommendation, n. 11 above, Guidelines, Section 2.2.1 and 2.2.2.

[152] This term is utilized in, and borrowed from M. Demont *et al.*, 'Regulating Co-existence in Europe: Beware of the Domino Effect!', 64:4 *Ecological Economics* (2008), 683; M. Demont and Y. Devos, 'Regulating Coexistence of GM and Non GM Crops without Jeopardizing Economic Incentives', 26:7 *Trends in Biotechnology* (2008), 353; and A. Messéan *et al.*, 'Sustainable Introduction of GM Crops into European Agriculture: A Summary Report of the FP6 Sigmea Research Project', 16:1 *Oléagineux, Corps Gras, Lipides* (2009), 37. However, it should be noted that these articles examine the negative domino effect upon GM crops only, rather than also on non-GM crops.

[153] This includes where seed is retained intentionally and where volunteers or seed from previous years accidentally enter the new crop.

[154] A.B. Endres, 'Revising Seed Purity Laws to Account for the Adventitious Presence of Genetically Modified Varieties: A First Step Towards Coexistence', 1:1 *Journal of Food Law and Policy* (2005), 131; A.-K. Bock *et al.*, *Scenarios for Co-existence of Genetically Modified, Conventional and Organic Crops in European Agriculture* (Institute for Prospective Technological Studies-Joint Research Centre, 2002), found at <ftp://ftp.jrc.es/pub/EURdoc/EURdoc/eur20394en.pdf>; A. Messean *et al.*, 'New Case Studies on the Coexistence of GM and Non-GM Crops in European Agriculture' (IPTS-JRC, 2006, found at <http://ftp.jrc.es/EURdoc/eur22102en.pdf>.

[155] Opinion of the Scientific Committee on Plants concerning the adventitious presence of GM seeds in conventional seeds (SCP/GMO-SEED-CONT/002-FINAL, 7 March 2001), Section 4.1. It states that even with a 0.3% threshold for seeds, nonetheless subsequent generations could increase in levels of admixture due to cross-pollination above the then threshold of 1%.

[156] In M. Demont *et al.*, n. 152 above; and M. Demont and Y. Devos, n. 152 above. The authors reject strict *ex ante* measures as overly costly on GM producers, and recommend the use of flexible *ex ante* measures combined with more rigid and clear *ex post* measures as a proportionate coexistence system. M. Demont and Y. Devos (ibid, at 357, Box 3) provide a graphic model of how GM crops might be gradually eradicated as a result of rigid *ex ante* measures.

[157] Due to proportionality, a maximum threshold in effect plays the role of a target threshold also.

[158] The Scientific Committee on Plants stated that the proposed thresholds of 0.3% and 0.5% for seeds would become increasingly difficult to achieve as GM crop production increases and that: 'In due course the 1% threshold set by the Commission may have to be revised.' See Section 4.1 of the Committee's Opinion, n. 155 above,

liability measures to benefit those who suffer from economic loss due to admixture. Yet, the risk is that all of these would lead to the exclusion of some type of agriculture, whether GM or other.[159]

If space were unlimited with farmers being footloose then imposing vast buffer zones and segregating the types of agriculture would solve much of this difficulty.[160] However, in practice this is rarely going to be the case. Although agreements between farmers may be of help, whether by voluntary agreement or State mandate, it is probable that coexistence measures in practice will gradually lead to the exclusion of one agri-type within regions. Which agri-type is subsumed or prospers will depend on the nature of the coexistence measures and the balance of preference.[161] Consequently, the 'domino effect' challenges the entire premise that the coexistence regime is built upon: the presumption that it is possible for GM and non-GM crops to exist in harmony with each other.[162]

Taken in conjunction with the 2010 Recommendation, the potential has been solidified for the 'domino effect' effectively to exclude the cultivation of GMOs within large territories. If the Member States avail of the acknowledgement within the Recommendation that minimal admixture levels or exclusion zones may be justified, this may provide non-GM crops with a sufficient preference to swing the 'domino effect' in their favour.

CONCLUSION

Overall the Recommendation has the potential to have a strong legal and practical impact, which would lead to Member States being able to impose exclusion zones upon GM crops, amongst other measures. The Recommendation could be taken as a signal of defeat from the Commission, especially as the prohibitions on exclusion in the 2003 Recommendation have been shorn from the 2010 version. The more accurate analysis would seem to be to identify the Recommendation as intended as a concession or carrot.

Through creating the Recommendation, the Commission acknowledges the complexity of the issue of coexistence, signals that Member States will retain some autonomy over cultivation and expressly condones stronger coexistence measures, provided they are still proportional (i.e., they may take a 'Not in my Back Yard' approach in some circumstances). Taken in the context of the rest of the July 2010 cultivation package, this may then encourage Member States to accept the cultivation of GMOs more generally within the EU and not to avail of the safeguard clauses where the requirements are not fulfilled, enabling the EU to possibly finally comply with the SPS Agreement as interpreted within the *Biotech* dispute. Consequently, the Recommendation, through permitting local exclusions, may provide Member States with confidence that they may protect legitimate objectives within their territory post authorization and thereby facilitate the authorization of GMOs on an EU level concurrently (i.e., coexistence on an EU level even if not within individual Member States). It is an attempt to resolve the issues, and thereby encourage harmonization, through an element of de-harmonization. However, this is only a stop-gap measure.

Due to admixture and the scale of farming within the EU, combined with the unlikelihood of zone-by-zone segregation, the 'domino effect' will eventually pose further difficulties even on an EU scale and a decision will be required as to which way the dominos should fall. The 2010 Recommendation supports the possibility of the Member States pushing for the exclusion of GM cultivation; however, this will depend on their political will and whether the Commission maintains, or once again amends, the Coexistence Recommendation.

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Section 4.1; and L. Levidow and K. Boschert, n. 85 above, at 179, note that various stakeholders have concerns that admixture might eliminate non-GM seeds.

[159] Increasing thresholds to alter labelling does not alter the nature of the product itself.

[160] J. Corti-Varela, 'Coexistence of Genetically Modified, Conventional and Organic Products in the European Market: State of the Art Report', 1:1 *EJRR* (2010), 71, supported this notion of zone-by-zone segregation rather than isolation distances between individual farms or crops – i.e., very large clusters of types of agriculture. This would potentially solve many of the difficulties with coordination of isolation distances, costs, and small farms. However, in practice, this may prove as complicated as it requires that farmers in a specific zone either agree to a specific production type or move to another zone.

[161] L. Levidow and K. Boschert, n. 85 above, at 174, 181 and 187.

[162] For analysis of this presumption and the 'coexistence discourse' versus 'contamination discourse', see R. Lidskog, L. Soneryd and Y. Uggla, *Transboundary Risk Governance* (Earthscan, 2010), at 93–95.