

Measures of Coexistence in Germany

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Abstract

There are two important measures of coexistence in Germany: (1) the GMO location register and (2) the German regulation of good agricultural practice on production of GM plants. The GMO location register enables negotiations between farmers and practical coexistence measures and supports monitoring of GMO cultivation. We will review notification statistics, public interest, and encountered implementation problems of the GMO location register. Later in 2008, the German Genetechnology Act was supplemented by a regulation of good agricultural practice on production of GM plants with special rules for the general handling of GMP like isolation distances, crop rotation or harvesting techniques.

1. Introduction

In Germany two important measures of coexistence are established: (1) the GMO location register and (2) the German regulation of good agricultural practice on production of genetically modified plants. The register provides data on the intended locations for cultivation of genetically modified plants (GM plants) already three month ahead of sowings and thus it acts as information platform. The regulation of good agricultural practice on production of GM plants comprises special rules for the general handling of GM plants.

2. GMO location register

The GMO location register was launched in February 2005 by the Federal Office of Consumer Protection and Food Safety (BVL) after a specific amendment of the German Genetechnology Act (Bundesgesetzblatt 2005¹) implementing the European Directive 2001/18/EC. One purpose of this register is to support monitoring of potential adverse environmental effects of GM plant cultivation. However, another intention of the location register is supporting coexistence and transparency measures for farmers about GM plant cultivation in their neighbourhood (Vaasen et al. 2006). The register records the geographical location and reference of the GM plant cultivation sites in form of exact cadastral data, field size, notification date, and information about the GM plant. The public access to the information in the location register is provided via internet, but the person-related data of the farmers are restricted. Only regional authorities with the responsibility for inspection and general surveillance activities have access to these sensitive data.

2.1 Cultivation statistics

The only approved GM plant for cultivation in Europe is the maize MON810. German varieties of MON810 were officially registered since December 2006 in the descriptive variety lists of the Federal Plant Variety Office². In the previous years only experimental cultivation was realised, reflecting a relatively small cultivation area with 342 ha and 947 ha in the years 2005 and 2006 respectively (see Table 1). After the variety approval in Germany the cultivation area increased to 2685 ha in 2007. In 2008 the cultivation area reached a total size of 3171 ha. However, due to a temporary ban of MON810 maize in April 2009 the effective cultivation area dropped to zero although a certain cultivation area was already notified.

Tab. 1: Cultivation area of GM maize in 2005 – 2009 in Germany

	2005	2006	2007	2008	2009
Effective cultivation	342 ha	947 ha	2685 ha	3171 ha	0 ha
Planned cultivation	1150 ha	2004 ha	3778 ha	4583 ha	3803 ha

By legal reasons the GM farmer needs to notify the planned GM plant cultivation three month ahead of sowings, which for maize usually takes place during January and February each year. There was a continuous increase of intended cultivation between 2005 and 2008. The decrease in 2009 is probably not representative since the temporary ban of MON810 cultivation was discussed already during the registration period.

The difference between the planned area and the effective cultivation area in 2005 to 2008 is mainly caused by (i) changes of cropping plans on farms, (ii) economic reasons, (iii) availability of seeds, (iv) public protest, or (v) negotiation with neighbours or GM opponents. However, this list of reasons is most likely not complete.

2.2 Illustration of the GM location sites

The location register provides site specific information of the effective area for cultivation and experimental release per year. The register is accessible to the public via internet. Area maps of the cultivation sites are additionally available via internet pages of the BVL since 2008³. This area map visualisation gives an overview of the distribution of either GMO cultivation or scientific release with detailed data of the different total area sizes in the Federal States (Fig. 1).

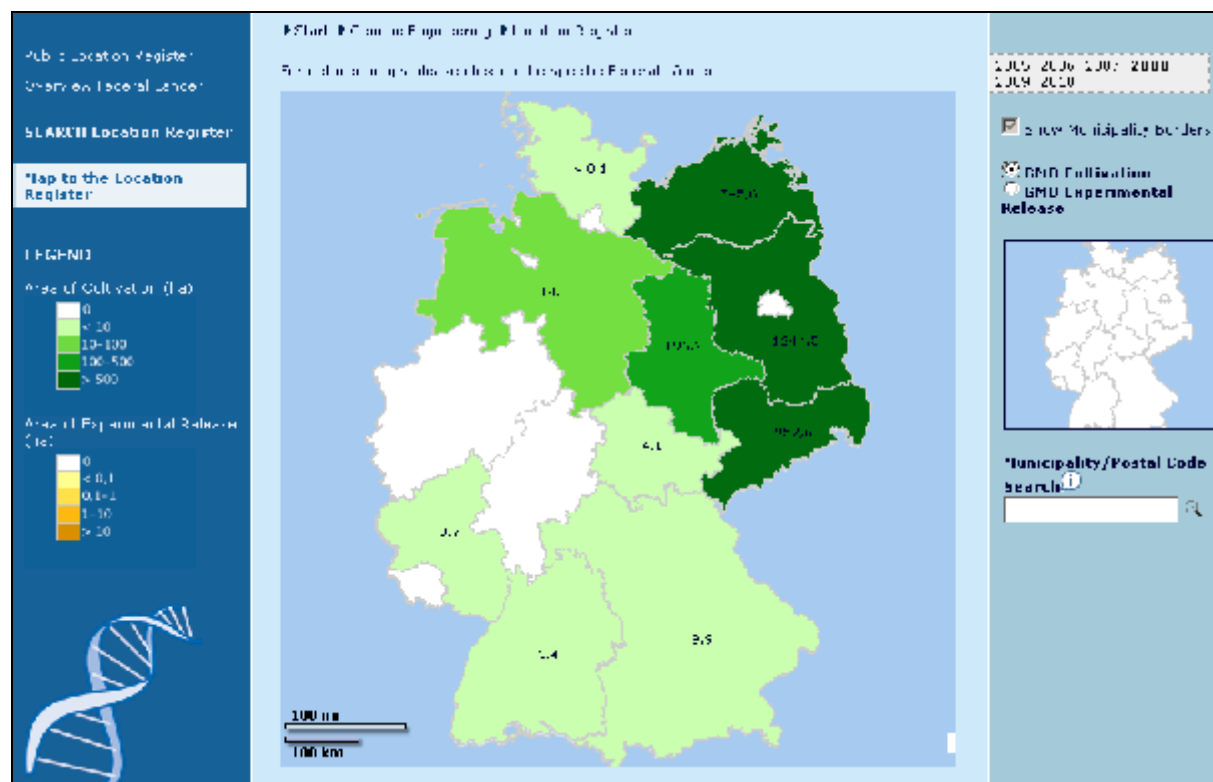


Figure 1 Overview of GMO cultivation areas (GM plants placed on the market) in Germany for 2008 (Information on experimental releases are provided separately – data not shown here). Different colours represent different total area sizes in the Federal States (see legend on the left hand side).

More detailed information is available by selecting a Federal State (see e.g. the eastern part of Brandenburg in Fig. 2). Overviews of community areas with GMO cultivation in a given Federal State is displayed together with data on the number of field sites and the total cultivation area. Further details about each community area are provided via zooming or community level search. The geographic orientation in Germany as well as a legend about the colour code for the area size used as visual help. At the level of a chosen community area details about the GMO cultivation sites are available with information about GMO identification number, size of GMO cultivation sites, and the cultivated GMO respectively (Fig. 2). Detailed cadastral data are available by selecting specific GMO cultivation sites. Further data can be retrieved using links to tabular registers.

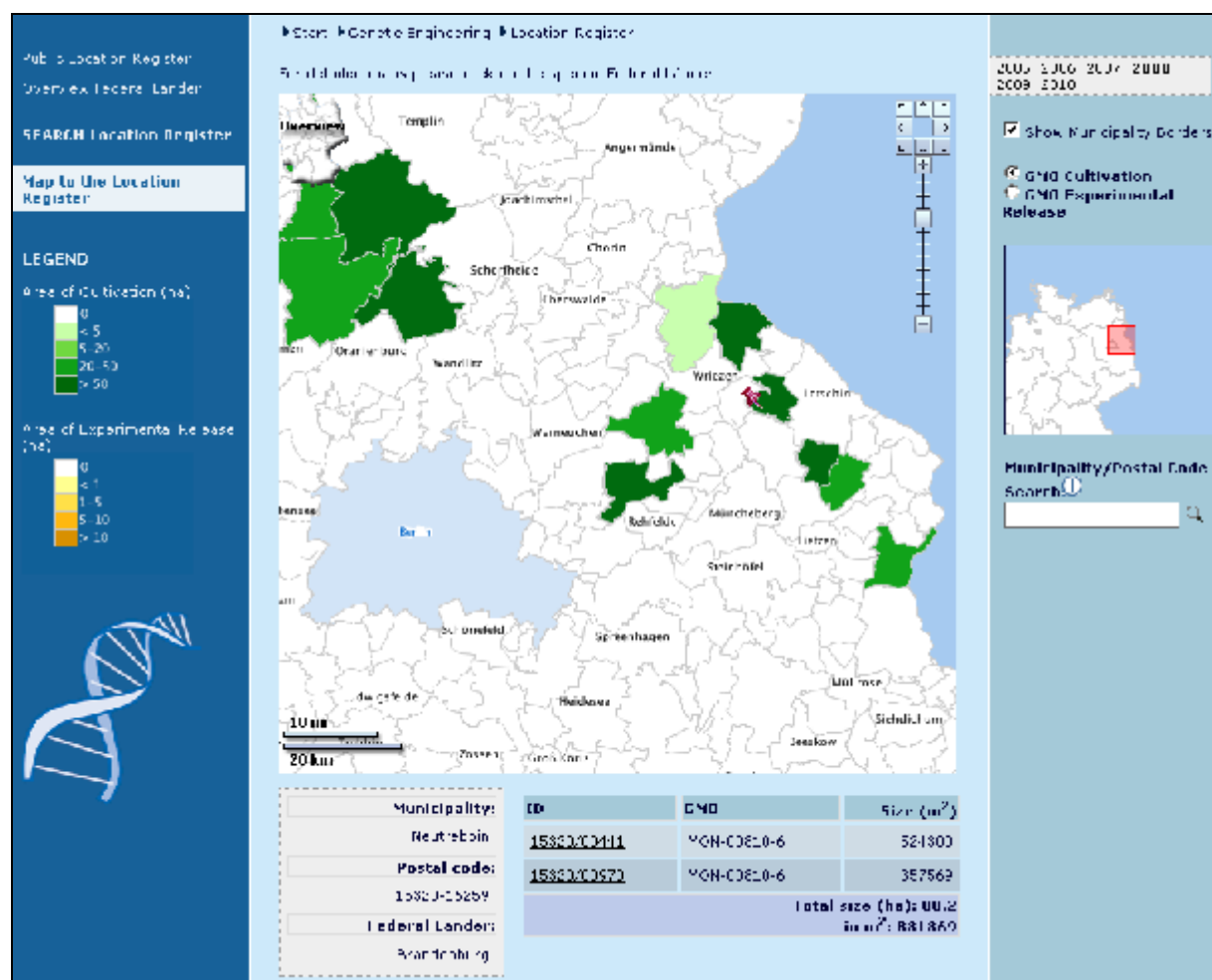


Figure 2 Overview of community areas with GMO cultivation in the Federal State of Brandenburg: Data about the number of field sites, the total cultivation area and further information (e.g. postal codes) are retrievable. Different colours represent clusters of cultivation area sizes (see legend on the left hand side of the Figure).

3. Regulation on production of GM plants

In 2008, the German Genetechnology Act was amended and supplemented by a regulation of good agricultural practice on production of genetically modified (GM) plants (Bundesgesetzblatt 2008⁴). This regulation implies special rules for the general handling of GM plants. Farmers need to inform their neighbours about their cultivation plan in a given radius around the planned GM field. In addition, the GM plant farmers are requested to comply with special rules for storage, transport, and harvest of GM plants, as well as volunteer control. Furthermore species specific guidelines are accomplished for maize, the only GM plant species currently authorized for cultivation in the EU. In this respect, isolation distances from GM maize to conventional maize of 150 m and to organic maize of 300 m are conditional. These distances can be reduced by reaching a tolerance agreement between affected neighbours. However, other EU Member states apply variable coexistence measures compared to Germany⁵.

4. Conclusions

The location register received broad attention in the public. It is not only of importance for environmental GM crop monitoring purposes, but also enables practical coexistence measures by informing farmers (and the broader the public) about cultivation of GM crops. Important for future improvement would be the linkage to geographical information system (GIS) data. Further requirements on the data base and data harmonisation in Europe should be discussed in the light of using location registers as a monitoring instrument and information platform throughout Europe.

5. References

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¹ See <http://www.bgblportal.de/BGBl/bgbl1f/bgbl105s0186.pdf>

² See <http://www.bundessortenamt.de/internet30/index.php?id=3&L=1>

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- ³ See http://apps2.bvl.bund.de/stareg_visual_web/localeSwitch.do?language=en&page=/data.do
- ⁴ See <http://faolex.fao.org/docs/pdf/ger81031.pdf>
- ⁵ See <http://www.gmo-safety.eu/en/coexistence/513.docu.html>