

Table 3: A worst-case scenario for impact of proposed GE Seed Contamination Directive on EU Arable Land (15 member states plus Accession states including Turkey)

The seed contamination directive allows for eventual contamination of soya, cotton and sugarbeet seeds with genetically engineered varieties should pending applications receive a growing approval. Across the EU15 and accession countries (inc Turkey) over 18.3 million hectares of arable land are currently planted with soy, cotton, sugarbeet, maize or oilseed rape. All of this land could be affected by GE seed contamination directive. This table shows by country how many genetically engineered (GE) plants could be released through seed contamination across the 13 accession countries in if the proposed thresholds for seed contamination in soy (0.7%) maize, cotton, sugar beet (0.5%) and oilseed rape (0.3%) are adopted and pending applications are approved. **14,580 million unregulated GE plants would represent a cumulative area of 84,550 hectares or 845km² – equivalent to planting out 120,785 football pitches.**

Crop areas and number of GE plants that would be growing in the 15 EU states and 13 accession states at the proposed levels of contamination for GE seed (cotton is given as 0.5 %) (data for 2000 unless stated)

	Total EU	Belgium	Denmark	Germany	Greece	Spain	France	Ireland	Italy	Luxembourg	Netherlands	Austria	Portugal	Finland	Sweden	UK	Total accession	Bulgaria	Cyprus	Czech Rep	Estonia	Hungary	Lithuania	Latvia	Malta	Poland	Romania	Slovenia	Slovakia	Turkey
Oilseed rape area (1000ha)	3 035	9	99	1 096	n/l	n/a	1 240	2	44	n/l	1	52	n/l	53	48	392	1 128	n/a	n/a	324	28.8	116	55.5	6.9	n/a	437	68.4	0.122	91.7	
No. of hectares GE at 0.3% contamination	9 110	27	297	3 290			3 720	6	132		3	156		159	144	1 176	3 380			972	86	347	167	21		1 310	205	0.366	275	
Plants/ha = 500,000																														
GE plants (millions)	4 550	13.5	149	1 640			1 860	3.00	66.0		1.50	78.0		79.5	72.0	588	1 690			486	43.2	174	83.3	10.4		655	103	0.183	138	
Grain maize area (1000ha)	4 300	36	n/l	361	225	425	1 83	n/l	1 063	n/l	20	164	172	n/l	n/l	n/l	5 766	576	n/a	473	0	1 193	n/a	0	n/a	152	3 049	48	145	555
No. of hectares GE at 0.5% contamination	21 500	180		1 810	1 130	2 130	9 170		5 320		100	820	860				28 800	2 880		236		5 960				761	15 200	240	725	2 780
Plants/ha = 100,000																														
No. GE plants (millions)	2 150	18		181	113	213	917		532		10.0	82.0	86.0				2 880	288		23.6		596				76.1	1520	24.0	72.5	277
Silage/forage maize area (1000ha)	296	166 ⁱⁱ	1.78 ⁱⁱⁱ	n/a	n/a	n/a	n/a	13 ^{iv}	n/a	11.1 ^v	n/a	n/a	n/a	n/a	n/a	104 ^{vi}	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
No. of hectares GE at 0.5% contamination	1 481	832	8.91			n/a	n/a	65		55.3						521														
Plants/ha = 100,000																														
No. GE plants (millions)	148	83.2	0.891					6.50		5.53						52.1														
Soyabean area (1000ha)	349	n/l	n/l	1	n/a	n/a	90	n/l	242	n/l	n/l	15	n/l	n/l	n/l	n/l	147	n/a	n/a	1.88	0	22.2	n/a	0	n/a	n/a	117	n/a	5.91	n/a
No. of hectares GE at 0.7 % contamination	2 440			7			630		1 690			105					1 029			13.2		155				819		41.4		
Plants/ha = 475,000																														
No. GE plants (millions)	1 160			3			299		805			50					489			6.26		73.7				389		19.7		
Sugarbeet area (1000ha)	1 806	96	56	449	43	129	386	31	220	n/l	109	45	5	31	55	151	1 062	1.94	n/a	61.3	0	57.5	27.7	12.7	n/a	333	48.4	8.12	31.7	480
No. of hectares GE at 0.5% contamination	9 030	480	280	2 250	215	645	1 930	155	1 100		545	225	25	155	275	755	5 310	9.70		306		287	139	63.5		1 670	242	40.6	158	2400
Plants/ha = 75,000																														
No. GE plants (millions)	677	36.0	21.0	168	16.1	48.4	145	11.6	82.5		40.9	16.9	1.88	11.6	20.6	56.6	398	0.73		23.0		21.6	10.4	4.76		125	18.2	3.04	11.9	180
Cotton area (1000ha)	494				405	88.9																								
No. of hectares GE at 0.5% contamination	2 470				2 030	445																								
Seeds/ha = 176,000 (est)																														
GE plants (millions)	435				356	78.2																								

Notes
n/a = data not available; n/l = country not listed as growing that crop.
1km² = 100 hectares. A FIFA-standard football pitch = 0.7 hectares.
Calculated data are given to 3 significant figures, whilst crop area data are given to the nearest 1000 hectare, or to 3 significant figures if below 100,000 hectares.
Data sources: Crop areas for EU: Table 4.3.1.1 (sugarbeet); Table 4.1.1.3 (grain maize); Table 4.4.1.1 (rapeseed and soyabean); Table 4.1.1.1 (cotton), European Union, Directorate-General for Agriculture. Agriculture in the

European Union: Statistical and economic information 2001. (Jan 2002) http://europa.eu.int/comm/agriculture/agrista/2001/table_en/index.htm.
Data for silage/forage maize are not given in the EU statistics. Data for this type of maize are reported for those countries where readily available from national statistics and, as such, are likely to be an underestimate of the EU acreage of silage/forage maize. **Crop areas for non-EU:** Data supplied by Eurostat satshop upon request. <http://europa.eu.int/comm/eurostat/> **Plants per hectare:** Figures are for mid-range target established plant populations in the UK (except for cotton). The figure for silage maize

is assumed to be the same as grain maize. Supplied by ADAS, UK, pers. comm. For cotton, seeds/ha sown is estimated by assuming 22kg seed/ha and a 1000-seed weight of 125g.
Footnotes
i) Totals for the 15 member states of the EU.
ii) National Statistics Bureau, Belgium, <http://statbel.fgov.be>. Data for 2001
iii) Danish Directorate for Food, Fisheries and Agro Business, Ministry of Food, Agriculture and Fisheries. Data for 2001.
iv) Teagasc: Irish Agriculture and Food Development Authority.

http://www.teagasc.ie/publications/2002/annualreport2000/annualreport2000_3.htm. Data for 2000
v) Service d'Economie Rural, Ministry of Agriculture, Luxembourg. Maize total. A small proportion of this may be grain maize but this does not affect the total number of plants.
vi) UK DEFRA, Agricultural and Horticultural Census, June 2001. Data for June 2000 excl. Scotland. http://www.defra.gov.uk/esg/work_htm/Notices/june_uk.pdf