

Meeting **World Food Needs**  
with **GM Rice?**



(GM) rice sector in the EU

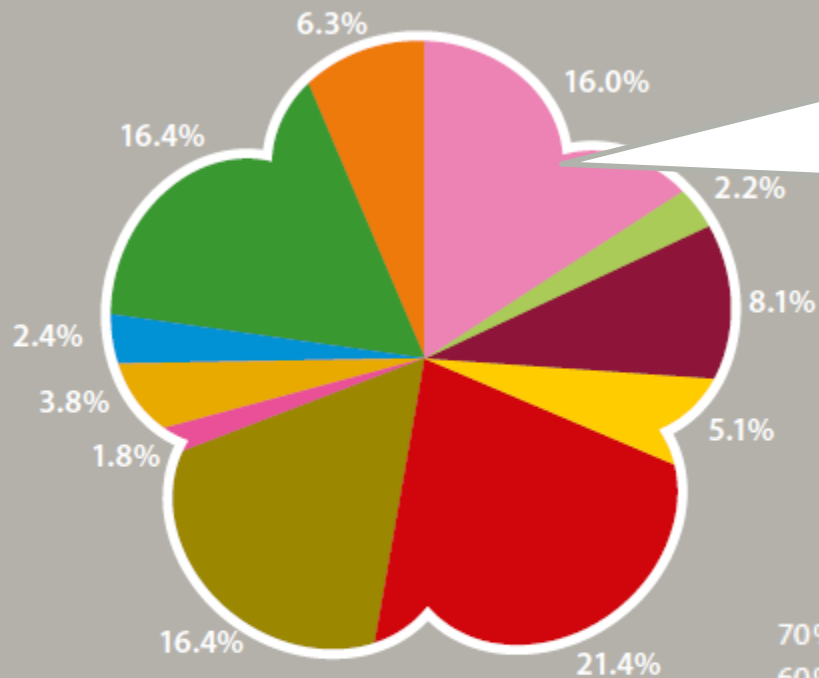
GM Rice Research Group  
Hans De Steur  
Ghent University  
2012.10.08



**DIVISION OF AGRICULTURE**  
**RESEARCH & EXTENSION**

*University of Arkansas System*

## MAIN EU AGRICULTURAL PRODUCTS (% SHARE OF PRODUCTION BY VALUE - 2005)

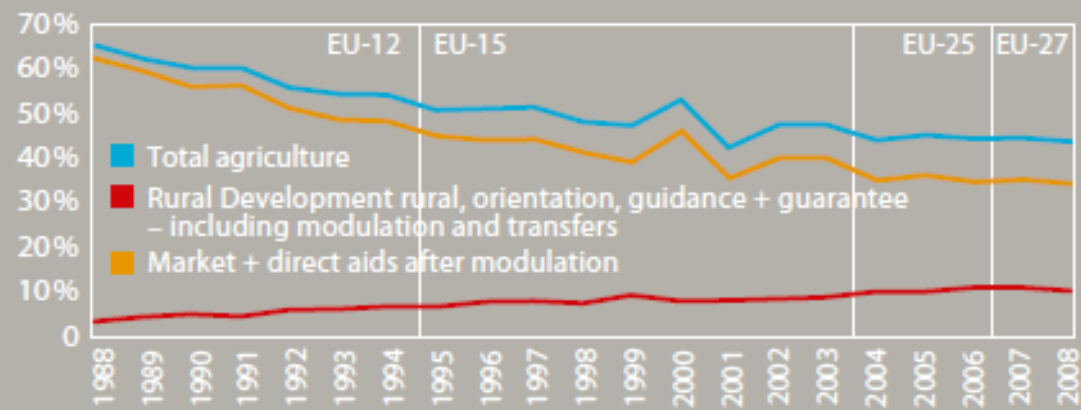


- Cereals
- Olive oil
- Oilseeds
- Fresh fruit
- Fresh vegetables
- Potatoes
- Wine
- Dairy products
- Cattle, pigs, sheep & goats
- Eggs & poultry
- Other

Rice (0.3%)

Wheat (t <sup>2</sup> )	6.2
Rye (t <sup>2</sup> )	0.3
Oats (t <sup>2</sup> )	0.4
Barley (t <sup>2</sup> )	2.0
Maize (t <sup>2</sup> )	2.8
Rice (t <sup>2</sup> )	0.3

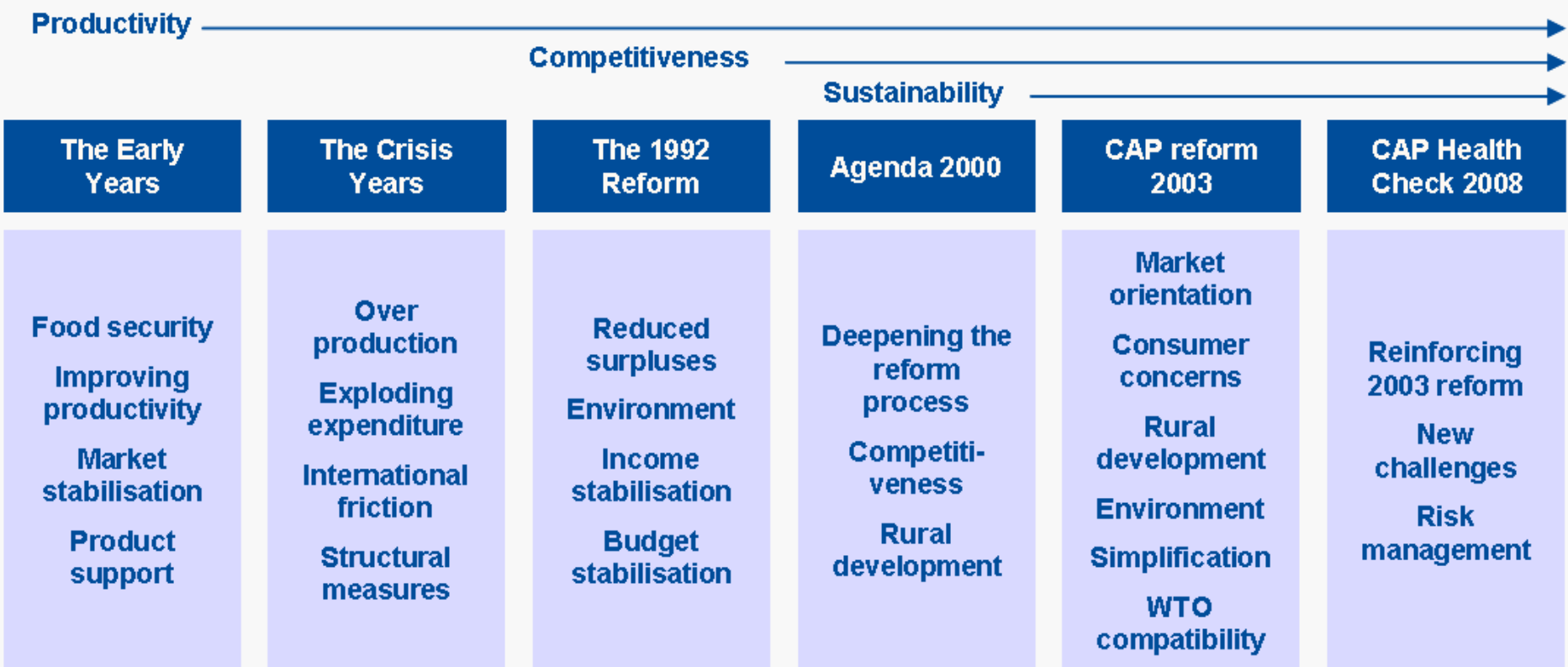
## AGRICULTURE IN PERCENTAGE OF EU TOTAL BUDGET (Commitments)



# Common Agricultural Policy = CAP (°1962) and CAP reform (2003)

- = System of European Union agricultural subsidies and programs
  - e.g. Trade controls, Price-support measures, Income transfers, Production subsidies, Health regulations
- ⇒ 42 % of the EU's budget and still decreasing
- Pressures to reform

## Historical development of the CAP



## Common Agricultural Policy = CAP (°1962) and CAP reform (2003)

= System of European Union agricultural subsidies and programs

e.g. Trade controls, Price-support measures, Income transfers, Production subsidies, Health regulations

⇒ 42 % of the EU's budget and still decreasing

- Pressures to reform

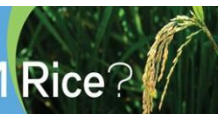
⇒ The 2003 reform in the rice sector involved:

- decoupling subsidies from production => direct support/payment to producers
- a 50% reduction in intervention prices
- Everything But Arms agreement = duty-free and quota-free access for rice imports from LDCs (least dev.)

- Evaluation of CAP reform:

- effective EU rice sector policy measures
  - ⇒ Maintenance of EU rice production levels + expansion of exports
- High world market prices, a growing consumer awareness of quality-differentiated rice and EU support policies are sustaining EU rice production at record levels (USDA rice outlook)
- With EU rice prices now largely following world market prices, the price premiums enjoyed on EU rice markets prior to reform have largely disappeared.

⇒ CAP is due to be reformed by 2013



**Table A.9. Rice projections**

Crop year

	PRODUCTION (Kt)		Growth (%) <sup>5</sup>		IMPORTS (Kt)		Growth (%) <sup>5</sup>		EXPORTS (Kt)		Growth (%) <sup>5</sup>	
	Avg 2009-11est	2021	2002-2011	2012-2021	Avg 2009-11est	2021	2002-2011	2012-2021	Avg 2009-11est	2021	2002-2011	2012-2021
<b>WORLD</b>	<b>467 554</b>	<b>542 072</b>	<b>2.49</b>	<b>1.17</b>	<b>32 871</b>	<b>42 775</b>	<b>1.75</b>	<b>1.92</b>	<b>32 802</b>	<b>42 679</b>	<b>2.10</b>	<b>1.93</b>
<b>DEVELOPED</b>	<b>18 101</b>	<b>18 941</b>	<b>0.54</b>	<b>0.61</b>	<b>4 912</b>	<b>5 808</b>	<b>1.63</b>	<b>1.57</b>	<b>4 151</b>	<b>4 694</b>	<b>-0.62</b>	<b>1.61</b>
<b>NORTH AMERICA</b>	<b>6 819</b>	<b>7 285</b>	<b>-0.21</b>	<b>1.29</b>	<b>968</b>	<b>1 291</b>	<b>3.83</b>	<b>2.39</b>	<b>3 261</b>	<b>3 736</b>	<b>-1.70</b>	<b>2.29</b>
Canada	0	0	..	..	375	421	4.27	1.01	0	0	..	..
United States	6 819	7 285	-0.21	1.29	592	870	3.61	3.13	3 261	3 736	-1.70	2.29
<b>EUROPE</b>	<b>2 632</b>	<b>2 918</b>	<b>4.00</b>	<b>1.04</b>	<b>1 772</b>	<b>2 066</b>	<b>0.55</b>	<b>1.21</b>	<b>424</b>	<b>396</b>	<b>7.61</b>	<b>-1.47</b>
EU(27)	1 810	1 742	1.74	-0.03	1 222	1 444	2.28	1.50	234	220	0.99	-0.14
Russian Federation	705	1 050	11.06	3.13	244	249	-5.62	-1.28	180	169	27.60	-2.92
Ukraine	101	111	8.58	0.74	100	115	-0.68	1.90	7	6	55.83	-1.86
<b>OCEANIA DEVELOPED</b>	<b>438</b>	<b>744</b>	<b>-2.95</b>	<b>1.03</b>	<b>195</b>	<b>156</b>	<b>5.28</b>	<b>0.94</b>	<b>236</b>	<b>375</b>	<b>-0.54</b>	<b>0.37</b>
Australia	438	744	-2.95	1.03	151	112	5.98	1.33	236	375	-0.54	0.37
New Zealand	0	0	..	..	44	44	2.65	0.00	0	0	..	..
<b>OTHER DEVELOPED<sup>1</sup></b>	<b>8 212</b>	<b>7 994</b>	<b>0.09</b>	<b>-0.17</b>	<b>1 978</b>	<b>2 295</b>	<b>1.32</b>	<b>1.50</b>	<b>229</b>	<b>187</b>	<b>-0.94</b>	<b>-0.82</b>
Japan	7 680								181		-1.18	0.00
South Africa									0		0.00	-0.25
<b>DEVELOPING</b>	<b>449 453</b>	<b>523 131</b>	<b>2.54</b>	<b>1.97</b>	<b>27 959</b>	<b>36 967</b>	<b>2.54</b>	<b>1.97</b>	<b>37 985</b>	<b>47 985</b>	<b>2.54</b>	<b>1.97</b>
<b>AFRICA</b>	<b>16 400</b>	<b>16 800</b>	<b>-13.98</b>	<b>-6.51</b>	<b>188</b>	<b>188</b>	<b>-13.98</b>	<b>-6.51</b>	<b>188</b>	<b>188</b>	<b>-13.98</b>	<b>-6.51</b>
<b>NORTH AFRICA</b>	<b>3 800</b>	<b>3 800</b>	<b>40</b>	<b>-26.21</b>	<b>40</b>	<b>40</b>	<b>-26.21</b>	<b>-16.48</b>	<b>40</b>	<b>40</b>	<b>0.00</b>	<b>-0.41</b>
Algeria					0	0	0.00	-0.41	0	0	0.00	-0.41
Egypt	3 700	3 700	40	-26.21	40	40	-26.21	-16.48	40	40	-26.21	-16.48
<b>SUB-SAHARAN AFRICA</b>	<b>12 600</b>	<b>13 000</b>	<b>149</b>	<b>13.53</b>	<b>149</b>	<b>149</b>	<b>13.53</b>	<b>-0.64</b>	<b>149</b>	<b>149</b>	<b>13.53</b>	<b>-0.64</b>
<b>LATIN AMERICA and CARIBBEAN</b>	<b>18 300</b>	<b>19 100</b>	<b>2 537</b>	<b>10.74</b>	<b>2 537</b>	<b>2 537</b>	<b>10.74</b>	<b>-1.03</b>	<b>2 537</b>	<b>2 537</b>	<b>10.74</b>	<b>-1.03</b>
Argentina	9 000	9 000	648	11.09	648	648	11.09	0.28	648	648	11.09	0.28
Brazil	7 900	8 700	597	41.85	597	597	41.85	-3.72	597	597	41.85	-3.72
Chile			1	38.84	1	1	38.84	-1.16	1	1	38.84	-1.16
Mexico	1 000	1 000	28	31.00	28	28	31.00	-0.90	28	28	31.00	-0.90
Uruguay	9 000	9 000	983	4.13	983	983	4.13	-0.12	983	983	4.13	-0.12
<b>ASIA and PACIFIC</b>	<b>414 653</b>	<b>504 331</b>	<b>35 259</b>	<b>2.26</b>	<b>35 259</b>	<b>35 259</b>	<b>2.26</b>	<b>2.28</b>	<b>35 259</b>	<b>35 259</b>	<b>2.26</b>	<b>2.28</b>
Bangladesh	33 400	33 400	13	12.87	13	13	12.87	-0.68	13	13	12.87	-0.68
China <sup>2</sup>	135 000	135 000	216	-10.48	216	216	-10.48	-1.88	216	216	-10.48	-1.88
India	95 800	95 800	5 155	-3.52	5 155	5 155	-3.52	-2.66	5 155	5 155	-3.52	-2.66
Indonesia	41 213	41 213	2	42.52	2	2	42.52	0.24	2	2	42.52	0.24
Iran, Islamic Republic of	1 458	1 458	0	0.00	0	0	0.00	-0.46	0	0	0.00	-0.46
Korea	4 476	4 285	-1.06	0.01	341	433	9.37	0.79	3	3	-66.83	0.00
Pakistan	6 296	9 179	3.93	0.88	30	11	32.10	0.01	3 208	4 399	4.26	-0.01
Philippines	10 747	15 368	2.65	2.60	1 576	1 252	2.77	-1.70	0	0	0.00	0.12
Thailand	21 620	23 145	2.17	1.04	367	367	61.56	-1.63	9 177	8 717	1.39	1.63
Turkey	502	583	10.21	1.23	303	425	1.33	3.68	15	11	35.84	-2.18
Viet Nam	26 961	32 732	2.11	1.46	567	447	48.44	-2.67	6 993	9 404	6.98	2.67
LDC Asia <sup>3</sup>	29 828	40 499	4.27	2.57	1 027	313	4.30	2.00	1 774	7 221	21.51	11.71
<b>LEAST DEVELOPED COUNTRIES (LDC)</b>	<b>72 619</b>	<b>95 504</b>	<b>4.44</b>	<b>2.40</b>	<b>6 552</b>	<b>10 181</b>	<b>0.76</b>	<b>4.20</b>	<b>1 940</b>	<b>7 381</b>	<b>20.46</b>	<b>11.25</b>
<b>OECD<sup>4</sup></b>	<b>21 960</b>	<b>22 321</b>	<b>0.03</b>	<b>0.39</b>	<b>4 919</b>	<b>6 185</b>	<b>2.22</b>	<b>2.01</b>	<b>3 950</b>	<b>4 555</b>	<b>-2.02</b>	<b>1.85</b>
<b>NON-OECD</b>	<b>445 594</b>	<b>519 752</b>	<b>2.62</b>	<b>1.20</b>	<b>27 952</b>	<b>36 590</b>	<b>1.66</b>	<b>1.91</b>	<b>28 852</b>	<b>38 125</b>	<b>2.77</b>	<b>1.94</b>

**PRODUCTION**

- 1. Italy + 2. Spain (80 %);
  - 3. Greece + 4. Portugal (12%)
  - 5. France; 6. Romania; 7. Bulgaria; 8. Hungary
- ⇒ ~ 55% Indica

**TRADE**

- 40 % of EU rice consumption < imported
- Rice producing MS mainly trade within EU

## EU-27 - Import from EXTRA EU-27

Statistical Regime : 4

Evolution  
of trade (%)

Quantity : 1000 Tons

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	11/02	11/10
Cereals total (incl. feed cereals)	16 507	12 733	12 454	10 114	10 003	20 486	20 583	9 353	8 584	14 037	-15	63.5
- wheat & wheat flours	12 145	6 825	7 008	7 111	5 721	6 406	6 856	6 442	4 335	6 006	-50.5	38.6
- other cereals & malt	4 362	5 908	5 446	3 003	4 282	14 080	13 727	2 911	4 249	8 030	84.1	89
Rice	1 366	1 387	1 304	1 193	1 320	1 455	1 640	1 477	1 309	1 593	16.5	21.7
- rice - Indica	978	1 017	965	913	903	1 099	1 258	1 065	995	1 237	26.5	24.3
- rice - Japonica	208	186	199	147	202	144	136	90	70	128	-38.7	81.7

## EU-27 - Export to EXTRA EU-27

Statistical Regime : 4

Evolution  
of trade (%)

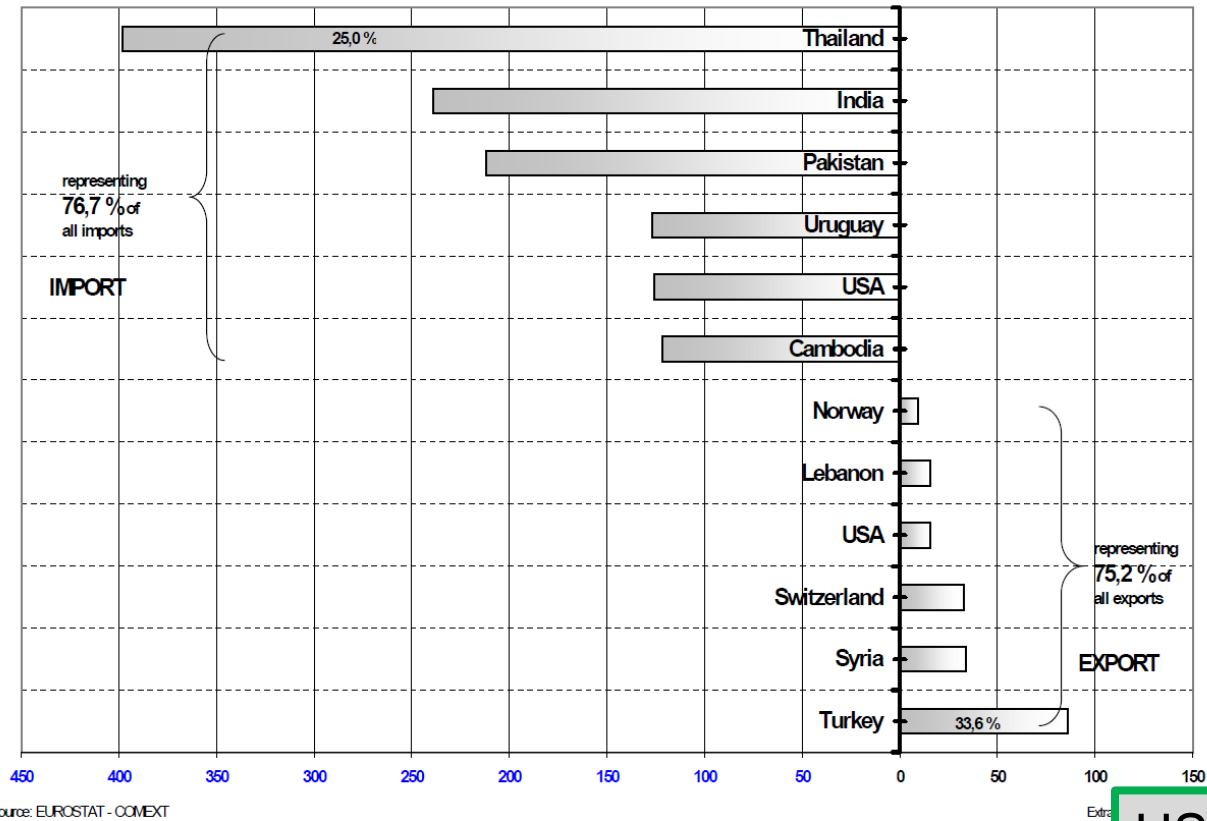
Quantity : 1000 Tons

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	11/02	11/10
Cereals total (incl. feed cereals)	23 291	24 960	16 965	22 308	22 454	18 718	27 946	26 808	32 135	27 883	19.7	-13.2
- wheat & wheat flours	13 754	14 383	11 131	12 900	16 192	10 236	19 833	22 206	23 744	18 894	37.4	-20.4
- other cereals & malt	9 537	10 577	5 833	9 409	6 262	8 482	8 113	4 602	8 391	8 988	-5.8	7.1
Rice	270	239	195	205	146	141	159	158	311	256	-5.2	-17.8
- rice - Indica	131	119	84	74	54	41	28	35	56	41	-68.5	-25.8
- rice - Japonica	137	117	107	127	87	96	129	118	242	206	50.3	-15

Total EU-27 IMPORTS  
1.565 K tons

### RICE: EU-27 MAIN MARKETS 2011 - 1000 Tons

Total EU-27 EXPORTS  
256 K tons



US imports decreased,  
e.g. due to 2006  
contamination  
(LL601 rice)

**Table A.9. Rice projections (cont.)**

Crop year

	CONSUMPTION (Kt)		Growth (%) <sup>3</sup>		PER CAPITA (Kg)		Growth (%) <sup>3</sup>	
	Avg 2009-11est	2021	2002-2011	2012-2021	Avg 2009-11est	2021	2002-2011	2012-2021
<b>WORLD</b>	<b>460 150</b>	<b>542 359</b>	<b>1.69</b>	<b>1.24</b>	<b>56.7</b>	<b>59.9</b>	<b>0.15</b>	<b>0.34</b>
<b>DEVELOPED</b>	<b>18 822</b>	<b>19 983</b>	<b>0.69</b>	<b>0.53</b>	<b>13.0</b>	<b>13.3</b>	<b>0.09</b>	<b>0.19</b>
<b>NORTH AMERICA</b>	<b>4 440</b>	<b>4 907</b>	<b>1.61</b>	<b>1.01</b>	<b>12.9</b>	<b>13.0</b>	<b>0.68</b>	<b>0.19</b>
Canada	375	421	4.27	1.01	11.0	11.2	3.22	0.15
United States	4 065	4 485	1.39	1.01	13.1	13.2	0.48	0.19
<b>EUROPE</b>	<b>3 917</b>	<b>4 583</b>	<b>1.34</b>	<b>1.38</b>	<b>5.3</b>	<b>6.1</b>	<b>1.15</b>	<b>1.28</b>
<b>EU(27)</b>	<b>2 740</b>	<b>2 965</b>	<b>1.35</b>	<b>0.69</b>	<b>5.5</b>	<b>5.8</b>	<b>0.95</b>	<b>0.44</b>
Russian Federation	766	1 128	0.82	3.26	5.4	8.0	1.02	3.42
Ukraine	194	220	2.68	1.45	4.2	5.0	3.33	1.95
<b>OCEANIA DEVELOPED</b>	<b>369</b>	<b>518</b>	<b>-1.77</b>	<b>2.12</b>	<b>13.8</b>	<b>17.0</b>	<b>-3.33</b>	<b>0.96</b>
Australia	324	474	-2.28	2.34	14.6	18.6	-3.91	1.14
New Zealand	44	44	2.65	0.00	10.1	9.1	1.46	-0.97
<b>OTHER DEVELOPED<sup>1</sup></b>	<b>10 096</b>	<b>9 975</b>	<b>0.15</b>	<b>-0.13</b>	<b>35.0</b>	<b>32.9</b>	<b>-0.68</b>	<b>-0.53</b>
Japan	8 394	7 837	-0.31	-0.68	59.4	55.4	-0.78	-0.62
South Africa	862	1 046	2.27	1.91	16.4	19.0	1.62	1.52
<b>DEVELOPING</b>	<b>441 328</b>	<b>522 377</b>	<b>1.73</b>	<b>1.27</b>	<b>67.6</b>	<b>70.5</b>	<b>0.01</b>	<b>0.22</b>
<b>AFRICA</b>	<b>25 512</b>	<b>38 662</b>	<b>3.87</b>	<b>3.72</b>	<b>22.8</b>	<b>27.6</b>	<b>1.45</b>	<b>1.70</b>
<b>NORTH AFRICA</b>	<b>4 210</b>	<b>5 189</b>	<b>1.90</b>	<b>1.82</b>	<b>22.1</b>	<b>23.6</b>	<b>1.52</b>	<b>0.66</b>
Algeria	79	111	2.20	3.20	2.2	2.7	0.70	2.01
Egypt	3 861	4 664	1.68	1.64	40.7	41.3	1.10	0.22
<b>SUB-SAHARAN AFRICA</b>	<b>21 303</b>	<b>33 472</b>	<b>4.30</b>	<b>4.05</b>	<b>23.0</b>	<b>28.4</b>	<b>1.43</b>	<b>1.84</b>
<b>LATIN AMERICA and CARIBBEAN</b>	<b>19 041</b>	<b>23 621</b>	<b>0.58</b>	<b>1.87</b>	<b>30.4</b>	<b>33.8</b>	<b>-0.59</b>	<b>0.87</b>
Argentina	370	530	1.10	3.25	9.2	12.0	0.22	2.46
Brazil	7 795	8 387	-1.10	0.32	40.0	39.6	-2.12	-0.40
Chile	201	303	0.93	3.25	11.5	15.9	0.04	2.49
Mexico	31	1 365	-0.29	3.62	8.2	10.7	-1.54	2.63
Uruguay	92	85	10.84	-2.24	8.0	7.9	-1.09	-0.78
<b>ASIA and PACIFIC</b>	<b>396 775</b>	<b>460 094</b>	<b>1.66</b>	<b>1.05</b>	<b>84.1</b>	<b>88.2</b>	<b>0.12</b>	<b>0.26</b>
Bangladesh	33 863	41 249	3.57	1.53	171.7	179.3	1.15	0.20
China <sup>2</sup>	128 754	131 420	0.38	-0.20	77.8	75.5	-0.25	-0.34
India	92 243	113 176	1.64	1.38	71.4	77.1	-0.28	0.28
Indonesia	41 595	54 455	2.24	2.26	156.5	184.7	0.81	1.41
Iran, Islamic Republic of	2 634	4 019	-0.36	3.68	31.3	44.7	-1.18	3.16
Korea	4 702	4 722	-0.41	0.07	69.5	62.6	-1.21	-1.24
Pakistan	3 215	4 751	3.96	2.38	14.7	18.2	2.47	1.27
Philippines	12 382	16 520	2.86	2.52	119.9	131.9	1.65	0.93
Thailand	12 210	14 583	2.80	1.53	128.8	139.8	1.07	0.70
Turkey	799	996	5.67	2.32	10.3	11.5	4.32	1.31
Viet Nam	20 851	23 703	1.36	1.06	189.2	186.7	0.31	-0.12
LDC Asia <sup>4</sup>	29 489	33 411	4.13	1.24	128.6	131.8	0.45	0.25
<b>LEAST DEVELOPED COUNTRIES (LDC)</b>	<b>77 171</b>	<b>97 862</b>	<b>4.03</b>	<b>2.09</b>	<b>68.8</b>	<b>72.0</b>	<b>0.51</b>	<b>0.32</b>
<b>OECD<sup>5</sup></b>	<b>22 809</b>	<b>23 882</b>	<b>0.41</b>	<b>0.43</b>	<b>16.2</b>	<b>15.8</b>	<b>-0.43</b>	<b>-0.21</b>
<b>NON-OECD</b>	<b>437 341</b>	<b>518 478</b>	<b>1.76</b>	<b>1.28</b>	<b>65.9</b>	<b>69.2</b>	<b>0.10</b>	<b>0.29</b>

### Rice consumption in the EU

- Total rice cons grew by 7% in 2010/11
- 5,2 kg (2007) to 5,5 kg per capita (2010)

(OECD-FAO database)

Note: Crop year: Beginning crop marketing year - see Glossary of Terms for definitions.

1. Includes Israel and also transition economies: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan and Georgia.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Other Asia Pacific aggregate.
3. Least-squares growth rate (see glossary).
4. LDC Asia includes Afghanistan, Bhutan, Myanmar, Cambodia, Lao Peoples' Democratic Republic, Nepal, Yemen, Timor Meste, Maldives.
5. Excludes Iceland but includes all EU27 member countries.

Source: OECD and FAO Secretariats.

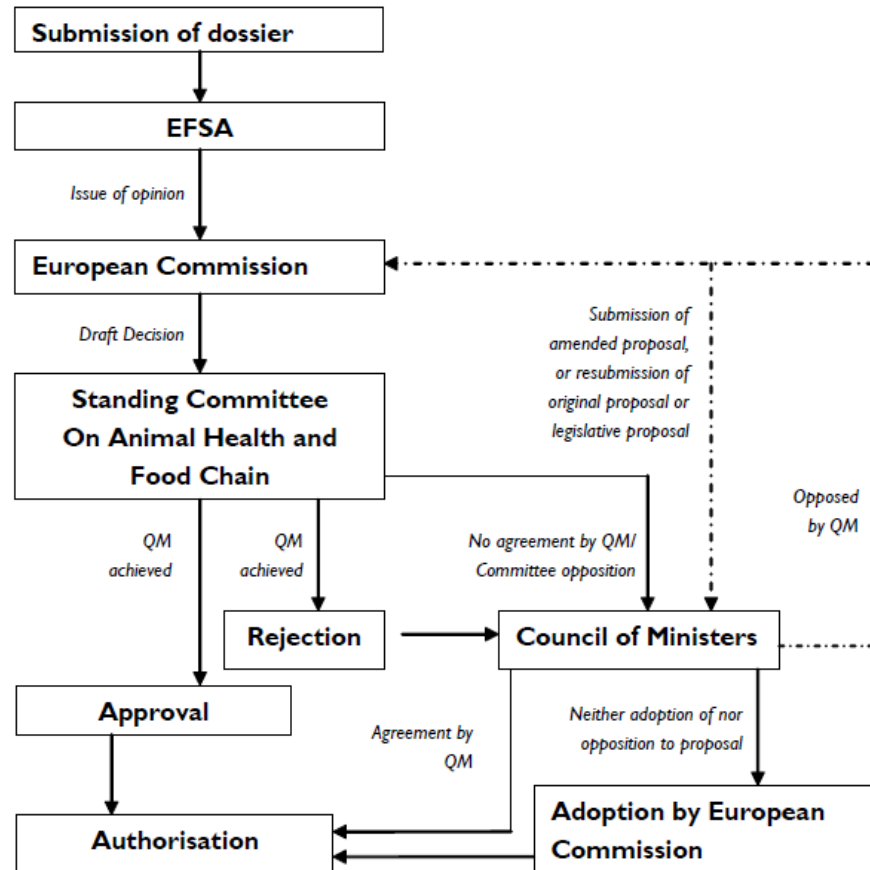




# GM Authorisation process

## Comments

- Dossier submitted to national authorities and passed to EFSA
- EFSA forwards dossier to European Commission and Member States who may provide comments, sends detection methods and samples for validation by JRC-IHCP
- EFSA has 6 months for draft opinion, but can stop the clock for more information
- European Commission makes opinion public for comments (30 day period)
- EFSA also send opinion to Member States via EFSA ExtraNet
- European Commission must Inform Parliament and pass proposal to the Council of Ministers



## Timeline

- EFSA: 6 months. Clock can be stopped
  - European Commission: 3 months (including 30 day consultation period)
  - Standing Committee: Undetermined (chairman establishes time limit)
  - Council of Ministers: 3 months
- Source: EC DG SANCO, 2011

**Table 5.5: EU asynchronous and asymmetric approvals as sources of LLP**

Crop	Asynchronous approvals	Asymmetric approvals	Total sources of LLP
Maize	6	5	11
Rice	1	4	5
Soybean	2	1	3
OSR/canola	0	1	1
Cotton	3	9	12

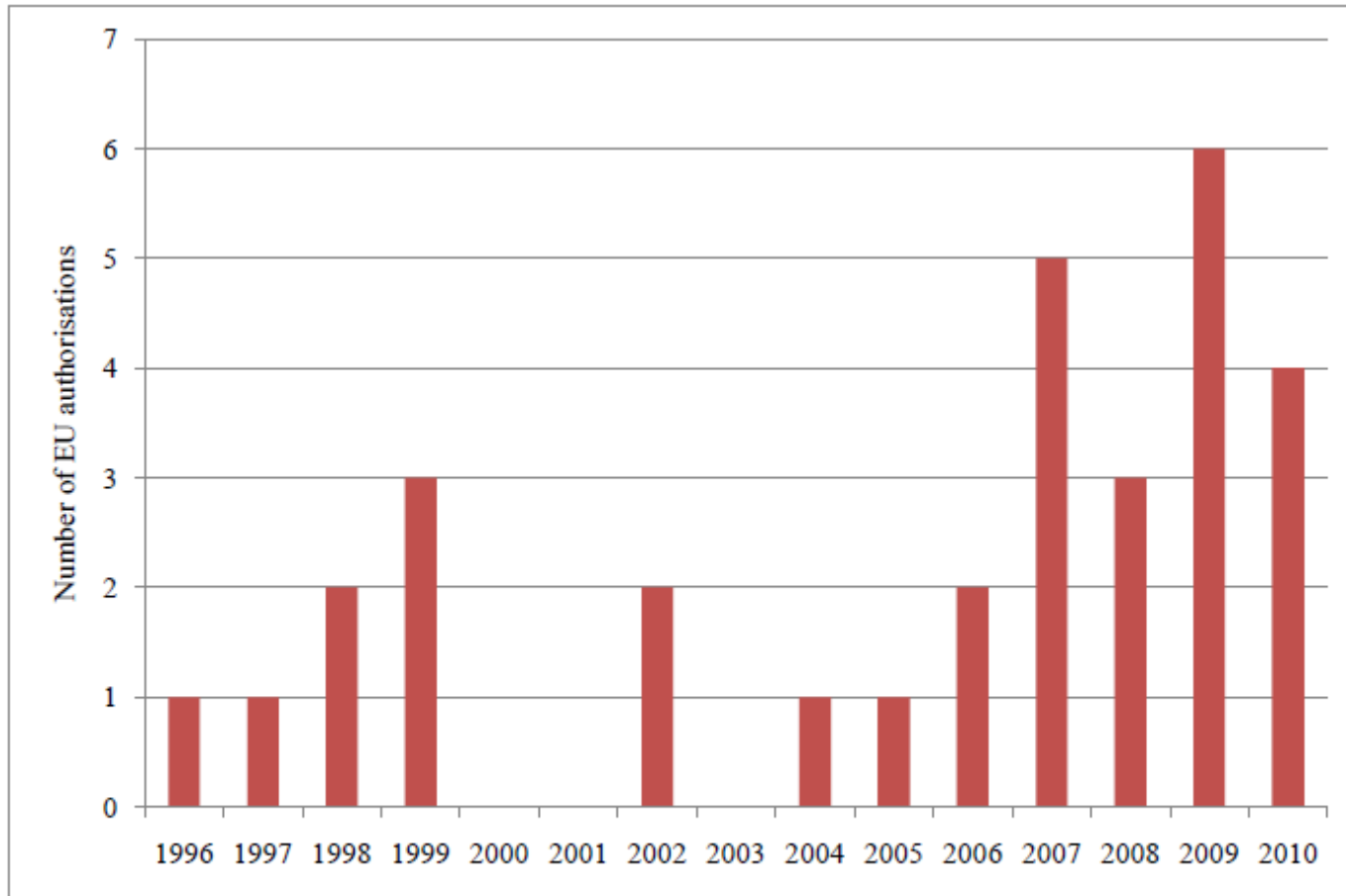
Source: After Stein and Rodriguez-Cerezo (2009).

**Table 5.4: Progress of applications through EU approval process (June, 2010)**

GM crop submission	Stage of authorisation process								
	Application submitted / Renewal submitted / TOTAL			Risk Assessment report / Renewal of authorisation report / TOTAL			Valid authorisation / Notified as existing product / TOTAL		
<b>Single events:</b>									
Cotton	4	3	7	1	-	1	1	3	4
Maize	6	1	7	3	-	3	9	4	11*
Oilseed rape	2	-	2	-	-	-	2	-	2
Potato	1	-	1	-	-	-	1	-	1
Rice	-	-	-	1	-	1	-	-	-
Soybean	8	1	9	-	-	-	2	1	3
Sugar beet	2	-	2				1	-	1
<i>Sub-total</i>	<i>21</i>	<i>5</i>	<i>26</i>	<i>5</i>	<i>-</i>	<i>5</i>	<i>16</i>	<i>8</i>	<i>22</i>
<b>Stacked events:</b>									
Cotton	6	2	8	-	-	-	-	2	2
Maize	12	1	13	10	-	10	6	1	6**
Oilseed rape	1	-	1	-	-	-	1	-	1
Soybean	2	-	2	-	-	-	-	-	-
<i>Sub-total</i>	<i>21</i>	<i>3</i>	<i>24</i>	<i>10</i>	<i>-</i>	<i>10</i>	<i>7</i>	<i>3</i>	<i>9</i>
<b>TOTAL</b>	<b>42</b>	<b>8</b>	<b>50</b>	<b>15</b>	<b>-</b>	<b>15</b>	<b>23</b>	<b>11</b>	<b>31</b>

Note:










## GM Authorisation process



**Figure 3.4: GM event authorisations in the EU by year**

Source: OECD Bio Track Product Database and EU register of GM food and feed<sup>27</sup>.

## Agricultural Biotechnology in Europe Planting figures (in ha)

Country vs. Year		2006	2008	2010
Spain		53.667	79.269	76.575
Portugal		1.250	4.851	4.868
Czech Republic		1.290	8.380	4.830
Poland		100	3.000	3.000
Slovakia		300	1.900	1.248
Romania		90.000	9.000	822
Sweden		0	0	80
Germany		950	3.173	15
France		5000	0	0
<b>Total</b>		<b>152.557</b>	<b>109.573</b>	<b>91.438</b>

	HT	<i>Bt</i>	HT/ <i>Bt</i>	F	Total
Canola/oilseed rape	3				3
Cotton	2	2	2		6
Maize	3	5	9		17
Potato				1	1
Soybean	3				3
Sugar beet	1				1
Total	12	7	11		31

Key:

HT: Herbicide tolerant.

*Bt*: Insect resistant.

F: Functionality. In this case the potato contains an inhibited *gbss* gene responsible for amylase biosynthesis. As a result, the starch produced has little or no amylase and consists of amylopectin.

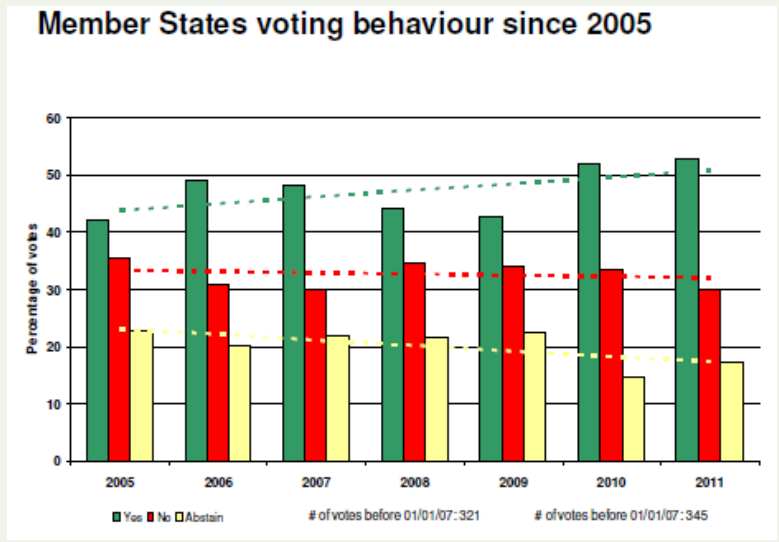
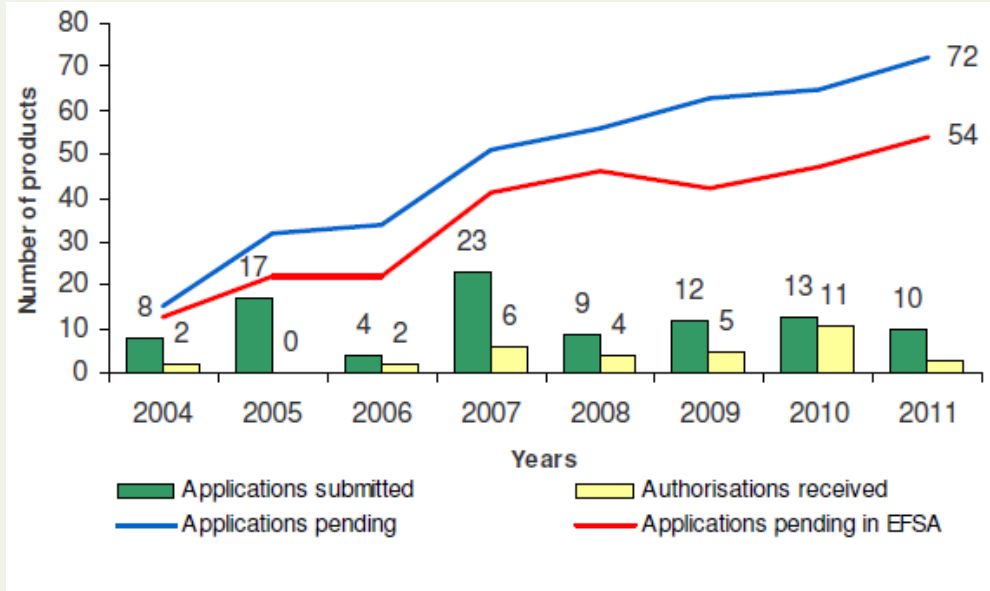
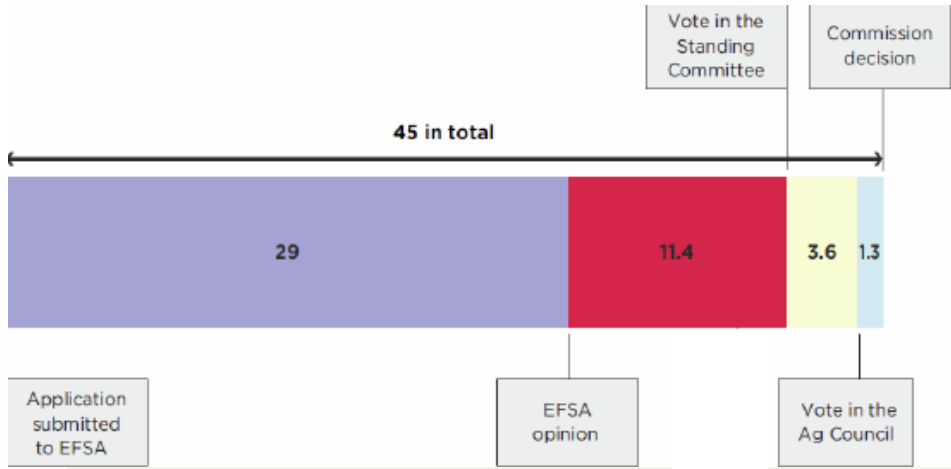
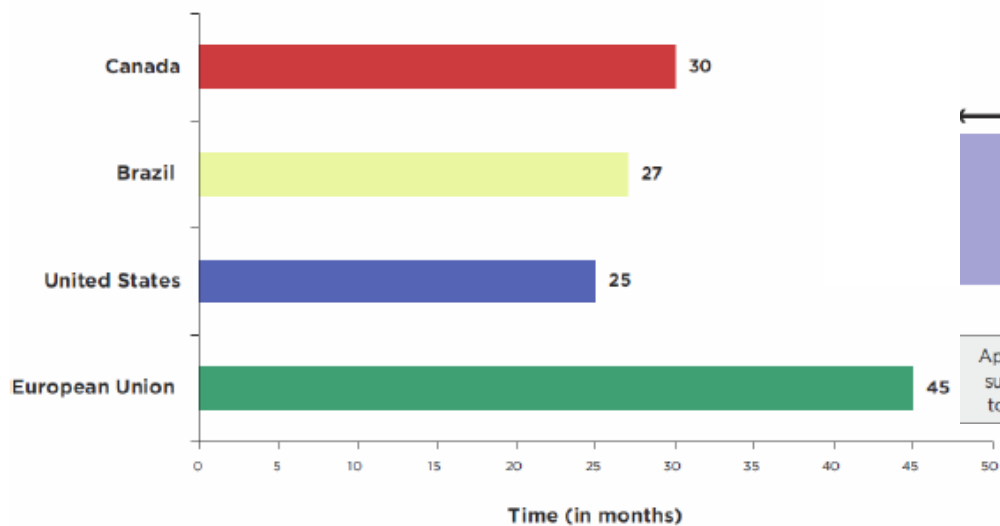
Source: EU register of GM food and feed.

Event name or gene(s)	Product name	Developer	Developer country	Trait category	Trait(s)	Development stage (blank = other, i.e. not commercialised)	More info on devpn	Time-line	EU approval for import (status summer 2009; red = asynchronicity)	Third country approval (status summer 2009; red = asynchronicity)
LLRICE62	LibertyLink	Bayer	Germany	Insect resist., herbicide tol	Glufosinate tol.	2 - commercial pipeline		2010	under assessment	approved
Bt63	MH63		China	Insect resist.	Insect resist.	3 - regulatory pipeline	Pre-produc	2009	not submitted (yet)	under assessment
Xa21			China	Other	Leaf blight resist.	3 - regulatory pipeline	Pre-produc	2010	not submitted (yet)	under assessment
KMD1			China	Insect resist.	Insect resist.	3 - regulatory pipeline	Pre-produc	2010	not submitted (yet)	under assessment
B827			Iran	Insect resist.	Insect resist.	3 - regulatory pipeline	Released 21	2010	not submitted (yet)	under assessment
GR1	Golden Rice 1	IRRI	Philippines	Crop composition	Betacarotene cor	4 - advanced development		2011	not submitted (yet)	not submitted (yet)
Bar68-1			China	Insect resist., herbicide tol	Glufosinate tol.	4 - advanced developm	Environment	2011	not submitted (yet)	not submitted (yet)
		Bayer	Germany	Insect resist., herbicide tol	Herbicide tol.	4 - advanced developm	Planned 20	2012	not submitted (yet)	not submitted (yet)
GR2	Golden Rice 2	IRRI	Philippines	Crop composition	Betacarotene cor	4 - advanced development		2012	not submitted (yet)	not submitted (yet)
Bt			Indonesia	Insect resist.	Insect resist.	4 - advanced developm	Field trials	2012	not submitted (yet)	not submitted (yet)
CP iORF-IV			India	Virus resist.	Virus resist.	4 - advanced development		2012	not submitted (yet)	not submitted (yet)
RTBV-ODs2			India	Virus resist.	Tungro resist.	4 - advanced development		2012	not submitted (yet)	not submitted (yet)
		Bayer	Germany	Insect resist.	Insect resist.	4 - advanced developm	Planned 20	2013	not submitted (yet)	not submitted (yet)
chil1 tlp			India	Other	Disease resist.	4 - advanced development		2013	not submitted (yet)	not submitted (yet)
Bt			Pakistan	Insect resist.	Insect resist.	4 - advanced developm	Field trials	2013	not submitted (yet)	not submitted (yet)
cry1Ac			India	Insect resist.	Insect resist.	4 - advanced developm	Biosafety re	2014	not submitted (yet)	not submitted (yet)
Glyoxalase I & II			India	Abiotic stress tol.	Salinity tol.	4 - advanced development		2015	not submitted (yet)	not submitted (yet)
Osmotin			India	Abiotic stress tol.	Drought tol.	4 - advanced development		2015	not submitted (yet)	not submitted (yet)
cry1Ab, cry1C & bar			India	Insect resist.	Insect resist.	4 - advanced developm	Planned 20	2015	not submitted (yet)	not submitted (yet)

Products waiting Commission Action (SCFAH vote)	Application received by EFSA	EFSA opinion	Months from submission until EFSA opinion	Months from EFSA opinion until 01/08/2011
Bayer LLRice62 (ffip)	20/08/2004	30/10/2007	38	45

Only LLRice62 (herbicide tolerant)  
 ⇒ Positive EFSA, but no changes (Brazil LLRice62 not approved)

### Average time required for a GM product approval



**Thank you  
for your  
attention !**