# Austria as a GMO-free Zone

**- some remarks and lessons learned**

**Josef Hoppichler**
**Federal Institute for**
**Less-Favoured and Mountainous Areas, Vienna**
**(Bundesanstalt für Bergbauernfragen)**

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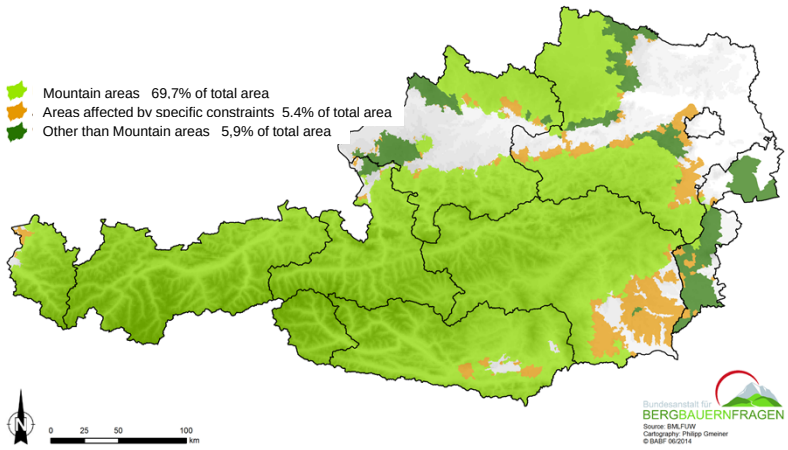
## LFA – Less Favoured Areas and Mountain Farming in Austria

39 % are mountain farmers (category 1-4) farming 38 % of UAA.
**av. farm size: 16,6 ha UAA**

Less Favoured Areas (LFA) in Austria

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# the background

## Austria as a „GMO-free Zone“


**Historical background:**

- **responsible and in the center of two World Wars -**
- **after World War II:** people blocked out the responsibility and as a result, developed a consciousness of islanders: **the Austrian called themselves an “ISLAND of BLISS”** (“Austria insula beatorum”)
- **neutral state – „nuclear weapon-free zone“ -------- and since 1978: „atomic power station free zone“ after a great referendum**

**Genetic engineering in Austria – starting points:**

- starting point of the **industrial use of GMOs** in agriculture. **Since 1987 Sandoz-Austria produces rBST for Monsanto at a 40,000 Liter scale** up until 2007 to be sold on the US-market. Together with biotech interests of other multinational companies, this caused **in the 90ies an enormous political pressure to start with GMO-releases** at least after joining the EU.
- **Other core research in the 80ies**: AIDS-research - Immuno AG – research centers from Boehringer Ingelheim, Sandoz research centers; university institutes starting with research on GM-plants.

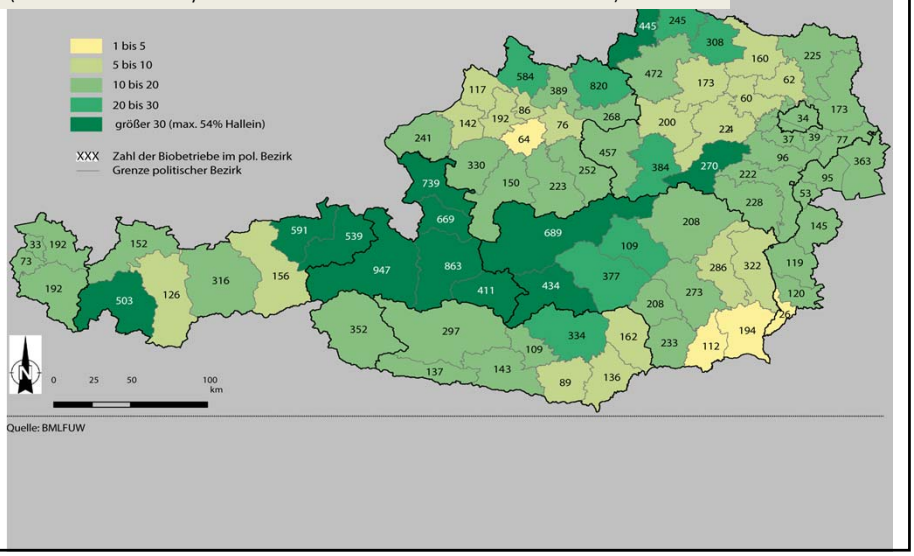
## Austria as a „GMO-free Zone“


**„No“ to GMO-releases!**

- **strong NGO-opposition (GENET – Harald Wosihnoj) since 1988:** Jeremin Rifkin was invited to Austria --- demonstrations against rBst at the Biochemie in Kundl; Enquete Commission in the A. parliament
- **1994 :** The “**Austrian Gene Technology Act” – implementing EU-directives**
  **1995: joining the EU** (but no exceptions in accession docs)
- **1995/1996: 4 applications on GM-plants:** Erwinia resistent potato, Bt11-maize, T25 maize, amylopectine potato, strong public opposition in the legal public hearings.
  (NGOs: Global 2000 and Greenpeace)
- **April 1997:** NGOs initiated a **„Referendum on Genetic Engineering“:** claiming **“No GMO-releases”, “No GM-food” and “No patents on life”**, which was signed by more than 21 % of the eligible voters – the strongest opposing referendum we ever had. **Social Democrats, Greens** and also the right wing **Freedom Party** declared their stand against GMOs.
  Since 1998: Puztai affair: GM-potatoes may cause nutritional and immune effects----1999 a. 2003: Arpad Pusztai visited Austria
- **2002:** also the conservative **Austrian Peoples Party** made a statement that they do not want to have GM-seeds used in agricultural food production.

## Special feature:
## Austria is within the EU leading in Organic Farming

**2013:** 21.161 Organic farms; **16,7 % of all farms** (127.040) - **18 % of UAA**
(within the INVECOS – System – ----- absolute and relativ in the Provical Districts)



## Bans on GMO marketing and planting

- **Since 1999-2000**: **In five cases**, namely the placing on the market of three genetically modified maize lines (MON810; MON 863; T 25) as well as the placing on the market of two genetically modified oilseed rapes (GT 73; Ms8/Rf3 and Ms8xRf3 – 2005/06) **Austria has issued a ban** for the import respectively cultivation of these products.

- **Today: bans on marketing**: maize MON863, OSR GT73 und OSR Ms8xRf3
  - **since 2008 bans on planting**: maize MON810, maize T25 + **since 2010 potatoe** EH92-527-1

- **Some special thresholds for seeds**: no absolute Zero tolerance, but….
  **Since 2001:** The **Ordinance on Genetically Modified Seed** (Saatgut-Gentechnik-Verordnung, BGBl. II Nr. 478/2001).....reaction on the 1st GM-contamination in maize seeds in 2001

- **Since 2002/03: reactions of the Federal Provinces (Bundesländer)** on the problems GMO-contamination –
  **Upper Austria started with a law on prohibiting the use of GMO**

## Genetic Engineering Precautionary Measures Acts (1)

**2002 1st Draft: Upper Austrian Act**
**on provisions for banning the use of GMO - 2002 Provincial Act**
(Draft law prohibiting the cultivation of genetically modified seed and planting material and the use o transgenic animals for breeding purposes as well as the release of transgenic animals especially for the purposes of hunting and fishing)
**Backed by the so called Müller-Study**

**Objectives were : - to protect organic and traditional agricultural production as well as plant and animal genetic resources from hybridisation with GMOs**
**- Protection of nature and the environment as well as natural biodiversity**

- **Rejected by the Commission Decision 2003/653/EC:**
  **Main Arguments:**
  * **No evidence was presented in the report to show that coexistence is an environmental or human health risk issue**
  * **No new uniquely local scientific information**
  * **No evidence that this area of Austria had unusual or unique ecosystems**

- **Upper Austria and the Republic of Austria have appealed against the Commission decision before the EU-Court of Justice - 2005-2007 – final decision of the EU-CoJ**

## Genetic Engineering Precautionary Measures Acts (2)

2004: Carinthia and Salzburg
**passed a so called "Genetic Engineering Precautionary Measures Act"**

**2005: very similar decisions on Acts in Burgenland, Lower Austria, The Tyrol and Vienna**

**2006: Styria and Upper Austrian**

**e.g. Styrian Genetic Engineering Precautionary Measures Act (StGTVG)**

**Objectives:** protect nature protected areas and agricultural land farmed GMO-free

**Main features:** use of GMOs is subjected to official authorization; neighbors have to be involved in the regulatory procedures; **GMO-contamination is defined as the presence of GMOs above a threshold of 0,1 %**; approval only if safety measure for coexistence and conservation of protected areas are taken sufficiently; regulatory supervision; subsidiary liability; compensation payments on damages through GMO-contamination are decided by the authority;

**These acts are the main instrument to deal with the problem of contamination and co-existence!**

## GM-maize contamination in 2001 had consequences:

- **Seeds for 6000 ha affected – for 4.000 ha withdrawn 1.200 ha plaught** under

besides the discussion on problems co-existence and the drafts on GMO-Prohibiting Acts and GE-Precautionary Measures Acts

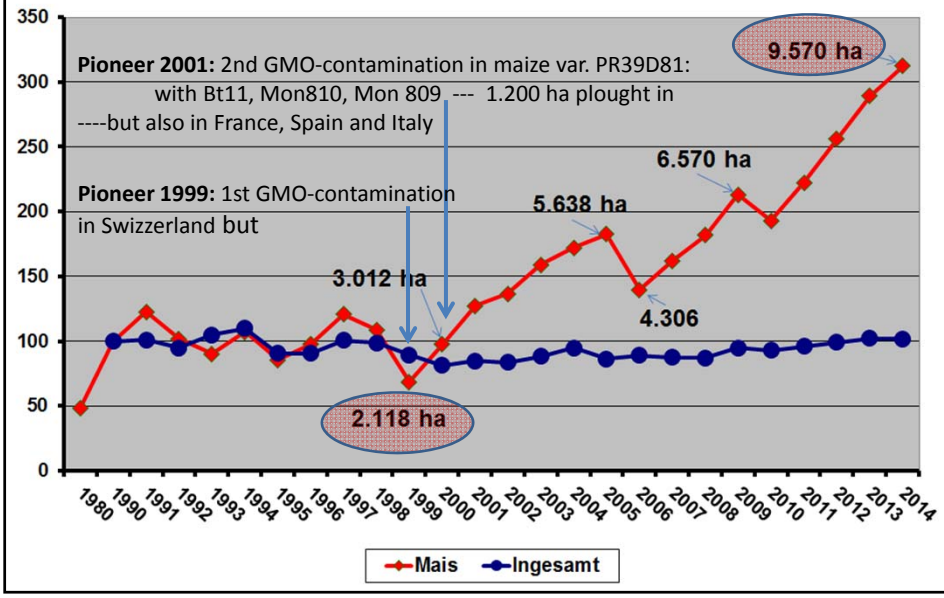
# The **Ordinance on Genetically Modified Seed**

(Saatgut-Gentechnik-Verordnung, BGBl. II Nr. 478/2001).....has been passed by the Minister for Agriculture and prescribes a mandatory labelling for all genetically modified seed varieties covered by Directive 90/220/EEC.
**It defines zero-GM-contamination as a statistical likelihood.** In this respect the ordinance sets up thresholds for accidental contamination of conventional seed with genetically modified seed:

**Only if no contamination has been detected at all levels of seed production the company is allowed to put the seeds in the market. If in a second controlling test by the seed authority traces of GMO below a 0,1% threshold are found, batches are taken either out of production and/or the company has to take prescribed measures – and at last stage only those patches or subunits are accepted which are free of GMOs.**

➡ **re-start of the Austrian maize seed production – a great success!**

## maize seed production in Austria in ralation to all seed production – relative since 1990 (AGES)



## The political attitude changed:
## All political groups were against GMO-releases and against GM-food production

**What we learned:**
**You should be economically innovative -**
**this means:**
**to create a new business is quite important!**

## But… we are still dependent on the monopolistic structure of global maize-breeding companies

- at the same time there are some successes in local breeding of maize hybrids

## Maize Breeders and seed producers in Austria

Breeder and/or marketer:
**Pioneer Hi-Bred Northern Europe Sales Division GmbH**
Austria - Parndorf

**RAGT Saaten Österreich GmbH (French Agro-Coop) -** Amstetten

**KWS AUSTRIA SAAT GMBH – Wien**

**(Syngenta –** selling seeds in Austria: ab. 8-10 varieties)

**Saatzucht Gleisdorf Ges.mbH** – traditional Austrian hybrid breeding company (till 1987 – restart in Austria since the 90ies – today about 20 new hybrid varieties.

Breeder, producer and marketer:
**Saatbau Linz (Gen.): propagating and producing varieties of Syngenta- und Dekalb (Monsanto) – ab. 30 own breeding lines e.g.: Danubio (now Nr. 10 in Europe as seed producer)**

Only producers and marketer:
**DieSAAT ( RWA Raiffeisen Ware Austria Handel und Vermögensverwaltung eGen) – propagating and selling mainly also for Dekalb und Limagrain**

Organic variety list:

Breeders, producers and marketers of seeds for the organic maize-starch production in Austria

- only two Austrian breeding lines

AGRANA STÄRKE GMBH

## Sortenliste für gentechnikfreie Bioproduktion 2015

| Sorte | Züchter | Vertrieb | Reifezahl |
|---|---|---|---|
| Amanatidis | KWS | KWS | 230 |
| DKC 2971 | Monsanto | Die Saat | 240 |
| LG 30215 | Limagrain | Die Saat | 250 |
| Danubio | Saatbau Linz | Saatbau Linz | 270 |
| LG 32.58 | Limagrain | Die Saat | 280 |
| P8523 | Pioneer | Pioneer | 290 |
| Die Samba (DKC 3711) | Monsanto | Die Saat | 290 |
| Ronaldinio | KWS | KWS | 290 |
| Die Samanta (DK 391) | Monsanto | Die Saat | 320 |
| Die Santana (DKC3623) | Monsanto | Die Saat | 320 |
| PR38A79 | Pioneer | Pioneer | 320 |
| Alegro (DKC4025) | Monsanto | Saatbau Linz | 340 |
| Apollo (DKC4117) | Monsanto | Saatbau Linz | 340 |
| Chapalu | Euralis | Die Saat | 350 |
| Die Silvia (DKC 4522) | Monsanto | Die Saat | 370 |
| Die Sandra (DKC 4964) | Monsanto | Die Saat | 380 |
| Die Sonja (DKC 4717) | Monsanto | Die Saat | 380 |
| P9241 | Pioneer | Pioneer | 380 |
| Futurixx | RAGT | Die Saat | 390 |
| **Erlaubt aufgrund Ausnahmeregelung für gentechnickfreie Bioproduktion** | | | |
| NK Falkone | Saatbau Linz | Saatbau Linz | 250 |

# And we have got a lot of testing and controlling costs in staying GMO-free in seeds

Just an example:

to some extend GMO-contamination is “**self-perpetuating**” (Chr. Then)

## GMO-problems in Austrian seed-production at levels of breeding, import, production

| season | Approval/authorisation level<br>Auditing level – seed tests | Import (EU and others) | multiplication – production - level |
|---|---|---|---|
| 2013/14 | **P8400 (A)** pos.35s-prom<br><0,1% Mais-59122 (DAS-59122-7) | - | **PH16SC (F)** pos. 35s-prom – measures taken<br>2nd test negativ parent line <0,1% Mais-MON810 (MON-00810-6) in<br>**production: 1 out of 17 batch had to be withdrawn** |
| 2012/13 | **P9308 (A)** pos. 35s-prom<br><0,1% Mais-59122 (DAS-59122-7) | **MAS 31R (F)**<br>35s-prom<br><0,1% Mais-59122 | - |
| 2011/12 | **P9000 (A)** pos. 35s-prom.<br><0,1% NK603 DNA<br>+**P9494 (A)** pos. 35s-prom<br><0,1% Mon810 DNA | - | Authorization of a Soybean var. (Canada) **DH618 (Can.)**<br>35s-prom <0,1% Mon40-3-2<br>- **was withdrawn** |
| 2010/11 | **P9494 (F)** pos. 35s-prom.<br><0,12% NK603<br>**retrieved and disposed of**<br>+ **Essor (soybean - A)**<br>35s-prom<br><0,1% MON40-3-2 (RRS) | - | **X85A580 (USA)** pos. on BT11<br>**20,4 t out of 50,4 t had to be withdrawn and disposed of**<br>+**NK Borago (chile)** pos. MON810<br>measures taken – o.k.<br>+**Flavia (Soy – Austr.)** pos. <0,1% MON40-3-2 (Roundup Ready-Soja)<br>measures taken – o.k. |
| 2009/10 | **PR38A79 (A)** pos.35s-prom.<br><0,1% NK603 DNA<br>**+ P9000 (A)** pos.<br>35s-prom.<br><0,1% NK603 DNA | **Crispi (F)** pos.<br><0,1% Mon810 DNA | **Essor (soybean – Can.)** 35s-prom<br><0,1% MON40-3-2 (Roundup Ready-Soja)<br>measures taken – o.k. |
| 2008/9 | **PR38A79 (A)** pos.<br>35s-prom.<br><0,1% NK603 DNA | **Cultura (F)**<br>**Crispi (F)** pos. 2-times<br>**Bergxxon (F)**<br><0,1% MON810<br>+ | **PR38V31 (A)** < 0,1 % MON810 measures taken<br>**40 t – no marketing**<br>**P9400 3+ 20 t – no marketing**<br>+ **EGZ8207 (F)** -**retrieved**<br>+ **Alma Ata (soy -Can.)** <0,1% RRS – **no marketing** |

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# At the end we had a huge market of GMO-free labeled food:

## Organic Food + GMO-free conventional products

## GMO-free food in Austria (1) (nach Markus Schörpf – ARGE-GTfrei)

- **more than 2.300 food products labeled „GMO-free“**
  **Since 1997 organized by the co-op „ARGE Gentechnikfrei“**
  **(including farmers org, producers, retailors ---------- since 2010 - 4 x times (680) the number of products**
- **2007/8: new Kodex-Guidlines for GMO-free food labeling – pragmatic adjustment (z.B.: additives und vitamines – own procedure, if no GM-free availability ) -**
- **2009: First konventionel „GMO-free“ labeled meat product – rumor in the agro-media**
- **january 2010: Hofer (Aldi) announced all milk products will be GMO-free**
- **2010: (nearly) all Austrian milk-products are certified GMO-free**
- **since Okt. 2010 only GMO-free feed for egg-production which is going to retailers**

## GMO-free food in Austria (2) (ARGE-GTfrei)

- **Since January 2012 all large poultry producing companies**, representing 90 % of the Austrian (fattened) poultry market **are GMO-free** –
  Hubers Landhendl (OÖ), Steirerhuhn-Lugitsch and Titz (Styria) Wech (Carinthia).
- **“ARGE – Gentechnikfrei” – organzational plattform---**
  All leading Retailers such as REWE, SPAR and Hofer (Aldi Austria) are the main marketers and at the same time together with the Austrian Organic Farming Assosiation the driving force of GMO-free labels.
- **Actual Innovation: Danube Soya Association – GMO-free Soya – produced locally and regionally**
  e.g. SPAR 2014 has announced that next year 150 million eggs will be Danube Soya certified. In 2014 poultry feed will also be switched to Danube Soya

  Next steps: Governments in Hungary, Slovenia, Croatia, Serbia and Bosnia, along with the extant labelling systems in Austria, Slovenia and Germany, have decided to work together to develop a joint system, and invite other governments to join in.

# We still have to fight with GMO-contamination in food and feed!

## GMO-contamination in food and feed in Austria

**food**

Ergebnisse der Schwerpunktaktionen für Mais und Soja

| Jahr | Probenanzahl | Soja | Mais | Soja und Mais | negativ | positiv | davon über dem Kennzeichnungs-schwellenwert | Beanstandungen bezüglich Gentechnik |
|---|---|---|---|---|---|---|---|---|
| 2001 | 153 | 59 | 54 | 40 | 144 | 9 | 4 | 2,6 % |
| 2002 | 251 | 162 | 61 | 28 | 222 | 29 | 1 | 0,4 % |
| 2003 | 250 | 141 | 102 | 7 | 192 | 49 | 1 | 0,4 % |
| 2004 | 241 | 145 | 87 | 9 | 233 | 8 | 2 | 0,8 % |
| 2005 | 242 | 140 | 96 | 6 | 237 | 5 | 0 | 0,0 % |
| 2006 | 249 | 148 | 101 | 0 | 249 | 0 | 0 | 0,0 % |

Anm.: Seit dem 18. April 2004 gilt der Kennzeichnungsschwellenwert 0,9 % (zuvor 1 %).

**feed**

| year | Samples feed | positive above 0,9 % | - Non auth. special info |
|---|---|---|---|
| 2004 | 196 | 15 | |
| 2005 | 164 | 10 | |
| 2006 | 197 | 14 | |
| 2007 | 292 | 15 | |
| 2008 | 277 | 15 | |
| 2009 | 353 | 9 | |
| 2010 | 306 | 17 | 2 Linseed + Non-auth. soy |
| 2011 | ? | ? | |
| 2012 | ? | ? | |
| 2013 | 479 | 16 | |

| year | samples | Soy | maize | rice | papaya | Others | Neg. | positiv | Above the threshold and/or illegal |
|---|---|---|---|---|---|---|---|---|---|
| 2013 | 276 | 58 | 52 | 104 | 32* | | 244 | 1 (in 10 traces) | 1 (papaya) |
| 2012 | 262 | 65 | 75 | 73 | 49 | | 236 | 0 (in 26 traces) | 0 |
| 2011 | 246 | 78 | 93 | 75* | - | | 214 | 1 (in 32 traces) | 1 (rice Bt63) |
| 2010 | 210 | 82 | 41 | 36 | | 45 + 6 (linseed) | 207 | 3 | 2 (linseed) |

Source: AGES, BMG

# Official controls on feed – what? – quite crucial is

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## EU - Regulation No 619/219

LLP (low level presence)

- of GMO
- with valid applications
- expired authorisations

- 0,1% Toleranz

→ 12 „pending" GVOs

→ 1 „expired" GVOs (u.a. Mais Bt176)

| Name of the product | Unique identifier | EFSA Application Number | Date of valid EFSA application or opinion published |
|---|---|---|---|
| RICE62 Bayer CropScience | ACS-OSØØ2-5 | EFSA-GMO-UK-2004-04 | EFSA Opinion Published 30/11/2007 |
| I maize Syngenta | SYN-E3272-5 | EFSA-GMO-UK-2006-34 | Valid EFSA application 6/07/2007 |
| 305423 soybean High Oleic soybean GM FAD2-1 | DP-305423-1 | EFSA-GMO-NL-2007-45 | Valid EFSA application 22/10/2007 |
| 98140 maize GAT maize Pioneer | DP-Ø98140-6 | EFSA-GMO-UK-2008-53 | Valid EFSA application 12/11/2008 |
| FG72 soyabean Bayer CropScience AG | MST-FGØ72-2 | EFSA-GMO-UK-2011-98 | Valid EFSA application 24/10/2011 |
| BPS-CV127-9 soyabean BASF | BPS-CV127-9 | EFSA-GMO-NL-2009-64 | Valid EFSA application 13/07/2009 |
| MONØ8913 Cotton Monsanto | MON-Ø8913-8 | EFSA-GMO-UK-2007-41 | Valid EFSA application 19/10/2007 |
| MON15985 Cotton Monsanto | MON-15985-7 | EFSA-GMO-UK-2008-57 | Valid EFSA application 20/08/2008 |
| GM cotton GHB119 Bayer CropScience AG | BCS-GHØØ5-8 | EFSA-GMO-NL-2011-96 | Valid EFSA application 21/11/2011 |
| BT 176 Maize Syngenta Crop Protection AG | SYN-BV176-9 | Decisions to grant consent: 97/392/EC, Official Journal L 164, p. 30 - 39 21/06/1997, | Not applicable |
| MON Ø7460 maize Monsanto | MON-Ø7460-4 | EFSA-GMO-NL-2009-70 | Valid EFSA application 28/01/2010 |
| DAS-40278-9 maize Dow AgroSciences | DAS-40278-9 | EFSA-GMO-NL-2011-89 | Valid EFSA application 11/03/2011 |
| T3Ø4-4Ø cotton Bayer CropScience AG | BCS-GHØØ4-7 | EFSA-GMO-NL-2011-97 | Valid EFSA application 24/10/2011 |

www.ages.at http://ec.europa.eu/food/dyna/gm_register/index_en.cfm 12

Source: AGES, Hochegger

# GMO – analytics number of screenings

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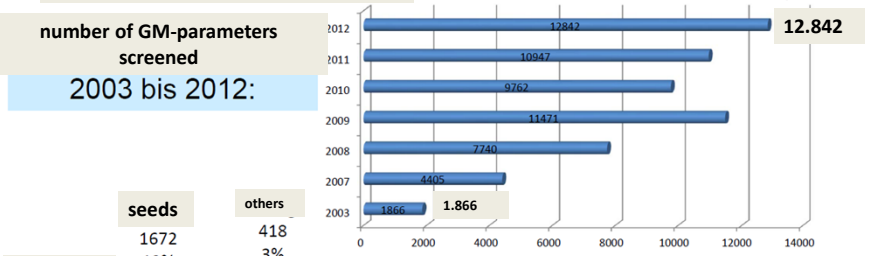
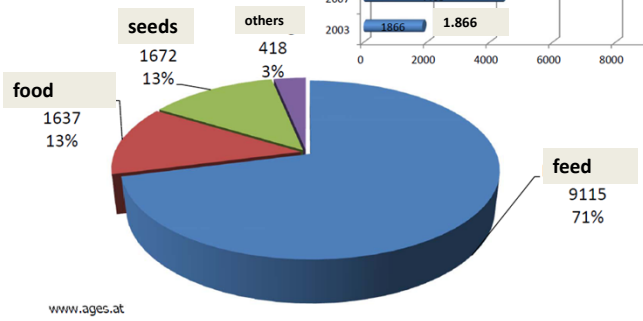
number of GM-parameters screened

2003 bis 2012:




www.ages.at

Source: AGES, Hochegger

## Some actual issues in Austria's GMO-politics

- 2009: EU-Council upholds Austria, Hungary right to ban GM crops – against the will of the Commission

Consequence: Austria proposes GMO 'opt-out' clause with the support of Bulgaria, Ireland, Greece, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland and Slovenia

„In addition to reasons of nature conservation and biodiversity, the delegations supporting this initiative are of the opinion that relevant socio-economic aspects could form a basis for individual Member States to prohibit or regulate the cultivation of GMOs on the whole territory, or certain defined areas, of individual Member States."

- March 2015: EU-Directive 2015/412 - 'opt-out' clause – amending Directive 2001/18/EC as regards the possibility for the Member States to restrict or prohibit the cultivation of genetically modified organisms (GMOs) in their territory

Actually 1st Draft on an Austrian " Federal Framework-Law on restricting and prohibiting the planting of GMOs" according to the amended Art. 26 b (para 3 and 4) of the Directive 2001/18/EC .

Now at the stage of commenting:

* NGOs want to have it clear that it should exclusively be based on the clause (para 3) "measures restricting or prohibiting the cultivation in all ..of its territory of a GMO, or of a group of GMOs defined by crop or trait". …And the communication of the draft of those measures and the corresponding grounds invoked to the Commission should take place before the GMO authorisation procedure.

* Federal Provices do not want a "Federal Framework-law" – but want to manage the Art. 26b within their "Genetic Engineering Precautionary Measures Acts"

## Lessons learned (1)

- It is possible to be a GMO-free producing country without GMO-releases! – Austria's agriculture didn't loose its competitive standing!
  - actually it is the other way round:
  GMO-free production in foods is a competative item – nationally and inernationally!

- Gmo-free seed-production turned into a special economic success! – but there is a need for clear rules and guidlines
  + efficient governance and monitoring systems

- A crucial prequisite is the positiv attitude of people (consumers and farmers), polititians and civil servants within the responsible administrations - the permanent, intensive and hard work of critical NGOs at all levels had been - and still is - very important!! – (1st you have to win the hearts and minds of the people.)

- We are still dependent on the monopolistic structure of global seed breeding companies – but in the wake of the GMO-free seed production the local tradition on seed breeding experienced a revival – (it is still a small revival but full of hope.)

## Lessons learned (2)

- The creation of a GMO-free labeling system for food, including organic and conventional food, created a new market with a high growth potential. GMO-free food production turned into a prerequisite for quality foods. GMO-free soya-production may have a similar capability.
- We still have to fight GMO-contaminations at all levels of production (seed, feed, food) – this means relatively high costs of testing and quality management: it is easier to go GMO-free with sophisticated (branded) products
- As a main result of the economic successes of GMO-free production: there is no serious political movement to promote GMO-use in agriculture and food production in Austria.
- Thus, everybody is happy with a GMO-free Austria!!!

  - Yes, for sure, in this respect we are an ISLAND of BLISS