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Czech Republic

Agricultural Biotechnology Annual

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Report Highlights:

The Czech Republic maintains a scientific approach towards agricultural biotechnology. Bt corn is planted, but the area has gradually decreased in recent years due to difficulties marketing the corn commercially. Updated legislation eased the administrative process for farmers eliminating the requirement to notify both the Ministry of Agriculture and the Ministry of Environment of planting intentions. No new policy or legislative changes are foreseen under the current administration.

Section I. Executive Summary:

The Czech Republic has been one of the few European Union (EU) member states allowing commercial planting and field trials of genetically engineered crops. In 2014 Czech farmers planted 1,754 hectares of Bt corn, which shows another year-on-year decline. Last time the area increased was in 2011,

reaching 5,090 ha. In 2014 researchers conducted field trials on an area slightly over 3 hectares.

Czech scientists and farm groups are vocal in their support for more crop biotechnology. With its rational and scientific approach to agricultural biotechnology, scientists and academia do not hesitate to publicly dispel myths spread by some non-governmental entities.

Czech Ministries often vote for new agricultural biotechnology applications at the EU, but not universally. Czech supported other member states' GMO bans, citing its strict neutrality on such scientific issues and supporting other members' decisions just as they expect support for their decisions to plant the technology.

Section II. Author Defined:

REPORT OUTLINE

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: PRODUCTION AND TRADE

a) Product Development

The Czech Republic is in a consortium with USDA's Agricultural Research Service and several new EU member state research institutions (like the French INRA) that has developed a bioengineered plum tree, called *HoneySweet* that is resistant to the plum pox virus. The consortium is now seeking EU deregulation to allow for commercial release of the genetic event. While many field trials have been successfully completed already, it is expected to take several years before the product gains final EU approval.

b) Commercial Production

The Czech Republic is one of a few EU member states with a rational and pragmatic approach towards agricultural biotechnology. Since 2005 Czech farmers have been growing bioengineered Bt corn MON 810 and in 2010 they started cultivating the newly approved bioengineered "Amflora" potato which produces a higher starch content sought for industrial application. Bt corn is used in biogas production and in on-farm cattle feed, eliminating the need for commercial marketing of the product. In 2014 Czech farmers planted 1,754 hectares of Bt corn, which shows another year-on-year decline.

The Czech Republic stopped cultivation of the GE potato Amflora after BASF transferred its operations to the United States due to the hostile political climate towards genetically engineered (GE) crops in Europe.

Area of GE Crops in the Czech Republic											
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Bt corn MON 810	250	1,290	5,000	8,380	6,480	4,678	5,090	3,050	2,560	1,754	1,700*
Amflora Potato	0	0	0	0	0	147	0	0	0	0	0

****FAS estimate***

c) Exports

Czech farmers prefer to use the locally produced Bt corn on farm, to avoid any marketing issues. It is fed to animals or used as a feedstock for biogas stations.

d) Imports

Czech Republic imports bioengineered soybean meal, a main protein source for feed mixes. In 2014 the soybean meal imports totaled 367 thousand MT. The majority of imports are trans-shipped through the main European ports in The Netherlands and Germany.

3) Food Aid Recipient

Czech Republic, not a food aid recipient, consequently faces no issues related to agricultural biotechnology that would impede the importation of food aid donations.

Part B: POLICY

a) Regulatory Framework

In the Czech Republic, the Ministry of Environment (MoE) is the competent authority handling the notification and regulation of agricultural biotechnology use in the Czech Republic. MoE cooperates with the Ministry of Health (MoH) regarding address of potential risks to human health. The Ministry of Agriculture (MoA) is responsible for animal health, crops, feeds, and agricultural risks associated with agricultural biotechnology. The MoE and MoA are advised by "The Czech Commission for the use of Genetically Modified Organisms and Products", an expert advisory body consisting of scientists, representatives from administrative authorities and non-governmental organizations.

The MoE is the Competent Authority relating to the Cartagena Protocol on Biosafety. The Czech Environmental Inspectorate is the Competent Authority with regards to state supervision of bioengineered events, cooperating with other state supervising bodies to complete this task.

The MoA is the Competent Authority in reference to food and feed enhanced through agricultural biotechnology and on rules for co-existence.

Political factors that may influence regulatory decisions are mostly tied to local political fights between parties forming the coalition. Also, new ministers tend to take more neutral position. The advisory body, "The Czech Commission for the use of Genetically Modified Organisms and Products", however, keeps stable, scientifically based position and rational approach.

b) Approvals

For information regarding bioengineered crops approved for cultivation, food or feed use, please refer to Agricultural Biotechnology EU-28 Annual Report.
(http://gain.fas.usda.gov/Lists/Advanced%20Search/AllItems.aspx)

c) Field-Testing

The Czech Republic, unlike most EU member states, permits and is conducting field trials involving several different bioengineered events. In 2014 the area reached 3.06 hectares including buffer zones. Genetically engineered crops under 2014 field test included:

- Maize NK603 with tolerance to glyphosate, notified by the University of Life Sciences Prague;
- Flax with various modifications, notified by the Czech company Agritec (a small trial for research purposes);
- Plum trees with a modification conferring virus-resistance (resistance to plum pox), notified by the Crop Research Institute (a small trial for research purposes);
- Barley producing enzyme phytase, notified by the Institute of Experimental Botany, Czech Academy of Science (a small trial for research purposes).

One new notification has been submitted for planting in 2015 for genetically engineered barley producing additional cytokinin dehydrogenase in roots. It is a small trial for research purposes notified by the Palacky University in Olomouc.
The project with the herbicide-tolerant maize NK603 was concluded, therefore in 2015 only small trials for research purposes continue.

d) Stacked Event Approvals
The Czech Republic implements EU legislation, for more information please see the EU Report. (http://gain.fas.usda.gov/Lists/Advanced%20Search/AllItems.aspx)

e) Additional Requirements
There are no additional requirements rather than those described in other chapters of this report or required by the superior EU legislation.

f) Coexistence
The Czech Republic coexistence rules are defined by Act on Agriculture no. 252/1997 amended by Act no. 441/2005 and 291/2009, and Decree no. 89/2006, amended by Decree no. 58/2010 On Conditions Pertaining to the Growing of Genetically Modified Crops.

Legislation amendments were designed to remove administrative duplicities and to add guidance accommodating future situations (e.g. growing of Biotech soybeans). The primary changes included: Farmers are no longer required notifying MoA in writing prior sowing. However, more neighboring farmers now have to be informed prior to sowing. Farmers do not need to mark the area of the GE crop in the terrain anymore.

An amendment to the Act on the Use of Genetically Modified Organisms ("GMOs") no. 78/2004 adopted in 2014, easing the administrative burden for class 1 contained use, results in farmers no longer having to send notifications to both MoA and MoE, only to MoA. The MoA complete guidance regarding cultivation of GE crops and their regulation is available in the document here.

Coexistence regulations require either:
1) A 70 meter buffer between fields with a conventional crop (i.e., corn) and genetically engineered crop (i.e., Bt corn), or
2) A buffer zone of 25 rows of conventional crop around the genetically engineered crop field with a 20 meter buffer between the genetically engineered and conventional corn fields, or
3) An omission of the isolation buffer (distance between fields) is allowed if a 35 row buffer zone of conventional crop is around the genetically engineered crop field.

For organic agriculture, a 200 meter isolation distance between the genetically engineered crop (i.e., Bt corn) and organic crop (i.e., corn) or a buffer zone of fifty rows of conventional crop (i.e., corn), plus a hundred meter isolation distance.

g) Labeling
Packaged foods and feeds derived and/or containing GE enhanced ingredients must be labeled. "Contains GMOs" is a typical example of a product label statement found on the Czech market. The statement is typically placed on labels close to the ingredient section, using the same or very similar font size. There are only few food products containing GE enhanced ingredients that can be found in the Czech retail stores, for example cooking oils that contain soybean oil from GE enhanced soybeans.

Labeling is enforced by local authorities and follows EU labeling standards. For more information on EU labeling requirements for products derived from agricultural biotechnology, see the EU-28 Biotechnology Annual Report.

(http://gain.fas.usda.gov/Lists/Advanced%20Search/AllItems.aspx)

h) Trade Barriers
There are no trade barriers to U.S. exports on national level. The European anti-agricultural biotechnology climate remains the major trade barrier.

i) Intellectual Property Rights
In this area, the Czech Republic adheres to EU legislation as well.

j) Cartagena Protocol Ratification
The Czech Republic ratified the Cartagena Protocol in September 2003. All regulations of the Cartagena Protocol on Biosafety are in place. More details can be found at the Biosafety Clearing House website: http://www.mzp.cz/www/webdav_biosafety.nsf/biosafety/index.html

k) International Treaties/Fora
The country has not been taking any significantly noteworthy positions within international fora like the Plant Protection Convention and the Codex Alimentarius.

l) Related Issues
The Czech Republic typically follows the European Food Safety Authority (EFSA) opinions. Regarding the New Breeding Techniques, "The Czech Commission for the use of Genetically Modified Organisms and Products" commented on three of them: cisgenesis, intragenesis and zinc fingers, and agrees with the EFSA findings. The Commission is an advisory body to the Ministry of Environment. No project aimed at a deliberate release of a product of new plant breeding techniques (NPBT) has been notified in the Czech Republic so far. However, the Czech experts actively participated in the New Techniques Working Group at EU level and in the discussions under Cartagena Protocol on Biosafety. In response to an industry enquiry, the advisory body of the Czech Ministry of the Environment - Czech Commission for the Use of "GMOs" (CzC GMO) adopted a position on a legal status of the oligonucleotide directed mutagenesis (ODGM or ODM). According to CzC GMO, this technique results in a genetic modification and the resulting organism falls under the scope of the "GMO" legislation. The CzC GMO has endorsed the applicability of the current risk assessment methodology in cases of two NPBTs (cisgenesis/intragenesis and site-directed nucleases) so far. Opinions on other NPBTs will follow.

m) Monitoring and Testing
The Czech Environmental Inspectorate is the Competent Authority for state supervision of the use of bioengineered events. It covers contained use as well as deliberate release into the environment in both areas: commercial and research.

It cooperates with other state supervision bodies responsible for specific areas:

- Czech Agriculture and Food Inspection Authority – food inspections and control. They test every food product containing or produced from corn, soy, and rice for the presence of material from agricultural biotechnology. The detection laboratories are able to check for genetically engineered changes also in tomatoes, potatoes, oilseeds, and papaya.
- Central Institute for Supervising and Testing in Agriculture – seeds and feed supervision. They

have been testing both, domestically produced and imported seeds since 2006, namely corn, soy, and rapeseed for the adventitious presence of bioengineered events.
- State Veterinary Administration – supervision of animal origin products.
- State Institute for Drug Control – covers medicinal products.
- Custom Authorities – are in charge of export and import.
- Regional Agricultural Agencies of the Ministry of Agriculture in charge of field control of cultivation (compliance with coexistence rules).

Six authorized detection laboratories are available for these authorities.

n) Low Level Presence Policy

The Czech Republic has been open to agricultural imports with low level presence of bioengineered events in general. On the EU level they unequivocally supported resolution of the issue, so that imports could be resumed.

Part C: MARKETING

a) Market Acceptance

Farmers are facing difficulties with regards to the marketing of Bt corn therefore they primarily use that crop on-farm as a livestock feed or for biogas production. However some retail buyers of meat and milk products are now requiring farmers guarantee that their livestock are not fed with bioengineered events. The acreage of Bt corn planted has slightly decreased in reaction these last few years. Another reason for the decline in Bt corn acreage is that the country's major export markets for agrarian products are neighboring biotech-free EU states, such as Austria and Germany.

Czech consumers in general do not have a problem buying food products containing bioengineered events. They are more concerned about other issues, such as price and origin of the product.

b) Public/Private Opinions

Several non-governmental organizations have been active in the country – both, for and against biotechnologies, and mainly the production and use of GE crops. The scientific community has been quite proactive and vocal, emphasizing rational approach and benefits of the technology by disseminating accurate information on the topic. In 2010 Czech Scientists published the "White Book on genetically modified crops", "in desire to shorten the period of false apprehension of GE crops in Europe," their own words. The book calls for science-based, rather than politically influenced decision-making process regarding GE crops.

Pro-biotech non-governmental organizations (NGOs) in the country include the Czech Biotechnology Society and Biotrin. Contrary to those, organizations like Greenpeace and some other green-oriented NGOs have been publishing scandalous articles in order to threaten consumers.

Czechs are known for being quite pragmatic and when compared to other EU member states, so they appear as being rather liberal on the use of GE crops.

c) Marketing Studies

There have been no recent country-specific studies on marketing or acceptance of agricultural biotechnology.

The April 2011 European Commission document shows the socio-economic implications of bioengineered events cultivation.

The 2010 EU-wide survey "Special Euro-barometer 341/ Wave 73.1 - TNS Opinion & Social: Biotechnology Report 2010" shows that Czech people in general have liberal approach to the use of biotechnology and bioengineered events. Biotechnology and genetic engineering is supported by 65 percent of respondents while 36 percent of respondents agree with bioengineered events in food products, a high number compared to other EU member states. For more details please review the survey linked here.

Part D: CAPACITY BUILDING AND OUTREACH

a) Activities

In October of 2013 the Foreign Agricultural Service (FAS) in Prague organized biotechnology conferences in Prague and Bratislava, Slovakia. Professor Martina Newell-McLaughlin, a speaker from the University of California Davis, addressed a mix of research, extension, university, and public sector entities to highlight agricultural biotechnology's potential contribution to global food security and stewardship of the earth's resources. Attendees, representatives of various research institutions, were often interested in learning about how to become more efficient in countering anti-biotech publicity.

FAS Prague had organized outreach activities including the preparation of short educational videos. This outreach initiative, funded jointly by USDA and State under the latter's biotechnology outreach program, is a regional outreach model, videos were translated into several languages and successfully presented in the Central Europe/Baltic region.

USDA resources have been also used to partially support efforts of the Biotrin NGO to publish information from reputable resources from all over the world in English and Czech languages. Several Czech official authorities refer to Biotrin for unbiased information related to biotech issues and subscribe to the monthly bulletin.

b) Strategies and Needs

FAS Prague's outreach strategy remains supporting efforts of Czech scientists calling for a rational approach towards biotechnologies and for their attempts to dispel myths about the technology spread by NGOs like Greenpeace. The target audience remains the younger generation and students using new media.

Chapter 2: ANIMAL BIOTECHNOLOGY

Cloning is an animal biotechnology that developers frequently utilize in conjunction with other animal biotechnologies such as genetic engineering and therefore included in this report.

Part E: PRODUCTION AND TRADE

a) Biotechnology Product Development
In the Czech Republic there are no GE animals or cloning under development.

Animals used for research purposes notified and authorized for contained used are: fruit fly *(Drosophila)*, nematode (*Caenorhabditis*), chicken, moth (*Bombyx*), laboratory mouse, laboratory rat, rabbit, pig, tropical frog *Xenopus Laevis*, tropical fish *Danio rerio* and *Orizyas latipes*.

The Czech Republic does not have a specific system in place that would monitor imported genetics of clones. The EU blanket ban on cloning of farm animals is not seen as appropriate, as it may prevent farmers from preserving some valuable genetic material.

b) Commercial Production
In the Czech Republic there are no commercial applications approved for GE animals for food or feed use, and no notification of the use of GE animals for food use or other agricultural use has been filed with the EU.

Likewise, there are no commercial applications of animal cloning.

c) Biotechnology Exports
N/A

d) Biotechnology Imports
Czech cattle breeders import bovine semen, including semen from a cloned animal.

Part F: POLICY

a) Regulation
The Czech Republic does not have a specific national legislation on cloning in place, and implements the EU legislation. Cloning is regulated on the EU level by regulation (EC) 258/97 on Animal Cloning and Novel Foods.

Genetically Engineered animals are regulated in the same way as any other GE organisms in the Czech Republic. The basic national legal instrument is Act no. 78/2004 Coll., on the Use of Genetically Modified Organisms and Genetic Products, as amended by the Act no. 346/2005 Coll., with the implementation of Decree No. 209/2004. The competent authority handling the notifications and regulation on the use of "GMOs" in the Czech Republic is the Ministry of Environment. The responsibility for regulation of food originating from GE animals comes from Ministry of Health and covers the area of "novel foods."

The projects using GE animals that have been authorized in the Czech Republic so far fall under the scope of contained use. The authorized GE animals are classified as risk category 1 or 2 (minimal risk). Authorization process: The entity that intends to use GE animals notifies the Ministry of Environment. The notification must include risk assessment, a description of proposed containment measures and handling of the GE products including their transport, storage, and disposal of waste.

Several years ago, the Czech Authorities assessed a notification of a research project using deoxyribonucleic acid (DNA) vaccines for treatment of animals. As the research was in an initial phase, it was decided to take precautions by considering the treated animals to be GE, which still applies.

b) Labeling and Traceability
The Czech Republic has been following the EU regulations in this area; there is no national policy in place.

c) Trade Barriers
Main trade barrier remains the EU policy.

d) Intellectual Property Rights
Czech authorities are currently not considering preparing a legislation addressing specifically intellectual property rights for biotechnologies on national level.

e) International Treaties/Fora
N/A

Part G: MARKETING

a) Market Acceptance
N/A

b) Public/Private Opinions

So far there have not been significant discussions on the topic that would divide the general public into distinctive opinion groups. Scientific community has been supportive, publishing every once in a while popular-science articles introducing and explaining basic facts on animal biotechnology.

c) Market Studies
FAS Prague is not aware of any market studies related to animal biotechnology and GE animals.

Part H: CAPACITY BUILDING AND OUTREACH

a) Activities
FAS/Prague cooperated with the Czech Ministry of Agriculture, Food Safety Department, to provide a speaker on cloning for their Conference on Cloning at the Parliament of the Czech Republic on May 7, 2015. The conference was held under the auspices of Marian Jurecka, Czech Minister of Agriculture and the Agricultural Committee of the Czech Parliament. Ms. Diane Wray-Cahen, Senior Science Advisor for Animal Biotechnologies at USDA/FAS came to Prague and presented "US Perspective: Benefits and Uses of Cloning." The audience, consisting mainly of representatives of various research and regulatory institutions, were interested in how to face challenges of pro-biotech campaigns aimed at general public.

b) Strategies and Needs
N/A