2013-03-26-014 Aflatoxin, maize, milk - EU
To: (02) Food contaminants and toxicology;
****

AFLATOXIN, MAIZE, MILK - EUROPEAN UNION
****
A ProMED-mail post

In this posting:
[1] Germany ex Serbia
[2] Serbia
[3] Serbia
[4] Romania
[5] Europe
******
[1] Germany ex Serbia
Date: 7 Mar 2013
Source: The Local [edited]
<http://www.thelocal.de/national/20130307-48387.html>

Cancer-causing fungus found in raw milk

High levels of a cancer-causing fungus has been found in raw milk from a western German farm. The authorities in the state of North Rhine-Westphalia suspect contaminated cow feed from Serbia. Before being pasteurized, milk from the farm had twice as much aflatoxin -- produced by the Aspergillus species of mold -- than national standards allow. There was a possibility that the contaminated raw milk had already been sent to dairies for processing, the state Consumer Protection Ministry said.

Until the milk has levels below 50 nanogrammes of aflatoxin per kilogramme of milk it may not be sold. Current levels were around 100 nanogrammes. Milk from cows which have ingested aflatoxin -- one of the strongest naturally occurring carcinogens -- is "particularly dangerous," said Udo Paschedag from Lower Saxony's Agriculture Ministry. At the weekend, hundreds of farms in Lower Saxony were banned from selling milk after the same fungus was discovered in feed from Serbia. Certain instances saw the raw milk containing 30 times the acceptable limit of aflatoxin. The source was traced back to 10 000 tonnes of a Serbian shipment of contaminated maize which found its way into animal feed delivered to
3560 farms in Lower Saxony, including 938 dairy farms.

The NRW farm obtained its livestock feed from a supplier in the Lower Rhine region, which had sold 200 tonnes of contaminated Serbian maize. Although this is not thought to be connected with the maize in circulation in Lower Saxony. Aflatoxin-riddled feed was also identified in 3 other farms in NRW, the milk from which all fell just under the acceptable limit. Around 70 farms likely bought feed from the Lower Rhine supplier.
--
Communicated by:

ProMED-mail Rapporteur Kunihiko Iizuka

******

[2] Serbia
Date: 14 Mar 2013
Source: b92 [edited]
<http://www.b92.net/eng/news/politics-article.php?yyyy=2013&mm=03&dd=14&nav_id=85159>

Agriculture ministry was "stunned" by aflatoxin affair

Minister of Agriculture Goran Knezevic told MPs on Thursday that he "bears the responsibility for the problems in this sector." He also said that the recent discovery of elevated aflatoxin concentration in milk "stunned his ministry." "I admit that this is partly my responsibility and that we did not find the time to deal with these things and the whole matter (aflatoxin in milk) has caught us unawares," Knezevic said during a parliament session at which MPs posed questions to the government about the safety of food in Serbia.

The minister said the food safety system in Serbia is regulated by laws and regulations passed in order to harmonize standards with that of the EU, but that this was done without "enough understanding for reality and their enforceability." "These rules have brought major changes -- the primary responsibility for food quality is on the producers, and the government takes on the role of controller," said Knezevic. He accused 3 lobbies as "contributing to the whole picture" -- importers, who stand to gain enormous profits as a consequence of "the story about toxic corn", GMOs advocates, and "politics" -- the desire of some parties "to create problems and endanger villages and farmers."

Trade Minister Rasim Ljajic also addressed the session to say that the financial damage from the aflatoxin crisis has not yet been appraised, but noted the figure could reach between 100 and 125 million euros. The session was called at the request of the opposition Liberal Democratic Party (LDP), whose leader Cedomir Jovanovic said today that the party did not want to reduce the issue of food safety in Serbia to "mindless wars among parties" and called on Knezevic to take "concrete measures."
--
Communicated by:
ProMED-mail Rapporteur Kunihiko Iizuka

******

[3] Serbia
Date: 7 Mar 2013
Source: B92, Beta [edited]
<http://www.b92.net/eng/news/society-article.php?yyyy=2013&mm=03&dd=07&nav_id=85046>

Aflatoxin regulations to be harmonized with EU standards

After analyses showed that 69.75 percent of milk samples contained increased levels of aflatoxin, the Agriculture Ministry has started changing regulations. According to the Agriculture Ministry, the regulations on the maximum permitted level of aflatoxin in dairy products will be harmonized with the EU standards in a procedure that envisages harmonization of several other food safety bills so they would not be contradictory.

A Dutch lab said in its report that almost 70 percent of milk samples contained levels of aflatoxin higher than 0.05 micrograms per kilogram. 2 samples even contained more aflatoxin than the new maximum permitted level of 0.5 micrograms per kilogram. Other analyses, that were performed in Germany at a request of Vojvodina's Agriculture Secretariat and Agriculture Secretary Goran Jesic, have shown that levels of aflatoxin in milk are even higher.

Serbia's First Deputy Prime Minister Aleksandar Vucic announced on Monday that the maximum permitted level of aflatoxin in milk would be returned to 0.05 micrograms per kilogram within 15 days.

The Agriculture Ministry later said that the permitted aflatoxin level would be reduced in the "next few days" and that "gradual implementation" was considered. The increased levels of aflatoxin in dairy products in Serbia and several Western Balkan countries were discovered in mid-February. The Serbian government raised the maximum permitted level of aflatoxin in milk from 0.05 to 0.5 micrograms per kilogram on 28 Feb 2013 in order to "protect Serbian milk producers." The agriculture minister has stated several times that all dairy products available in stores are completely safe to consume. He reiterated the claim today, adding that the aflatoxin affair was political.
--
Communicated by:
ProMED-mail Rapporteur Kunihiko Iizuka

******
[4] Romania
Date: 22 Mar 2013
Source: Blackseagrain [edited]
<http://www.blackseagrain.net/about-ukragroconsult/news-bsg/aflatoxin-puts-romania2019s-maize-at-risk>

Aflatoxin puts Romania's maize at risk

Aflatoxin was detected in milk and animal fodder in Romania as well as The Nederland. Farmers' organisations in The Nederland expressed caution and warned not to use other maize or fodder than of local origin. This could hurt Romania's maize exports under the circumstances that the country holds strong export potential.

Aflatoxins are a group of chemicals [toxins - Mod.TG] produced by certain mold fungi. Aflatoxins are harmful or fatal to livestock and are considered carcinogenic (cancer-causing) to animals and humans.
Aflatoxin levels are highest during hot, dry summers like it was the case last year.

Dutch food security body NVWA spotted high aflatoxin concentrations in the fodder imported from Romania and Serbia. Romanian authorities in their turn spotted aflatoxin in Hungarian, Serbian, as well as local milk. The fodder from Hungary has also featured high aflatoxin levels. According to Romania's Agriculture Ministry, the country had favorable weather conditions for winter grains in the fall of 2012 and winter of 2013. Precipitation in that period replenished soil moisture reserves and ensured optimal crop development, while a slight temperature increase promoted gradual resumption of growth [of the toxic fungus. - Mod.TG].

Testing for aflatoxins requires sophisticated sampling methods which need to be done at the very beginning of the supply chain to deal with the heterogenic distribution of this contaminant. Testing methods have to be very sensitive as limits are between 5 and 20 parts per billion (ppb). At the reception point, this testing can be done with lateral flow devices or Fluorometric methods. The reference method of choice in laboratories is nowadays LC-MS/MS, which is a technology that can simultaneously detect all major mycotoxins, including aflatoxins.
--
Communicated by:
ProMED-mail Rapporteur Kunihiko Iizuka

******
[5] Europe
Date: 14 Mar 2013
Source: Romer Labs [edited]
<http://www.romerlabs.com/us/company/latest-news/detail/article/aflatoxins-pose-new-risk-to-european-maize-production/>

Aflatoxins Pose New Risk to European Corn Production

The European Commissions' Rapid Alert System for Food and Feed (RASFF) has reported 10 notifications on aflatoxin B1 in corn of European origin since the last corn harvest in autumn 2012. In the 10 years prior to the last harvest -- between 2001 and 2011 -- a total of 9 cases of aflatoxins were reported in corn. Aflatoxins have been mainly an "import problem" up to now. However, global warming is increasingly affecting the mycotoxin map in Europe, producing "tropical toxins" within Europe's borders.

This is most likely not the last case of aflatoxins in corn for European farmers. "Conditions are very favourable for the growth of Aspergillus in southern areas of the European mainland due to climate change. This means that Europe will have more homemade aflatoxin cases in its crops in the future," says Prof. Rudolf Krska, an international mycotoxin expert from the University of Natural Resources and Life Sciences (BOKU) in Vienna, Austria. "The food and feed industry has to adapt its risk management to cope with this new threat and minimize aflatoxin exposure in Europe."

The origins of the contaminated corn reported in the RASFF were mainly southeastern Europe, including Bulgaria, Greece, Romania, Serbia and in Italy. The

average level of aflatoxin B1 was 59.28 ppb (parts per billion) and the maximum 204 ppb in Serbian maize -- 10 times above the maximum level for feed.

The EU regulatory limit for aflatoxin B1 in feedstuff is 20ppb, whereas in food it is 5ppb. Aflatoxin B1 is one of the most carcinogenic substances on the planet, 100 times more toxic than pesticides, for instance. The producing molds, which are different species of Aspergillus, have been mainly a problem in tropical regions and can either occur on the field, but also in inappropriate storing conditions.

Major corn exporting nations such as Argentina, Brazil and the USA have developed risk-management systems over recent decades to handle the aflatoxin risk. Europe can take these examples to adapt their systems to this new reality where aflatoxins are now on the agenda.

Testing for aflatoxins requires sophisticated sampling methods which need to be done at the very beginning of the supply chain to deal with the heterogenic distribution of this contaminant. Testing methods have to be very sensitive as limits are between 5 and 20 parts per billion (ppb). At the reception point, this testing can be done with lateral flow devices (e.g., AgraStrip Aflatoxin) or Fluorometric methods (e.g., FluoroQuant Afla).

The reference method of choice in laboratories is nowadays LC-MS/MS, which is a technology that can simultaneously detect all major mycotoxins, including aflatoxins.
--
Communicated by:
ProMED-mail Rapporteur Kunihiko Iizuka

[Aflatoxin is a product of _Aspergillus flavus_ or _Aspergillus parasiticus_. These are molds that produce a toxin. The mold does not have to be present for the toxin to be present. The mold may have been there, produced its toxin and died off, leaving the toxic signature behind. The mold does not always have to produce the toxin. In other words, just because the mold is there does not mean the toxin is there. Or the mold and the toxin may both be present. The point is, it has to be tested to know if the toxin is present.

Climate conditions of high humidity or drought may set the corn up to produce the toxin.

Aflatoxin may persist in the grain/ forage/fodder, which can be transferred to the milk. However, very high levels for a very short time may also cause liver damage in the animals. Consequently if the feedstuff is known to be higher than the allowable limit, then it is advisable not to feed it to the animals.

We seldom see cancer in our animals from aflatoxin. The sad fact is that animals do not live as long as people and there is not time to develop cancer.
Aflatoxin will clear the body in a fairly rapid rate if the contaminated feedstuff is removed. Consequently, the level in the milk will also drop with the contaminated feedstuff is removed.

The [4] article in this series implies that even though the fodder is contaminated, they still want it to be fed, because clearly, they cannot export contaminated feedstuff.

Some feedstuffs can be diverted to other animals, for example, finishing steers. These animals have a short life and are not producing milk. It should not be fed to milk producing animals, the very young, or to fish or poultry.

Germany may be found on the HealthMap/ProMED-mail interactive map at: <http://healthmap.org/r/1zJl>.

Romania may be found on the HealthMap/ProMED-mail interactive map at: <http://healthmap.org/r/1HU1>.
- Mod.TG]

[see also:
2011

Aflatoxin, milk, cooking oil - china 20111231.3719 Aflatoxin, dog food - USA: recall 20111230.3704
2010

Aflatoxin, canine - Tanzania 20100711.2316 Aflatoxin, maize - Kenya (03): (EA) human cases 20100708.2276 Aflatoxin, maize - Kenya (02) 20100618.2044 Aflatoxin, maize - Kenya: alert 20100512.1543
2008

Aflatoxin, livestock feed - Cyprus 20080824.2642 Aflatoxin, equine feed - USA: (multistate), recall 20080508.1574
2007

Aflatoxin, peanuts - Saudi Arabia (Riyadh) 20070830.2863
2006

Aflatoxin poisoning, fatal - Kenya 20060505.1306 Aflatoxin, dog food - Israel (02): RFI 20060216.0507 Aflatoxin, dog food - Israel 20060210.0445
2005

Aflatoxin, dog food - USA (multistate)(04): recall 20051231.3719 Aflatoxin, dog food - USA (multistate)(03) 20051224.3676 Aflatoxin, dog food - USA (NY)(02): multistate 20051223.3668 Aflatoxin, dog food - USA (NY) 20051222.3657 Aflatoxin poisoning, fatal - Kenya (02) 20050521.1408 Aflatoxin poisoning, fatal - Kenya 20050514.1324
2004

Aflatoxin, paprika - Hungary: alert 20041102.2970]
****