

## C) FAO news and other issues related to animal health and vet public health

### 1) Q fever in the Netherlands

Dec 17, 2009 - Dutch authorities, already battling an outbreak of the highly infectious disease Q fever, have discovered contamination at five more farms and expect further outbreaks, the Agriculture Ministry said on Thursday. A total of 60 farms in the country are now known to be affected.

[http://www.forexyard.com/en/reuters\\_inner..tpl?action=2009-12-17T171325Z\\_01\\_LDE5BG1VS\\_RTRIDST\\_0\\_DUTCH-LIVESTOCK-DISEASE](http://www.forexyard.com/en/reuters_inner..tpl?action=2009-12-17T171325Z_01_LDE5BG1VS_RTRIDST_0_DUTCH-LIVESTOCK-DISEASE)

### 2) The State of Food

## The State of Food and Agriculture 2009

### Livestock in the balance

Livestock contribute 40 percent of the global value of agricultural output and support the livelihoods and food security of almost a billion people. Rapidly rising incomes and urbanization, combined with underlying population growth, are driving demand for meat and other animal products in many developing countries. Supply-side factors, such as the globalization of supply chains for feed, genetic stock and other technologies, are further transforming the structure of the sector.

The rapid growth and transformation of the livestock sector have been taking place in an institutional void. The speed of change has often significantly outpaced the capacity of governments and societies to provide the necessary policy and regulatory framework to ensure an appropriate balance between the provision of private and public goods. The result has been systemic failures, apparent in social exclusion, widespread environmental damage and threats to human health.

A growing divide is emerging: large-scale industrial producers serve dynamic growing markets, whereas traditional pastoralists and smallholders, while often continuing to support local livelihoods and provide food security, risk marginalization. In many parts of the world, the transformation of the livestock sector, in the absence of strong governance, is resulting in market failures related to natural-resource use and public health. Interventions to correct market failures have been largely absent; in some cases, government actions have created market distortions.

There is an urgent need for strengthened governance of the livestock sector, supported by adequate levels of public and private investment. Three major areas require the attention of all stakeholders: harnessing the potential for growing livestock demand to contribute to poverty alleviation and improved food security;

#### KEY MESSAGES

- The livestock sector is expanding rapidly, driven by population growth, rising affluence and urbanization.
- Decisive action is required if increasing demand is to be met in ways that are environmentally sustainable and contribute to poverty alleviation and improved human health.
- The contribution of the livestock sector to poverty alleviation should be enhanced through appropriate policy reform and investments within a framework of broader rural development policies.
- Governance of the livestock sector should be strengthened to ensure that its development is environmentally sustainable and that it both adapts to and contributes to mitigating climate change.
- The neglect of animal-health systems in many parts of the world must be redressed, and producers at every level must be involved in the development of animal-disease and food-safety programmes.



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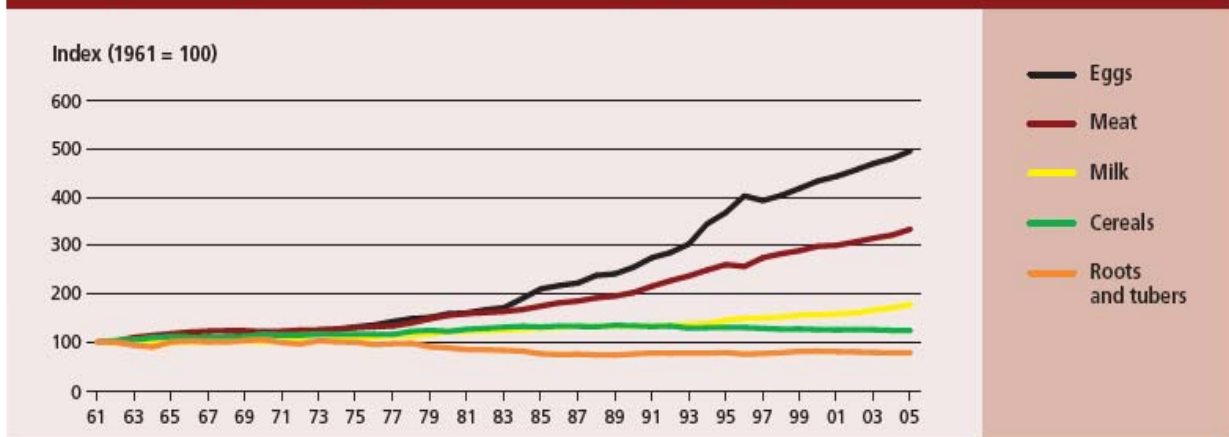
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*The State of Food and Agriculture*, FAO's major annual flagship publication, aims at bringing to a wider audience balanced science-based assessments of important issues in the field of food and agriculture. Each edition of the report contains a comprehensive, yet easily accessible, overview of a selected topic of major relevance for rural and agricultural development and for global food security. This is supplemented by a synthetic overview of the current global agricultural situation.

### Per capita consumption of major food items in developing countries, 1961–2005



increasing the sustainability of natural-resource use; and improving efforts to manage animal diseases.

The livestock sector makes important contributions to **food security and poverty reduction**. However, it could do more given judicious policy and institutional reforms and significant public and private investments aimed at: (i) enhancing the ability of smallholders to take advantage of the opportunities offered by growth in the sector; (ii) protecting the poorest households for whom livestock serve as a crucial safety net; and (iii) enacting broader rural development policies to ease the transition of many livestock keepers out of the sector.

Livestock production is placing increasing pressures on **natural resources** – land, air, water and biodiversity. Corrective action is needed to encourage the provision of public goods such as valuable ecosystem services and environmental protection. This will involve addressing policy and market failures and developing and applying appropriate incentives and penalties. Livestock contribute to and are victims of climate change. The sector can play a key role in mitigating climate change. For example, adoption of improved technologies, encouraged by appropriate economic incentives, can lead to reduced emissions of greenhouse gases by livestock.

Some animal-health services are public goods in that they protect human and animal public health and thus benefit society as a whole. **Animal diseases** reduce production and productivity, disrupt local and national economies, threaten human health and exacerbate poverty. Animal-health systems have been neglected in many parts of the world, leading to institutional weaknesses and information gaps as well as inadequate investments in animal-health-related public goods. Producers at every level, including poor livestock keepers, must be engaged in the development of animal-disease and food-safety programmes.

To address the issues confronting the sector, action is required at all levels, from the local level, through the regional and national levels to the international level. Developing an agenda for action supported by governments, international institutions, multilateral and bilateral donors and civil-society stakeholders is a crucial first step towards a livestock sector characterized by: better governance; a more inclusive development process; levels of investment commensurate with the importance of the sector and the challenges it faces; and improved international cooperation.

### 3) Salmonellosis outbreak in Denmark

A ProMED-mail post

<http://www.promedmail.org>

ProMED-mail is a program of the International Society for Infectious Diseases

<<http://www.isid.org>>

Date: Wed 4 Mar 2009  
From: Lasse Nuotio <Lasse.Nuotio@evira.fi>

Helsingin Sanomat, the leading Finnish newspaper, reported on 26 Feb 2009 that 4 elderly people in Denmark had died due to complications of salmonellosis. According to the report the source of the infection had been sausages made of pork and the contamination had been traced to 2 slaughterhouses, one in Sjaelland [Zealand] and one in Jylland [Jutland]. One of the slaughterhouses had exported considerable amounts of the contaminated meat. Unexpectedly there have been no reports of this in ProMED-mail.

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Date: Fri 6 Mar 2009  
Source: Ice News [edited]  
<http://www.icenews.is/index.php/2009/03/06/danish-sausage-poses-risk-of-salmonella/>

Since October 2008, Denmark has suffered 2 big outbreaks of salmonellosis from Danish sausages. 4 people have died as a result of eating "medister" sausage, and at least 79 have been hospitalised with stomach infections, according to the national disease control center Statens Serum Institut.

Investigators have traced the deadly bacteria to 2 pork slaughterhouses in Jutland and Zealand. However, Dr Kare Molbak of the Statens Serum Institut says they can't be absolutely sure the salmonella originated only in those 2 spots. The problem could be more widespread in the nation's pork industry.

In a statement reported by the Copenhagen Post, Molbak confirmed: "There are grounds for concern and this time we are in no doubt that the salmonella comes from Danish pork."

But the deputy director of the Danish Meat Association, Erik Bisgaard Madsen, insists that he's "99 per cent certain" that the salmonella outbreak did not originate from one of his association's members.

## 4) Hepatitis E

### Disease Burden

Hepatitis E virus (HEV) was first identified in India in 1955, and has since been recognized as the principal cause of acute hepatitis in young adults throughout much of Asia, the Middle East, and northern and western Africa. Viral hepatitis is a disease that has been recognized as a clinical entity since antiquity. Five viruses are known to cause hepatitis in humans. They have been designated hepatitis A (HAV), B (HBV), C (HCV), D (Delta) and E (HEV). Other viruses such as CMV, EBV, HSV, dengue virus, Rift Valley fever virus and adenoviruses also can cause severe hepatitis. HAV infects more than 80% of the population of many developing countries by late adolescence, and also is common in industrialized countries, where outbreaks occur at daycare centres, nursing homes and restaurants where inappropriate food-handling might occur. It still accounts for approximately 55% of acute hepatitis cases in the USA, in spite of the availability of two formalin-killed licensed vaccines for adults and children over 2 years of age (Merck and GSK).

Hepatitis E, like hepatitis A, is transmitted by the faecal-oral route but, in contrast with HAV, less than 10% of children under 10 years of age have antibodies to HEV. In Nepal, where the disease is endemic, 75% of infections occur in people aged 15–34 years. The virus can cause large water-borne epidemics as well as sporadic cases. Most outbreaks have occurred following monsoon rains, heavy flooding, faecal contamination of well water, or massive surges of untreated sewage into city water treatment plants. The zoonotic origin of HEV is suspected, as monkeys, rats, cattle, sheep, goats, ducks and especially pigs are susceptible to infection with HEV. Recent evidence suggests that there is a low prevalence of HEV in several industrialized countries, for example Italy and Spain, where HEV may cause sporadic illness or unapparent infections. The low amount of intact HEV particles present in patient stools accounts for the generally lower secondary attack rate of person-to-person transmission of hepatitis E (2%) as compared with hepatitis A (10–20%). There is no evidence for sexual transmission or for transmission by blood transfusion. Vertical transmission of HEV from mothers to their infants has been reported.

In most cases, HEV infection remains asymptomatic. When symptomatic, the disease is characterized by jaundice, like hepatitis A: the two diseases are virtually indistinguishable and show similar pre-icteric and icteric phases. HEV is the first cause of hospitalization for jaundice in Nepal. The disease is self limited and most patients recover completely without complications or sequelae. Viremia is thought to last between 14 and 28 days. Both IgG and IgM antibody responses are detected soon after infection, with peak antibody titres at 2–4 weeks. No chronic or carrier state has been demonstrated after HEV infection. A low mortality rate (0.5–4%) is associated with HEV infection, with the dramatic exception of third-trimester pregnant women who can develop fulminant hepatitis with a case fatality rate of 10–42%. An Ethiopian study found that 35% of HEV-infected hospitalized pregnant women had premature delivery.

### Virology

HEV is a 27–34 nm non-enveloped icosahedral virus with a single-stranded, positive-sense RNA genome. The virus had wrongly been classified into the family Caliciviridae, but now is classified as a separate, unclassified virus. Although at least four major genotypes can be distinguished, the virus seems to exist as a single serotype. The 7.5 kb RNA comprises three overlapping ORFs: ORF1 which codes for proteins involved in viral genome replication and viral protein processing, ORF2 which codes for one or more capsid proteins, and ORF3 for a small nonstructural phosphoprotein. The ORF2 protein carries the neutralization epitopes.

### Vaccine

Although HEV does not replicate well in cell culture, animal models have been developed (cynomolgus macaques, chimpanzee, rat, tamarin monkey). Cynomolgus monkeys were successfully protected against challenge by passive immunization with convalescent serum or active immunization with an ORF2-based vaccine. At present, no commercially available HEV vaccines exist. However, several studies for the development of an effective vaccine against hepatitis E are in progress.

- A 56 kD recombinant ORF2 protein produced in insect cells infected with recombinant baculovirus and adjuvanted with alum was used to vaccinate rhesus monkeys against different strains of hepatitis E. The ORF2 protein spontaneously assembles into VLPs, whose oral administration to monkeys induced serum IgG, IgA and IgM anti-HEV response. The vaccine did not provide protection against infection, but protected the monkeys from the symptoms of disease. The 56 kD antigen was found to be safe and immunogenic in Phase I trials conducted by WRAIR and GSK in the USA then in

Nepal when given as a three-dose regimen at 0, 1 and 6 months. The vaccine has recently undergone Phase II/III efficacy trials in Nepal; results of the trial are pending.

- The direct intramuscular injection of purified plasmid DNA containing the full-length ORF2 of HEV was shown to elicit a prolonged humoral immune response in 80% and 100% of two separate groups of vaccinated mice, respectively.
- Recently, swine HEV was found to be immunologically cross-reactive with human HEV and might thus prove useful as an attenuated “Jennerian” vaccine for immunization against human hepatitis E.

More at: [http://www.who.int/vaccine\\_research/diseases/zoonotic/en/index1.html](http://www.who.int/vaccine_research/diseases/zoonotic/en/index1.html)

### ***Hepatitis E Virus***

This caused some public concern in 1997 when it was isolated from pigs' livers which were suffering from another condition. Antibodies were found to be widespread in the pig population of the Mid-western United States. It was shown later that the pig hepatitis virus was distinct from the human one and there was no cross-species transmission. Hepatitis E has also been identified in pigs in Australia. This virus should not worry pig farmers.

More at: <http://www.thepigsite.com/diseaseinfo/52/hepatitis-e-virus>

**Hepatitis E** is a serious liver disease caused by the hepatitis E virus (HEV) that usually results in an acute infection. It does not lead to a chronic infection. While rare in the United States, hepatitis E is common in many parts of the world.

**Transmission:** Ingestion of fecal matter, even in microscopic amounts; outbreaks are usually associated with contaminated water supply in countries with poor sanitation.

**Vaccination:** There is currently no FDA-approved vaccine for hepatitis E.

More at: <http://www.cdc.gov/hepatitis/>

## **5) Codex Confirms “Alternative Approach” for *Listeria monocytogenes* in Ready to Eat Food**

July 09, 2009 – On Monday, the Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO) released a statement summarising 30 new safety measures targeting dangerous bacteria and chemicals - including *listeria monocytogenes* in ready to eat products .

[http://www.foodproductiondaily.com/Quality-Safety/Codex-confirms-alternative-approach-for-listeria-monocytogenes-in-ready-to-eatfood/?c=kwXQDvBea7D543LgpnPVxg%3D%3D&utm\\_source=newsletter\\_weekly&utm\\_medium=email&utm\\_campaign=Newsletter%2BWeekly](http://www.foodproductiondaily.com/Quality-Safety/Codex-confirms-alternative-approach-for-listeria-monocytogenes-in-ready-to-eatfood/?c=kwXQDvBea7D543LgpnPVxg%3D%3D&utm_source=newsletter_weekly&utm_medium=email&utm_campaign=Newsletter%2BWeekly)

## **6) Melamine milk crisis**

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## **Melamine milk crisis**

### **Countries to ensure safe feeding for infants and increase vigilance**

**Geneva/Rome, 26 September 2008** – The World Health Organization (WHO) and the UN Food and Agriculture Organization (FAO) are urging affected countries to ensure safe feeding of millions of infants following the ongoing melamine milk crisis in China. The two agencies also called on countries to be alert to the possible spread of melamine contaminated dairy products.

#### **Safe feeding**

"While breastfeeding is the ideal way of providing infants with the nutrients they need for healthy growth and development - it is also critical to ensure that there is an adequate supply of safe powdered infant formula to meet the needs of infants who are not breastfed," said Jørgen Schlundt, Director of the WHO Food Safety Department.

Replacing powdered infant formula with other products such as condensed milk, honey mixed with milk, or fresh milk is inappropriate as such products would put at risk the safety and nutritional status of this vulnerable population group, the two agencies advised.

"Restoring consumer confidence is critical. Melamine-contaminated products should be removed from the food chain in order to prevent further exposure. The safe supply of dairy products needs to be restored immediately," said Ezzeddine Boutrif, Director of the FAO Nutrition and Consumer Protection Division.

WHO recommends that all infants should be fed exclusively with breast milk for the first six months of life. No other liquid or food, not even water, is needed during this period. Thereafter, infants should receive adequate and safe complementary foods while breastfeeding continues up to two years of age and beyond.

#### **Increased vigilance**

Countries should closely monitor their markets, following reports of findings of imported melamine-contaminated products in several countries over the last two weeks.

The two agencies highlighted that melamine-contaminated products could reach markets in other countries through both formal and informal trade. Getting information about the origin of the product, up to date recall information or in some cases testing for melamine contamination might be considered. If found contaminated, appropriate actions such as product recall and safe disposal should be taken, based on an assessment of the risk to human health.

Food safety is not the sole responsibility of public authorities. The food industry is also responsible for ensuring a safe supply of food to the consumer.

"It is critical that the industry strongly invests in food safety and adopts a food safety culture covering the food chain from raw materials through to the final product," Bouterf said. Incidents such as this not only impact food safety and human health but also put the livelihoods of hundreds of millions of dairy farmers at risk. "There is a need for countries to do major investment in strengthening their food control and food-borne disease surveillance systems as it could minimise the potential occurrence of food safety incidents like this one," Schlundt said.

The melamine-contaminated dairy products event first came to the attention of the international organizations on 11 September. Both WHO and FAO have used the International Food Safety Authorities Network (INFOSAN) to inform and update national food safety authorities on this food safety crisis, one of the largest in recent years.

Over 54,000 children have sought medical treatment in China related to the consumption of melamine-contaminated infant formula. Almost 12,900 are currently hospitalized.

Melamine is commonly used in food contact materials (e.g. containers, labels, etc.) and can also be used in agriculture production such as fertilizer. Whether this has a potential for carry over into food at low concentrations (usually in the range of microgram per kilogram) and further impact on human health may need further evaluation. Melamine alone is of low toxicity, however animal studies have suggested that kidney problems occur when melamine is present in combination with cyanuric acid, a potential impurity of melamine. The level of melamine found in the contaminated infant formula has been as high as 2,560 milligram per kilogram ready to eat product, while the level of cyanuric acid is unknown.

**Online news from FAO:** <http://www.fao.org/newsroom/>

**Overview: Melamine contamination of dairy products in China can be found on the following FAO website**

[http://www.fao.org/ag/agn/agns/chemicals\\_melamine\\_en.asp](http://www.fao.org/ag/agn/agns/chemicals_melamine_en.asp)

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