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The Gleaner, by Jean-Francois Millet

Introduction

To promote cooperation between environment, health and food-safety policymakers in China and Europe, chinadialogue is launching a series of five special newsletters. These will provide international commentary and analysis, from a range of perspectives, on China's food-safety crisis: the key problems and their social and institutional context.

This project forms part of the "EU-China Civil Society Dialogue" and is generously funded by the European Union and British Embassy Beijing, and supported by the Institute for Civil Society of Sun Yat-sen University and German Asia Foundation.

This is the second in a series of five special newsletters on food safety from chinadialogue. In this instalment, we focus on the development of China's current day crisis. Our lead article provides a systematic review of the problems affecting the country's food supplies, while a syndicated piece from the Chinese media looks at the invasion of chemicals into China's food system, and the economic, social and political factors behind it. Two case studies in clenbuterol contamination offer a specific glimpse of the problems China is up against. And finally, we have a pocket history of food safety regulation in the United States, Japan and Europe, whose experiences can provide useful reference for China.

Editor: Zhou Wei

Translator: Olivia Boyd

CONTENTS

Articles:

A decade of food safety in China	2
Food in China: a chemical age.....	5

Blogs:

The Food Additive Story	8
From Lab to Market: Leanness Enhancers in China.....	11
An International Comparison of Food Safety Problems and Responses	13

A decade of food safety in China

Xu Nan

Ten years' of scares have ingrained a sense of crisis in the public psyche. Solving the problem will mean reconsidering the industrialisation of food production, writes **Xu Nan**.

From 2009 to 2010, following a decade of scares, China made a concerted attempt to tackle the problem posed to human health by unsafe food by improving its legislative framework, research capabilities and coordination efforts. It passed the Food Safety Law and established three new bodies: the State Council Food Safety Commission, the Food Safety Risk Evaluation Expert Committee and the Food Safety Standard Examination Committee. The hope was these structures would help to stop products carrying toxins or other harmful substances from entering the food chain.

But the problems are still there, and the public is still complaining. New standards for milk and dairy products put together by the Food Safety Standard Examination Committee – a process that took more than a year and reportedly involved intense debate and fraught cross-departmental coordination before it produced a set of 60 rules – were a particular

disappointment. Considered even weaker than regulations from the 1980s, they were described in some media a “historic step backwards”.

This reflects how deep-rooted and difficult to resolve China’s food safety issues are.

Researchers tend to divide China’s food-safety history since 1949 into four stages. During the first, from 1949 to 1979, the country’s biggest challenge was a shortage of staple foods. Over



As a response to food-safety problems, an egg enterprise in Mianyang city is attempting to establish whole product chain. Picture by Mianyang Evening News.

the second stage, the five years from 1979 to 1984, food security improved but a price of more abundant harvests was widespread use – and overuse – of fertiliser, causing food safety problems “at source”. At the same time, market mechanisms replaced the system of centrally planned food purchasing and sales, while crude and unmonitored food-production

workshops accounted for a large proportion of Chinese food processing.

During the third period, from 1984 to 2000, food safety emerged as a formal concept. The state passed the Food Hygiene Law and set standards

for the production and regulation of harm-free, green and organic foodstuffs.

The fourth stage covers the years since 2001 to the present, during which a litany of

“China lacks a mature and modern consumer movement, and consumers as a group are relatively unsavvy about getting their voices heard”

food-safety scares has hit China, and the country has worked to develop a food-safety management system, first with special regulations on food safety from the State Council, and then in 2009 with the passing of the Food Safety Law. The conversation has moved from an emphasis on hygiene to a broader concept of safety. Within just 10 years, the seemingly endless scares have made food safety a deep-set concern for the Chinese public.

From around 2003, food safety scares became more frequent, and were often regional in nature: a particular brand from a particular area would be pinpointed as dangerous. By 2005, China had seen scares over hotpot broth, rice, pickles, chives and noodles. Illegal additives and the risks in the processing industry became the focus of concerns. Consumers became fixated with certain types of food.

The public and government blamed China's crude set of food standards. But soon, broader questions were being asked. The panic over cancer-causing food dye [Sudan Red](#) was characteristic. The crisis of confidence was no longer regional, partial and confined to certain foods. It became widespread, common and covered many different products.

The 2008 [melamine milk scandal](#), in which at least six babies died and a further 860 were hospitalised after drinking milk laced with the chemical, was another turning point. In the crisis that followed, risks were identified at all the major firms in the industry. The reputation of a whole food category was destroyed overnight.

When the story came out in 2010 that Chinese people were consuming three million tonnes of [illegally recycled cooking oil](#) every year, fatigue set in. In fact, people have long known about this underground industry, but the

complex web of interests behind it has made the "gutter oil" problem impossible to eradicate.

Over the past 10 years, the problems posed to the food sector by China's industrialisation have become clear, and society has paid a high price.

The food supply chain is long and complex, stretching from primary crops in the field to processed products, from agriculture to industry. Many people consume basic foodstuffs produced by small businesses in a barely regulated sector. Various authorities fire out orders, while conflicting standards paralyse enforcement efforts and businesses seem like they're competing to reach new ethical lows. It's an industry that operates more on tacit understandings than rigorous controls. "Scientific research" serves to increase output and appearances. Unregulated markets are chaotic, waste is widespread and anything goes as long as it cuts costs.

Safety is always an issue when food industries modernise, and not just in China. Historically, western nations had similar experiences – and they still see problems today. Foodborne illnesses have been documented on every continent over the last decade, according to the World Health Organisation.

Food safety problems the world over share common roots: the profit motive, an imbalance of information between producer and consumer, inadequate laws and rules and weak regulation. But different nations approach these problems in different ways, through legislation, judicial practice, governance and social response. China's most notable characteristic here is that it lacks a mature and modern consumer movement, and consumers as a group are relatively unsavvy about making choices and getting their voices heard. Lu Fang of Jilin University's

philosophy institute believes this is a key reason for China's worsening food safety problem.

Over the years, China has seen the same sequence repeat itself time and again: exposure, outrage, falling sales, fear and government intervention. By 2008, whenever doubts were raised about any particular product, the farmers growing that food would suffer severe losses. And production would be further concentrated in the hands of large-scale industrial farmers.

As food-safety problems have worsened over the decade, many experts have argued that elements of the public's attitude to food safety are misguided – such as zero-tolerance for risk, exaggerated fears about chemical pollution and a tendency to conflate fake brands and unsafe foods. Behind this expert view is the assumption that food production should be regarded not as part of the agricultural chain but as a modern industry.

Chief expert of the Food Safety Risk Evaluation Committee Chen Junshi has repeatedly stated that “good food is made by production, not regulation”.

“Two-hundred million scattered farmers are raising all of China's chicken, ducks and fish,” he said. “If that doesn't change, pollution at the source cannot be dealt with. Also, most of China's half a million food producers are small and medium sized firms – and if you want to ensure that levels of microbes meet standards, or that additives are not overused, you need to improve the standards of those workers.”

Behind his words is the assumption that only further industrialisation of the food supply chain will solve China's food-safety crisis.

But people are already showing themselves nostalgic for the sustainable wisdom of traditional agriculture, with movements pushing for a return to an earlier food culture. Meanwhile, environmentalists are turning their attention to the ethics of livestock farming in light of health dangers posed by meat production.

In late 2009, the US documentary [Food, Inc.](#) became popular online in China. Facing their own food safety challenges, Chinese people joined the voices in the west questioning a food industry dominated by market logic.

As well as questions of market regulation, administration and legislation, we need to consider the industrialisation of food production. Chen Junshi has said that everybody would like chemical-free, clean food produced locally on a small scale, but asks if that will be possible given the size of our population. This is the burning question.

Almost all nations where the food industry has completely modernised have [community-supported agriculture](#) (CSA) movements, where consumers and producers are in direct contact and rebuild supply chains on a basis of trust. CSA is a civil-society attempt to create new channels to take food from farms to people. Needless to say, working in the shadow of the enormous food industry, these small-scale efforts have only a limited impact. But the Chinese people, embattled by frequent food safety scares, particularly the 2008 melamine milk scandal, are more desperate than ever to shake up the system. This is what the media calls the “battle for the dinner table”.

Xu Nan is managing editor in chinadialogue's Beijing office

Food in China: a chemical age

Gong Jing Cui Zheng Wang Qingfeng

Why are toxic chemicals and additives so widely misused in China's food chain? **Gong Jing, Cui Zheng** and **Wang Qingfeng** investigate.

China's food industry has rapidly industrialised over the last decade, bringing many benefits to the country's consumers. But techniques originating in the chemical industry are being misapplied in food production, triggering many safety scandals.

Worryingly, these techniques are increasingly refined, making the problem hard to detect, even after testing.

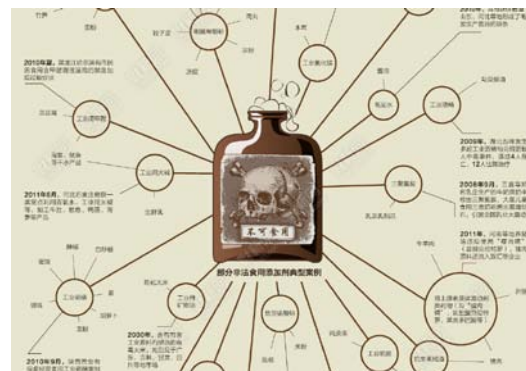
Industrial raw materials in food

In May, a government sampling of gelatine used in drug capsules found that firms all over China were using toxic materials. Eventually, the State Food and Drug Administration confirmed that more than 12% of the 254 firms tested were using harmful industrial gelatine, rather than edible gelatine, in their capsules.

That is unlikely to be the whole story. If things are this bad in the closely regulated drug industry, other big gelatine users – namely the confectionary and beauty industries – are hardly likely to be doing any better, said Zhu Yi, deputy professor of food science and nutritional engineering at China Agricultural University.

“When price is everything and regulation is weak, cheap raw materials translate into bigger market share and higher profits.”

On April 19 last year, the health ministry published a list of 47 non-food substances illegally used in foodstuffs, and a list of dozens of legal food additives being misused across 22 different categories of food. The



Picture by Caixin's New Century Weekly

agricultural ministry had previously issued a list of dozens of chemicals banned from use in animal fodder, drinking water, or in poultry and aquaculture production.

Food-safety experts said that neither of those lists was complete: the food cheats are far ahead of the authorities.

The economic logic behind the use of industrial raw materials is simple – costs are many times lower. When price is everything and regulation is weak, cheap raw materials translate into bigger market share and higher profits.

“Chemical” foods

Along with industrial raw materials, the Ministry of Health's list included 38 non-food additives being misused in food, the bulk of them chemical compounds.

The motive for using these substances is the same – profit. The chemicals are used either to boost outputs, or to make poor quality

products look better so that they can be sold at a higher price. More worryingly, chemical compounds are sometimes used to transform a poor quality product into a fake version of a more expensive one. For example, the toxic chemical dichlorvos is added to ordinary sorghum spirit to make it smell like Maotai, which is then passed off as.

A Ministry of Health working group has also found that the misuse of legal food additives is widespread. Its list includes dozens of legal additives being misapplied across 22 different categories of food.

Research shows that over-consumption of even legal food additives in the long term can increase risks of cancer, deformities and mutations.

One step ahead

In many cases, the methods used to make “chemical foods” are unimaginable even to the experts. Wang Shiping, a food science doctoral tutor at China Agricultural University explained that farmers couldn’t have come up with the idea of using melamine in milk to give the appearance of high protein levels, nor could the average technician. That scheme required familiarity with the [Kjeldahl method](#), which is used in milk testing to determine nitrogen content and knowledge of the protein content and chemical properties of various additives.

Another case that left even the experts reeling involved beansprouts, to which a hormone was applied to make them grow faster and without roots. The plump and white vegetables sold well, but long-term consumption could have caused cancer or deformities. So who decided to use that hormone? Similar cases have involved pig trotters and tofu.

Li Yongjing is [Dupont’s](#) director of nutrition and health for Greater China, deputy secretary of the Chinese Institute of Food Science and Technology and a senior member of the US Institute of Food Technologists. He noted that the manufacturing processes involved are beyond the abilities of the unqualified – they require accurate quantities and timing to work.

Zhu Yi and Wang Shiping agree that methods of fakery used in the food sector have advanced rapidly, leaving regulators and consumers in the dark.

Careful use of industrial salt in soy sauce in a recent case in Foshan, a city in southern China, meant that local quality-control authorities tested the product twice without finding anything wrong. Similarly, the dairy firms Sanlu, Yili and Mengniu, along with many others, had all been using melamine in their milk long before the practice was exposed.

Zhu Yi said that these “expert” criminals continue to think up new ruses in their pursuit of profit. Recent examples include additives [to make dishes smell better](#), or to improve the taste of braised pork; and passing off cow fat as beef. Experts have found that each of these methods involved various combinations of legal and unapproved additives.

The stomachs of ordinary people have become the testing ground for these “chemical” foods.

The big boys Arrive

For more than a decade, chemicals not meant for the food chain have been added to Chinese food products. The fact these practices have only recently come to public attention is thanks to one change – the big food companies are at it too.

From the use of cancer-causing food dye [Sudan Red](#) by KFC in 2005, to the melamine-tainted milk scandal of 2008 and the frequent scares since, big firms have

risked their brands and market share with illegal and low standard foods and drugs. Why?

Experts say the proliferation of problem foods rests on two key conditions. First, while the methods used may be harmful, most often they do not lead to immediate illness – the problems appear over the long term, and are not easily traced back to any single food. Second, when given the choice, people still prefer cheap food. China's huge and urbanising population is moving out of poverty and is not yet a discerning customer base.

Then there's market competition, driving illegal practices up the chain. Individuals or small factories decide to cheat, and their larger competitors – facing cost pressures – follow suit. Finally, large and medium sized companies join in.

The punishments risked during this process are nothing when compared to the potential profits. Zhu Yi urged food policymakers to be aware of this pattern and act to break it.

A Chinese problem

Experts point out that western nations faced similar problems in the past, but that even so the number of cases in China is shocking.

Food tracking is a common method for boosting food safety. Li Yongjing said that if you buy a pear in America, you can easily find out which farm it came from; if you buy a tin of pears, you can find out where the additives were sourced. But in China, this is almost impossible.

In the United States, large or medium-sized firms dominate every part of the food industry. But in China, agricultural products, meat and milk come from a myriad of small farms. Instead of the stable supplier relationships

seen in many western nations, Chinese foodstuffs are bought and sold by numerous individuals and traders. Food products are made by individuals and in small workshops. Tens of thousands of small and medium businesses compete, and it's survival of the fittest.

A long supply chain stretches between China's farms and its dinner tables: there are too many employers, too many products, too many points of sale and too many consumers.

Eight or nine authorities – agricultural, industrial and commercial, quality supervision, health and more – struggle to regulate the sector. Many food-safety experts say that the cost of a food traceability system is more than the Chinese market will accept. But Zhu Yi is adamant that, if China is to ensure food safety, this is what it needs.

Li Yongjing and Zhu Yi both said that the Chinese public is inadequately educated about food safety. In the west, unsafe foods do occasionally appear, but are rarely chosen by consumers, and these cases attract little interest – consumers themselves decide that excessively cheap food is likely to be unsafe, they said. But in China, while upmarket food brands have been growing for years, the reality is that they still have small market share and the bulk of consumers are very much price-led.

At a more basic level, China's penalties for producing harmful foods are too light, and the guilty are rarely caught. Internationally, it is understood that food needs to be regulated – but more, that you cannot stop victims from seeking judicial redress. Otherwise, Zhu Yi asks, how are we to prevent China's food market from becoming a race to the bottom?

Originally published in Caixin's New Century Weekly.

The Food Additive Story

Dong Ren, Chen Yen, Mi Aini, Li Jing

In 1973, Tsukasa Abe, a graduate of chemistry from Yamaguchi University in Japan, was working as a salesman for a food additive manufacturer. Sodium nitrate, potassium sorbate, polyglycerol esters of fatty acids – for Tsukasa Abe, these were a source of interest and achievement. A decade later, he was head salesman and known for his knowledge of the products. He even hoped to found the country's biggest additive company.

He was convinced he was solving problems for food processors, helping them produce the best possible products for the lowest possible cost.

One factory he knew made the dough wrappings for dumplings – but the skins constantly stuck to the machines, which then had to be stopped for the dough to be removed. He suggested emulsifiers and polysaccharide thickening agents and the factory bought in four different additives. “After that, the machines never stopped, it was strong ‘medicine’.”

He also suggested that a noodle maker known for the texture of its noodles and the freshness of its soup use emulsifiers and phosphates. This meant that even an untrained chef could produce perfect noodles. Meanwhile flavour enhancers and acidity regulators were used to make batches of noodle soup – dilute in 10 parts water, and you're done.

A fishstick maker – an excellent craftsman – was having trouble with supermarkets who



Picture from nipic.com

thought his products were too expensive. Couldn't he make something cheaper? Tsukasa Abe convinced him to use imported frozen fish pieces, chemical flavourings, protein hydrolizers and soya protein – saving time, effort and removing the need to fillet fresh fish. “Using frozen fish pieces is an embarrassment for a craftsman,” and initially he was reluctant, but in the end he gave in.

Tsukasa Abe said that his work then was a process of rationalisation, using additives to make improvements. “You don't need to be a craftsman, anyone can produce the same quality of product.” Cheaper ingredients, less time, fewer skills – the process of “rationalisation” went smoothly, as the food manufacturers were happy to join in.

Then, in 1983, on his three-year old daughter's birthday, Tsukasa Abe came home to find her eating a type of meatball made by a factory he had worked with. “It was only then that I realised I didn't want my own child eating that kind of food,” he said. “I'd seen myself as a

producer, a salesman – but not a consumer.” That shift changed the way he thought.

One factory boss would often tell him privately not to eat the cheap ham. A salted vegetable maker warned him off his own products: “They might be really cheap, but don’t buy them.” Vegetables that had turned black were being bleached and then recoloured with additives.

Tsukasa Abe wasn’t doing anything illegal – in fact he stuck carefully to state rules, standards and quantities for additive use, and everything was listed on the labels. “But that didn’t stop me feeling guilty.”

Manufacturers cut costs, supermarkets had cheap products which increased their sales, and the consumers got apparently safe and tasty food and could make in five minutes a meal that once took two hours. It seemed food additives were nothing but good news.

But consumers had no idea what was going into their food – the information wasn’t being made fully available. Labels usually say what additives have been used, but reading the label isn’t enough to really understand. Tsukasa Abe wanted to make the truth known, and he turned his back on additives.

But despite turning away from the industry, Tsukasa Abe said there is no point in focusing solely on the dangers of additives: they make food cheaper, faster and more convenient, and in the vast majority of cases are used in accordance with government standards. But he does advocate more openness – let the consumers know what they are actually eating so they can make their own choices.

To increase sales, the additive companies mix up phosphates, nitrite and organic acids and sell the mixtures for colouring, meat enhancement or quality improvers. This means the manufacturers can list the different additives as one item on the label.

Tsukasa Abe said there are 1,300 additives in use in Japan, with 500 or 600 of those used in daily life. He estimates that each person eats about 10 grams of additives a day – 4 kilograms a year, more or less the same as the average salt intake. One sandwich might contain 20 additives, including emulsifiers, yeast, flavourings, acidity regulators, phosphates and fragrances. Although each has been tested by government authorities, nobody knows what the effects of consuming them all together are.

There are similar problems with additives in China, although the route to get here was different.

Zhang Lisheng, head of research and development at Beijing Northern Dawn Additives, recalled that when he had just graduated in 1992 additives were rarely used – nobody knew how. Large-scale use only got started in 1996, after the government released a national standard for the application of food additives.

“That was the end of the 1990s, when we were exporting large quantities of meat products, and additives were being used a lot in food processing.”

He went on to say that when he first learned about additives, “they seemed like a kind of poison.” But now he believes that they are a boon for the food industry. “Additives have

allowed many new foods and food manufacturing techniques.”

It is the public’s requirements for a product’s appearance, texture, convenience and shelf life that make manufacturers improve their products, doing anything they can to keep the eyes and taste buds of the consumer happy.

But according to someone with the China Food Additives Association (CFAA), the problem with additives lies with artificial compounds such as colourings and preservatives. “The heavy use, or even misuse, of artificial synthetic additives meant that by the early 2000s people were realising that additives were harmful to human health and could even cause deformation or cancer in animals.” So standards and norms are extremely important.

Like Tsukasa Abe, Zhang Lisheng believes that the public should know what they’re actually eating. “You can have only 30% meat in your ham, or even no meat at all, but you have to tell the public what’s actually in there. It’s up to them whether or not they buy it.”

According to the CFAA source, a lack of clarity over standards is a big problem. “Currently 2,300 additives are approved for use, but there are national or industry standards for less than 300. Nor are there quality standards for compound food additives, which have taken off in the last few years.”

And some people are thinking even beyond issues of standards and safety. For Tsukasa Abe it’s a social issue: traditional methods of making food, which require time and the acquisition of skills, are being abandoned, while fake flavours are thought to be real. People, especially children, are coming to think that food is easily obtained and have no gratitude or thought for the efforts of nature and other people.

As he writes in his [book](#): “Daily life is more convenient, more comfortable, and richer, and we’ve gained a lot. That’s a fact. But haven’t we lost something precious?”

Originally published in Oriental Outlook

From Lab to Market: Leanness Enhancers in China

Su Ling

In February 2009, in one of the biggest food safety scandals of the time, 70 people in Guangzhou were poisoned by leanness enhancers in meat. Even now, after repeated attempts ban these additives, leanness enhancers have not been entirely banished from China's markets and reports of illegal use are commonplace.

According to reports in the Chinese newspaper Southern Weekend, many pork industry experts and farmers regard the use of leanness enhancers as an unwritten rule of the game – and the situation may even be worse than the use of melamine in milk.

So how have these substances, banned in other countries, made it out of the lab to take root in China's markets? Why can't they be banned? This report, published in Southern Weekend in April 2009, explains how the additives came into widespread use. At the time the report caused an uproar – and it is still worth reading today.

In the early 1980s, an American company called Cyanamid accidentally found that a substance called clenbuterol promoted the growth of lean meat in livestock. Between 1989 and 1992, there were a string of poisonings attributed to clenbuterol in meat. In January 1988, the European Economic Community banned the use of clenbuterol in livestock fodder, and in 1991 the US Food and Drug Administration also banned the substance.

In 1987 and 1988 Chinese scholars translated a number of papers on clenbuterol. China's own research on the chemical started in 1989 at Inner Mongolia Agricultural College (now a university). North-Eastern Agricultural University, Nanjing Agricultural University and Zhejiang University soon followed suit as clenbuterol becoming a popular subject for veterinary scientists, with 40 or 50 papers published during this period.

At this time, China was enjoying increased living standards and consumers were expressing a preference for leaner meat. The



Picture from lxkj.gov.cn

media also called for research into lean meat production. According to Xu Zirong, formerly deputy dean and PhD supervisor at Zhejiang University's College of Animal Sciences, importing lean pigs from overseas for breeding was hugely expensive, while to breed them locally would have taken generations. Increasing leanness by a change of their fodder was by far the easiest option.

“At the time we thought it was a great advance,” recalled Chen Zhangliu, professor at South China Agricultural University's School of Veterinary Medicine. “You could increase the amount of protein by 10% in

three or four weeks. An expert could breed pigs all his life and not get that result.” At the time, Chen was a member of the Ministry of Agriculture’s expert committee on medicine residue in animal products and deputy chair of its veterinary medicine assessment committee.

But not one of those papers published mentioned any side effects. Zu Zirong explained that at the time the state was advocating producing leaner pigs, and “we couldn’t go against the government. If we’d talked about side effects in our papers they wouldn’t have been published, so we avoided it.”

Use of leanness enhancers became widespread. Zheda Sunshine, a company founded by Zhejiang University, sold clenbuterol to pig farmers – mainly in Hunan and Hubei, where farms are larger. Company founder Chen Jianhui, who talks as if they were making a

contribution to the nation said, “We were proud to be doing it at the time. The deputy provincial governors in charge of agriculture all came to promote it, saying it should be used.” So more and more companies started making and selling the additives.

In March 1997, safety issues overseas led the Ministry of Agriculture to ban the use of certain hormones in fodder and livestock farming – and clenbuterol was at the top of the ban list.

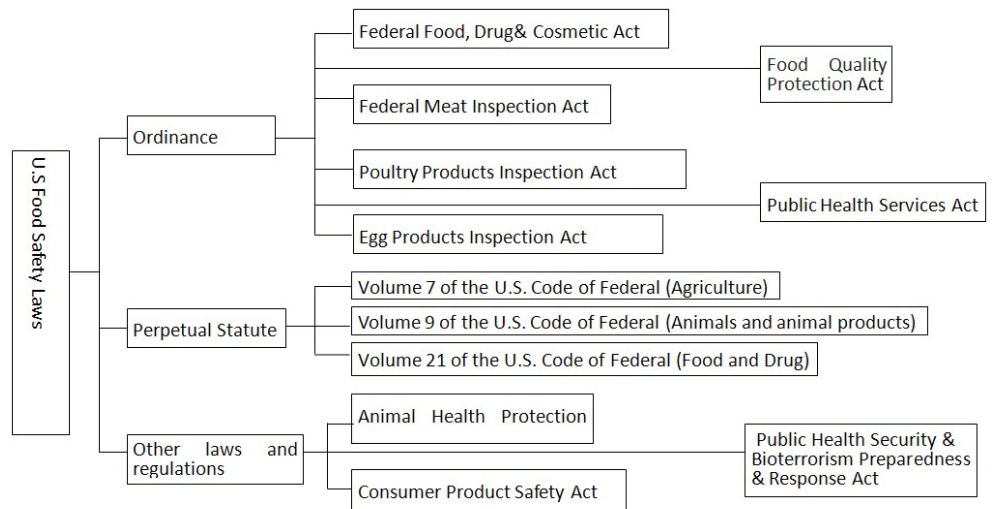
But even today some experts maintain that “it’s not the chemical itself that’s toxic, it’s the dose you use,” and that “farmers don’t use it scientifically and give excessive dosages.”

Originally published in Southern Weekend in April 2009.

An International Comparison of Food Safety Problems and Responses

Compiled by Zhang Chun

One-third of the world's population has at some point suffered a foodborne illness, according to the World Health Organisation and the UN's Food and Agriculture Organization. In modern history, food safety problems have triggered varying legislative and regulatory responses in different countries.



Frame Diagram of U.S. Food Safety Laws

The United States

As industrialisation took off between 1850 and the early 1900s, the trade in food became national, rather than taking place within state boundaries. The potential for huge profits led to fakery, adulteration and cheating. Manufacturers added large quantities of toxic preservatives and colouring to foods. It was common to add water to milk and coal to coffee. Only with the 1906 Pure Food and Drug Act did matters begin to improve.

But the industrialisation of food production during the second half of the twentieth century brought new risk.

In 2001, the death of two-year-old Kevin Kowalczyk after he ate a hamburger contaminated with E. Coli highlighted the huge problems with fast-food production lines. A series of food safety scares led to the House of Representatives passing the 2009 Food

Safety Enhancement Act, the biggest and most rigorous updating of food laws for 70 years. However, the Act has not yet been approved by the US Senate.

But in 2011, US President Barack Obama did sign the Food Safety Modernization Act (FSMA). This major update to existing law marked a shift from relying on testing food for problems to preventing contamination issues from arising. The main part of the Act saw an expansion of the powers of the state's food and drink officials, as well as costs and responsibilities for food manufacturers and tougher barriers to exporting food to the US. It gave officials the power to demand product recalls for the first time and prevent the import of products if testing was not carried out.

Japan

In 2000, Snow Brand dairy products caused an outbreak of food poisoning in the country,

which was followed by a number of similar incidents. In response, Japan became the first country in Asia to implement a food traceability system in 2001. This ensures that food can be tracked at the production, handling, processing, logistics and sales stages.

In 2006, to further strengthen food safety, Japan established a labelling system for agricultural chemicals in food, with stricter regulations for levels of all such chemicals than in the United States and European Union.

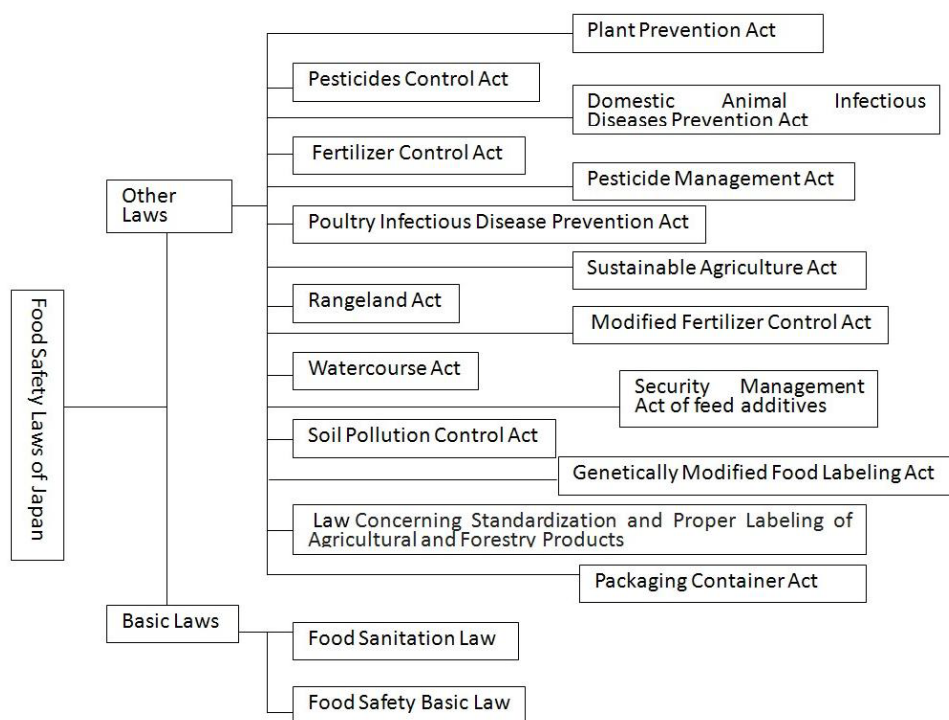
The EU

The European Economic Community had a food policy from its beginnings in the 1960s. This was to ensure that food could be sold easily between member nations. The development of food laws since then can be divided into three stages.

- Taking shape – from 1945 to the BSE crisis in 1996.

During this stage, farm subsidy programme the Common Agricultural Policy used subsidies to promote agricultural development, mainly to ensure the security of food supply.

But to produce more staple foods and earn more subsidies, agriculture became more intensive, with high use of fertiliser and pesticides. To increase output and reduce costs, the offal and bone meal of sick animals were used as fodder, a practice widely accepted to have led to outbreaks of animal diseases such



Frame Diagram of Food Safety Laws of Japan

as BSE.

- Legislative reform and rapid development (1996 to 2002)

In April 1997, the Council of Europe published a “green paper” on EU food rules, providing a foundation for a system of EU food-safety legislation. The Hazard Analysis and Critical Control Point (HACCP) system also came into being, to be used by the food processing industries in EU nations.

In January 2000, the EU published a White Paper on Food Safety, establishing the basic principles for EU food safety legislation, and for the first time bringing together all food safety matters within the food supply chain. Under this framework, the EU passed the Common Food Law in January 2002 and established the European Food Safety Authority (EFSA).

- Ongoing improvements (2000 onwards)

Since 2000, the EU has made a large number

of revisions and updates to its food safety laws and regulations, creating a robust food safety system covering the food supply chain from farm to table. The core of the system is the White Paper on Food Safety, with various laws, decrees and directives also in place.

The EU food safety system is characterised by clear responsibilities of interested parties; traceability; a focus on risk evaluation; the principle of prevention; early warning systems; and the overarching aim of protecting consumer safety.

Zhang Chun, intern at chinadialogue's Beijing office

Pictures are From Master Dissertation of Song Dawei, Renmin University of China, drawn by He Huihuan