



**2015肉类食品产业发展大会**

**World Meat Industry Development  
Conference 2015**

**中美肉类食品安全论坛  
U.S.-China Meat Product  
Safety Seminar**



中国肉类协会  
China Meat Association (CMA)



美国贸易发展署  
U.S. Trade and  
Development Agency

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**U.S.-China Standards and Conformity Assessment Cooperation Program (SCACP)**  
**The United States Trade and Development Agency (USTDA)**

**World Meat Industry Development Conference- U.S.-China Meat Product Safety Seminar**

**Date/Venue:** **Lushang Hyatt Regency Qingdao**  
88 Donghai East Road, Laoshan District, Qingdao, China  
Sept. 19, 2015

**Co-Hosts:** U.S.- China Food and Agriculture Partnership (AFP)  
China Meat Association (CMA)  
U.S. Trade and Development Agency (USTDA)

**Supporting Agencies:** American National Standards Institute (ANSI)  
North America Meat Institute (NAMI)  
U.S. Meat Export Federation (USMEF)  
U.S. Grains Council (USGC)  
Elanco Animal Health  
U.S. Food & Agriculture Export Alliance (FAEA)  
USA Jarvis  
OSI Group  
Smithfield Foods  
Sinotrans PFS  
Tyson Food

美国贸易开发署(USTDA)  
中国-美国标准与合格评定合作项目(SCACP)  
肉类食品产业发展大会·中美肉类食品安全论坛议程

日期 / 地点: 2015 年 9 月 19 日 青岛鲁商凯悦酒店

主办单位: 中美农业与食品合作项目  
中国肉类协会  
美国贸易发展署

指导单位: 美国国家标准协会  
北美肉类协会  
美国肉类出口协会  
美国谷物协会  
美国礼来公司  
美国粮食及农业出口联盟  
美国查维斯  
欧喜集团  
史密斯菲德食品公司  
中外运普菲斯  
泰森食品公司

## I. Preface

The U.S. and China have a long history of cooperation and technical assistance programs dating back to the first Science and Technology Agreement in 1979. This tradition of official bilateral cooperation continues to this day in the form of the Joint Committee on Cooperation in Agriculture (JCCA), which meets at least once every two years alternately in the United States and China. The JCCA was established in 2003. Most recently, U.S.-China Agriculture & Food Partnership (AFP) is designed to support the bilateral agricultural relationship by creating opportunities through increased coordination, more effective issue advocacy and the development of a more positive relationship between the U.S. and Chinese food and agriculture industries. The Animal and Animal Products Working Group formed within the AFP will strive to establish best practices throughout livestock, meat and poultry production, distribution and marketing chains to foster the adoption of proper production methods and ensure the safe distribution and use of quality food products.

Through today's meeting and increased dialogue between U.S. and China associations and exchange between U.S. and Chinese industry/companies in the meat industry:

- establish a best practices program to provide for total food chain quality assurance to ensure production and proper use of safe food.
- work cooperatively with our Chinese partners through the livestock, meat and food production chain, product distribution and marketing system in China.
- foster development of a strong safe food production system and build consumer confidence and the government's ability to administer appropriate regulatory oversight and control of this system.

## I. 前言

美国和中国从 1979 年的第一个科学和技术协议起就有悠久的合作历史和技术援助项目。这种两国官方的双边合作的传统以农业合作委员会 (JCCA) 的形式延续至今。农业合作委员会建立于 2003 年，至少每两年在美国或中国举行一次会议。最近，中美农业食品合作项目 (AFP) 的成立励志于支持双边农业关系，所做的工作包括加强协作与热点话题的有效沟通，以及建立中美两国食品和农业行业更积极的关系。动物及动物产品工作小组成立于中美农业食品合作委员会机构内，其目的在于建立畜牧业，肉类和禽类生产，分销和市场最佳的实践方式，以及采纳适合的生产方式，保证安全的分销及使用合格食品。

此次会议旨在通过增加中美两协会间的对话及中美肉类行业 / 企业间的交流以达到以下目的：

- 建立最好的实践计划，为整个食品链提供质量保障，保证生产和使用安全食品
- 促进与中国畜牧业、肉类加工业、食品生产链，产品分销以及市场系统的伙伴交流与合作
- 促进安全食品生产体系的发展，树立消费者信心

## II. Agenda

## II. 会议议程

## Agenda

13:00-13:30	Registration
13:30-13:45	<ul style="list-style-type: none"> <li>•Opening Remarks and Moderator: William Westman, Chairman, Animal and Animal Products Working Group, U.S. China Agriculture and Food Partnership and Senior Vice President, International Affairs, North American Meat Institute</li> <li>• Opening Comments –Li Shuilong, Executive President, China Meat Association; Vice President, International Meat Secretariat</li> <li>•Welcome: Mike Skahill, Treasurer, U.S. China Agriculture and Food Partnership and Vice President, Global Affairs, Smithfield Foods</li> <li>•Alfred Almanza, Under Secretary for Food Safety, U.S. Department of Agriculture</li> </ul>
13:45-14:30	<b><u>Panel One- Overview and Trend Food Chain Quality Assurance</u></b>
	1. Total Food Chain Quality Assurance – Farm to Chopsticks: <b>Dennis Erpelding, Director, International Food Safety Standards and Policy, Elanco</b>
	2. Facilitating the Adoption of Modern Nutrient Management Practices in China, <b>Bryan Lohmar, China Country Director, U.S. Grains Council</b>
14:30-15:30	<b><u>Panel Two: Working Together with Regulators in Improving Food Safety</u></b>
	3. Food Safety Crisis Management & Public Communications Training Program - Managing Risk Communications in Food Safety Crises”, <b>Karen Cannon, Assistant Professor, Agriculture and Environmental Sciences Communication University of Nebraska, U.S. Meat Export Federation</b>
	4. Private-Public Cooperation and Coordination in Food and Feed Laws and Regulations, <b>Richard Fritz, Global AgriTrends representing the Food and Agriculture Export Alliance</b>
	5. Private Sector Best Practices in Meat Inspection and Regulatory Oversight, <b>Dr. William James; William James and Associates, North American Meat Institute</b>
15:30-15:45	<b>Tea Break</b>
15:45-16:45	<b><u>Panel Three: Quality Control- Global Meat Production Best Practices</u></b>
	6. Best Practices: Preharvest Food Safety and HACCP, <b>Michael Bradley, Sr. Director International Regulatory Affairs, Food Safety, Smithfield Foods</b>
	7. “Effective Food Safety and Quality Control Systems in Modern, Global Food Manufacturing”; <b>Kenneth Petersen, DVM, MPH Senior Vice President, Quality Assurance and Regulatory Affairs, OSI Group, LLC</b>



	<b>8. “Reducing Drug Residues with Sound Animal Health and Husbandry Programs”, Bill Hewat, Director of Live Production, Tyson Foods</b>
16:45-17:00	Q&A & Wrap-up
17:00-18:00	Photo Opportunity and Industry Networking
18:00- 19:30	Dinner

## 会议日程

13:00-13:30	会议注册
13:30-13:45	<ul style="list-style-type: none"> <li>●开幕致词及主持人：北美肉类协会国际事务高级副总裁；中美食品与农业合作项目书记，动物与动物制品工作组联席主席 William Westman 先生</li> <li>●开幕演讲——中国肉类协会执行会长，世界肉类组织副主席李水龙致开幕辞</li> <li>●欢迎致辞：美国史密斯菲尔德食品公司全球事务副总裁；中美农业与食品合作项目财务长 Mike Skahill 先生</li> <li>●美国农业部副部长 Alfred Almanza 先生</li> </ul>
13:45-14:30	<b>第一部分：食物链条质量保障概况与发展趋势</b>
	1、总食物链的质量保证---从农场到筷子 ——美国礼来公司动物保健处国际食品安全标准与政策总监 Dennis L.Erpelding 先生
	2、促进现代营养管理方法在中国的采用 ——美国谷物协会中国区主任 Bryan Lohmar 博士
14:30-15:30	<b>第二部分：与监管者合作共同促进食品安全</b>
	3、食品安全危机管理与公共沟通训练项目---管理食品安全危机中的风险沟通 ——内布拉斯加州立大学农业与环境科学副教授，美国肉类出口联盟 Karen Cannon 女士
	4、在食品与饲料法律法规上的公私领域合作与协调 ——美国食品与农业出口联盟代表 Richard Fritz 先生
	5、私人领域在肉类检疫与监管上的最佳经验 ——威廉詹姆斯公司，北美肉类协会，William James 博士
15:30-15:45	茶 歇
15:45-16:45	<b>第三部分：质量监管——全球肉类生产中的最佳经验</b>
	6、最佳经验：收获前期的食品安全与 HACCP ——史密斯菲尔德食品公司食品安全国际法规事务高级总监 Michael Bradley 博士
	7、现代全球食品加工中有效的食品安全与质量监管系统 ——美国福喜集团质量保障与监管事务高级副总裁 Kenneth Petersen 先生
	8、动物健康与畜牧项目在减少兽药残留中的作用

*U.S.-China Meat Product Safety Seminar*

中美肉类食品安全论坛

	——泰森食品公司生产部总监 Bill Hewat 先生
16:45-17:00	问答环节
17:00-18:00	合影+行业交流
18:00-19:30	晚餐

### III. Sponsor and Organizer Introductions

### III. 主办与协办单位介绍



## US-China Agriculture and Food Partnership (AFP)

The U.S.–China relationship has become one of the most important bilateral relations in the world, and the agricultural and food trade ties stands as one of the key pillars of the U.S. China economic cooperation. With collaborative endeavor by governments and industries in both countries, U.S and China have maintained substantial agricultural cooperation in the past three decades.

At the U.S.–China Agricultural Summit in 2012, the two countries agreed to engage in dialogue on the topics of food safety, food security, and agricultural sustainability. Building upon the basis of the historical Plan of Strategic Cooperation signed in the Symposium, the “U.S.–China Agriculture & Food Partnership” (AFP) was established, to serve as the focal point of coordination not only between the United States and China, but also between private and public sector. AFP will refocus discussion on the benefits of the longstanding relationship between the U.S. and China on agricultural issues. Supported by members from the private sector with operations in one or both countries, AFP is an umbrella organization to coordinate projects in U.S.–China cooperation and serve as a platform for U.S.–China dialogue and discussion on the wide range of food and agricultural issues facing both countries.

Since its formal establishment in July 2013, AFP has 29 members, comprised of U.S. companies and non–profit industry cooperators. With an estimated overall investment of \$255 million and 5460 new jobs created in the year of 2013, AFP members have made significant contribution to Chinese agricultural economy, with their presence across the entire value chain of the agriculture and food industry in China.

AFP members interact with policy makers through participation in industry working groups, across six sectors–seed market, precision agriculture, grain processing and handling, animal and animal products, food processing & handling, investment & commercial transactions. By closely engaging in projects and activities such as showcasing global best practices, training, feasibility studies, and research, members of working groups produce work plans that are aimed to shape and inform the dialogue between U.S. and China on Agricultural and Food issues.

## 中美农业与食品合作项目

中美关系成为当今世界上最为重要的双边关系之一，农业与食品贸易也成为中美经贸合作关系的其中一个关键支柱。在两国政府与业界的协同努力下，中美在过去的三十年中维持了良好的农业合作关系。

在 2012 年的首届中美农业高层峰会上，两国就开展粮食安全、食品安全以及农业可持续性发展问题的对话达成共识。基于峰会上签署的《中美农业战略合作规划(2012–2017 年)》，中美农业与食品合作项目（AFP）应运而生，致力于协调中美两国，以及私人与公共领域之间的合作。中美农业与食品合作项目（AFP）希望将焦点重新转向中美在农业上长久稳固的合作关系所带来的利益上。在业务覆盖中美其中一国或两国的会员公司的支持下，中美农业与食品合作项目（AFP）是一个协调中美农业合作的代表机构，为中美就双方面临的一系列农业问题进行讨论和磋商提供平台。

自 2013 年 7 月成立起，中美农业与食品合作项目（AFP）拥有 30 个会员，包括美国企业以及非营利性行业合作社。在 2013 年，中美农业与食品合作项目（AFP）的会员在中国总投资额约为 2.55 亿美元，并创造了 5460 个就业岗位，在食品与农业产业链条中的各个环节为中国农业经济做出重要贡献。

项目会员通过参加行业工作小组推动合作项目。目前中美农业与食品合作项目（AFP）开展的行业工作小组包括六个主题：种业市场，精准农业、粮食加工与节粮减损、畜牧与动物制品、食品加工与处理，以及投资与贸易。通过积极参加工作小组的相关活动与计划，如展示全球最佳经验、培训、可行性及其他研究，会员共同撰写工作计划，旨在塑造并影响每年中美农业高层论坛中关议题的讨论。

## U.S.-China Agriculture and Food Partnership Member List

### 中美农业与食品合作项目（AFP）成员单位名单

(In alphabetic Order 按英文首字母顺序排列)

#### \*Founding Member 创始成员

1. 美国雅培公司 Abbott\*
2. 美国爱科集团 AGCO\*
3. 美国饲料工业协会 American Feed Industry Association (AFIA) \*
4. 美国阿彻丹尼尔斯米德兰公司 Archer Daniels Midland Company (ADM) \*
5. 亚洲农业咨询公司 Asian Agribusiness Consulting (AAC)\*
6. 美国种业贸易协会 American Seed Trade Association (ASTA)
7. 拜耳作物科学(中国)有限公司 BayerCropScience\*
8. 嘉吉投资(中国)有限公司 Cargill Investment (China) Ltd., \*
9. 凯斯纽荷兰工业 CNH Industrial (CNHI)\*
10. 美国国际棉花协会 Cotton Council International \*
11. 陶氏益农农业科技（中国）有限公司 Dow AgroSciences (DAS)\*
12. 美国杜邦先锋公司 DuPont Pioneer\*
13. 美国礼来公司全球动物保健 Elanco Animal Health \*
14. 约翰迪尔（中国）投资有限公司 John Deere (China) Investment Co.,Ltd\*
15. 元达律师事务所 McDermott Will & Emery LLP

16. 麦克拉提咨询事务所 McLarty Associates\*
17. 孟山都公司 Monsanto\*
18. 北美肉类协会 North American Meat Institute (NAMI)\*
19. 美国西北园艺理事会 Northwest Horticultural Council\*
20. 福喜集团 OSI Group \*
21. 美国辉宝动物保健品有限公司 Phibro Animal Health Corporation
22. 美国史密斯菲尔德食品公司 Smithfield Foods \*
23. 先正达（中国）投资有限公司 Syngenta (China) Investment Co., Ltd.
24. 美国泰森食品有限公司 Tyson Foods
25. 美国乳品出口委员会 US Dairy Export Council (USDEC)\*
26. 美国大豆出口协会 U.S. Soybean Export Council (USSEC)\*
27. 美国谷物协会 US Grains Council (USGC) \*
28. 美国肉类出口协会 US Meat Export Federation (USMEF) \*
29. 美国小麦协会 US Wheat Associates\*
30. 美国家禽蛋品出口协会 USA Poultry and Egg Export Council International Poultry Development Program (UIPDP)\*



### China Meat Association (CMA)

China Meat Association (CMA for short) is a national social organization registered at the Ministry of Civil Affairs of the People's Republic of China to assist the meat industry.

Established in May of 1992, CMA represents the Chinese enterprises, public institutions, social organizations and individuals in the meat industry. It is a non-profit social organization nationwide with the corporate legality. The members include the food companies in large and medium cities and counties, related scientific research and design institutes, universities and colleges, press corps, and private companies engaged in animal husbandry and slaughtering, meat (eggs) processing, cold-chain logistics, machinery and equipment, additives and seasonings as well as packing materials.

CMA is a member of International Meat Secretariat (IMS) Board of Directors and a member of IMS Executive Council.

CMA's Objectives: Persisting in the Reform and Opening-up Policy, insisting on scientific development, and serving the members, the industry and the meat consumers.

CMA's Functions: Strengthening industry self-discipline, responding to the industry demands, organizing trade exchanges, providing industry services, coordinating industrial relationships, protecting members' rights and interests, strengthening the association construction, promoting the industry development, ensuring the meat safety and implementing the civilization.

The headquarter and secretariat of CMA is located in Beijing. CMA has set up four Species Committees for Pork, Beef & Lamb, Poultry and Natural Casing, and other Specialized Committees for Meat Processing Machinery & Equipment, Meat Packing Materials, Meat Additives & Seasonings, Meat Cold-chain Logistics, and Meat Technology & Standardization, and as well as two Working Committees for Complaint Mediation and Credit System Construction.

## 中国肉类协会

中国肉类协会(简称“中国肉协”)是经中华人民共和国民政部批准注册登记的全国性肉类生产流通行业社团组织。英文译名 CHINA MEAT ASSOCIATION, 缩写 CMA。

中国肉类协会成立于 1992 年 5 月, 是由从事肉类产业的相关企事业单位、社会团体和个人自愿组成的全国性、行业性、非营利性的社会组织, 具有社团法人资格。协会会员覆盖全国畜牧养殖、畜禽屠宰、肉类(禽蛋)制品加工、冷链物流、机械装备、添加剂和调味品、包装物料等企业, 以及大中城市和重点县级食品公司, 相关科研、设计、大专院校、新闻单位等。

中国肉类协会是世界肉类组织理事和执委会委员单位。

中国肉类协会的宗旨是: 坚持改革开放, 坚持科学发展, 为全体会员服务, 为行业发展服务, 为满足人民群众肉类食品消费需求服务。

中国肉类协会的职责是: 加强行业自律、反映行业诉求、组织行业交流、提供行业服务、协调行业关系、维护会员权益、加强协会建设、促进行业发展、保障肉食安全、贯彻文明建设。

中国肉类协会总部及常设机构秘书处设在北京。协会下设猪业、牛羊业、禽业和天然肠衣四个专业分会及肉类加工机械与装备、肉类包装物料、肉类食品添加剂及调味品、肉类商品冷链物流、肉类科技与标准化五个独立开展工作的专业委员会, 同时还设有投诉调处和信用体系建设两个工作委员会。





## U.S.-China Standards and Conformance Cooperation Program

Sponsored by the U.S. Trade Development Agency (USTDA) and coordinated by the American National Standards Institute (ANSI), the **U.S.-China Standards and Conformance Cooperation Program (SCCP)** provides a forum through which U.S. and Chinese industry and government representatives can:

- Cooperate on issues relating to standards, conformity assessment, and technical regulations;
- Foster the relationships necessary to facilitate U.S.-China technical exchange on standards, conformity assessment, and technical regulations; and
- Exchange up-to-date information on the latest issues and developments relating to standards, conformity assessment, and technical regulations.

Beginning in 2013, ANSI will coordinate 20 workshops over a 3-year period in China under the SCCP. The workshops will cover a wide range of sectors, as proposed by interested U.S. private-sector organizations. Workshop topics will be chosen in coordination with relevant industry associations, ANSI, and USTDA.

To learn more about the U.S.-China SCCP or to express interest in sponsoring or participating in a workshop, please visit our website at:

**[www.standardsportal.org/us-chinasccp](http://www.standardsportal.org/us-chinasccp)**

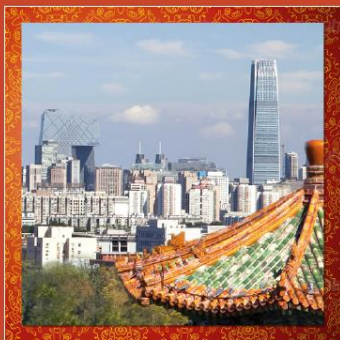
### FOR MORE INFORMATION

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## 美中标准与合格评定合作项目

由美国贸易发展署 (USTDA) 提供资助、美国国家标准协会 (ANSI) 负责协调的美中标准与合格评定合作项目 (SCCP) 在以下几个方面为美国和中国相关行业和政府代表提供了一个论坛:

- 在标准、合格评定以及技术法规等领域的合作;
- 为促进美中在标准、合格评定以及技术法规等领域的技术交流建立必要的联系;
- 及时交流关于标准、合格评定以及技术法规等领域的最新议题和发展情况的相关信息

根据 SCCP 项目规定,从 2013 年开始的三年内,ANSI 将在中国协调举办20场研讨会。根据美国私营业界相关组织的建议,研讨会内容将覆盖不同的行业和领域。研讨会的主题将由相关行业组织、ANSI 以及 USTDA 协调选定。

欲了解该项目的更多情况或有意赞助或参与该项目,请访问下列网站:

[www.standardsportal.org/us-chinasccp](http://www.standardsportal.org/us-chinasccp)

了解其他信息,请联系

Ms. Madeleine McDougall

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## American National Standards Institute (ANSI)

As the voice of the U.S. standards and conformity assessment system, the American National Standards Institute (ANSI) empowers its members and constituents to strengthen the U.S. marketplace position in the global economy while helping to assure the safety and health of consumers and the protection of the environment.

The Institute oversees the creation, promulgation and use of thousands of norms and guidelines that directly impact businesses in nearly every sector: from acoustical devices to construction equipment, from dairy and livestock production to energy distribution, and many more. ANSI is also actively engaged in accrediting programs that assess conformance to standards – including globally-recognized cross-sector programs such as the ISO 9000 (quality) and ISO 14000 (environmental) management systems.

ANSI has served in its capacity as administrator and coordinator of the United States private sector voluntary standardization system for more than 90 years. Founded in 1918 by five engineering societies and three government agencies, the Institute remains a private, nonprofit membership organization supported by a diverse constituency of private and public sector organizations.

Throughout its history, ANSI has maintained as its primary goal the enhancement of global competitiveness of U.S. business and the American quality of life by promoting and facilitating voluntary consensus standards and conformity assessment systems and promoting their integrity. The Institute represents the interests of its nearly 1,000 companies, organization, government agency, institutional and international members through its office in New York City, and its headquarters in Washington, D.C.



## 美国国家标准协会（ANSI）

American National Standards Institute（ANSI——美国国家标准协会）是由公司、政府和其他成员组成的自愿组织，负责协商与标准有关的活动，审议美国国家标准，并努力提高美国在国际标准化组织中的地位。ANSI 是 IEC 和 ISO 的 5 个常任理事成员之一，也是 4 个理事局成员之一，参加 79% 的 ISO/TC 的活动，参加 89% 的 IEC/TC 活动。ANSI 是泛美技术标准委员会（COPANT）和太平洋地区标准会议（PASC）的成员。

美国国家标准学会（American National Standards Institute: ANSI）成立于 1918 年。当时，美国的许多企业和专业技术团体，已开始了标准化工作，但因彼此间没有协调，存在不少矛盾和问题。为了进一步提高效率，数百个科技学会、协会组织和团体，均认为有必要成立一个专门的标准化机构，并制订统一的通用标准。1918 年，美国材料试验协会（ASTM）、与美国机械工程师协会（ASME）、美国矿业与冶金工程师协会（ASMME）、美国土木工程师协会（ASCE）、美国电气工程师协会（AIEE）等组织，共同成立了美国工程标准委员会（AESC）。美国政府的三个部（商务部、陆军部、海军部）也参与了该委员会的筹备工作。1928 年，美国工程标准委员会改组为美国标准学会（ASA）。为致力于国际标准化事业和消费品方面的标准化，1966 年 8 月，又改组为美利坚合众国标准学会（USASI）。1969 年 10 月 6 日改成现名：美国国家标准学会（ANSI）。

美国国家标准学会是非赢利性质的民间标准化组织，是美国国家标准化活动的中心，许多美国标准化学协会的标准制修订都同它进行联合，ANSI 批准标准成为美国国家标准，但它本身不制定标准，标准是由相应的标准化团体和技术团体及行业协会和自愿将标准送交给 ANSI 批准的组织来制定，同时 ANSI 起到了联邦政府和民间的标准系统之间的协调作用，指导全国标准化活动，ANSI 遵循自愿性、公开性、透明性、协商一致性的原则，采用 3 种方式制定、审批 ANSI 标准。

ANSI 现有工业学、协会等团体会员约 200 个，公司（企业）会员约 1400 个。领导机构是由主席、副主席及 50 名高级业务代表组成的董事会，行使领导权。董事会闭会期间，由执行委员会行使职权，执行委员会下设标准评审委员会，由 15 人组成。总部设在纽约，卫星办公室设在华盛顿。



## North American Meat Institute (NAMI)

NAMI is a national trade association that represents companies that process 95 percent of red meat and 70 percent of turkey products in the US and their suppliers throughout America.

Headquartered in metropolitan Washington, DC, NAMI keeps its fingers on the pulse of legislation, regulation and media activity that impacts the meat and poultry industry and provides rapid updates and analyses to its members to help them stay informed. In addition, NAMI conducts scientific research through its Foundation designed to help meat and poultry companies improve their plants and their products. The Institute's many meetings and educational seminars also provide excellent networking and information-sharing opportunities for members of the industry.

North American Meat Institute (NAMI) is working cooperatively with the China Meat Association to foster and promote business-to-business connections to enhance adoption of advanced meat processing technologies and improve the meat and poultry distribution network in China.

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## 北美肉类协会

北美肉类协会是代表在美洲的肉类生产，以及肉类供应商的行业协会，其会员单位生产在美国95%的红肉制品和70%禽肉类制品。



总部位于华盛顿特区的北美肉类协会，旨在为会员单位提供肉类和禽类相关的及时的法律法规和媒体宣传，以及其他肉类生产的行业市场信息和分析，帮助其成员单位紧随行业的发展。同时，北美肉类协会亦进行旨在帮助肉类和禽肉生产企业提高生产工业和产品质量的科学研究。协会每年都定期举行学术座谈和信息共享，为行业内会员提供相互交流和经验分享的平台。

北美肉类协会（North America Meat Institute）与中国肉类协会共同培养和促进企业间关系，提高先进肉类加工技术的应用以及改善肉类与家禽在中国的分销网络。



## U.S. Meat Export Federation

The mission of USMEF is "to increase the value and profitability of the U.S. beef, pork, and lamb industries by enhancing demand for their products in export markets through a dynamic partnership of all stakeholders." Simply put, USMEF is "Putting U.S. Meat on the World's Table."

The U.S. Meat Export Federation (USMEF) was established in 1976 as a nonprofit trade association working to create new export opportunities for U.S. beef, pork, lamb and veal. USMEF receives funding from the U.S. Department of Agriculture (USDA), the beef, pork, lamb, corn and soybean checkoff programs, as well as its members representing nine industry sectors: beef/veal producing & feeding, pork producing & feeding, lamb producing & feeding, packing & processing, purveying & trading, oilseeds producing, feedgrains producing, farm organizations and supply & service organizations. Headquartered in Denver, USMEF has offices in Beijing, Brussels, Hong Kong, Mexico City, Monterrey, Moscow, Seoul, Shanghai, Singapore, St. Petersburg, Taipei and Tokyo. USMEF also has special market representatives operating in China, the Middle East, Central & South America and the Caribbean.

USMEF carries out market development activities in more than 80 countries. These activities fall into several primary areas:

- Marketing - Creating demand in international markets for U.S. meat through promotions, trade seminars, consumer education, advertising and public relations.
- Trade Servicing - Working to bring buyer and seller together and by conducting both market and product research.
- Market Access - Providing the U.S. government and industry with the market intelligence necessary to secure, maintain and develop fair and reasonable access to international markets.

## 美国肉类出口协会

美国肉类出口协会的宗旨是通过与业务关连者建立积极的伙伴合作关系，扩大出口市场外需，从而达到为美国牛肉、猪肉和羊肉产业增值和提升回报的目标。简而言之，我们的使命就是“令美国红肉风行全世界”。

美国肉类出口协会成立于 1976 年，是一个非营利的畜肉推广组织。协会成立的宗旨是为美国牛肉、猪肉、羊肉和犊牛肉开拓出口商机。我们的主要营运资金途径，源于美国农业部，美国牛肉、猪肉、羊肉和大豆基金会的拨款计划及代表九大产业的会员捐款。九大产业指牛肉和犊牛肉的畜牧及生产单位、猪的畜牧及生产单位、羊的畜牧及生产单位、屠宰加工厂、贸易加工厂、油籽生产、饲料生产、农场及相关行业服务的公司。我们的总部设于丹佛，并在北京、上海、香港、台北、首尔、东京、新加坡、莫斯科、圣彼得斯堡、墨西哥城、蒙特雷以及布鲁塞尔设有办公室。此外，我们在中国、中东、中南美洲和加勒比海等地皆有特驻推广专员。

我们在全球八十多个国家进行市场拓展活动，涉猎范围主要分为：

- **市场推广**

利用推广营销活动、商务研讨会、教育性计划、广告及公共关系以扩展海外市场对美国肉品的需求。

- **贸易服务**

通过在世界各地所建立的良好贸易网络，将各地市场合适的买家及卖家紧密联系起来；协会亦会进行市场和产品调查，收集市场资讯。

- **市场准入**

为美国政府和肉类出口商提供出口相关贸易问题的顾问意见和市场讯息，目标是构建更公平和更少贸易壁垒的国际营商环境。



## U.S. Grains Council

The U.S. Grains Council develops export markets for U.S. barley, corn, grain sorghum and related products. The Council believes exports are vital to global economic development and to U.S.

agriculture's profitability.

Founded in 1960, the Council is a private, non-profit corporation with 10 international offices and programs in more than 50 countries. Its unique membership includes producer organizations and agribusinesses with a common interest in developing export markets. Membership funds trigger matching market development funds from the U.S. government and support from cooperating groups in foreign countries to produce an annual development program valued at approximately \$27.9 million.

The Council tailors its programs to meet individual countries' cultures and needs. Our technical programs teach livestock and poultry producers how to use feed grains effectively and manage their operations efficiently. Our trade servicing efforts educate potential and current customers about the U.S. marketing system, including financing, government programs, U.S. feed grains quality and prices. Our trade policy initiatives identify foreign barriers to U.S. feed grains exports.

## 美国谷物协会

美国谷物协会为美国的大麦、玉米、高粱和相关产品开发出口市场。协会认为，这些产品的出口对于全球经济的发展和美国农业的盈利，是非常重要的。

谷物协会成立于 1960 年，是一个民间的非营利机构，设有 10 个国际办事处，在 50 多个国家开展各种项目。它独特的会员制包括了对开发出口市场有着共同兴趣的种植者组织和农业综合企业。会员费和美国政府提供的相应市场开发资金，以及外国合作伙伴给予的支持，使协会每年开展的项目总额超过 2800 万美元。

协会针对不同国家的文化和需求开展相应的项目。我们的技术项目培训家畜和家禽生产者如何有效地使用饲料谷物和管理农场。我们的贸易服务帮助潜在客户和已有客户了解美国的市场体系，包括融资、政府项目、美国饲料谷物的品质和价格。我们的贸易政策举措旨在确认美国饲料谷物出口的海外贸易壁垒。





## Elanco Animal Health

Elanco is a global animal health company with a vision of “Food and companionship enriching life”. Elanco fulfills this vision through three primary pursuits:

- Helping deliver a safe, more affordable, more abundant food supply by improving the health of animals,
- Helping pets live longer, healthier, higher-quality lives,
- And improving food safety.

Elanco strives to develop and deliver products safe for consumers, animals and the environment. All Elanco products conform to rigorous regulatory oversight and quality assurance systems - systems built upon consistency, dependability, accountability and traceability.

Through innovative products, quality systems and a shared vision, Elanco strives daily to enhance animal health—and enrich the lives of people worldwide.

Elanco was established in 1954 and is headquartered in Greenfield, Indiana, USA. Elanco has more than 7,000 employees operating in 70 countries, with 16 manufacturing and 14 research sites. It has a comprehensive portfolio of nearly 300 brands encompassing therapeutics, vaccines, parasiticides, antimicrobials, surgical, enzymes, food safety and more. Elanco is a division of Eli Lilly and Company, an innovation-driven pharmaceutical corporation.

## 美国礼来公司

美国礼来公司动物保健部是一家全球性动物保健公司，我们的愿景是：“食品和伴侣动物丰富人们的生活”。

美国礼来公司动物保健部主要是通过三个方面实现我们的愿景：

- 通过不断改善动物健康来实现安全的、可支付的起的、更丰富的食品供应
- 让宠物更长寿、更健康、享受更高品质的生活
- 不断改善食品安全状况

美国礼来公司动物保健部努力研发对消费者、动物及环境安全的产品。所有美国礼来公司动物保健部的产品都严格遵守监管机构的监督和品质保障体系-该体系建立在一致性、可靠性、有责任并可追溯。

通过不断创新的产品，品质保障体系和共同的愿景，美国礼来公司动物保健部每一天都在无时无刻地改善动物健康-并丰富世界各地人们的生活。

美国礼来公司动物保健部成立于 1954 年，总部位于美国印地安纳州格林菲尔德。美国礼来公司动物保健部现有 7000 名员工遍布全球 70 个国家，并在世界各地拥有 16 家生产企业及 14 个研发机构。公司拥有近 300 个品牌的产品组合，包括治疗，疫苗，驱虫药，抗菌药，手术，酶制剂，食品安全产品等。美国礼来公司动物保健部是以创新驱动为主的美国礼来制药公司的一个分支。



## Food and Agriculture Export Alliance

The Food and Agriculture Export Alliance (FAEA) focuses exclusively on working with government officials to establish science-based and commercially viable food and feed safety laws and regulations. FAEA strives to assist regulatory officials and the entire supply chain in establishing practices which advance food safety, animal and plant health, consumer acceptance and promote trade.

FAEA also works to align U.S. and foreign government laws and regulations with the World Trade Organization's (WTO) Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT) requirements; and the Codex Alimentarius Commission, International Plant Protection Convention (IPPC) and World Organization for Animal Health (OIE) standards. FAEA works to assure that a viable regulatory environment is developed through the enhancement of human resources within the pork, poultry, dairy, feed grains, beef and soybean sectors.

## 美国食品与农业出口联盟

美国食品与农业出口联盟（FAEA）着重于与政府官员共同协作，建立以科学为基础的商业可行的食品和饲料安全的法律法规框架。FAEA 致力协助政策制定部门，以及全产业链建立先进的食品安全，动物健康与植物保护，消费者信心和促进贸易的行业惯例。

FAEA 与在世界贸易组织（WTO）内的包括美国和其他国家政府的法律法规合作，推广卫生和植物检疫措施和技术性贸易壁垒的要求；以及食品法典委员会，国际植物保护公约（IPPC），世界动物卫生组织（OIE）所推广的标准。FAEA 努力确保可行的法律环境的创造，是围绕着猪肉，禽类，奶制品，饲料谷物，牛肉和大豆的领域。



## Jarvis Production Corporation

Jarvis Products Corporation is the world's largest producer of meat and poultry processing equipment, and we have 14 subsidiaries in the world.

We are working on sale slaughter and cutting equipment's; including skinning machines, carcass opening and splitting saws, blades for cutting meat, hock cutters bung droppers and so on; We also sale processing machines for cleaning white and red innards, meat saws, tenderizers, packing machines; cleaning and cutting machines for fruit and vegetables; Metal gloves, apron, knives and sharpeners; Fish equipment. And we have had much experience in feedlot building, grain storage, breeding and slaughterhouse building.

Jarvis is committed to provide customers with various high-quality products as well as excellent after-sales service.

## 美国查维斯

美国查维斯是世界上最大的肉食品及禽类加工机械生产商，总部在美国，在全球 14 个国家设有分公司。

查维斯专业销售猪、牛、羊、家禽的屠宰、分割设备；包括剥皮机器，畜体开胸及劈半锯，肉类切割锯条，角腿部切割机，开肛器，分割锯等。同时销售白内脏加工设备；各类锯骨机，嫩化机，包装机；水果、蔬菜的清洗、切割设备；钢丝手套、围裙、各种刀具以及磨刀设备；鱼类加工设备等；并在饲养场建设，谷物加工，牲畜饲养以及屠宰场的规划建设等方面有先进的技术。

查维斯公司不仅为您提供多样高质量的产品，而且承诺提供完善优质的售后服务。

## OSI Group



OSI Group, as a global food processor, has more than 60 facilities in 16 countries around the world. OSI was established in 1909 and its headquarters are located near Chicago, Illinois, in the United States of America.

OSI produces raw, partially-cooked, and fully-cooked chicken, beef, and pork products, as well as a variety of other non-meat products including pizza, baked goods, and produce. The company sells products in over 40 countries.

Customers of OSI include world leading quick service restaurants and other away-from-home food providers, branded food marketers, and food retailers.

OSI's core operating philosophy centers on partnering with well-known food companies offering its manufacturing expertise and global infrastructure to develop and produce a range of products and services while eliminating or minimizing commodity exposure to OSI and its customer partners.

## 欧喜集团

作为世界级的食品加工商，欧喜集团在全球的 16 个国家建有逾 60 家工厂，拥有近 20,000 名员工。集团成立于 1909 年，总部位于美国伊利诺伊州，临近芝加哥。

欧喜集团向超过 40 个国家和地区销售全生，半熟，全熟的鸡肉，牛肉，和猪肉制品，及各种非肉类产品包括披萨，烘焙食品，鸡蛋和蔬菜农产品。

欧喜集团的客户包括全球快餐和外卖连锁供应商，品牌食品营销商，及食品零售商。

欧喜集团的核心运营理念为和知名食品公司合作，提供专业的食品制造经验和全球性的基础设施，在开发和生产系列优质产品并提供服务的同时，规避大宗商品价格波动风险或将风险减到最小。



Smithfield Foods

Smithfield Foods is a \$15 billion global food company and the world's largest pork processor and hog producer. In the United States, the company is also the leader in numerous packaged meats categories with popular brands including Smithfield®, Eckrich®, Farmland®, Armour®, Cook's®, John Morrell®, Gwaltney®, Nathan's Famous®, Kretschmar®, Margherita®, Curly's®, Carando® and Healthy Ones®. Smithfield Foods is committed to providing good food in a responsible way and maintains robust animal care, community involvement, employee safety, environmental and food safety and quality programs. For more information, visit [www.smithfieldfoods.com](http://www.smithfieldfoods.com).

### 史密斯菲尔德食品公司

史密斯菲尔德食品公司是一家市值 150 亿美元的全球食品公司，是世界最大的猪肉加工商及生猪饲养商。在美国，我们是众多加工肉制品品牌的领军生产商，这些极受欢迎的品牌包括：艾克里奇®、法姆兰特®、阿莫尔®、库克斯®、约翰莫瑞尔®、格瓦尼®、纳森®、克雷奇玛®、玛格丽特®、克里斯®、卡兰多®及健康一号®。史密斯菲尔德食品公司致力于以负责任的方式生产产品，执行强大的动物福利、社区参与、员工安全、环境和食品安全，及产品质量措施。查询更多资料请到官方网页，[www.smithfieldfoods.com](http://www.smithfieldfoods.com)。



Sinotrans PFS

Sinotrans PFS Cold Chain Logistics Co., Ltd ("Sinotrans PFS") was established in 2009, in Lingang New City of Shanghai Pudong New District. Sinotrans PFS is a joint venture company between Sinotrans Limited ("Sinotrans"), Preferred Freezer Services ("PFS"), Yangming Marine Transport Corporation ("Yangming") and YIDA

Group ("YIDA").

Sinotrans PFS is a leader in cold chain warehousing and logistics, continuously expanding their operational scale and improving their service levels. The combination of professional cold storage and transportation, along with well-trained management and warehouse operations staff, and the advantage of strategic JV partners, has enabled Sinotrans PFS to become the “preferred” all-round third party cold chain service supplier.

Sinotrans PFS custom-designed, built and operates 3 temperature-controlled facilities strategically located in Shanghai and Tianjin. The Shanghai Lingang facility is one of the largest, and the first to have a fully automatic racking system, in China. Sinotrans PFS will continue to expand operations into China’s inland economic regions from its current coastal city locations.

## 中外运普菲斯

中外运普菲斯冷链物流有限公司（以下简称“中外运普菲斯”）成立于2009年，总公司设立在中国上海浦东新区临港新城，是由中国外运股份有限公司（简称“中外运”）、普菲斯美国（简称“普菲斯”）、阳明海运股份有限公司（简称“阳明”）以及亿达集团（简称“亿达”）共同出资在中国成立的合资公司。

中外运普菲斯是一家专门从事冷链仓储及物流的专业企业，利用普菲斯专业的冷库和冷藏运输技术，本土经营管理能力及战略伙伴的优势，不断提升经营规模，扩大服务范围，现已成为真正的全能型第三方冷链服务供应商。

中外运普菲斯在上海和天津建成并运行了三座单体冷库，其中上海临港暨我公司在华第一座冷库同时也是中国最大之一、中国第一的全自动货架系统。中外运普菲斯将继续前进的脚步，自中国沿海重要城市逐步向内陆经济重镇推进。



## Tyson Foods

Tyson Foods has had a presence in China since 2001 and currently has two fully integrated poultry complexes, Tyson Nantong and Tyson Rizhao, along with one further processed joint venture facility, Tyson DaLong.

Tyson Foods, Inc., with headquarters in Springdale, Arkansas, is one of the world's largest food companies with leading brands such as Tyson®, Jimmy Dean®, Hillshire Farm®, Sara Lee®, Ball Park®, Wright®, Aidells® and State Fair®. It's a recognized market leader in chicken, beef and

pork as well as prepared foods, including bacon, breakfast sausage, turkey, lunchmeat, hot dogs, pizza crusts and toppings, tortillas and desserts

## 泰森食品

自 2001 年开始，泰森食品已在中国存在。泰森食品目前拥有两个完全集成的家禽综合设施，泰森南通和泰森日照，以及一个深加工合资厂，泰森大龙。

总部设在美国的阿肯色州的泰森食品公司是世界上最大的食品公司之一。它拥有世界一流的品牌，比如 Tyson®, Jimmy Dean®, Hillshire Farm®, Sara Lee®, Ball Park®, Wright®, Aidells® 和 State Fair®。泰森食品公司是一个在鸡肉，牛肉，猪肉，以及加工食品，包括熏肉，早餐香肠，火鸡，午餐肉，热狗，比萨饼皮和馅料，玉米饼和甜点方面公认的市场领导者。

## IV. Speaker Biographies

### IV.演讲人介绍



## Dennis L. Erpelding

Chairman of the Food and Agriculture Export Alliance (FAEA)

Director, International Food Safety Standards and Policy, Elanco, a Division of Eli Lilly and

Former Chairman of the U.S. Meat Export Federation

Former Operating Committee member of the U.S. Dairy Export Council (USDEC)

Former President of the National Agri-Marketing Association (NAMA)



Dennis L. Erpelding, Director, International Food Safety Standards and Policy, leads Elanco's global strategy to advance food safety standards for its products. Elanco is a division of Eli Lilly and Company, headquartered in Greenfield, Indiana, USA. He is on the global scientific affairs and policy leadership team that oversees and coordinates the strategic direction for activities worldwide. Mr. Erpelding joined the Elanco Animal Health division of Eli Lilly and Company in 1989 where he has held positions in market development, public information, industry affairs, marketing, government relations, poultry products sales management, and since October 1997 global corporate affairs / global market access management.

Mr. Erpelding is Chairman of the Food and Agriculture Export Alliance that is comprised of the U.S. Dairy Export Council, U.S. Grains Council, USA Poultry & Egg Export Council, U.S. Soybean Export Council and the National Pork Producers Council; which represents about 40% of U.S. agricultural exports. Mr. Erpelding is a former Chairman of the U.S. Meat Export Federation. He is a former Operating Committee member of the U.S. Dairy Export Council and currently on the Operating Committee of the Agri-Business Educational Foundation. He represents Elanco for the International Meat Secretariat and the International Poultry Council. He is a past President of the National Agri-Marketing Association.

The past sixteen years, Mr. Erpelding has worked extensively with governments, international organizations and food chain stakeholders in the Asia Pacific, the Americas, Europe and Africa addressing food security needs and food safety objectives with a focus on key issues relevant to the animal health industry such as market access, trade, antibiotic resistance, biotechnology and new product introductions. He has been extensively involved in Codex Alimentarius Commission activities and international standards setting work. From 2009 August through 2010 December, Mr. Erpelding was based in Beijing, P.R. China focused on building Elanco's strategic corporate affairs and business capabilities.



A native of Whittemore, Iowa, Mr. Erpelding was raised on a diversified livestock and crop farm. He received a Bachelor of Science degree in dairy science from Iowa State University in 1981 and in 1989 he earned a Masters of Business Administration degree from The Ohio State University.

## Dennis L. Erpelding

美国食品及农产品出口联盟主席（FAEA）

美国礼来公司动物保健部国际食品安全标准及政策总监

美国肉类出口协会前任主席

美国奶业出口协会（USDEC）前运营委员会委员

国家农业市场开发协会（NAMA）协会前主席

Dennis L. Erpelding, 美国礼来公司动物保健部国际食品安全标准及政策总监，领导礼来公司动物保健部全球战略，促进礼来产品的国际标准的实施。礼来公司动物保健部是礼来公司的一个分支，位于美国印第安纳州 Greenfield。他在全局科学事务及政策领导团队，监督并协调公司全球业务活动的战略方向。Erpelding 先生于 1989 年加入美国礼来公司动物保健部，曾任职于市场开发、公共信息、产业事务、市场、政府关系、家禽产品销售管理；自 1997 年 10 月份，任职于全球政府事务/全球市场准入管理团队。

Erpelding 先生是美国食品及农产品出口联盟主席，该联盟由美国奶业出口协会，美国谷物协会，美国禽蛋出口协会，美国大豆出口协会及生猪生产着协会组成；代表美国 40% 农产品出口额。Erpelding 先生是美国肉类出口协会前主席；美国奶业出口协会运营委员会前委员，现为农业-经营教育基金会运营委员会委员。他代表礼来公司动物保健部任职于国际肉类秘书处及国家家禽业协会。他是国家农业-市场协会的上任主席。

过去 16 年里，Erpelding 先生广泛与亚太地区、美洲、欧洲及非洲各国政府、行业组织、食品链的领导者合作，探讨主要针对动物保健品行业有关粮食安全需求，了解食品安全目标，比如：市场准入，贸易，抗生素抗药性，生物技术及新产品推广。他广泛参与了国际食品法典委员会的活动及国际标准的制定。从 2009 年 8 月到 2010 年 12 月，Erpelding 先生在中国北京工作，主要是建立礼来公司动物保健部政府事务的战略及业务能力建设。

出生于爱荷华州的 Whittemore，Erpelding 成长于养殖各种牲畜及种植农场。1981 年毕业于爱荷华州立大学奶业科学并获得学士学位。1989 年，获得了爱荷华州立大学工商管理学位。

## Dr. Bryan Lohmar

Bryan Lohmar has over 20 years experience working on agricultural and economic issues in China. In April, 2012, Bryan became Country Director for the US Grains Council (USGC), China, where he is responsible for initiating and managing a broad program including technical assistance to the feed and livestock industry, supporting traders with information and registration services, and engaging in policy dialogue.



Prior to joining the USGC, Bryan was Director for Economic Research, Bunge China, where he was responsible for coordinating the internal supply, demand, and trade estimates for grains, oilseeds, and sugar for China. Before joining Bunge, Bryan served as an Economist at U.S. Department of Agriculture's Economic Research Service, where he specialized in China issues, and also served as an Adjunct Professor of Econometrics at Johns Hopkins University's School of Advanced International Studies in Washington, DC. Bryan's research covers a wide variety of topics related to China's agricultural and food markets including land tenure, farm labor allocation, grain marketing policy, water scarcity, trade liberalization, food safety, urban food consumption issues, and livestock production issues. His research is published in academic journals, USDA reports, book chapters and other publications, and has been presented at numerous academic and professional conferences in the United States, China, and other countries.

Bryan grew up in Minnesota, has a Bachelor's degree in Mathematics from the University of Minnesota (with a Minor in Chinese) and a Ph.D. in Agricultural and Resource Economics from the University of California, Davis.

## Dr. Bryan Lohmar

楼瑞恩博士在中国农业和经济方面已有超过 20 年的工作经验。2012 年 4 月，楼博士成为美国谷物协会中国区主任，负责启动和管理协会的各种项目，包括为饲料和畜牧行业提供的技术服务；给贸易商们提供信息和登记服务的支持；参与政策方面的对话。在加入美国谷物协会之前，楼博士是邦吉中国的经济研究主任，负责协调公司内部对谷物，油籽和糖的供应，需求和贸易的预测。在此之前，他作为美国农业部经济研究局的经济学家，专门从事中国问题的研究。楼博士还曾被位于华盛顿特区的约翰霍普金斯大学高级国际关系学院聘请为兼职教授，讲授计量经济学。他的研究领域涵盖了关于中国农业和食品市场的诸多问题，包括土地产权制度、农业劳动力分配、粮食市场政策、水资源短缺问题、贸易自由化、食品安全、城市食品消费问题、以及畜牧业生产问题等。他的研究成果发表在多种学术期刊、美国农业部报告、专著和其它出版物上，并在中、美及其它众多国家的学术和专业会议上发表演讲。

楼博士在明尼苏达州长大,获得明尼苏达大学数学学士学位,及加州大学戴维斯分校的农业和资源经济学博士学位。

## Karen Cannon

Assistant Professor in the Agricultural and Environmental Sciences Communication Program

University of Nebraska-Lincoln



Karen Cannon is an assistant professor in the Agricultural and Environmental Sciences Communication program at the University of Nebraska-Lincoln, and holds both a research and teaching appointment. At UNL, Karen focuses her efforts on improving public understanding of science and agriculture, and the advancement of agricultural communications as a discipline through analysis and improvement of college-level curriculum.

Karen has both professional and academic expertise in translating scientific research information for lay audiences. As a public relations professional, she worked for the U.S. Department of Agriculture's National Agricultural Statistics Service, preparing digital and print communication materials to increase public understanding of the agency's work. Following her time at the USDA, Karen worked at JBS USA (formerly known as Swift & Company) managing international media visits during the U.S.-Asia beef trade ban in the mid-2000s. She coordinated and hosted visits involving company experts, U.S. Meat Export Federation representatives, university scientists and members of Asian media organizations, and facilitated discussion about removal of specified risk materials related to bovine spongiform encephalopathy (BSE, also called mad cow disease). Following her time there, she worked for the National Cattlemen's Beef Association where she managed professional and scientific spokesperson networks, conducted media relations trainings and coordinated science and research-based beef safety information geared toward consumer audiences.

As a university faculty member, Karen teaches courses in social science research methods, strategic communications, and issues management and crisis communications. Her research work combines her professional experiences with an in-depth knowledge and understanding of social science theory and research methods to explore public perceptions related to food and agriculture issues, specifically food safety issues. She is a member of a multi-institutional U.S.D.A. grant team where her research focuses on framing theory and public understanding of risks related to E. coli bacteria. Her work has been published in the Journal of Applied Communications, the Journal of Agricultural Education, and the Journal of Leadership Education.

Karen earned her bachelor's degree in agricultural and natural resources journalism and her master's degree in agricultural extension education from Colorado State University, in 2000 and 2003 respectively, and her doctorate in agricultural communications from the University of Florida in 2011.

卡伦·凯农女士是美国内布拉斯加大学林肯分校农业与环境科学传媒专业的助理教授，从事研究与教学工作。卡伦致力于提高公众在科学与农业方面的认知，通过分析和改进大学本科的课程设置，推动农业传媒学科的发展。

卡伦在向普通受众深入浅出地普及科学研究信息方面拥有专业知识和学术专长。作为一名公共关系专家，卡伦曾在美国农业部的国家农业统计局工作，为增强公众对该机构工作的了解，准备数字化信息并印发公共交流资料。随后，卡伦在美国 JBS 公司任职，21 世纪头十年的中期，在亚洲禁止美国牛肉贸易之后，卡伦负责 JBS 的国际媒体交流。她协助组织和邀请的访问团包括企业家，美国肉类出口协会代表，大学院校的科学家和亚洲传媒组织的成员，推动了关于剔除与疯牛病相关的特定风险物质的讨论。之后，卡伦加入了全美牛业牛肉协会，负责对专业和科学发言人团体的管理，开展媒体关系培训，协调针对消费者在科学和研究基础上的牛肉安全信息沟通。

作为一名大学教师，卡伦教授的课程包括社会科学研究方法、媒体战略、舆论管理和危机公关。她的研究工作结合了丰富的实践经验以及对社会科学理论和研究方法的深厚知识和了解，并将它们运用到与食品和农业问题相关的公众态度，尤其是对食品安全问题认知的研究上。她是一个由美国农业部资助的、来自多个研究机构的研究人员组成的研究团队的成员之一，其研究重点是框架理论以及公众对于和大肠杆菌有关的风险的认知。她的文章在《应用传媒》、《农业教育》和《领导力教育》等期刊上发表。

卡伦在 2000 年获得美国科罗拉多州立大学农业和自然资源新闻专业学士学位，并在 2003 年获得了农业推广教育硕士学位。2011 年，卡伦获得了美国佛罗里达大学农业传媒博士学位。

## Richard Fritz:

Executive Director

Food and Agriculture Export Alliance (FAEA)

Richard Fritz serves as the Executive Director of the Food and Agriculture Export Alliance (FAEA). FAEA is an organization of agricultural cooperators and private entities in the meat, poultry, feed grains, dairy and soybean sectors which works with foreign governments to

enhance food and feed safety laws and regulations to assure consumers receive safe and wholesome products.

Richard Fritz also works with the World Poultry Foundation established by the USA Poultry & Egg Export Council. The foundation works to enhance poultry production, education and food safety in developing countries.

Mr. Fritz is co-owner of Global AgriTrends. Global AgriTrends (GAT) is an agricultural consulting firm that assists meat and poultry companies and associations to research market opportunities and track international trends in trade.

Mr. Fritz served as General Sales Manager within the USDA Foreign Agricultural Service. He has also served as President of Pacific Vision Consulting; Assistant Director of Agriculture for the State of Oregon; the marketing director for U.S. Wheat Associates; and chief economist for the National Association of Wheat Growers. He has also served as a staff member to the U.S. House of Representatives Agriculture Committee.

Mr. Fritz holds a Bachelor's degree in economics and a Master's degree in econometrics.

## 理查德·弗里茨

执行董事

食品与农业出口联盟（FAEA）

理查德·弗里茨是美国食品与农业出口联盟（FAEA）的执行董事。

FAEA 是肉类、禽类、饲料谷物和蛋奶行业的农业合作者与私人企业组成的组织，通过与外国政府合作，加强食品与饲料安全方面的法律法规，保障消费者享受到安全健康的产品。

理查德·弗里茨同时也为世界家禽基金会工作。世界家禽基金会是由美国禽蛋出口协会建立的组织，旨在推动发展中国家的家禽生产、教育与食品安全方面的工作。

弗里茨先生还是 Global AgriTrends 的联合创始人。Global AgriTrends（GAT）是一家农业咨询公司，帮助肉类禽类企业和协会研究市场机遇，追踪国际贸易趋势。

弗里茨先生也是美国农业部海外农业局的销售总管。弗里茨的其他职位还有：Pacific Vision Consulting 总裁、俄勒冈州农业厅副厅长、美国小麦协会营销主任、全国小麦种植者协会首席经济学家。他同时还是美国众议院农业委员会的成员。

弗里茨先生拥有经济学学士学位和计量经济学的硕士学位。

## William James, DVM, MPH

Dr. William James served as the Chief Veterinarian and a Senior Executive upon retirement from the United States Department of Agriculture - Food Safety and Inspection Service. During his 28 year career he worked in the offices of Field Operations, Policy, Science, and International Affairs. Among Dr. James' responsibilities was supervision of District Offices, direction of ante-mortem and post-mortem inspection of livestock and poultry, pathogen and residue sampling implementation, coordination of animal humane handling enforcement throughout the country, and executive oversight of import and export issues for FSIS.



Dr. James is now the Chief Consultant at William James & Associates, LLC. Drawing from his extensive experience, he provides assistance on international and domestic issues of regulatory compliance, foreign equivalence requirements, humane handling, supply chain security, and other areas of food safety and international trade. Dr. James received the degree of Doctor of Veterinary Medicine from Louisiana State University, and a Master of Public Health from Johns Hopkins University.

## William James, DVM, MPH

直到退休之前，威廉·詹姆斯博士都一直作为美国农业部食品安全检验局的首席兽医和高级管理人员。在他长达 28 年的职业生涯中，他的工作涉及到现场操作、政策、科学和国际事务。威廉·詹姆斯博士的职务主要有监督区域办公室，畜禽的宰前指导和宰后检查，病原体和残留抽检的实施，在全国各地协调动物的人性化处理以及为食品安全检验局对进出口问题进行监督。

威廉·詹姆斯博士现在是 William James & Associates 有限责任公司的首席顾问。因为有着丰富而广泛的背景，他在国际和国内相关法规的遵守，外国等价要求，人性化处理，供应链安全，以及其他食品安全和国际贸易方面提供咨询和帮助。威廉·詹姆斯博士在路易斯安那州立大学获得他的兽医博士学位，在约翰霍普金斯大学获得了公共卫生的硕士学位。



## Michael Bradley, Ph.D.

Senior Director of International Regulatory Affairs

Smithfield Foods



Dr. Bradley is the Senior Director of International Regulatory Affairs for Smithfield Foods, having previously served as Vice President of Food Safety for the Smithfield Packing Company. He is an Adjunct Assistant Professor in the Department of Population Health and Pathobiology, College of Veterinary Medicine at North Carolina State University. During his 14 year tenure with Smithfield, Dr. Bradley has served and continues to serve on a number of key industry scientific, regulatory and animal welfare committees with the North American Meat Institute Foundation and the U.S. National Pork Board. He serves on the Food Safety Working Group which encompasses all the international food manufacturing operations of the WH group.

Dr. Bradley works extensively with USDA and international trading partners regarding international trade issues and export programs. He oversees specialty hog programs to meet export requirements for China and other key international markets including pre-harvest programs addressing tissue residue and antibiotic usage for producers supplying Smithfield. Dr. Bradley leads the on-farm animal care auditing program for all hog producers supplying US Smithfield facilities and the humane handling programs for all US Smithfield plants. He also leads a team focused exclusively on assuring product destined for export market conforms to quality expectations.

He holds a B.S. degree from Texas Tech University and a Ph.D. from the University of Florida.

麦克·布莱德利 博士

国际法规事务高级总监

史密斯菲尔德食品公司

布莱德利博士是美国史密斯菲尔德食品公司的国际法规事务高级总监，以前曾经担任过史密斯菲尔德屠宰加工公司的食品安全副总裁。他同时还是美国北卡罗来纳州立大学兽医学院动物健康与病理系的兼职助理教授。在史密斯菲尔德供职的十四年里，布莱德利博士一直并将持续担任北美肉类协会基金会和美国国家猪肉委员会的各种行业内重要学术、法规和动物福利委员会的委员。他还服务于万洲国际集团的食物安全工作组，负责万洲集团旗下所有国际食品生产运营的食品安全。

布莱德利博士在国际贸易问题和出口事务方面跟美国农业部和各个国际贸易伙伴都有着广泛的合作。他主要监管生猪业务，满足中国和其他主要国际市场的出口要求。这些业务还包括为史密斯菲尔德的生猪供应商制定宰前计划，强调组织残留和抗生素的使用。布莱德利博士是史密斯菲尔德公司所有生猪供应商和屠宰厂现场的动物保护和人道屠宰的项目领导人。他还领导一个专门关注出口产品的工作团队，确保产品质量达到出口市场的质量要求。

布莱德利博士本科毕业于美国德克萨斯理工大学，博士毕业于佛罗里达大学

### Kenneth E. Petersen

Senior Vice President, Quality and Regulatory Affairs

OSI Group, LLC

Dr. Kenneth Petersen is the Senior Vice President, Quality and Regulatory Affairs for OSI Group, LLC. In this role, he leads OSI's corporate quality assurance and food safety function and serves as the chair of OSI's Global Quality Council. He is a member of OSI's North America Leadership Team and reports directly to OSI's President and Chief Operating Officer.



Immediately prior to joining OSI in 2015, Dr. Petersen was President of the Division of Regulatory Compliance at IEH Laboratories & Consulting Group.

From 2005 until 2012, Dr. Petersen was the Assistant Administrator of the Office of Field Operations, Food Safety and Inspection Service (FSIS), U.S. Department of Agriculture (USDA), Washington, DC. He had primary responsibility for an 8,000 person public health oriented workforce conducting inspection, HACCP verification, recalls, and enforcement at 6,200 meat, poultry, and processed egg product businesses throughout the United States. Dr. Petersen provided strategic, technical, and managerial direction to 15 district offices, enforcement investigation and analysis officers (EIAO), the FSIS frontline workforce, and Washington DC based personnel. During his tenure as Assistant Administrator, Dr. Petersen had significant influence on the national regulatory response to multiple foodborne disease outbreaks and precedent setting recalls of raw and processed products. He enhanced EIAO food safety assessment (audit) work methods and the enforcement framework for HACCP, sanitary conditions, and other regulatory activities. He led nationwide initiatives to improve oversight and enforcement of humane handling programs. He was a leader in the



development of the HACCP-based inspection models project to modernize slaughter inspection in poultry and market hogs.

Dr. Petersen has been a frequent speaker at industry events and FSIS public meetings. He testified before Congress and conducted numerous Congressional briefings with senior legislative staff representing multiple House and Senate committees. He has been interviewed by all major news networks and print media about a wide range of food safety and humane handling topics. He provided technical advice to the Office of the Solicitor General in a case that received a favorable 9-0 ruling from the U.S. Supreme Court.

His academic background includes a doctor of veterinary medicine (DVM) degree in 1982 from the University of Illinois at Urbana. In 1978, he earned a bachelor of science in physiology from the University of Illinois at Urbana. In 1996 he earned a master of public health degree from the Uniformed Services University of the Health Sciences in Bethesda, Md. He is a board certified diplomate in the American College of Veterinary Preventive Medicine.

## 肯尼斯·彼得森(Kenneth E. Petersen)博士

### 欧喜集团的高级副总裁

肯尼斯·彼得森(Kenneth E. Peterson)博士是欧喜集团的高级副总裁，分管质量及法规事务，其主要职责为领导欧喜集团的企业质量保障及食品安全。他同时兼任欧喜集团全球质量委员会的主席，为欧喜北美领导团队的成员之一，直接汇报给欧喜的总裁及首席运营官。

他于 2015 年加入欧喜集团。此前，彼得森博士是 IEH Laboratories & Consulting 集团法律合规部门的总裁。

在 2005-2012 年间，彼得森博士担任美国农业部食品安全与检验局助理局长。在职期间，他管理 8,000 名公共卫生背景的员工，对全美 6,200 余家肉类、家禽、加工蛋品的企业执行检查、HACCP 认证、召回和执法工作；为美国 15 个区域办公室、执法和调研人员(EIAO)、食品安全监督服务局的一线员工以及基层人员提供战略、技术以及管理方面的指导。在其任期内，彼得森博士还在制定相关国家法规针对多个食源性疾病暴发以及常例的原产品召回的响应上，产生了重大的影响。他加强了 EIAO 食品安全评估工作的方法，以及 HACCP 的实施框架，卫生条件以及其他监管活动。他还领导全国性的行动，来改善监管和执法的程序，使其更加人性化。他主导了 HACCP 检验模型项目的开发，帮助家禽及生猪的屠宰进入现代化屠宰检疫的时代。

彼得森博士经常在行业活动及食品安全监督服务局的公开会议上发表演讲。他曾接受主要的新闻网站和有影响力的传统媒体采访，涉略食品安全、人性化处理等各类议题。

## Dr. Bill Hewat

Director of International Live Production and Veterinary Service

Tyson Foods, Inc



Dr. Bill Hewat is the Director of International Live Production and Veterinary Service for Tyson Foods, Inc. He is based at Tyson's corporate Headquarters in Springdale, AR. Prior to his role in Tyson's International Group, Dr. Hewat was the Director of Veterinary Services where he worked in the Live Production Operations Group and was responsible for Tyson's Veterinary Team and for a variety of veterinary issues at Tyson. Currently, Dr. Hewat works with Tyson's International Live Production Operations in many areas within the integrated poultry production system. Dr. Hewat works with the Tyson Teams in China and India along with some of Tyson's domestic operations.

Dr. Hewat received his B.S. in Poultry Science and his D.V.M. from North Carolina State University. He also received his M.A.M. from the University of Georgia. He is a diplomate of the American College of Poultry Veterinarians and a member of the American Association of Avian Pathologists and the American Veterinary Medical Association. Dr. Hewat and his wife, Angie, have three children (Will, Emma and Gracie) and they live in Goshen, AR. Recently, Dr. Hewat purchased a small farm and he and his family enjoy working with his small herd of beef cattle and sheep. When he is not working or traveling, Bill enjoys woodworking, hunting, fishing, and reading and is an active member of the First United Presbyterian Church.

## 比尔·霍尔特博士

泰森食品有限公司国际活物生产和兽医服务的主管

比尔·霍尔特博士是泰森食品有限公司国际活物生产和兽医服务的主管。他主要驻扎在泰森公司的总部，美国阿肯色州的斯普林。在担任泰森国际集团的职位之前，他曾经是兽医服务中心的主任，在活物生产操作工作组中工作，并且肩负着率领泰森公司的兽医队伍以及解决泰森一系列兽医问题的责任。目前，比尔·霍尔特博士与泰森的国际活物生产

业务在综合的家畜生产体系下的多个领域进行合作。不仅如此，他还与在中国和印度的负责泰森国内业务的队伍一起工作。

比尔·霍尔特博士拥有北卡罗来纳州立大学的家禽学学士学位和兽医学博士学位。他还是乔治亚大学的禽流感医学硕士。同时，他是美国家禽兽医大学的学位证书持有者，以及美国禽病理学家协会和美国兽医医学协会的会员。比尔·霍尔特博士和他的妻子：安琪，以及三个孩子（威尔，艾玛和格雷西）住在美国阿肯色州的戈申。最近，比尔·霍尔特博士买了一个小农场。他和他的家人都很享受与他的一小群牛和绵羊在一起的时光。在比尔·霍尔特博士不用工作和出差的时候，他喜欢做木工，打猎，钓鱼和阅读，他还是第一联合长老教会的积极分子。

## V. Presentations

### 演讲文稿




**Total Food Chain Quality Assurance**  
全食品链品质保障

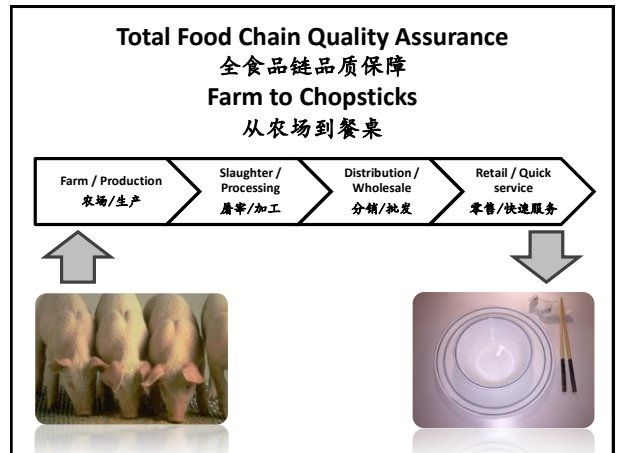
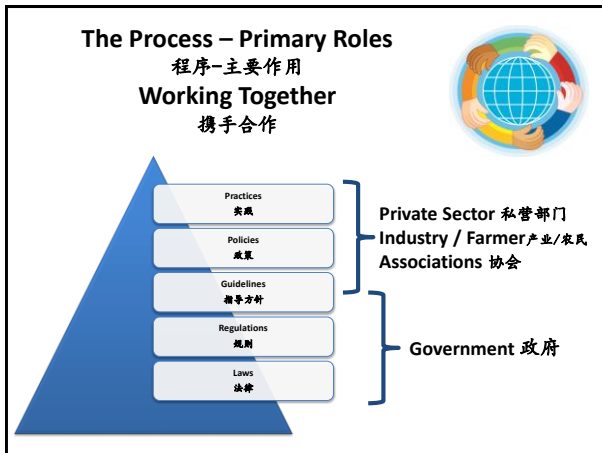
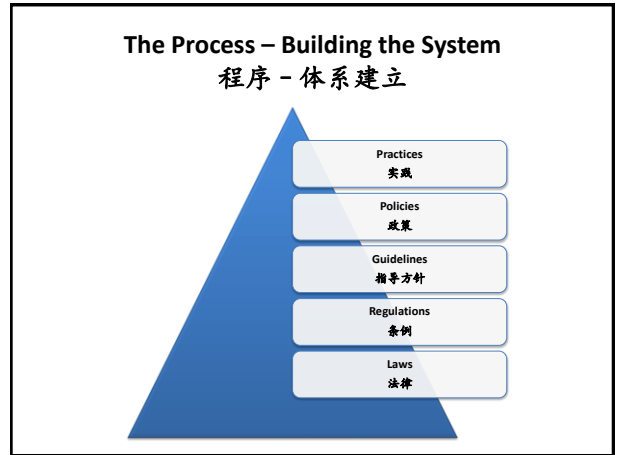
**Farm to Chopsticks**  
从农场到餐桌

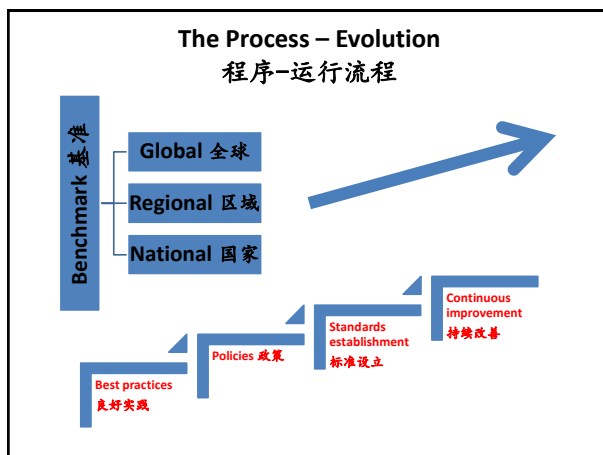
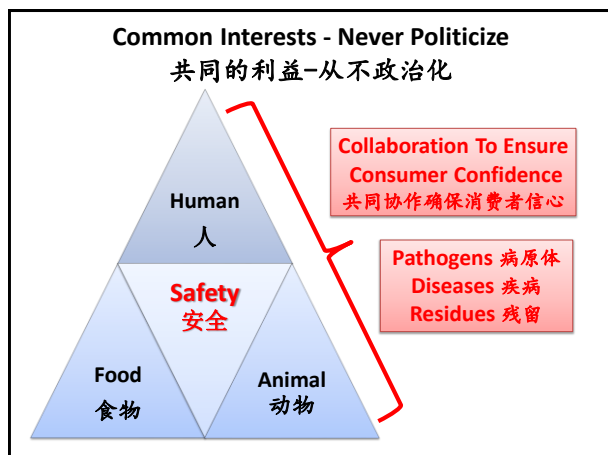
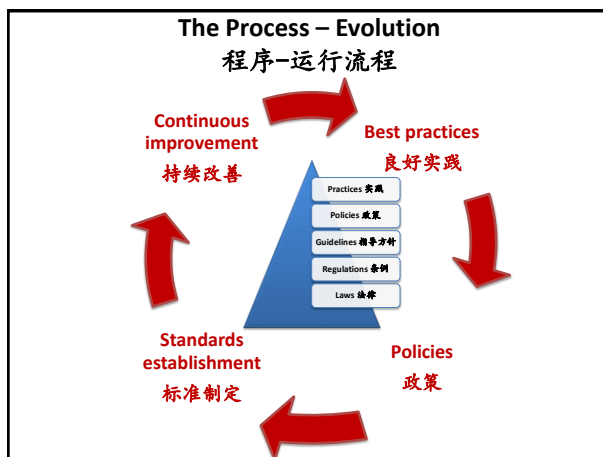
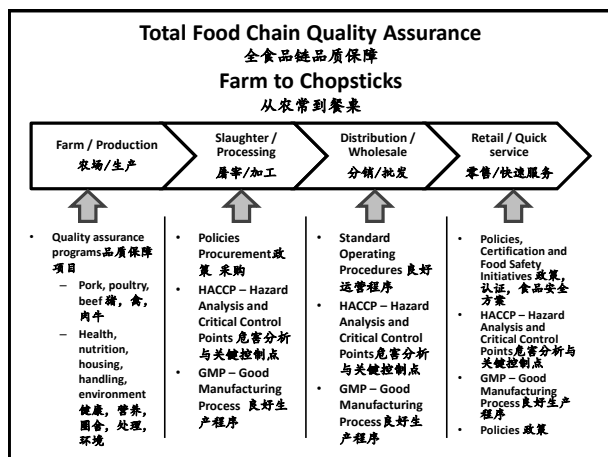
China Meat Association and U.S. - China Agriculture Food Partnership Seminar  
中国肉类协会与中美农业与食品合作项目研讨会

**Dennis L. Erpelding**  
Director, International Food Safety Standards and Policy, Elanco  
美国礼来公司动物保健部国际食品安全标准与政策总监

2015 September 19  
2015年9月19日





Thank you!
谢谢!

**Total Food Chain Quality Assurance**  
全食品链品质保障  
**Farm to Chopsticks**  
从农场到餐桌

➡ **Animal and Animal Products Working Group** ←  
畜牧与肉类产品工作小组

China Meat Association and U.S. - China Agriculture Food Partnership Seminar  
中国肉类协会与中美农业与食品合作项目研讨会

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Why Manure Management?

U.S.-China  
Meat Product Safety Seminar  
September 19, 2015  
Qingdao, China

*Why is manure management important for meat safety?*

*Large, modern livestock operations are key to improving safety and animal health*

*Environmental concerns are the number one constraint to establishing large livestock operation in China today*

*Therefore => Improved manure management policies and practices will allow for further consolidation of the livestock industry and facilitate improved safety practices and outcomes*

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Outline

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September 19, 2015  
Qingdao, China

**The development of Modern Nutrient Management Practices (MNMP) in the United States**

- => Formerly applied to fields in an offhand way
- => Livestock industry underwent rapid consolidation before 2000
- => Environmental issues also become more important during that time
- => Today, manure is a valued commodity in many regions

**China's experience is very similar:**

- => Livestock industry consolidation and rising environmental awareness
- => Excellent opportunity for U.S.-China engagement
- => Potential to forge different path than Asian neighbors

**U.S. Grains Council's Program**

- => #1 constraint to development of modern livestock production
- => Planning a series of workshops with producers, local farmers, and local officials
- => Goal is to have 2-3 regions where producers practice zero-discharge techniques in 3-5 years

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What do I Mean by Modern?

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*Farmers have been applying manure to fields for thousands of years*

*When farms were small, this process did not need to be sophisticated and had little impact on the environment*

*The rise of large, modern livestock production systems, along with increasing awareness of the costs of environmental degradation, have together renewed the interest in soil manure applications and generated modern nutrient management*

- => Zero-discharge principal
- => Complex regiment of testing and evaluation

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## U.S. Experience

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*Pre-Modern manure management practices in the United States*

*Manure was simply "spread" onto the field without much regard for crop nutrient demand*

*Or regard for odor!*



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## Resulted in Water Quality Depletion

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## And Serious External Water Quality Issues

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**An algae bloom in Lake Erie, 1990s**



*Major area affected:*

=> *Great Lakes*

=> *Chesapeake Bay*

=> *Mississippi Delta*

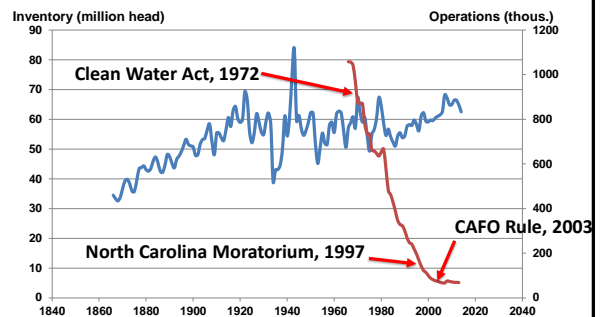
=> *Multiple inland lakes and rivers*

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## Rapid Consolidation of the Livestock Industry (Swine Depicted)

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## Policy Response

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### 1972 – Federal Water Pollution Control Act (Clean Water Act)

- => Established basic structure for protecting water resources from pollution
- => Amended multiple times over the years

### 2003 and 2008 – Concentrated Animal Feeding Operations (CAFO) Rule

- => Under the Clean Water Act, All CAFOs must have a Comprehensive Manure Management Plan (CNMP)

### State Policies – Many states were ahead of federal policy

- => North Carolina established a ban on expansion of large livestock facilities in 1997

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## Nutrient Management Plans

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- 1) Manure and wastewater handling and storage  
=> Where is manure produced and stored?
- 2) Land treatment practices  
=> How and where will manure be applied?
- 3) Nutrient management  
=> How much, and on which crops, will manure be used?
- 4) Record keeping  
=> What you did, when you did it, and how was it done?
- 5) Feed management  
=> Did you reduce phosphorous?
- 6) Other utilization activities  
=> Digesters?

Roger Zylstra's  
Nutrient  
Management  
Plan



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## Matching Nutrients in Manure to Crop Nutrient Demand is Key

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### Components of this sample:

Private company

Report was completed two days after receiving the sample

N, P, and K concentration

Other stuff

Solids

### Sample Manure Test Report

Laboratories, Inc.				
Report Number: 12-272-5472	Lab Number: 10081242	Page 1 of 1		
Client: THE OAK FOODS, 1100 KNUXTON, PO BOX 66, OAKVILLE, IA 52648-0066	Description: MANURE ANALYSIS			
Sample ID: HUMPHREYS 2400	Account Number: 1588			
Report Date: Sep 28, 2012	Received Date: Sep 26, 2012			
Retained Date: Sep 24, 2012	Sampled Date: P/O Number:			
Analysis		As Reported	Nutrients	Est. First Year Availability
			lbs/1000 lbs	lbs/1000 lbs
Calcium	0.48 %	40.5	4.1	
Organic Nitrogen	0.31 %	25.8	4.7	
Total Nitrogen	0.71 %	58.8	4.7	
Phosphorus (P2O5)	0.37 %	31.0	22	
Potassium (K2O)	0.50 %	42.0	38	
Sulfur	0.10 %	8.5	3	
Calcium	0.08 %	6.5	3	
Magnesium	0.10 %	8.3	9	
Sodium	0.08 %	7.3	5	
Copper	37 ppm	0.31	0.22	
Iron	94 ppm	0.79	0.58	
Manganese	34 ppm	0.25	0.14	
Zinc	100 ppm	0.87	0.61	
Moisture	94.7 %			
Total Solids	5.3 %	447.8		
Total Solids		325.3		
pH	8.6			

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## Modern Manure Management: Iowa

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Manure slurry drawn directly from a pit under the barn and into a tanker

Then from tanker to applicator in the field where it is injected into the soil



Access to pit



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## Take Wheat as an Inspiration

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*The wheat harvest is a good example of how mechanization can be adopted in China*

*Often mechanized harvest services arranged for by the village leadership*

*I can visualize small applicators serviced by trucks on the main roads*

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## Zero Discharge: Implications for Large Operations

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*Some large operations will still have to treat manure before returning to soil, but much less than under China's standards*

*This is a picture of an operation that produces 300,000 hogs/year. Its manure nitrogen levels are above the crop requirement on its land so it must reduce then by 50 percent*

*But China's standards are to reduce nitrogen by over 99 percent!*



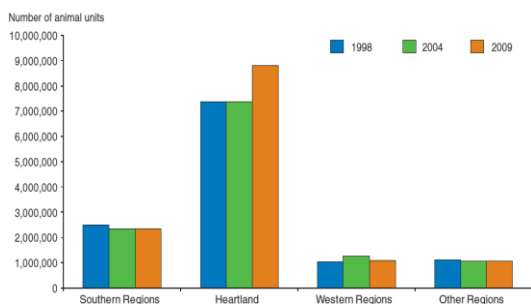
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## Policy Resulted in More Growth in Land Abundant Areas

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Figure 4  
Hog production has increased in Heartland region

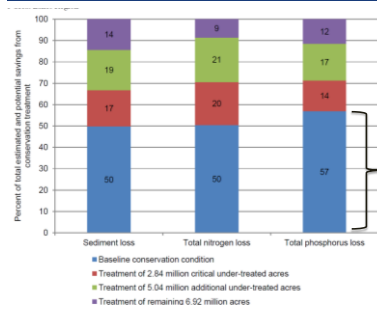


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## Better, but not perfect!

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*Roughly half of the potential nutrient reduction has been achieved in this study*

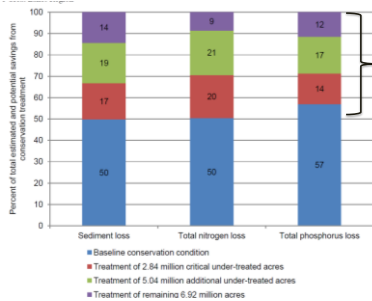
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## Better, but not perfect!

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*The remaining half is best achieved by targeting the acres where treatment is not fully effective*

*Roughly half of the potential nutrient reduction has been achieved in this study*

[http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1045480.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045480.pdf)

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## U.S. Experience over Past 20 years

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### Expect to build an industry

=> A whole industry of private testing labs, consultants, and application services has developed over the last 20 years in the United States

### The simpler the technology is the better it is

=> Fewer things can go wrong

=> Less need for technical knowledge and management

### Digesters are not very efficient

=> They are difficult to manage effectively

=> They reduce organic matter which is good for soil

=> They do not reduce any nitrogen or phosphorus

The simplest, most efficient, and most economical practice is to reapply liquid manure with dissolved solids directly to the soil at levels that match crop nutrient intake

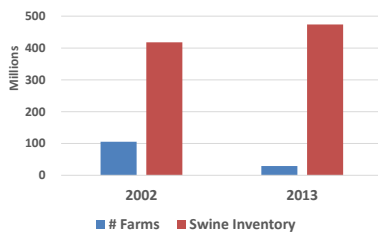
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## China's Rapid Livestock Consolidation

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### Number of Swine Farms and Swine Inventories in China: 2002 and 2013



*The number of swine producers fell from over 100 million to less than 30 million*

*While inventories rose*

*Average inventory:  
2002: 4  
2013: 16*

Source: MOA, NBS, and Center for Chinese Agricultural Policy

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## Same Result – Environmental Degradation

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## Resulting Policies have Ambitious Manure Treatment Standards

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Table 1 Comparison of current and new wastewater discharge limits for China, Japan, and Taiwan. Comparison to U.S. discharge limits is for reference purposes only; US animal feeding operations are managed as "zero discharge systems" and are not permitted for any discharge.

Pollutant source	China Discharge Limits		Japan Discharge Limits*		Taiwan Discharge Limits**		U.S. Discharge Limits (PCB, 2001)	
	Current (mg/L)	New (mg/L)	Current (mg/L)		Current (mg/L)		Current (mg/L)	
pH (dimensionless)	NA	6-9					6-9	
SS	200	120			150 <sup>A,B</sup>		15	
BOD <sub>5</sub>	150	40	120		80 <sup>A,B</sup>		30	
COD <sub>Cr</sub>	400	150	No standards if discharge to ocean		600 <sup>A</sup> , 450 <sup>B</sup>		N/A	
NH <sub>3</sub> -N	80	40					2.5-4.0	
Total N	NA	70	700		No standards		Not used	
Total P	8.0	5.0	16.0		No standards		1.0	
Fecal coliform count (n/100ml)	1,000	1,000					400	
Ascarid eggs (n/L)	2.0	2.0					NA	
Total Cu	NA	1.0					0.5	
Total Zn	NA	2.0					1.0	

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## Resulting Policies have Ambitious Manure Treatment Standards

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Total N	NA	70	700		No standards		Not used	
Total P	8.0	5.0	16.0		No standards		1.0	
Fecal coliform count (n/100ml)	1,000	1,000					400	
Ascarid eggs (n/L)	2.0	2.0					NA	
Total Cu	NA	1.0					0.5	
Total Zn	NA	2.0					1.0	

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## Standards Result in Expensive Investments into Treatment Facilities

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*This dairy has built what is pretty much a municipal waste treatment plant on its property*

*Operating costs of these facilities alone can raise overall production costs by more than 15 percent*

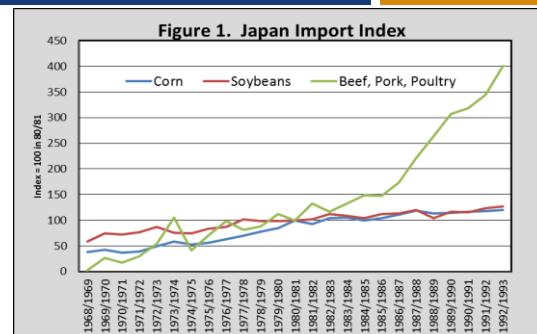
*And the initial investments are very expensive too!*

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## Japan now Relies on Meat Imports

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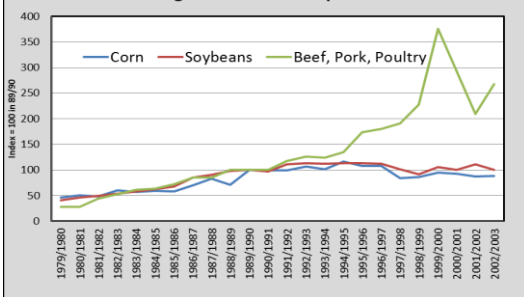
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## Taiwan now Relies on Meat Imports

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Figure 2. Taiwan Import Index



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## Constraints to expanded use of manure as fertilizer

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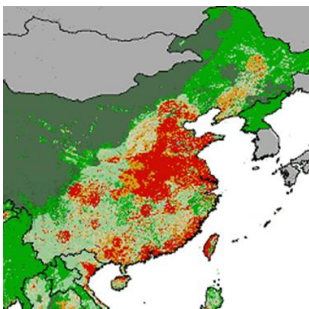
- 1) Not enough land (or too many people!)
- 2) Farmers unwilling to use it
- 3) Manure testing infrastructure does not exist
- 4) Policy not clear on how, and how much, manure can be legally applied
- 5) Does China have too much phosphorous already?

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## Phosphorous Levels in China's Soil

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Is there too much phosphorous in China's soil already?

Red indicates phosphorous levels exceed crop requirements by more than 40 percent

If true, this is a serious constraint to using manure as fertilizer

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## The U.S. Grains Council

U.S.-China  
Meat Product Safety Seminar  
September 19, 2015  
Qingdao, China

Established in 1960, the U.S. Grains Council is a non-profit membership organization that

- => Promotes the development of livestock industry,
- => Builds demand for feed grain and ingredients
- => Promotes U.S. exports of corn, DDGS, sorghum, and barley

We have 9 field offices, 16 representative offices, and programs in over 50 countries worldwide

Roughly half our budget comes from membership contributions, and half from USDA marketing programs (we are a "USDA cooperator")

Members include:

- => State corn grower associations
- => Trading companies
- => Technology companies
- => Ethanol companies

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U.S. GRAINS  
COUNCIL

## U.S. Grains Council and China

U.S.-China  
Meat Product Safety Seminar  
September 19, 2015  
Qingdao, China

**1982:** The U.S. Grains Council (formerly the U.S. Feed Grains Council) opened an office in China and began to assist the modernization of China's animal feed and livestock industry.



March, 1983: USGC signs a Memorandum of Understanding with the Feed Bureau of the Ministry of Commerce to build a modern, pre-mix feed mill and automatic manufacturing facility in Nanjing

<= USGC President Darwin Stoltz and Ministry of Commerce Feed Bureau Director Guo Jizhong signing the MOU for the Nanjing pre-mix feedmill in 1983.

1980s: Nanjing feed mill used for training on animal nutrition, feed formulation, and mill management. This helped the development of the feed and livestock industry in China.



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## U.S. Grains Council's Swine Technical Program

U.S.-China  
Meat Product Safety Seminar  
September 19, 2015  
Qingdao, China

*Mid-1990s: USGC began to work with swine producers on animal nutrition, disease control, and genetics. In more recent years, training expanded to include farm management, facility design, manure management, and food safety.*

### Accomplishments include:

- =>1995 - Introduced first on-farm swine genetic improvement and artificial insemination program
- =>1999 - Sponsored first Swine Farm Management School
- =>2001 - Began to lead disease eradication efforts in large production areas
- =>2005 - Sponsored first swine facility design training



*"The U.S. Grains Council's technical support and technical programs allow us to continuously improve our production efficiency and make us confident to grow and expand."*  
Mr. Qin Yinglin, President, Muyuan Food

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## U.S. Grains Council's Dairy Program

U.S.-China  
Meat Product Safety Seminar  
September 19, 2015  
Qingdao, China

*Mid-2000s, USGC begins a program to assist modernization of the dairy industry in China*



- => 2005 - Sponsored Sino-U.S. Dairy Training Center
- => 2006 - Sponsored forage quality lab at Huaxia Dairy
- => 2007 - Sponsored the first forage quality seminar
- => 2010 - Sponsored whole-corn silage training program

*"The U.S. Grains Council's dairy training program is the best and top-level training in China and we have benefitted a lot from it."*

Mr. Yang Ku, General Manager, Aust-Asia Dairy



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## New Model for Technical Programs

U.S.-China  
Meat Product Safety Seminar  
September 19, 2015  
Qingdao, China

**China today has many large, modern, and well-financed livestock operations**

=> *Reduces the need to sponsor traditional technical assistance*

**Many issues facing the livestock sector have "external" components**

- => *Environmental and food safety issues*
- => *These require policy or institutional responses rather than just technical assistance*

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## Why Manure (Nutrient) Management

U.S.-China  
Meat Product Safety Seminar  
September 18, 2015  
Qingdao, China

### 1) Primary constraint to expansion of large livestock operations

=> Expanding large operations will improve efficiency and also provide rural employment opportunities

### 2) Major policy objective of China's government

=> Recent agricultural policy initiatives emphasize conservation, stewardship, and reducing environmental impacts

### 3) Is a natural area for U.S.-China engagement

=> U.S. producers have recently confronted these same issues

### 4) Opportunity to forge a different path from other Asian countries

=> More developed Asian economies have not adopted efficient nutrient management practices, have smaller scale and less efficient livestock enterprises, and import a large share of their animal products

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## Overall Objective of the Program

U.S.-China  
Meat Product Safety Seminar  
September 18, 2015  
Qingdao, China

Help to establish 2-3 regions where producers can effectively practice nutrient management planning within 3-5 years

This will require

- 1) Training on how to conduct nutrient management practices and the benefits of these practices
- 2) Workshops for local environmental and agricultural officials on how the practices work and how to evaluate them
- 3) Developing policy support for these efforts

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### The U.S. Grains Council – 美国谷物协会

- Developing Markets – 开发市场
- Enabling Trade – 推广贸易
- Improving Lives – 改善生活

#### Supporting the Modernization of China's Livestock and Feed Industries 支持中国畜牧和饲料工业现代化进程

- Establishing one of China's first modern feed mills in 1984 于1984年创立中国首家现代化饲料厂之一
- Sponsoring seminars and U.S.-China technical exchanges involving hundreds of participants 组织研讨班，促进中美技术交流，与会者达数百人



#### Supporting China's Food Security through Trade and Information Exchanges 通过贸易和信息交流支持中国粮食安全

- Providing reliable information on U.S. production capacity, market conditions, and grain quality 提供美国生产能力、市场状况和谷物质量等的可靠信息
- Sponsoring study and market assessment teams to the U.S. involving hundreds of participants 组织考察团前往美国进行市场评估和学习，参加者已达数百人



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沟壑

the Chasm Between "Farm" and "Chopsticks"  
“农场”与“筷子”间的鸿沟

Karen J. Cannon, PhD






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农业领导力、教育与传播系





## Introduction 介绍

- Faculty role is teaching and research 教师的职责是教学和研究
- Goals 目标
  - To better understand how to communicate effectively about science issues 更好的了解如何在科学方面的问题上进行有效的沟通
  - To teach effective communication about science issues 传授科学问题方面的有效沟通方式
- Professional experiences sparked research interests 职业经验点燃研究热情
  - BSE and SRM removal 疯牛病与特定风险物质的剔除
  - Foot and Mouth Disease discussions 关于口蹄疫的讨论

## Today's Key Topics 当今的研究重点








- How did food safety become an issue – inciting events 食品安全是如何成为一个问题的 —— 引发事件
- Why the concern? 为什么会产生担忧
- Key theoretical and research concepts linked to improved understanding of communication strategies 用于更好了解传播战略的主要理论和研究理念
- Strategies to prevent and address crisis situations 预防和解决危急情况的战略方法
  - Issues management 事件管理
  - Crisis Management and Communication 危机公关与沟通管理



## How did food safety become an issue? 食品安全是如何成为一个问题的?

Inciting incidents 引发事件:

- Jack in the Box and E. coli O157:H7 (1993) 1993年, Jack in the Box 快餐店和大肠杆菌事件
- BSE in cattle: UK (1986); North America (2003); US (2003) 疯牛病: 英国 (1986年); 北美 (2003年); 美国 (2003年)
- E. coli in organic spinach in California (2006) 2006年, 加利福尼亚州发现有机菠菜中的大肠杆菌
- Salmonella in peanut products (2009) 2009年, 在花生制品中发现沙门氏菌



## Why did these become issues in minds of consumers? 为什么这些事件在消费者心目中成为问题？



- Company/organization response 公司和组织的回应  
Preparation or lack thereof 准备或准备不足
  - Responsibility 责任
- Government/regulatory response 政府和监管机构的回应
  - Laws broken? Legislation needed?  
被违反的法律? 需要立法?
  - Responsibility 责任
- Lack of accurate, speedy, credible, trustworthy information  
缺乏准确的、快速的、可信的和值得信赖的信息
- Media coverage – news values  
媒体报道—新闻价值



## News Values Play a Significant Role 新闻价值扮演 重要角色

## 7 NEWS VALUES

## 七种新闻价值

- > **PROMINENCE** -  
HOW OFTEN HAS THIS HAPPENED?
- > **PROXIMITY** -  
HOW CLOSE IS THIS STORY TO OUR READER?
- > **IMMEDIACY** -  
HOW RECENT HAS THIS HAPPENED?
- > **IMPACT** -  
HOW DO THIS AFFECT OUR READER?
- > **NOVELTY** -  
HOW UNIQUE IS THIS?
- > **CONFLICT** -  
HOW ARE TWO PARTIES DISPLEASED?
- > **EMOTION** -  
HOW DOES THIS MOVE OUR READER?

- 显著**  
多久发生一次?
- 邻近**  
这篇报道跟我们的读者有多近?
- 迅速**  
多久以前发生的?
- 影响**  
如何影响我们的读者?
- 新奇**  
有多独特?
- 冲突**  
双方如何不满?
- 情感**  
如何打动我们的读者?



## Consumers are interested in: 消费者所感兴趣的

- Who is responsible? Who is to blame?  
谁来负责? 谁来承担责任?
- Who do I trust? 我应该相信谁?
- How do I avoid injury to myself or loved ones? 我怎样避免伤害到自己或挚爱的亲人



## Key social science and behavioral theories 主要的社会科学与行为理论

- Deficit model of communication 沟通缺失模型
- Risk communication 风险传播
- Social amplification of risk 社会放大效应的风险
- Framing theory – media frames and audience frames  
框架理论——媒体框架和受众框架

*The value of theory lies in its use as a predictor of how people may behave in a given situation. 理论的价值在于可以预测大众在特定的环境下可能产生的行为*



## Deficit Model of Communication 沟通缺失模型

- Notion that a public more “literate” about a certain topic would be more supportive of it  
理论认为公众更容易支持某些“接受过教育”的话题
  - *If I provide you the information, you will adopt my position, see that I'm right*  
如果我提供给你信息，你就会站在我的立场，认为我是对的
- Impact of messages [about science] is not limited to information but is part of a larger cognitive structure  
信息带来的影响（有关科学的）不仅仅是信息本身，而是认知结构的一部分



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## Risk Communication 风险沟通

- Leiss & Powell 莱斯和鲍威尔 (2004)
  - Risk is the probability of harm in any given situation...determined by two factors: (a) the nature of a hazard, and (b) the extent of anyone's exposure to that hazard  
风险即在任何特定的情况下危害发生的概率，由两个因素决定：危害的性质和任何人接触到危害的程度
- Risk is inherent to the human condition 风险是人类社会所固有的
- Publics see and evaluate risk differently than experts, individuals (Leiss & Powell, 2004; Lofstedt, 2006) 大众对于风险的认识和评估有别于专家和个人
- The public faces “information overload” 公众面对“过多的信息”



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## Framing Theory 框架理论



- Two types of frames 两种框架
  - **Media frames** – constructed by message creators  
媒体框架 — 由信息制造者构成
  - **Audience frames** – cognitive mental structures; schema  
受众框架 — 认知的心理结构；模式
- Media frames are incredibly effective but do not act alone 媒体框架非常有效但无法单独应用

N

## Social Amplification of Risk 社会放大效应的风险

- When a lack of direct personal experience exists about a risk, information about that risk is obtained by individuals through two channels: 当对于某个危机缺乏个人经验时，人们一般通过两个渠道获取关于危机的信息：
  - News media 新闻媒体
  - Informal personal networks 非正式的个人网络
- Kasperson et al. 卡斯帕森等 (1988)
  - “Risk events interact with psychological, social, and cultural processes in ways that can heighten or lower public perceptions of risk” 风险事件通过各利心理、社会以及文化层面相互作用，可以加强或减弱公众的风险认知



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## Research Studies of Note 研究性的学习资料

- *Perceptions of Food Safety by Urban Consumers in Nanjing, China* (Veeck, Veeck, & Zhao, year) 南京城市消费者的食品安全认知
- *Food-related hazards in China: Consumers' perceptions of risk and trust in information sources* (Liu, Pieniak, & Verbeke, 2014)  
中国的食品相关危害：消费者的风险认知以及对信息来源的信任
- *The Public and Effective Risk Communication* (Frewer, 2004)  
公众和有效的风险沟通
- *Impact of communicating conflicting risk and benefit messages: An experimental study on red meat information* (Regan et al., 2014)  
进行相矛盾的风险与受益信息传播的影响：一个有关红肉信息的试验研究

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## Strategies to Improve Food Safety Communication 加强食品安全交流的策略

- Audience Analysis 受众分析
- Issues Management 事件管理
- Crisis Communication 危机沟通
- Use of social media is critical!  
社交媒体的应用极为重要！



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## Audience Analysis (Segmentation) 受众分析（细分）

- One message does not meet the information needs of all people 一条信息不能满足所有人的信息需求
- Liu, Pieniak, & Verbeke (2014) discovered 发现:
  - Differences in use of information channels  
在信息渠道的利用方面存在的差异
  - Differences in perceived trust of information sources  
在信息来源的信任感知方面存在的差异
  - Differing perceptions of knowledge, honest, and concern of information sources  
在知识、诚信和信息源的关注方面存在不同的认知



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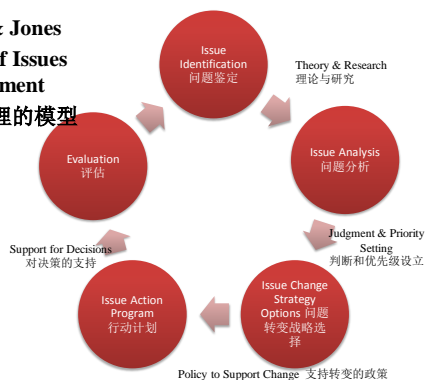
## Issues Management 事件管理



- A **strategic** process where organizations detect and respond to emerging trends or changes in the socio-political environment that may affect operations  
一个可使组织发现并对社会政治环境中出现的趋势和变化作出反应的战略流程可以影响运作方式。
- Can do any or all of the following: 能做以下几点中的任意一点或全部:
  - Build or enhance reputation 建立或加强声誉
  - Build or improve relationships 建立或改进关系
  - Mitigate risk and regulatory impact 降低风险和监管的影响
  - Save money 省钱
  - Increase market share 增加市场份额

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## Chase & Jones Model of Issues Management 事件管理的模型



## Crisis Communication 风险沟通

- Dialog between organization and its publics/stakeholder groups prior to, during, and after a crisis 在危机发生前，危机发生时以及危机过后组织和公众群体及利益关系群体进行的沟通与对话
- Involves 包括:
  - Prevention 预防
  - Preparation 准备
  - Recognition 重视
  - Crisis Response 对危机的回应
  - Post-crisis evaluation and reflection 危机后的评估与反思

## Leading Practitioners & Researchers 主要的实践者和研究人员

- Issues Management 事件管理
  - Michael Regester & Judy Larkin – Regester Larkin (consulting咨询)  
<http://www.regesterlarkin.com>
  - Michael Palenchar – University of Tennessee 田纳西大学
- Crisis Communication 危机沟通
  - W. Timothy Coombs – University of Central Florida 中佛罗里达大学
  - Timothy Sellnow – University of Kentucky 肯塔基大学

## Questions & Discussion 问题及讨论

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**World Meat Industry  
Development Conferences  
世界肉类工业发展会议**



**U.S.-China  
Agriculture and Food Partnership  
And**

**China Meat Association  
中美农业食品合作委员会  
中国肉类协会**

**AFP Animal and Animal  
Products Working Group  
动物和动物产品工作组**

**FAEA Goals and Focus**

- **To develop science-based regulatory frameworks (Codex, SPS, TBT)**  
建立以科学为依据的监管体系
- **A transparent regulatory structure**  
透明的监管框架
- **A public-private dialogue**  
公众和企业间的对话
- **Proactively address evolving regulatory issues**  
以积极的态度强调不断出现的监管问题
- **Work with counterparts**  
与合作方共同工作
- **Enhance trade**  
加强贸易

## FAEA Work in China

- Cosponsor of a major poultry safety workshop in Beijing cosponsored by the USA Poultry & Egg Export Council, US Soybean Export Council, US Feed Grains Council, USDA, China Animal Agriculture Association and the China Chamber of Foodstuffs and Native Products 与美国家禽蛋出口协会，美国大豆出口协会，美国饲料协会，美国农业部，中国畜牧业协会和中国土畜产公司共同举办家禽安全讲座
- Conducted workshops on food and feed safety related to U.S. and Chinese dairy products, soybeans, beef, pork and feed grains  
举办和中美乳业，大豆，牛肉，猪肉和饲料相关的食品和饲料安全讲座

## FAEA Work in China

- Conduct provincial workshops on food and feed safety  
与各省举办食品和饲料安全讲座
- Respond to draft laws proposed by Ministries  
回应各大部委提出的法律草案
- Respond to draft regulations proposed by Ministries  
回应各大部委提出的条例草案
- Provide core U.S. laws and regulations in Chinese  
提供中文的美国法律和条例

## FAEA Relationships

- Excellent working relationship with (CIQA)  
与各地质检机构良好的工作关系
- Expanding relations with: 同时也与以下机构有工作关系
  - AQSIQ 国家质检局
  - Ministry of Agriculture 农业部
  - China Food and Drug Administration  
中国食品药品监督管理局
  - Certification and Accreditation Administration  
国家各认证机构
  - Development Research Center of the State Council  
国务院研发中心

## Law Base

- Transparency 透明度
- Publically Available 为公众提供
- Terms well defined 清晰的界定各条款
- A public-private dialogue 公众和企业的对话
- References to other laws 其他法律的借鉴
- Is generic 通用性
- Equal treatment 平等对待
- Solicit public comments 取得公众反馈
- References international standards  
借鉴国际标准

## Regulation Base

- Transparency 透明度
- Publically available 为公众提供
- Terms well defined 清晰的界定各条款
- A public-private dialogue 公众和企业的对话
- Requirements well defined 清晰界定要求
- Equal treatment 平等对待
- Public comments 取得公众反馈
- International standards 国际标准
- Amended as conditions changed 根据变化做修改

## Recent Comments Submitted

- Frozen meat standards  
冻肉标准
- Food safety law - second draft  
食品安全法 - 第二草案
- Food safety law - first draft  
食品安全法 - 第一草案
- Food recall  
食品召回
- Rules on imported food safety  
进口食品安全规定

## Next Steps

FAEA proposes a CMA-FAEA collaborative and information sharing relationship so that both organizations may enhance and expand responses to the Chinese government regarding animal production, meat safety and standards.

FAEA建议CMA-FAEA间的合作和信息分享，以使两机构共同加强和扩大对中国政府畜牧业生产，肉类安全及标准的回应。



Thank You

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Consultants for international trade & food safety

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世界肉类工业发展会议2015

Private Sector  
Best Practices for Compliance with Meat Inspection Regulations and Oversight

Dr. William James  
William James & Associates, LLC

WORLD MEAT INDUSTRY DEVELOPMENT

私营企业在遵守肉类检验和监管合规中的最佳实践方式



世界肉类工业发展会议2015

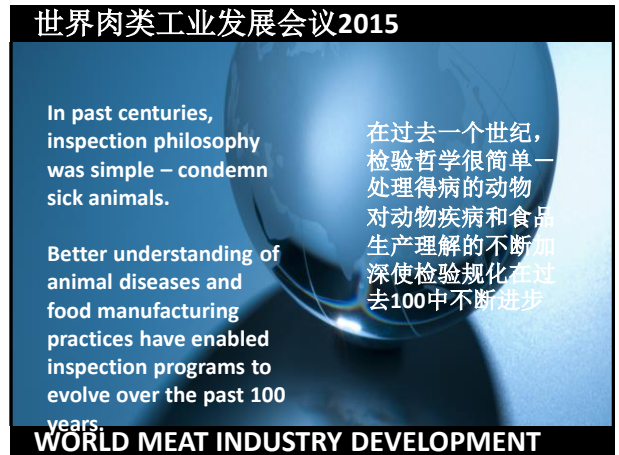
Government meat inspection has the longest history of all food safety programs.

Examples can be cited from Europe a thousand years ago.

Now, any country that wants to protect its citizens and export meat must have a modern inspection program.

政府肉类检验在所有食品安全规划中有着最长的历史。历史可追溯到1000年前的欧洲。如今，所有要保护国民和肉类出口的国家都必须有现代化的检验规划。

WORLD MEAT INDUSTRY DEVELOPMENT



世界肉类工业发展会议2015

In past centuries, inspection philosophy was simple – condemn sick animals.

Better understanding of animal diseases and food manufacturing practices have enabled inspection programs to evolve over the past 100 years.

在过去一个世纪，检验哲学很简单——处理得病的动物。对动物疾病和食品生产理解的不断加深使检验规范化在过去100年中不断进步。

WORLD MEAT INDUSTRY DEVELOPMENT



## 世界肉类工业发展会议2015

PATHOLOGY	病理
PROCESSING	加工
RESIDUES	残留
SANITATION	卫生预防

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### PATHOLOGY

Inspection now recognizes there are two basic categories of animal pathology.

病理

检验能辨认两类基本的动物病理

- 1) those that are repugnant but not transmissible to people
- 2) those that are food safety hazards

- 1) 哪些令人厌恶但并不传染给人类的
- 2) 哪些具备食品安全隐患的

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### PROCESSING

Meat processing deficiencies can also contribute to foodborne illness.

加工

肉类加工不足会引起食源性细菌导致的疾病

#### Examples

- *E. coli* O157:H7 in beef
- *Salmonella* Heidelberg in chicken
- *Listeria monocytogenes*

举例

- 牛肉中的大肠杆菌
- 鸡肉中的杀门氏菌

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### RESIDUES

- Veterinary drugs
- Pesticides
- Environmental contaminants

残留

- 兽药
- 农药
- 环境污染物

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### SANITATION

- Visible clean
- Microbiological sanitize

### 卫生预防

- 可见性卫生
- 微生物消毒

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### INSPECTION

- Pathology removal of visible diseases
- Processing control of manufacturing
- Residues testing for drugs, contaminants
- Sanitation

### 检验

- 病理
- 消除可见的疾病
- 病加工
- 控制生产加工
- 残留
- 检测药物，污染物
- 卫生预防
- 可见的微生物

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### COMPLIANCE

- Pathology
- ensure all animals receive ante-mortem inspection
- remove all visible pathology
- proper disposal of condemned animals and parts

### 法规遵守

- 病理
- 保证所有动物接受屠宰前检验
- 消除所有可见病理疾病
- 适当处理患病动物和内脏
- 书写程序
- 培训
- 监控

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### COMPLIANCE

- Processing
- Minimize contamination
- Maximize decontamination
- Written procedures.
- Training.
- Monitoring.

### 法规遵守

- 加工
- 污染最小化
- 消除污染最大化
- 书写程序
- 培训
- 监控

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### COMPLIANCE

#### Residues

- Animal husbandry practices
- Know sources of animals
- Avoid repeat violators

Written procedures.  
Training.  
Monitoring.

#### 法规遵守

##### 残留

- 采用畜牧业生产方式
- 了解动物来源
- 避免重复侵犯

书写程序  
培训  
监控

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

### COMPLIANCE

#### Sanitation

- Pre-operational
- Operational

Written procedures.  
Training.  
Monitoring.

#### 法规遵守

##### 卫生预防

- 生产前
- 生产过程中

书写程序  
培训  
监控

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

Companies must meet all requirements of the government's inspection program (standards).

Companies must follow all directions of the government's inspection program (procedures).

But, do NOT rely on the government inspection program to produce safe

企业必须达到所有政府检验标准

企业必须遵守政府检验的所用程序

但是，企业不应该依赖政府检验生产安全食品

WORLD MEAT INDUSTRY DEVELOPMENT

## 世界肉类工业发展会议2015

THANK  
YOU!

Dr. William  
James

William James &  
Associates, LLC

WORLD MEAT INDUSTRY DEVELOPMENT

谢谢!

William James  
博士



## PREHARVEST FOOD SAFETY AND HACCP

### 屠宰前食品安全及 HACCP

Michael Bradley, Sr. Director International Regulatory Affairs, Smithfield  
迈克·布莱德利博士 国际法规事务高级总监，史密斯菲尔德公司

2015年 月 日



## FOOD SAFETY BEGINS AT THE FARM

### 食品安全从养殖场开始

Pork producers have a vital role in ensuring food safety. In the course of a product moving from “farm gate to the consumer’s plate,” production practices on the farm is the first of many steps in the food-supply continuum. 猪肉生产企业在确保食品安全方面扮演着非常重要的角色，在产品“从养殖场到消费者餐桌上”的整个过程中，养殖场的生产活动是食品供应链多个步骤的第一个关口。

## HOW CAN MEAT PROCESSORS ADDRESS FOOD SAFETY CONCERNS WITH LIVESTOCK?

### 肉类加工企业如何解决活畜所带来的食品安全担忧？

- Meat processors are challenged to confirm measures are taken on the farm to control potential food safety hazards associated with livestock
- 肉类加工企业面临的挑战是被要求确认养殖场对活畜采取了控制潜在食品安全隐患的措施。
- A systematic, verifiable approach to ensure good production practices are in place on the farms supplying the plants is needed
- 需要有一个系统的、可核查的办法来确保肉类加工企业的活畜供应农场实施良好的生产活动。

## A PARTNERSHIP DEVELOPED 建立合作关系

- The US National Pork Board created a task force consisting of hog producers, meat processors, veterinarians, and academia
- 美国国家猪肉协会组织了一个项目团队，成员包括生猪养殖者，肉类加工企业，兽医以及学术专家。
- Developed a comprehensive program to align producer performance with market chain expectations, initially focusing on basic food safety controls
- 制定了一个全面的计划，使用市场链的期望值来调整生产者的表现，初始阶段专注于基本的食品安全控制。

## PORK QUALITY ASSURANCE (PQA) 猪肉品质保证 (PQA)

- Serves as a platform to address customer expectations
- 作为一个反映客户期望的平台
- Guiding principles:指导原则
  - Workable可行
  - Credible可信
  - Affordable 经济上负担得起

## PORK QUALITY ASSURANCE PLUS (PQA PLUS) 猪肉品质保证升级版 (PQA PLUS®)

- As part of continual improvement, the program has evolved to PQA Plus® and now encompass;
- 作为持续改进的一部分, 该项目已经发展到猪肉品质保证升级版PQAPLUS®, 现在包括;
  - Animal handling and animal welfare动物待遇和福利
  - Antibiotic usage and documentation抗生素的使用和备案
  - Environment and worker safety环境和员工安全
  - On-farm site assessments养殖场现场评估

## PQA PLUS® 猪肉品质保证升级版

- Voluntary producer education program
- 养殖者自愿教育项目
  - Packers can require certification as condition of sale
  - 肉类加工企业可以要求证明作为购买条件
- Designed to be applicable to any pig farm independent of size, phase of production, building design, geographic location, etc.
- 将适用于所有养猪场, 无论大小、养殖阶段、建筑设计、地理位置等因素
- Currently 77.9% of all hogs in the US are produced under PQA Plus with site assessment
- 目前在美国生猪中的77.9%是在猪肉品质保证升级版 (PQA Plus) 的现场评估情况下养殖的。

## PQA PLUS® CONTENT 猪肉品质保证升级版内容

- PQA Plus program consists of 10 Good Production Practices (GPPs) to ensure that pork is free from chemical and physical hazards and that the pigs are raised in a caring manner with regard to their well-being.
- 猪肉品质保证升级版计划包括10个良好生产实践 (GPPs), 以确保猪肉不受化学和物理危害, 以保证动物福利的关爱方式养殖。
- These 10 practices are based on:这10个实践是基于
- Hazard Analysis and Critical Control Point principles (HACCP)
  - 危害分析与关键控制点原则 (HACCP)
  - US Regulations pertaining to veterinary drugs
  - 美国有关兽药的法规
  - Science-based animal care and well-being guidelines有科学依据的动物关爱及福利指导方针



## PQA PLUS® GPP 1 猪肉品质保证升级版—良好实践 1

### Establish and Implement an Efficient and Effective Herd Health Management Plan

建立并实施高效和有效的猪群健康管理计划

Herd health is a key to food safety. Animals in good health grow faster and more efficiently. The healthier the animal, the less the need for therapy, thus reducing the risk of residues and costs associated with treatment of sick animals

猪群健康对于食品安全十分重要，健康的动物长得更快，养殖效率更高。动物越健康，治疗需求越少，从而降低了残余物风险和治疗患病动物的成本。

## PQA PLUS® GPP 1 猪肉品质保证升级版—良好实践 1

- A herd health program should include these important components:
- 一个猪群健康计划应该包括这些重要的组成部分
  - Regular evaluation of herd health status by a veterinarian 由兽医定期评估猪群健康状况
  - Biosecurity 生物安全
  - Rodent/pest control 鼠害/病虫害防治
  - Cleaning and disinfecting procedures 清洁和消毒过程

## PQA PLUS® GPP 7 猪肉品质保证升级版—最佳实践 7

**Use Proper Administration Techniques, Needle-Use Procedures, Observance of Withdrawal Times and Methods to Avoid Marketing Adulterated Products for Human Food** 使用正确的管理技术，针头使用程序，遵守停药期间和方法以避免将含有药物残留的产品做为人类食品销售。

Provides guidance to control two critical concerns:  
提供控制两个重要隐患的指导方针

- Injection needle potential in product
- 针头可能会遗留在产品中
- Drug residues in product
- 产品药物残留

## FOOD SAFETY STARTS ON THE FARM 食品安全从养殖厂开始

- Live animals serve as a potential source of various chemical, biological and physical food safety hazards based on production practices at the farm
- 考虑到农场的实际生产活动，活畜是各种化学，生物和物理性食品安全危害的潜在来源。
- Farms producing food animals can put controls in place to minimize these hazards
- 养殖食用牲畜的养殖场可以实施控制措施，以减少这些危害。
- These controls can be verified through a program like PQA Plus® 这些控制可以通过像猪肉品质保证升级版（PQA PLUS®）这样的系统验证。

## PREHARVEST FOOD SAFETY 屠宰前食品安全

- Meat processors can consider PQA Plus® status as part of hazard analysis with HACCP programs when evaluating potential hazards associated with livestock
- 当评估与活畜有关的潜在危害时，肉类加工企业可以把猪肉品质保证升级版（PQAPLUS®）规范作为HACCP中危害分析的一部分来考虑。
- Certification and site assessment of farms under the PQA Plus® program is documented for the meat processors records
- 把猪肉品质保证升级版（PQAPLUS®）计划中的农场认证和现场评估记录提供给肉类加工企业。

## PORK SAFETY IS THE PRIORITY 猪肉安全优先

- The PQA Plus® program is an example where the hog production industry and meat processors have worked together to develop a successful system to address these potential hazards before harvest 猪肉品质保证升级版（PQAPLUS®）项目是一个生猪养殖业和肉类加工企业合作成功研发解决屠宰前潜在危害问题的范例。

## Effective Food Safety and Quality Control Systems 有效的食品安全和质量控制系统

Dr. Kenneth Petersen

肯·彼得森博士

Senior Vice President

高级副总裁

Quality Assurance and Regulatory Affairs

质量保证与法规事务



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## I. Sanitation Benchmarking

### 卫生标杆管理



- External experts assessed US plants in comparison to the rest of the industry  
外部专家对美国的工厂进行了评估，而且对比行业里其他工厂
- 2-4 day assessment depending on plant size  
根据工厂规模，通常需要2-4天的评估

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Assessment Process  
评估流程

- Raw and RTE evaluated with the same metric  
生食和即食相同的衡量标准
- Five areas of review  
五个方面的审查
- Individualized reports  
工厂单独的报告

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Outcomes 成果

- Benchmark our plants to each other and the industry  
在我们的工厂之间标杆对比, 而且在行业里对比
- Identified areas of opportunity, including top 10 areas  
识别改进机会点, 包括最主要的10个方面
- Identify facility projects for capital funding  
确定工厂需要资金支持的项目

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Key Findings 关键的发现

- Master sanitation schedule to include infrastructure and equipment  
清洗计划总表包含基础设施和设备
- Cross-contamination potential from facility, equipment, or employee practices  
工厂, 设备, 或员工操作的交叉污染可能性
- Ensure follow correct cleaning sequence  
确保遵循正确的清洗程序

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Future Plans 未来计划

- Measure sanitation improvement from 2015 to 2017  
从2015年到2017年衡量卫生改善的提高
- Repeat the benchmarking in 2017 after capital projects completed  
2017年基本工程项目完成后重复此标杆化管理

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## II. Supplier Approval 供应商批准



- Seek long term partnering relationships  
寻求长期合作伙伴关系
- Assess production system at a facility  
在一个工厂里对生产系统进行评估
- Restrictions on purchasing from Suppliers that are not prior approved  
限制从不是事先批准的供应商采购
- Intended to reduce risks into our supply chain  
意在降低到我们的供应链中的风险

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## Supplier Approval 供应商批准



- Conduct risk assessment on each product  
对每一个产品进行风险评估
- Determine likelihood and severity of hazard(s)  
判定危害的可能性和严重性
- Higher risk material suppliers receive more robust assessments  
较高风险的原料供应商接受更彻底的评估

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## Supplier Approval Process 供应商批准流程



- Define and share the process – objective criteria  
定义和分享此过程- 客观的标准
- Initial Desk Audit of Supplier by QA:  
由QA进行的最初的供应商书面审核
  - Apply OSI Global Standards (facility, processes, etc.)  
符合OSI全球标准（设备，加工过程等）
  - 3<sup>rd</sup> Party Audit performance  
第三方审核表现
  - Regulatory Enforcement Actions, etc.  
法规执行情况等

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## Supplier Approval 供应商批准



- 3 Possible Desk Audit Outcomes:  
3个可能的书面审核的结果:
  - No Approval due to deficiencies noted  
没有批准- 由于发现缺陷
  - Site Visit required before Initial Approval  
初步批准之前- 要求工厂参观检查
  - Initial Approval w/ Site Visit within 6 months  
初步批准- 工厂参观检查在6个月内完成

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## Supplier Approval 供应商批准



- Initial Approval Evaluation Period  
最初批准评估时期
  - First consecutive 10 loads evaluated for:  
对最先的连续10次到货进行以下评估：
    - Microbiological criteria 微生物项目
    - Defect Inspection (bone, other material)  
缺陷检查（骨头，其他异物）
- Final Approval Decision – Add to approved supplier list  
最终批准决定- 添加到批准供应商清单中

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## Ongoing Evaluation 持续的评估



- At least every 5<sup>th</sup> load: 至少每5批次评估一次  
Microbiological (commodity specific)  
微生物指标（商品特性）
  - Defect Inspection: minor, major, critical  
缺陷检查：次要，主要，严重的
- Communicate non-conformance  
沟通传达不符合项
- Trending Data Review  
趋势数据回顾

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## Supplier Suspension 供应商暂停



- 3<sup>rd</sup> party audit failure  
第三方审核失败
- Recall or human illnesses  
召回或者人类疾病
- Repetitive foreign material, etc.  
重复性的异物等
- We may consider corrective actions  
我们会考虑纠偏措施

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## III. Foreign material control 异物控制



Increased customer quality expectations on ground or formed finished product  
对于经过绞磨或成型加工产品增加的顾客质量期望

Multi-point prevention: 多点预防

1. Supplier approvals - critical  
供应商批准- 关键的
2. Grinder head checks  
绞肉机检查

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## Foreign material control

### 异物控制



3. X-ray of raw material (e.g., Marel)  
原料的X光检查
4. Bone Elimination System (e.g., Pieco)  
骨头剔除系统
5. Finished product X-Ray (e.g., Anritsu)  
终产品X光检查
6. Customer discussions  
客户讨论

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## Raw Materials 原材料



- The most important point for reducing and eliminating bone complaints  
对于减少和消除骨头投诉最重要的一点
- Supplier qualification and inspection  
供应商资质和检查
- Feedback and supplier improvement  
反馈和供应商改进

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## X-ray Detection X光检测



### HIGH DENSITY ITEMS 高密度项目

- Metals to 2mm  
2毫米金属

Detectable  
可检测的

### LOW DENSITY ITEMS 低密度项目

- Stone  
石头
- Bone to 3-4 mm  
3-4毫米骨头
- Rubber  
橡胶

Detectable  
可检测的

### NOT DETECTABLE 不可检测的

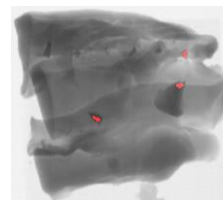
- Wood – in most applications  
木头- 在大多数应用中
- Plastic /Metal Films  
塑料/金属薄膜
- Metallic Films  
金属膜
- Packaging, cardboard, paper  
包装, 纸板, 纸

NOT  
DETECTABLE  
不可检测的

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## 1.0 in Pork Fat 在猪肉脂肪中



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## Bone Detection 骨头检测



- Initial X-ray detection: >3mm to 4mm bone  
最初的X光检测：大于3 – 4 毫米骨头



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## Bone Eliminator 剔骨器



- Typical grind size = 3/32" (2.4 mm)  
典型的绞肉尺寸=3/32" (2.4 mm)
- Bone elimination systems – reduce load of bone at the grinder plate  
去骨系统-减少绞肉机模板骨头的负载
- Without these systems, bone pieces are pushed through the grinder  
没有这些系统，骨片会挤过绞肉机

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## Bone Elimination 去骨



- Equipment captures bone at grinder plate  
设备在绞肉机模板拦截骨头
- Reclaims meat after separating bone  
骨头分离后，回收肉
- Immediate return to grind stream eliminates traceability concerns  
立即返回到绞肉工序避免追溯问题
- Discards removed bone  
丢弃移除的骨头

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## Bone Elimination 去骨



- Example of 1 cm bone behind grinder plate  
例如绞肉机模板后1厘米的骨头
- Elimination will improve product quality  
去骨会提高产品质量



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## Product X-ray 产品X光检测



- Raw ground meat, or finished cooked product, pass through an X-ray machine  
绞过的生肉或熟制终产品通过X光机
- Using Anritsu X-Ray. Most sensitive X-Ray equipment. Possible to ID 0.8 mm size bone.  
使用Anritsu (安立) X光机, 最灵敏的X光机设备。  
可能会识别0.8毫米尺寸的骨头

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## Anritsu X-Ray 安立X光机

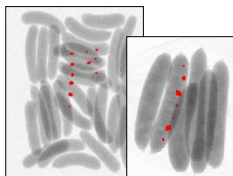


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## Anritsu X Ray 安立X光机



- Reduce complaints by analyzing individual product  
通过分析个别产品减少投诉
- Set reject quantity threshold limits  
设置剔除数量的极限值
- Contaminant must be more dense than the product to be detectable.  
污染物必须比要检测的产品密度大
- Supports customer expectations  
支持客户期望
- Seeded sample on right  
样本如右图



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Thank You

谢谢

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**REDUCING DRUG RESIDUES IN MEAT  
WITH SOUND POULTRY HEALTH AND  
HUSBANDRY PROGRAMS**  
优化家禽健康和饲养方案来减少肉品  
中药残

Bill Hewat, DVM, MAM, DACPV 兽医博士  
Tyson Foods 泰森食品

## When Are Antibiotics Used in Poultry? 何时在家禽中使用抗生素？

- Primarily used to combat RESPIRATORY AND ENTERIC Diseases  
主要用于对抗**呼吸道和肠道**疾病
- Treatment  
治疗
  - The use of a specific procedure to treat or cure a disease  
使用特定的方案来治疗或治愈疾病
    - Acute or secondary bacterial disease  
急性或继发性细菌疾病
- Control  
控制
  - Ongoing procedures aimed at reducing disease that are imminent  
日常持续使用的方案旨在减少将发生的疾病几率
    - Coccidiosis  
球虫

## When Are Antibiotics Used in Poultry? 何时在家禽中使用抗生素？

- Prevention  
预防
  - Hindering the occurrence of disease in a susceptible population  
阻止易感染群体疾病的发生
    - Mycoplasma  
支原体
- Growth Enhancement  
促进生长
  - The use of products that increase weight gain and improve feed efficiency  
使用产品以促进增重, 提高饲料转换率

## Residue Avoidance Outline 避免药残概述

- Health Maintenance & Disease Prevention  
健康维护和疾病预防
  - Housing and Infrastructure  
房屋和设施
  - Biosecurity  
生物安全
  - High quality DOC  
高品质的雏鸡
  - Management Practices (FLAWLB)  
管理操作(饲料, 垫料, 空气, 水, 光照, 育雏)
  - Vaccination  
免疫

## Residue Avoidance Outline

### 避免药残概述

#### Antibiotic Stewardship

##### 抗生素监管工作

- ▣ Proper use of the correct antibiotic (judicious use, drug selection, dose, etc.)  
正确适度的使用抗生素（合理使用，药品选择，剂量，等等）
- ▣ Sensitivity, absorption, withdrawal  
敏感性，吸收性，休药期
- ▣ Antibiotic Alternatives  
抗生素替代品

#### Elements of Industry

##### 行业因素

- ▣ Disease eradication  
疾病的根除
- ▣ Marketing System (integration)  
市场体系（综合）

## Health Maintenance 健康维护

## Health Maintenance - *Housing and Infrastructure*

### 健康维护 - 房屋和设施

#### Facilities must be able to support Management and Biosecurity Programs

##### 设施必须能够支持管理和生物安全程序

- ▣ Mortality management, litter management, environmental control, utility preservation, etc.  
死鸡管理，垫料管理，环境控制，能源保存，等等。
- ▣ Properly designed and constructed  
合理的设计和建造



Biosecurity Infrastructure  
生物安全设施



Monitoring  
监控



Modern Housing  
现代化的鸡舍

## Health Maintenance -

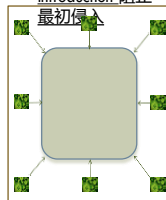
### Biosecurity

### 健康维护 - 生物安全

#### First Stage 第一

##### 步

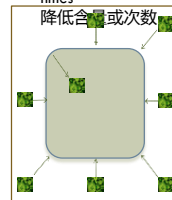
- Bio-Exclusion  
生物排除
- Prevent initial  
introduction 阻止



#### Second Stage 第二

##### 步

- Bio-Reduction  
生物降低
- Reduce dose or  
times



#### Third Stage 第三

##### 步

- Bio-Containment  
生物密闭
- Prevent spread  
阻止传播





## Health Maintenance – Biosecurity 健康维护 – 生物安全

- Mind-set or Way of Life – *Easy to talk about, hard to do.*  
思维定式或是行为习惯- 谈起来容易，做起来难
  - Written procedures requires training, teaching, and communication  
书面的程序需要培训，教授和沟通
  - Biosecurity procedures should be “second nature” and never questioned or compromised for convenience  
生物安全程序应该是种“习性”，不能为了便利而去质疑或去妥协
  - Accepted principles practiced by all persons involved in the operation  
运营过程中的原则需要被所有执行的人接受
  - Regardless of the specifics of, all aspects should be practiced at all times  
在任何时候，任何细节都要执行到位
  - Theoretical and physical barriers should never be compromised  
永远不能对理论和物质上的障碍进行妥协
  - Requires proper infrastructure  
需要合适的基础设施
- Deliberate actions and behaviors  
深思熟虑的行动和行为



## Health Maintenance - DOC Source 健康维护 – 苗鸡鸡源

- High quality DOC  
高品质的苗鸡
- Consistent DOC supply with similar:  
持续提供品质一致的苗鸡
  - Maternal antibodies  
母源抗体
  - Parent management programs  
父母代的管理程序
  - Maternal disease condition  
母源疾病情况
  - Parent age  
父母代的周龄
- Importance of Mycoplasma freedom  
无支原体困扰的重要性
- Optimal Incubation  
优化孵化
- A good DOC sets the foundation for healthy and profitable broilers  
良好质量的苗鸡是肉鸡健康和盈利的基础



## Health Maintenance - Management Practices 健康维护 – 管理操作

- Feed  
饲料
  - Properly formulated and mixed  
按配方研制和混合的饲料
  - High quality digestible ingredients  
易消化的高品质原料
  - No “anti-nutritional” factors  
没有“抗营养”因素
  - Preserves normal gut flora  
维持正常的肠道菌群
  - Maintains normal gut integrity  
维持正常的肠道完整
  - Proper form to enhance feed intake  
合适颗粒大小增加饲料的采食



## Health Maintenance - Management Practices 健康维护 – 管理操作

- Air  
空气
  - Proper ventilation  
合适的通风
    - Elimination of noxious materials (Ammonia, CO<sub>2</sub>, CO, moisture, dust)  
消除有害物质（氨气，二氧化碳，一氧化碳，水分，灰尘）
    - Provides fresh air (O<sub>2</sub>)  
提供新鲜的空气（氧气）
  - Temperature and Moisture Control  
温度和水分控制



## Health Maintenance - *Management Practices*

### 健康维护 - 管理操作

- Water 水
  - Good quality 好水质
  - Adequate volume for birds and operation of the house 鸡舍内饮用水充足
  - Readily available at all times 任何时候都可以喝到水
- Litter 垫料
  - Absorbent 吸收性好
  - Good quality 质量好
  - Adequate amount 充足



## Health Maintenance - *Management Practices*

### 健康维护 - 管理操作

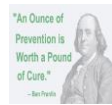
- Lights 光线
  - Maintain proper feed intake 保持合适的采食
  - Prevents excessive activity 防止鸡只过度活跃
- Brooding 育雏
  - Early access to feed, water, lights & correct temp 鸡只要能尽早的接触到饲料, 水, 光线和温度



## Health Maintenance - *Vaccination*

### 健康维护 - 免疫

- Vaccine management 疫苗管理
  - Matching the vaccine to the specific disease (ex. IBV) 与特定疾病匹配的疫苗 (比如IBV)
  - Proper cold chain, storage, and handling 恰当的冷链, 贮存, 操作
  - Accurate administration 精准的操作
  - Understand the balance of over and under vaccinating 理解接种时超量和低量之间的平衡
- Availability of current vaccine strains 当前疫苗毒株的可用性
  - Regulatory approval process 管理申请流程
  - Autogenous (inactivated) 自生的 (灭活苗)



一盎司的预防胜过一磅的治疗

## Antibiotic Stewardship 抗生素的监管工作

## Antibiotic Stewardship – *Judicious Use* 抗生素监管工作 – 明智审慎的使用

- 5 “D’s”  
5个D
- Right **D**iagnosis  
正确的诊断
- Right **D**rug  
正确的药品
- Right **D**ose  
正确的剂量
- Right **D**uration  
正确的治疗周期
- **D**e-escalation (narrowest spectrum antibiotic possible)  
降低范围或强度 (窄谱抗生素的可能)

## Antibiotic Stewardship – *Proper Use* 抗生素监管工作 – 恰当的使用

- Mass Application  
广泛应用
  - Feed  
饲料
  - Water  
经水
- Withdrawal periods  
休药期
- Courage to eliminate dependence “Chemical Control”  
有勇气消除“化学控制”的依赖性
  - Decision tree or Cost vs Benefit analysis  
决策图表或是成本对比经济效益的分析

## Antibiotic Stewardship – *China Trial* 抗生素监管工作 – 中国进行的实验

- Waiting on data

## Antibiotic Stewardship – *Alternatives* 抗生素监管工作 – 替代选择

- While alternative compounds may not be as efficacious as traditional antibiotics, benefits do exist  
替代性的化合物可能不会像传统抗生素那样有效，但好处是存在的
- Alternatives include  
替代产品包括
  - Essential Oils/Botanicals (oregano, cinnamon, clove) 香精油 / 植物萃取物 (牛至, 肉桂, 丁香)
  - Yeast cell wall products (MOS), fermentation products 酵母细胞类产品 (MOS), 发酵产品
  - Enzymes 酶类产品
  - Minerals (Copper sulfate, zinc, others) 矿物质 (硫酸铜, 锌, 其他物质)
  - Pre/Probiotics 益生菌
- Initially, alternatives should not be relied upon as complete solution  
首先, 不能把替代产品依赖为全面的解决方案

## Antibiotic Stewardship – Alternatives 抗生素监管工作 – 替代选择



HEALTHY ANIMALS. HEALTHY FOOD. HEALTHY WORLD.®



### What is Actigen?

- Actigen is a natural growth promoter
- Derived from a primary source of yeast, selected by Alltech
- Nanogenomic evidence shows the up-regulation of genes associated with digestive enzymes & improved defense
- Actigen improves efficiency, growth performance & animal well-being
- Performance improvement = profitability
- Quality Control: Assays to show functionality and traceability

Alltech

### Magni-Phi General Overview

- Magni-Phi –
  - A specialized proprietary blend of interspersed saprothins
  - Saprothins contained in Magni-Phi
    - Natural substances of plant origin
    - Adjuvants used in human and veterinary vaccine preparation
    - GRAS, used in food preparation, soft drinks
    - Have been tested and used as feed supplements for animals

### XPC Classification

- Represents New Class of Products
  - Fermentation Technology
  - Multiple Compounds
- All Natural
- Non-Antibiotic
- No Withdrawal Period
- Unique Mode of Action



## Elements of Industry 行业因素

## Elements of Industry - Disease

### Eradication Programs

#### 行业因素 – 疾病根除程序

- Programs supported by Government  
方案被政府支持
- Targeted Diseases  
目标疾病
  - Primary pathogens  
主要病原体
  - Primarily vertically transmitted  
主要是垂直传播类疾病
- *Mycoplasma* & *Salmonella* species  
支原体和沙门氏菌种类
- National Poultry Improvement Plan  
国家级家禽改进计划
- Reduce/eliminate the need for treatment  
减少/根除治疗的需求



FIGURE 12

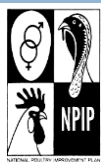


FIGURE 13



FIGURE 12



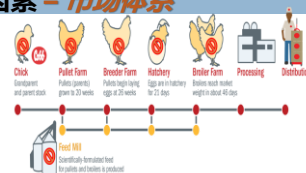
FIGURE 13

"To ensure that Plan diseases are not spread, flocks must be qualified for their intended Plan classifications before being moved into (breeder) production facilities" – NPIP  
“确保某种疾病不被传播，在鸡群投入到（种鸡）生产前就要拥有能对抗该疾病的

## Elements of Industry - Marketing

### Systems

#### 行业因素 – 市场体系



- Integrated System - single entity that controls each step of the Live Bird Supply Chain  
综合体系 – 单一实体控制着活禽供应的每个环节
  - Each segment has the same customer with the same specifications  
每个环节都有相同的客户及相同产品要求
- The Open Market System - multiple entities with variable control of Live Bird Supply Chain  
开放的市场体系 – 多个实体对活禽供应有多样化的控制

## Final Thoughts

### 最终思考

- Residue Avoidance requires a Multifactorial approach  
避免药残需要多种方法
- Mass Application makes residue avoidance more difficult in animals (poultry) that are difficult to handle individually  
药品的广泛使用使得在动物（家禽）身上避免药残上是很难单独进行的
- Disease Prevention requires less antibiotic use with less residue risk  
疾病预防需要少用抗生素，降低药残风险
- Use of antibiotics should be done according to Regulatory Requirements and under the supervision of an animal health professional  
使用抗生素应根据监管要求，在动物健康专业人士的监督下使用
- Customers are increasingly focusing on antibiotic residues and it may become a Point of Differentiation  
客户越来越关注抗生素残留问题，这可能会成为一个分化点
- Regardless of Live Production Programs, lack of residue should be Verified with robust laboratory confirmation 暂且不论活禽生产的程序，无药残认证应由权威实验室验证