Despite the global economic downturn of the past two years, by all reports the world’s appetite for food-grade lubricants has continued to expand. Huge volumes of food are being processed, packaged and transported worldwide, lengthening the food supply chain and increasing the opportunities for food-grade lubes at each step.

Paul Grives of ExxonMobil Lubricants & Specialties in Fairfax, Va., points out that machines now touch our food in ways previously unimagined. “It used to be if you wanted to make a salad, you bought a head of lettuce and cut it up, peeled and cut up carrots and other ingredients, and mixed them together. Salad doesn’t grow inside a bag — but that’s how most people get it now,” he observed last month. “Overall, we’re seeing more food processing, both localized and centralized.” To do this efficiently and competitively, he added, “higher volume throughputs are needed, with equipment working longer, faster and at higher temperatures than ever.” There’s a larger role for food grade lubricants — and greater need to ensure the lubricants are up to the job.

“Lubes for incidental food contact have to perform, and also must not cause harm. But is that enough?” Grives questioned. The highly regulated components of a food-grade lubricant may meet a basic level of safety, yet there are many other gaps in the safety net that may need plugging — like how the lubricant is manufactured, handled and stored. “Food safety management goes beyond the formulation process, and looks more deeply at how we make, package and use the lubricant. It now focuses on the end product that we will eat.”

Grives was speaking as moderator of a panel discussion on food safety management, held during the NLGI annual meeting in Bonita Springs, Fla. The panel included representatives from several links in the chain of food safety — processors, retailers, lube blenders and quality auditors.

Pressure is intensifying on food suppliers to manage risk at each step “from farm to fork,” the panelists said, and that includes risks from the lubricants and greases used in food-processing equipment. Much of this pressure is coming from within the food industry itself, and particularly from multinational retailers such as Tesco, Wal-Mart, Carrefour and Royal Ahold and food suppliers such as Danone and Hormel Foods. The U.S. Department of Agriculture pegs the value of the global retail food trade at $4 trillion a year, and over the past decade retailers have emerged as a powerful voice in food safety.

“Food safety is top of mind with consumers,” said Donna Garren, the Washington, D.C.-based vice president of food safety programs at the Consumer Goods Forum, a network of more than 400 retailers and consumer goods companies. The Forum’s retailer members increasingly are offering private-label products, putting their own store brands into competition for new markets. Private-label brands could take 22 percent of global food sales this year, the group has forecast, so retailers are more intimately tied to food production than ever before, with more liability too.

In 2000, food business executives led by CEOs from Coca-Cola, Kraft, Royal Ahold, Cargill and others, launched the Global Food Safety Initiative. Besides food safety — which is always in their top five concerns — these executives were worried about cost efficiency, Garren noted. They had seen rapid proliferation of third-party audits of their and their suppliers’ plants and processes, many of them duplicating the same steps. Some food processors said they faced more than 50 audits a year — generating 50 reports, 50 corrective action plans, and of
course 50 auditor fees. Why, they asked, couldn’t one audit be accepted for compliance across all countries and continents?

To settle the issue, GFSI wrote guidelines for all food-safety audits. GFSI does not set policies, or undertake certification or accreditation itself, Garren said, but sets the schemes for food companies to be audited against. By reaching a consensus on what an acceptable and rigorous food safety scheme should cover, it hoped to reduce the number and cost of audits and drive out the redundant ones. Its motto: “Certified once, accepted everywhere.”

GFSI’s basic guidelines mirror that of ISO 22000, a global food safety standard launched in 2005. It incorporates Hazard Analysis and Critical Control Points and Good Manufacturing Practices (widely accepted safety measures that are familiar to food-grade lubricant suppliers), and conforms to the international Codex Alimentarius. See www.mygfsi.com for details.

Of keenest interest to lubricant marketers may be GFSI’s directive that audits of food-processing facilities must verify that “procedures are in place to prevent contamination and cross-contamination of raw materials, packaging and finished products, covering all aspects of food safety including microorganisms, chemicals and allergens.” This means food plants will have to defend how they select and apply lubricants, Garren and the other NLGI panelists suggested.

The GFSI audit scheme has been taken up vigorously by industry, noted Sarah Krol, manager of Nonfood Compounds registrations at NSF International in Ann Arbor, Mich., which maintains a list of lubricants, base oils and additives that are safe for incidental food contact (www.nsfwhitebook.org). NSF has seen increasing participation in its lubricant product registration program, as well as companies seeking to certify their blending facilities to ISO 21469, which examines how a company manufactures food-grade lubes. “GFSI is a big driver of this today,” she acknowledged. “Wal-Mart and other retailers worldwide have said, ‘This will happen.’”

David Turner, from Shell Global Solutions’ Westhollow Lubricants Center near Houston, agreed, and went on to explain that “ISO 21469 specifies hygiene requirements covering the formulation, manufacture, use and handling of lubes intended for incidental contact in making food, cosmetics, pharmaceuticals or animal feed.” The standard requires lubricant suppliers to consider hazards, such as chemical, biological or physical ones, and also demands that they demonstrate how they manage risk and communicate risk information to end users. “Cross-contamination by a lubricant should not affect the health of the consumer, or the product’s taste or odor,” Turner pointed out.

ISO 21469’s goals — analyzing and managing risk — dovetail with the food industry’s ISO 22000 standard, said Martin Brown of Lloyds Register Quality Assurance. ISO 22000 is one of four generic food safety standards which meet the GFSI scheme, and is a “very, very fast-growing standard around the world,” Brown said. “We’ve never seen a standard get taken up so quickly. Why? It’s a matter of consumer confidence. We see in the media regularly problems in the food supply chain.

“Eighty percent of consumers don’t trust their food,” he continued, which is no surprise given recent widespread food scares. There was the Peanut Corp. of America, which shipped salmonella tainted peanut butters and pastes to hundreds of food processors and institutions in 2008, and set off a chain-reaction of thousands of product recalls ranging from dog food to donuts. “There was also the melamine in milk scandal in China in July 2008,” Brown noted. “Six infants died and 860 were hospitalized. By November that year, there were 300,000 victims.”
The food supply chain, Brown explained, consists of two main streams: the food itself, of course, plus the long chain of manufacturing that includes packaging, utilities, machines, services, transportation and storage. Anywhere along the way, a failure can occur and be passed down the chain. “You can have a cup of coffee and pray,” he said, “or you can do Hazard Analysis and Critical Control Points. Food safety must include hazard analysis and control, environmental analysis, and health and safety analysis. All of these are linked to your management system, and you need an integrated approach to how you run your business.”

These standards are being urged on anyone who supplies the food industry, he stressed, including lube sellers. “Does ISO 22000 add value? Yes, it leads to improvements on the whole chain. It reduces overlap. It complies with international harmonization, and reduces time and costs associated with audits,” Brown said.

Some will argue that another layer of standards and audits is not needed if a company has a quality assurance system in place such as ISO 9001. Mark Overland, who manages plant certifications worldwide for Cargill Inc., demurred. He noted that Peanut Corp. of America earned high scores on the third-party ISO 9001 audit at its plant in Georgia — yet was able to ship tons of contaminated product.

“What we really need is farm-to-fork transparency,” Overland told the NLGI. “We are all passing our hazards along to the next in the chain. We want to identify, mitigate and control hazards before they get to the consumer.”

Cargill has 1,000 plants in 67 countries and has embraced the GFSI scheme as “our backbone for implementation of ISO 22000.” Before adopting it, he said, Cargill’s plant audits were often mere “checklist audits,” taking about one day to complete as auditors simplistically reviewed a plant and its documents. “Now, the audit can take at least four days, and is very robust. It is externally and internally driven. It’s the difference between satisfy versus justify. Instead of looking at one point or product, it covers the whole system. Instead of being reactive, with a once-yearly audit, it has a regular, proactive routine.”

The process can be brutal, he conceded, but added, “Before, the auditor might have asked if a particular machine used food-grade lubricants, and let it go at that. Now, that auditor will probe further, asking why or why not, and maybe ask us how the lubricant is stored and used. The plant has to be ready to defend that decision.”

The result will be a safer food chain — and probably more openings for food-grade lubes, he concluded.

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