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JULY 2021

## THE CYBER WORLD WAR & **the meat industry**

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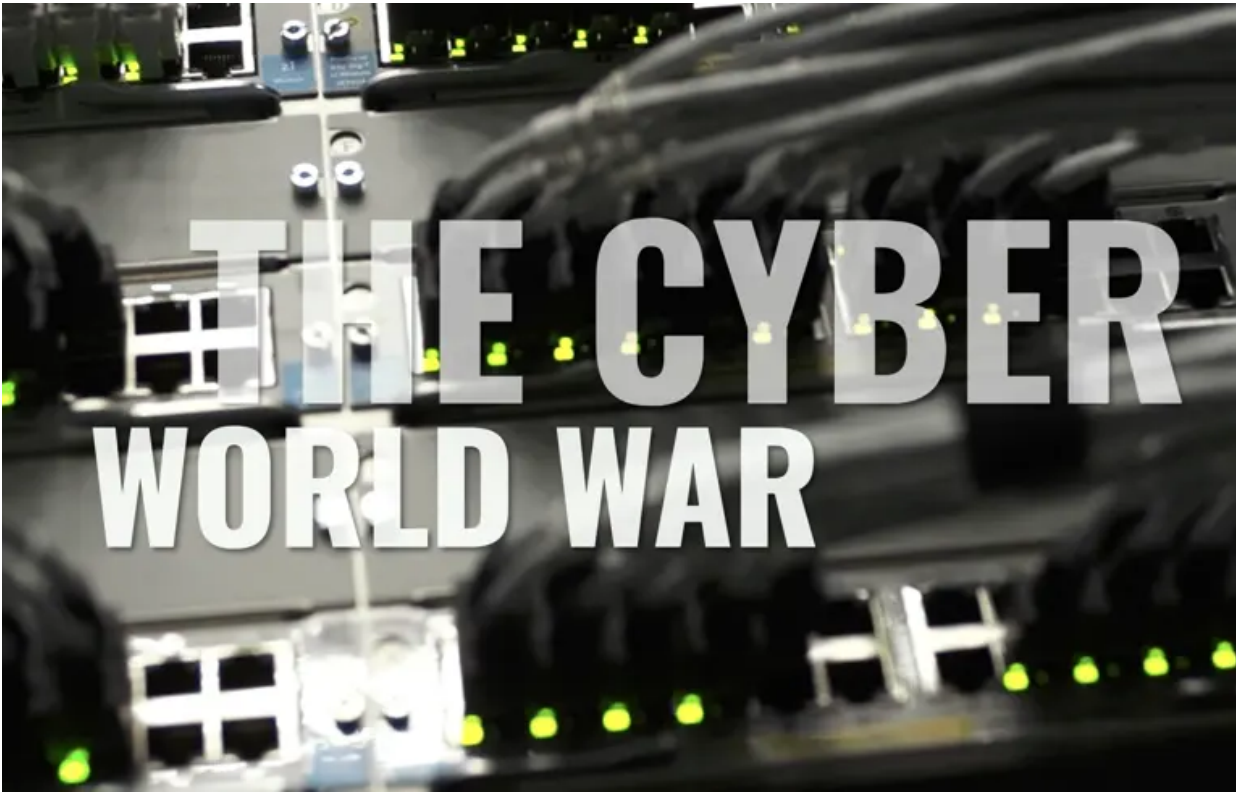
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**NEW FROM NATIONAL PROVISIONER VIDEOS**  
The Los Angeles Dodgers recently announced a multi-year partnership with Papa Cantella's to supply Dodger Stadium with Dodger Dogs and premium sausages. Tony Cantella, company president, overviews the new offerings and discusses how this partnership compares to others, mostly in retail and foodservice.

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# 2021 RECALL TRENDS

## CONTINUE TO SET RECORDS

BY SHAWN K. STEVENS  
FOOD INDUSTRY COUNSEL LLC

As some of you likely recall, we here at Food Industry Counsel track recalls throughout the year. To that end, as we pass the midpoint of 2021, we wanted to check in and see how things going so far. At this point, we are please to report things are going pretty well!

So far in 2021, there have been just 21 recalls of USDA regulated products. The month of May has had the most recalls of any month so far, with a total of six. January and March had the fewest, with three each. The month of June is on pace for the best month yet, with zero recalls in the first two weeks.

Of the 21 recalls so far this year, only three were related to pathogens. That is an incredible accomplishment for industry. The first recall involved *Listeria monocytogenes* (LM), the second recall involved *Salmonella*, and the third recall involved *E. coli* O157:H7. The LM recall affected only 33 pounds of product, which was recalled after the company's third-party lab confirmed that a product contact surface sample tested positive for LM. The *Salmonella* recall involved 6,804 pounds of ham products, and the *E. coli* O157:H7 recall involved 4,860 pounds of boneless beef from Australia. While we would, of course, like to completely eradicate all pathogens from all food, that feat remains elusive and, scientifically, is still not realistically possible at this point. Given the tremendous volumes of meat products produced annually in the U.S., having only three recalls involving only 11,000 pounds of product for the suspected presence of pathogens is an amazing accomplishment for industry.

The presence of foreign materials and labeling issues also remain common cause for recalls so far this year. There were single recalls for each of the following: the presence of hydraulic fluid, labeling errors, mislabeling, and undeclared ingredients. The oddest sounding recall is perhaps the one for milk in polish sausage.

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Last year was a significant outlier due to COVID, so any year-to-year comparison would likely be ineffectual. Looking back to 2019, however, we see the pace of recalls is significantly lower this year. By this point in 2019, there had already been 70 recalls of USDA-regulated product, more than three times what there have been this year.

Collectively, this data continues to show how the hard work and improvements to food safety programs continue to reduce recalls, and most importantly, the number of pathogen related problems. The industry is doing a fantastic job. While there will likely always be room for additional improvement, there is also room for a great deal of pride in a job well done. As we move into the second half of 2021, keep up the fantastic work!



# CALIFORNIA PUBLISHES PROPOSED REGULATIONS

## TO IMPLEMENT PROPOSITION 12 FOR PORK

BY JOHN DILLARD



On May 26, California’s Department of Food and Agriculture (CDFA) published its [proposed regulations](#) to implement the 2018 voter ballot initiative, Proposition 12. Proposition 12 included a requirement that breeding sows and gilts be housed in enclosures with a minimum of 24 square feet per hog beginning Jan. 1, 2022. In addition to regulating hog farms within the state, the effect of Proposition 12 will extend far beyond California’s borders. The law requires that much of the pork sold in the state be derived from hogs that meet the housing requirements.

Enforcing the law will require significant recordkeeping requirements on the part of retailers, distributors, processors, packers and farmers who want to produce pork for the California market. It will also require CDFA to establish a registration and certification program to monitor compliance. The proposed regulations address many of the details.

### WHAT’S COVERED? WHAT ISN’T?

Proposition 12 restrictions apply to sales of “whole pork meat” to end users (e.g., grocery stores, foodservice) in California. The proposed regulations define whole pork meat as any uncooked cut of pork — including bacon, ham, chops, loin and ribs — that consists entirely of pork meat except for seasoning, curing agents, coloring, flavoring, preservatives or similar meat additives. All whole pork meat sold to end users must be derived from breeding hogs or the immediate offspring of breeding hogs (market hogs) that meet the law’s housing space requirements.

Under the proposed regulations, ground products (e.g., sausage), ready-to-eat products, hot dogs and combination products (pizzas, for example) are not covered by Proposition 12. Moreover, Proposition 12’s restrictions do not apply to whole pork meat that enters and leaves the state without additional processing or repackaging, as is the case with exports. Nor does it apply to sales to USDA Food Safety and Inspection Service (FSIS)-inspected establishments with mandatory inspection.

### REGISTRATION REQUIREMENTS

Under the proposed regulations, any distributor that wishes to sell whole pork meat in or into California will be required to register with CDFA. Registered distributors will need to demonstrate that they can maintain an “audit trail” tracing the pork products back to a Proposition 12-compliant farm. In 2022, distributors will be able to self-certify they are only using pork derived from compliant housing. Beginning in 2023, pork distributors will need to be certified by CDFA inspectors or contractors. This certification process can include onsite inspections.

In addition to registration, the proposed regulations would require that shipments of whole pork meat into California include information on shipping invoices, bills of lading and manifests noting whether the pork is compliant (“California 24+”) or not. If pork is being shipped to a FSIS-inspected facility for some processing that will result in it not being covered by Proposition 12, the shipping documents must contain restrictive use language. (e.g., “Only for use at M-[est. #]”)

### HOW TO COMMENT

CDFA is accepting comments on the proposed regulations until July 12. Interested parties can submit comments on the proposed regulations at [animalcare@cdfa.ca.gov](mailto:animalcare@cdfa.ca.gov) or by calling (916) 900-5000. Although CDFA has not announced a timeline for publication of the final regulations, CDFA is mandated by statute to begin enforcing Proposition 12 beginning on Jan. 1, 2022.

*Note: This column is for educational purposes and is not a substitute for legal advice. John Dillard is a [USDA regulatory attorney](#) with OFW Law in Washington, D.C. He focuses his practice on providing regulatory compliance advice and legal representation to clients in the food and agriculture industry.*

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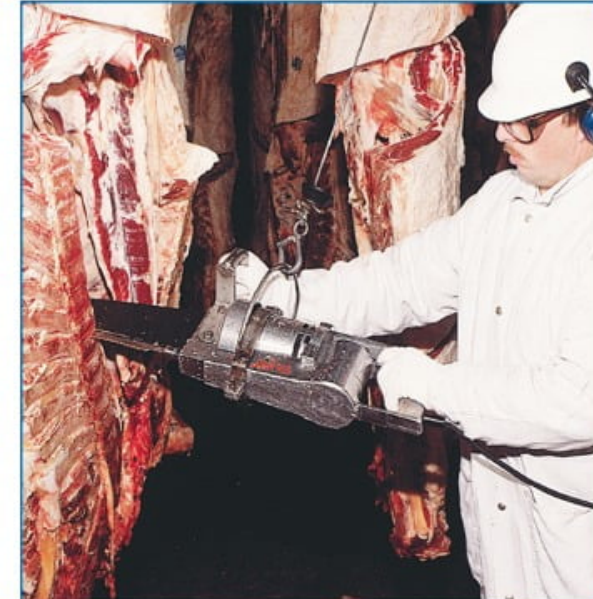
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BREAKFAST AND DINNER SAUSAGES EXPLODE IN POPULARITY DURING THE PANDEMIC.

BY MEGAN PELLEGRINI

What’s summer without a hot dog or brat? These staples of the backyard party, baseball games or Fourth of July gatherings are more popular than ever — especially as Americans look forward to long-awaited family reunions.

“I think the future for sausage is bright,” says Anne-Marie Roerink, principal and founder of 210 Analytics, in San Antonio, Texas. “While every protein in the meat department will have a hard time lapping the results of 2020, demand continues to sit comfortably above the 2019 pre-pandemic normal. Add to that that Americans are ready for a re-do on all the missed celebrations, family and friends’ get-togethers and the massive investments made in all things grill and smoker, and I think we’re going to see a very strong barbecue season this summer.”

Both breakfast and dinner sausage have been on multiyear growth trends, so the explosion in sales that we witnessed during the pandemic is really an acceleration of a trend that we had already been seeing, Roerink says.

**BOTH BREAKFAST AND DINNER SAUSAGE HAVE BEEN ON MULTIYEAR GROWTH TRENDS, SO THE EXPLOSION IN SALES THAT WE WITNESSED DURING THE PANDEMIC IS REALLY AN ACCELERATION OF A TREND THAT WE HAD ALREADY BEEN SEEING.**

“Dinner sausage is the bigger of the two — at 2020 sales of \$4.7 billion — which was an increase of 21 percent over year ago, according to IRI for the multi-outlet universe,” says Roerink. “But this is on top of a 2.6 percent increase in 2019 and up 2.1 percent in 2018. And this goes hand-in-hand with solid increases in volume also.”

In 2020, breakfast sausage totaled \$2.1 billion, which was a 20 percent increase year over year, after gaining 1.8 percent in 2019 and 3.7 percent in 2018. “So, these are certainly numbers that point to strong and growing offerings,” Roerink says. “And that makes all the sense in the world as they are versatile, convenient, easy-to-prepare and kid-friendly items — which is exactly the type of items that have been doing well.”

But according to Chicago-based IRI, an analytics firm, the average assortment per store of dinner and breakfast sausage has dropped from 92.7 items in 2017 to 86.5 items in 2020.

“I believe dinner and breakfast sausage may be an interesting segment for retailers to review, especially for limited-time offers of fun, new flavors or cross-merchandised solutions,” says Roerink. “For instance, Publix had a wonderful breakfast endcap the other day, with all the items ranging from orange juice and coffee to bacon and breakfast sausage.”

ON THE MENU: NEW, UNIQUE FLAVORS

Sausage is popular with diners because it’s versatile, flavorful and unique. About 53 percent of operators have sausage on their menu, according to Technomic’s Ignite menu data, says Lizzy Freier, managing editor at Technomic, a Winsight Company, based in Chicago.

“Though incidence is down slightly on menus — no surprise given menu streamlining amidst the past year due to the pandemic — sausage mentions are up in certain items, including mixed protein bowls (up 120 percent year over year), breakfast quesadilla entrees (up 60 percent), breakfast bowls (up 33.3 percent) and build-your-own combos (up 32.1 percent),” says Freier.

And consumers are interested in buying more pork options. “Data from Technomic’s 2021 Beef and Pork Consumer Trend Report shows that 37 percent of pork consumers would order regular or smoked sausage at least occasionally (once every 90 days),” says Anne Mills, director at Technomic, noting the survey included 1,034 consumers who eat pork once every two to three weeks. “This is higher among consumers ages 35 and older (41 percent) than 18 to 34 (30 percent).” The report found that there is substantial demand for unique pork options: 39 percent of consumers would like restaurants to offer pork entrees with new, unique flavors and 35 percent of consumers are interested in trying pork dishes made with global flavors/ingredients, says Mills.

“Demand is relatively stable compared to 2018 and is driven by younger consumers, who are generally more adventurous eaters,” Mills says. Plant-based meat alternatives aren’t going away, and consumers are willing to try new varieties. “Beyond beef patties, we’re seeing plant-based substitutes expand into other categories, and 42 percent of pork consumers say they would be likely to try a plant-based pork alternative if available,” says Mills, citing the same survey.



WINNING ON TASTE

In 2020, IRI reports pork sausage sales represented over 60 percent of all retail sausage sales and outpaced the total sausage category in growth for the 52 weeks ending Dec. 27, 2020, says Jason Menke, director of marketing communications at the National Pork Board (NPB), based in Des Moines, Iowa.

“Pork sausage wins on taste, with half of consumers noting that pork sausage is delicious and saying it is something they love eating,” says Menke, referencing NPB At Home Meat Tracker, April 2021.

Younger shoppers have a higher affinity for pork sausage. “More than 70 percent of Gen Z note that it tastes delicious, and half of them also note it is less involved to cook than other meat,” says Menke.

Traditional flavors tend to be most popular for both breakfast and dinner sausage. And while uncooked makes up the majority of sales, growth has been fueled by fully cooked and ready-to-eat sausage, says Menke.

Pork Breakfast Sausage:

Compared to other species, Pork Breakfast Sausage drives total Breakfast sausage sales with dollar share of 88% and volume share of 92%. And its growth outpaced the category.

Breakfast Sausage	\$ Share of Category	Dollar Sales	\$ % Chg vs. YA	Lb Share of Category	Volume Sales	Volume % Chg vs. YA
PORK BREAKFAST SAUSAGE	88.01%	\$1,807,043,960	21%	91.52%	489,600,882	19%
TURKEY BREAKFAST SAUSAGE	9.12%	\$187,225,837	15%	6.64%	35,541,619	12%
MIXED BREAKFAST SAUSAGE	1.72%	\$35,228,500	21%	1.15%	6,138,172	12%
CHICKEN BREAKFAST SAUSAGE	0.86%	\$17,751,127	-3%	0.42%	2,245,742	-13%
BEEF BREAKFAST SAUSAGE	0.28%	\$5,647,755	13%	0.26%	1,367,752	18%
AO BREAKFAST SAUSAGE	0.02%	\$418,234	223%	0.01%	46,958	137%

\*FW vs. RW: 99% of Pork Breakfast Sausage are fixed weight products and its growth in the latest 52 weeks is comparable to the category. \*Flavors: Original, Spicy and Sweet are the most popular flavors for FW Pork Breakfast Sausage and top growing flavors include Blueberry Maple, Hot & Spicy, Medium Spice and Mild Sage.

FOCUSING ON HEALTH

Sausage is certainly a traditional comfort food, but new offerings are focused on health. Varieties include organic, chicken-based sausages and products that have added ingredients, such as apple sausages.

In addition to natural ingredients, sausages have also innovated with the types of protein used, blended sausages, new flavors, formats and packaging in the past five years. “In terms of proteins, innovation runs the gamut from plant-based meat alternatives to seafood and chicken. The innovation in chicken sausage is particularly exciting as it brings a different health positioning and many interesting new flavor combinations,” Roerink says.

Top Flavors, ranked by dollars:

FW Pork Breakfast Sausage	\$ Share of All Flavors	Dollar Sales	\$ % Chg vs. YA	Lb Share of All Flavors	Volume Sales	Volume % Chg vs. YA
ORIGINAL	27.13%	\$467,967,322	23.3%	21.54%	99,853,486	18.7%
REGULAR	26.72%	\$460,866,946	25.5%	27.59%	127,862,768	23.9%
MILD	14.37%	\$247,868,248	24.4%	18.79%	87,084,495	22.7%
HOT	9.23%	\$159,248,178	22.3%	10.15%	47,053,799	21.7%
MAPLE	5.54%	\$95,613,244	14.7%	5.43%	25,183,566	13.6%
VERMONT MAPLE SYRUP	3.93%	\$67,717,935	21.5%	3.23%	14,965,996	16.4%
TRADITIONAL	2.60%	\$44,869,625	15.3%	2.87%	13,318,991	13.8%
SAGE	2.59%	\$44,724,365	21.6%	2.72%	12,594,323	19.4%
BROWN SUGAR & HONEY	1.77%	\$30,528,581	10.0%	1.47%	6,817,856	3.3%
COUNTRY MILD	1.21%	\$20,871,294	-7.6%	1.24%	5,739,040	-4.8%

“Last year when supplies on the shelf were low, people may have bought sausages, hot dogs and other cuts of meat they normally would not have,” says Sarah Findle, director of marketing and communications at Coleman Natural Foods, in Denver, Colo. “This unexpected trial has resulted in consumers understanding that natural sausages made with clean ingredients are a great source of protein, provide great taste and can be used for multiple eating occasions.”

Several brands now carry protein callouts as well as clean-label callouts such as organic, no artificial colors or flavors or non-GMO, Roerink says. “We see antibiotic-related claims come into the sausage segment also,” she says. “And on the packaging side, I’m encouraged to see more and more vacuum-sealed packaging. This allows for much longer shelf life in store as well as at home, as well as being freezer ready as we continue to see people take fewer trips while buying more each trip.”

Package Claims:

No Artificial, No Artificial Preservatives and No Hormone Added are the most common claims for Pork Breakfast Sausage.

Pork Breakfast Sausage	Pork Breakfast Sausage	\$	\$ % Chg vs. YA	Volume Sales	Volume % Chg vs. YA
Natural Claim	NO ARTIFICIAL	\$424,315,425	26.3%	109,740,204	25.1%
Natural Claim	100 PERCENT NATURAL	\$61,530,790	14.3%	15,234,638	10.5%
Preservatives Claim	NO ARTIFICIAL PRESERVATIVES	\$287,525,501	29.5%	79,930,012	30.5%
Preservatives Claim	NO PRESERVATIVES	\$63,771,221	17.0%	20,087,503	17.1%
Hormone Claim	NO HORMONE ADDED	\$223,456,249	22.2%	54,907,474	21.4%

In the end, consumers care more about quality and value than trends. “Shoppers today want to make sure when they do spend money, they are buying quality food they feel good about feeding their family,” Findle says. “Consumers want to be confident in where their food is coming from and will be looking for meat products raised and processed in the U.S. on farms that care about the humane treatment of their animals.”

Consumers’ newfound confidence in cooking at home, which may have been discovered during the pandemic, is ready for old and new favorites this summer. “As grilling season hits its height, we’ll be suggesting new preparation styles and recipe ideas that will make meals and gatherings even more memorable,” Findle says. “We want to inspire people to go ‘beyond the bun’ with sausage recipes like skillet dishes, salads, and appetizers.”



Pork Dinner Sausage:

Compared to other species, Pork Dinner Sausage drives total Dinner sausage sales with dollar share of 49% and volume share of 49%. And its growth outpaced the category.

Dinner Sausage	\$ Share of Category	Dollar Sales	\$ % Chg vs. YA	Lb Share of Category	Volume Sales	Volume % Chg vs. YA
PORK DINNER SAUSAGE	48.80%	\$2,277,775,221	25%	48.63%	602,366,501	17%
MIXED DINNER SAUSAGE	27.05%	\$1,262,377,920	17%	31.47%	389,793,775	9%
BEEF DINNER SAUSAGE	11.50%	\$536,542,467	14%	10.12%	125,355,889	7%
CHICKEN DINNER SAUSAGE	6.85%	\$319,783,290	18%	4.14%	51,328,053	11%
TURKEY DINNER SAUSAGE	5.38%	\$251,305,668	16%	5.32%	65,936,782	9%
FOWL/EXOTIC DINNER SAUSAGE	0.22%	\$10,072,032	27%	0.15%	1,916,590	17%
AO DINNER SAUSAGE	0.19%	\$8,857,289	18%	0.16%	1,970,832	21%
VEAL DINNER SAUSAGE	0.01%	\$456,143	28%	0.00%	56,720	10%
LAMB DINNER SAUSAGE	0.01%	\$343,034	24%	0.00%	30,511	21%
Grand Total	100.00%	\$4,667,513,064	20%	100.00%	1,238,755,654	13%

\*FW vs. RW: 87% of Pork Dinner Sausage are fixed weight products and its growth in the latest 52 weeks outpaced the category with dollar gained 27% and volume up 19% versus year ago. \*Flavors: Regular, Spicy and Sweet are the most popular flavors for FW Pork Dinner Sausage and top growing flavors include Boyarskaya, Spiced Garlic, Sweet Fire, Cheese Pineapple & Jalapeno Pepper, Blueberry, etc.



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# THE CYBER WORLD WAR

**MITIGATING RISK COMES WITH A PRICE, BUT THE FOOD INDUSTRY CANNOT AFFORD TO BE REACTIVE WHEN IT COMES TO CYBERSECURITY AND FENDING OFF RANSOMWARE ATTACKS — BECAUSE THE GOVERNMENT HAS BEEN LOATH TO HELP DEFEND BUSINESS.**



BY ANDREW LORENZ

Ransomware attacks have been the bane of the meat industry for several years now. I can't count how many of our smaller clients and fellow vendors have fallen victim to this kind of terrorist attack. But the fact that a pipeline of one of the largest fuel transporters on the East Coast and one of the largest suppliers of proteins in the world got hit finally kicked the headlines up to national news.

What gets lost in the national news stories is that it is not just large businesses that get hit; medium and small companies get hit as well<sup>1</sup>.

Our government is either unable or unwilling to mitigate the attacks. I posted this sentiment on my personal social media page and was called out on the “unwilling” portion of my statement. My response was simple: Our own government has a vested interest in keeping us vulnerable, because they want to see what we are doing just as much as the bad guys do. The National Security Agency (NSA) is infamous for popping in and out of U.S. business networks, and when they were exposed, so were the tools they used. That meant the bad guys gained knowledge of and access to the tools to intercept and actually see what is being transmitted via the Internet, and they've had them now for a very long time.

Most people and companies rely on virtual private networks (VPNs) to encrypt their traffic and “hide” it from prying eyes, but even that doesn't work anymore. Several of the latest attacks have exploited VPNs to get in and steal data.

It truly seems to be the Wild West all over again, just via bits and bytes. But honestly, that comparison really does not cover the scope of it. It's a silent, ongoing Cyber World War.

Yes, many of the attacks are by “gangs” that just want cold hard cash and believe this is the easiest way to extort it. And many blame cyber insurance on it. It is typically cheaper for the victims to pay than to fight back, so the insurance company pays the lower cost. You see, to fight is expensive! Imagine having to rebuild your entire infrastructure, touch every machine.

The University of Utah reportedly gave up \$457,000 in a ransomware attack (I'm guessing Utah taxpayers must have loved that!) and Colonial Pipeline allegedly paid \$4.4 million. Paying instead of fighting may make financial sense in the moment, but cowering to the demands of the hackers just creates bolder and bolder attacks. Meanwhile, there has been no response by the government other than to chide business. And before you start pointing fingers at the current administration, understand that this threat has been present — and the response has been similar — for years.

It is a tough time to run a business! Now let's look at the Cyber World War we are in.

## THE ENEMY

Part of the problem with these attacks is that it is very difficult (but not impossible) to figure out and track down the actual attacker(s) in most cases. This makes the hacking business attractive and profitable, at our expense.

The Russian government, the Chinese government, and our own U.S. government all “snoop” around. Search the Internet and read up on the development of the sixth-generation fighter jets, and you might be surprised at how quickly the Chinese were able to develop their plane in comparison to other nations.

Anyhow, we are under constant attack from a wide variety of enemies whom we rarely can identify. But they are always lurking or working. Attempts that break through whatever level of security you may have can come at any time. I was visiting a client when one of their systems started encrypting. That forced an employee to make a frantic run up a ladder to the network room to pull the plug, and everyone (and everything) was disconnected. It may sound as though I'm exaggerating, or even sound silly, but it stopped the ransomware from spreading; it also derailed the company's rollout of an inventory system and set that project back several years.

When I consider the crazy amounts of time and effort it takes to secure a computer system, I lose sleep. However, should you decide not to secure your systems, you will be a target. We have many clients who have been victims of these attacks — money stolen, ransoms paid, major disruptions caused, or production lost because of the distraction of having to battle the attack.

Insurance helps, but it won't cover your costs. For example, Norsk Hydro had costs of between \$60 million and \$71 million, but the company reportedly received only \$20.2 million dollars from their insurer.

**I WAS VISITING A CLIENT WHEN ONE OF THEIR SYSTEMS STARTED ENCRYPTING. THAT FORCED AN EMPLOYEE TO MAKE A FRANTIC RUN UP A LADDER TO THE NETWORK ROOM TO PULL THE PLUG, AND EVERYONE (AND EVERYTHING) WAS DISCONNECTED... IT STOPPED THE RANSOMWARE FROM SPREADING; IT ALSO DERAILED THE COMPANY'S ROLLOUT OF AN INVENTORY SYSTEM AND SET THAT PROJECT BACK SEVERAL YEARS.**

## THE FRONT

The current administration has stated that the government can't go it alone in this fight, and business needs to step up. I completely agree we all need to chip in on the battlefield, but the administration has it backward: Businesses and the average American are currently fighting this war, not the U.S. government. Again, I am not sure if it is unwilling or unable, but the government needs to step up and join us on the front lines.

That said, the government is moving, slightly. President Joe Biden has said he will bring up the “Russian gangs” with President Vladimir Putin. Additionally, Anne Neuberger, Deputy National Security Advisor for Cyber and Emerging Technology in the Biden Administration, wrote to American business and stated<sup>2</sup>: “All organizations must recognize that no company is safe from being targeted by ransomware, regardless of size or location... Much as our homes have locks and alarm systems and our office buildings have guards and security to meet the threat of theft, we urge you to take ransomware crime seriously and ensure your corporate cyber defense match the threat.”

Although I totally agree with the statement, Neuberger's use of it should tell you all you need to know: The U.S. government isn't particularly interested in helping defend businesses or citizens in this battle — they “urge you” to defend yourself. You shore up those castle walls, and they'll stand by and happily claim that they told you so if you are victimized!

## THE DEFENSE

No matter what vendor you use, you need to be aware that they may be susceptible. We R Food Safety! decided to leave Cisco Webex about 18 months ago because it was not being responsive. We didn't know if it was simply the effects of the start of the COVID-19 pandemic or something else, but dealing with the company suddenly felt more like trying to make an 18-wheeler turn like a Corvette. Then, recently, we heard that it has multiple vulnerabilities,<sup>3</sup> and our decision looks to have been a sound one. When you begin to peruse the options out there, you MUST have your IT team vet the security protocols used. Microsoft and Amazon are two companies — at least at the cloud layer — that are fighting back and have the tools needed to help your IT team secure your cloud environments.

Another recommendation (even by the U.S. government) is to separate your networks. Production, finance, FS&Q, maintenance, etc., each can and should be on separate networks, and if possible, totally separate devices. The enterprise resource planning (ERP) community hates hearing that, but it is true. It may be most efficient to have everything in one system, but it isn't always the safest.

Your executive leadership team will always be under attack, but so will the production employee who uses their personal email while on your system. How do you split things up? How do you separate the different environments and how have you created redundancies? If your ordering system gets taken down, do you have a backup that can be restored ASAP? Do you have a plan? Don't forget that about 20 years ago, none of us used computer systems to this extent, so can you remember how to operate as a business if you have to revert to phone calls on cell phones?

As far as your cyber security needs, I know that you need experts; and then you must go with your own instincts and your acceptable level of risk.

A good example of this in action: Recently, Microsoft officially announced Windows 11 and Windows Server 2022 are scheduled for release late this fall. Some of the enhancements that are included are the requirement to use TPM, Microsoft Azure Attestation (MAA), Windows Hello for Business, etc.

The basic expectation is large companies that have a lot of hardware may find out that their current technology stack must be upgraded ahead of schedule. For smaller processors, you will need to look at your systems as well; older computers will not be able to upgrade to take advantage of the added security that Microsoft is rolling out with these new systems. You will need to determine your level of risk and the cost of upgrading, and then create the balance you find acceptable.

As with the rollout of any new operating system, there will be a learning curve and uncertainty in the IT world on how to handle potential bugs and operations. Many will recommend delaying implementation until the skill sets are up to standard on the new system; having said that, it is also prudent to look at the hardware requirements and use them as minimum requirements for hardware purchases going forward. Then, when you do decide to upgrade the system, you won't find yourself with obsolete equipment.



To begin to build your aforementioned “castle walls,” you can go to the Cybersecurity & Infrastructure Security Agency ([www.cisa.gov](http://www.cisa.gov)) to get tips on how to protect yourself. There is also a multitude of private companies out there that can and will help mitigate your risk. The key is to not rely on any one source and, instead, use all the tools available to you. Remember, you are in a war to protect your business; and you need the most diverse arsenal you can secure to protect yourself.

There is a huge downside to implementing cyber security: If you implement everything that is recommended, your business efficiency will be destroyed. You must make decisions on the balance you will accept, and in the end it is up to you; you MUST educate yourself enough to make a proper risk assessment and then take the appropriate actions.

After the year of COVID, Americans know that food is of utmost importance. What if a foreign country, or just a gang, took down enough processors in July/August 2020, when supply chains were already in disarray? Many of you would not be reading this, and I might not even be writing it.

Know that change is coming, and don't wait to react. We are in a war: silent, online and ongoing. Sometimes it appears many do not realize it, or simply haven't learned to be proactive in their defense tactics. I am more than mildly surprised that the Global Food Safety Initiative (GFSI) has not addressed it, let alone the consumer. Listen to the cybersecurity experts and become proactive. Know your risks and take the appropriate actions. Defend your systems and keep yourselves safe, because government defenses are weak, and the enemy is relentless with no compassion for your businesses, large or small.

For more of Lorenz's advice on how to secure your networks and computers, read *We R Food Safety's* blog at <http://foodsafetyexperts.blogspot.com>.

1. <https://www.securityweek.com/ransomware-attack-hits-nantucket-marthas-vineyard-ferry-service>  
2. <https://www.cnn.com/2021/06/03/politics/white-house-open-letter-ransomware-attacks-businesses/index.html>  
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# IMPACTS OF IN UTERO HEAT STRESS ON CARCASS AND MEAT QUALITY TRAITS OF PORK LOINS

BY MARIAH NONDORF<sup>1</sup>, JACOB R. TUELL<sup>1</sup>, JACOB MASKAL<sup>1</sup>, JAY S. JOHNSON<sup>2</sup>, AND YUAN H. BRAD KIM<sup>1\*</sup>

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Postnatal heat stress costs the U.S. livestock industry approximately \$2 billion annually (St-Pierre et al., 2003), with about \$1 billion attributed to swine specifically (Pollman et al., 2010).

Swine are particularly prone to experiencing heat stress, because they lack functional sweat glands, have a thick layer of subcutaneous fat and a large body size. Consequently, heat stress has proven to cause reduced animal performance and typically results in smaller, leaner carcasses (Cruzen et al., 2015). But the impact of heat stress may extend beyond what pigs experience postnatally. Gestating sows are even more susceptible to experiencing heat stress because of increased metabolic heat production that occurs as pregnancy progresses. This in utero heat stress may add to the negative economic outcomes of what is normally considered as heat stress.

The known effects of IUHS are negative impacts on growth and performance (Renaudeau et al., 2012; Cruzen et al., 2015; Johnson et al., 2020), including smaller, leaner carcasses, smaller loin muscle area, increased backfat thickness and altered energy metabolism in swine. This may be related to longer-lasting metabolic changes that result from IUHS, especially in early gestation (Cruzen et al., 2015; Johnson et al., 2018). While some studies have found that offspring that have experienced IUHS may exhibit inferior performance, it is largely unknown what effects IUHS may have on meat quality attributes.

To address this, researchers from the Purdue Animal Sciences department in conjunction with the U.S. Department of Agriculture's Animal Research Service (USDA-ARS) Livestock Behavior Research Unit evaluated the impact of IUHS on the carcass and meat quality attributes of gilts having undergone IUHS. For the study, 24 pregnant gilts were either assigned to a thermoneutral (17.5 ± 2.1 °C; 70.2 ± 8.8% relative humidity) or heat stress (35.8 ± 0.2 °C day and 28.4 ± 0.2 °C night; 80.9 ± 6.0% relative humidity) environmental chamber during the first half of their gestation (from day six after insemination to day 59 of pregnancy). All pregnant gilts were then exposed to thermoneutral conditions from day 60 of their pregnancy through farrowing their litters. After the offspring reached market weight, gilts (n=10/treatment) were selected from the in utero thermoneutral group (IUTN) and IUHS group and were harvested. Carcasses were chilled at 2°C for 24 hours prior to evaluation and collection of the right-side loin muscle. From these, sections were cut and assigned to aging treatments of either no further aging or seven days of wet aging at 2°C in vacuum packaging. From the sections, chops were cut to measure Warner-Bratzler shear force (WBSF), surface meat color, water-holding capacity (WHC), and other chemical attributes such as fatty acid profile, lipid oxidation and protein denaturation.

In comparing the effect of different in utero environments on carcass composition and quality, the carcasses from the IUHS treatment had lower head and heart weights (P < 0.05) compared with the IUTN group. The IUHS treatment also significantly decreased the loin muscle area (P < 0.001). This may be because of impaired muscle development during fetal development, meaning there are fewer muscle fibers in the muscle (Cruzen, 2015). Additionally, the IUHS treatment increased WBSF values (P < 0.05), indicating the meat may be tougher compared with IUTN counterparts. Other measures including temperature and pH decline, WHC, surface color, fatty acid profile, lipid oxidation and protein denaturation were not affected by in utero environment (P > 0.05).

These results can suggest that IUHS has a negative impact on some carcass and meat quality traits; however, there appeared to be limited impact on other traits including pH, color, WHC and antioxidative capacity. Taken together, minimizing IUHS during the first half of gestation could be advantageous to producers to produce higher yielding carcasses with superior meat quality.

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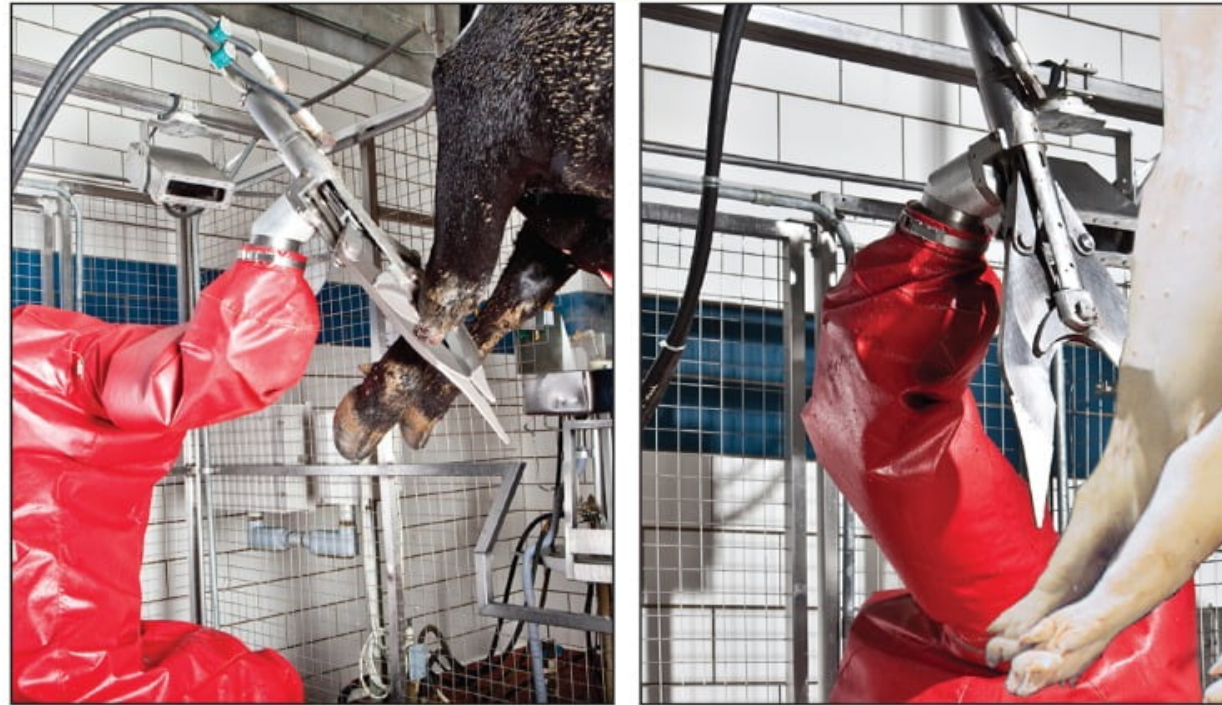
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# LUNCH

BY RICHARD MITCHELL  
CONTRIBUTING WRITER

## BECOMES A MORE LUCRATIVE MARKET

**SUPERMARKETS CAN BOOST LUNCH-RELATED SALES BY MAKING IT CONVENIENT FOR CONSUMERS TO ACCESS OPTIMAL ARRAYS OF MEAT AND POULTRY.**

Lunch is an increasingly attractive meal of opportunity for meat and poultry merchandisers.

Changing consumer lifestyles because of the COVID-19 pandemic is resulting in a larger base of people looking for lunch alternatives. The Power of Meat 2021 report shows 56 percent of meat shoppers bought more meat or poultry during the pandemic because they are preparing more lunches at home. In addition, 65 percent of people now working from home bought more meat or poultry, as did 67 percent of those working both at home and at their place of business.

The Power of Meat 2021 is prepared by 210 Analytics, a San Antonio-based market research and marketing strategies firm and published by the Arlington, Va.-based Food Marketing Institute (FMI) and the Washington, D.C.-based Foundation for Meat and Poultry Research and Education.

“Eating from home is one of the biggest cultural changes we’ve seen in the food industry in a long time in terms of what that means for innovation,” says Chris DuBois, senior vice president, protein practice, for Information Resources Inc. (IRI), a Chicago-based market research firm.

He notes that 20 percent to 25 percent of the U.S. working population now permanently operates from home, up from about 7 percent in 2017. That is resulting in a displacement of approximately 33 million lunch occasions “that are up for grabs each day that would have primarily been serviced from the work environment or the office.”

It is creating strong sales possibilities for supermarket operators who are in position to grab lunch revenues from foodservice operators, DuBois says, but he adds that to be successful, retailers must respond to shopper demands.

“Consumers are looking for something new and innovative, which from a meat side can be a different kind of sandwich,” he says. Retailers should offer options that are flavorful, easy to prepare and provide excitement for persons who primarily work out of their homes, “or otherwise they can just go to the usual outlets, such as Panera Bread or McDonald’s,” DuBois says.

For best results, supermarkets should mirror the foodservice move to digital ordering and quick delivery or pickup, he says. “The hard part is that the supermarket business model is to keep shoppers in the store for a long period of time,” DuBois says. “There needs to be a big change in attitude and physical changes for doors, access and checkouts that goes beyond what is occurring on the restaurant side.”

“CONSUMERS ARE LOOKING FOR SOMETHING NEW AND INNOVATIVE, WHICH FROM A MEAT SIDE CAN BE A DIFFERENT KIND OF SANDWICH

### STAND APART FROM THE CROWD

Supermarkets can cater to the strong shopper focus on convenience by offering varieties of premade sandwiches in displays that also feature side items such as chips and beverages, says Jim Wisner, president of Wisner Marketing, a Gurnee, Ill.-based market research, education and consumer packaged goods consulting firm.

Retailers also should make buying simpler for people who make their own lunches by offering varieties of sliced deli meats in grab-and-go cases, he says. “Not near enough supermarkets make it easy to buy deli meats,” Wisner says, noting that many shoppers must still take a number and wait in line at the full-service deli counter.

“In many cases that is the antithesis of service,” he says. “Delis lose a lot of business simply because of that wait.” Retailers, meanwhile, can make lunch offerings more attractive by offering signature meat-based sandwiches or other protein selections that only are available in their stores, Wisner says. “It has to be different from the same things that everyone else is offering in order to stand out,” he says. “Offering Sara Lee sliced ham, for instance, is great, but so what?”

Wisner says many retail operators must alter their merchandising mindsets if they are to become the go-to destination for meat or poultry-based lunch selections. “There is a lot of inertia in selling meat,” he says. “We have the entire retail infrastructure built to do something in a specific way and to completely undermine and change that can be difficult.”

Store operators who understand the need for merchandising adjustments may not have the authority to implement initiatives, Wisner says.

“There needs to be someone very senior to say, ‘let’s go test this and try that,’ and can commit the resources to it while not punishing the innocent if it doesn’t work,” he says. “That’s the biggest impediment to anyone doing anything.”



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# KNOWLEDGE KEY TO BEST THERMAL PROCESSING

BY ELIZABETH FUHRMAN  
CONTRIBUTING WRITER

Technologies for oven, fryers and smokehouses during the past few decades have been evolutionary, which explains many of the improvements the industry is seeing currently and is expected to see in the future.

For example, ovens years ago used burners inside the processing plant, which was a fire hazard. Today, processors use thermal fluids or remote heating outside the plant with no flame inside the oven. This change allows for much lower oxygen levels and much higher humidities. This improvement in technology also now allows processors to have a wider range of temperature, airflow, humidity, etc.

“While it is nice to have all that adjustment available, it’s really only as useful as you can reproduce it and understand what those things can do,” says Donald Burge, president of Applied Food Solutions LLC, in Sartell, Minn.

Now, training employees on thermal equipment and processing becomes key.

“The understanding and ability to utilize all of that range of adjustment that you have in an oven and frying system is the difference between an average processor and the best processors,” Burge says.

One of the specific advancements that has occurred is in the controllers of thermal processing equipment.

“One of the themes that we’ve seen in the equipment itself is the capability to store ‘recipes,’” Burge says.

**CERTAINLY, WITH THE RECENT CYBER ATTACK ON OUR FUEL SUPPLY IN THE SOUTHEAST/MID-ATLANTIC STATES, IT WOULD BE PRUDENT FOR MEAT PROCESSORS TO SECURE THE TECHNOLOGY FOR THESE MICROCOMPUTERS IF THEY ARE ONLINE.**

For example, a processor could store a specific product’s recipe with the exact temperature, fan speed and humidity for a set period of time bundled together. Training and experience on the machinery is necessary to understand the best settings for that recipe’s variables, Burge says.

For smokehouses specifically, changes in airflow design, hybrid or stationary direction, and closed or open smoke systems can help reduce processing time, says Jonathan Campbell, extension meat specialist and associate professor in the Department of Animal Science at Pennsylvania State University, in University Park. “This can have economic and environmental impacts that are very positive for the processor,” he says.

Reduced smoking times also use less energy, which can reduce cost of production and increase throughput, he adds.

As computer technology advances, so does the technology available behind microprocessors and information that those microprocessors provide or could provide, Campbell adds. “Certainly, with the recent cyber attack on our fuel supply in the Southeast/Mid-Atlantic states, it would be prudent for meat processors to secure the technology for these microcomputers if they are online,” he says. “Also, robotics and automation, specifically for loading and unloading, may impact thermal processing as these technologies become more affordable and smaller scale for various sized meat processors.”



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Along those lines, Burge agrees that an area to watch with ovens, fryers and smokehouses is adaptive technology. While not currently commercially available, equipment manufacturers are researching the engineering to detect attributes such as temperature and color and developing sensors that know when and how to react to changes. While smokehouses are still predominately used in a batch system, continuous smokehouse, oven and fryer lines where raw materials are fed into one end of the line at a continuous rate and cooked product comes out the other end offer many opportunities for feedback/feedforward technology. Ultimately, whole-line automation that also integrates into ovens, fryers and continuous smokehouses will be prevalent, Burge says.

Another advantage of an integrated thermal processing line would be the elimination of human error in running the line. For example, processors wouldn’t have to rely on employees taking temperatures. “People can be influenced and people can also make mistakes,” Burge says. “But to have undercooked product, it’s one strike and you’re done.”

“We are quite away from it, but that would be an absolute game changer,” he says.



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# Reinventing Employee Training

BY ELIZABETH FUHRMAN

During a global pandemic, one key advantage of a proactive employee-training program is ensuring employees are trained on proper restriction and exclusion of personnel within the establishment related to employee sickness.

“If employees are trained to identify signs of sickness, this results in a safer production environment for those processing, as well as less chance of communication of these illnesses to the public,” says Abbey Davidson, food safety consultant at We R Food Safety!, in Menomonee, Wis.

During a normal year, proactive employee training also keeps processors out of trouble with inspectors and minimizes the chances a company could fall into a recall situation or cause a food-safety incident, says Donna Schaffner, associate director of food safety, quality assurance and training at the Rutgers University Food Innovation Center, in Bridgeton, N.J.

Training also allows employees to identify when an instance is an actual food safety vulnerability. For example, say an employee drops a pork belly on the floor. Rather than discarding the entire belly, the employee may be able to trim the contaminated parts and have that belly go back into production, resulting in a lower process loss, Davidson says.

Knowing when a cooked product has deviated from a food safety limit and not just a process/critical control point also is important. “Countless pounds of product have been saved when deviations occur by employees who were properly trained and advised to decide if product does need to be discarded, can be recooked or can be sold as is,” Davidson says.

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## TRAINING CHALLENGES

With the pandemic, processors are facing additional barriers to employee training. Taking time out of the work schedule to conduct training when the workforce is diminished because of the pandemic is one of the greatest current challenges, Schaffner says.

“Some companies just stopped training employees because their workforce was stretched too thin between actual illness and employees having to stay home,” she explains.

Additionally, challenges to training are employees who are not fluent in English coupled with finding qualified individuals to conduct in-plant training for those employees, who are not comfortable in a traditional classroom setting, she adds.

“Early in the pandemic, most training came to a halt as people were encouraged to stay at home, and were afraid to congregate in traditional classroom settings,” Schaffner says. “Later, many of us trainers transitioned to virtual training platforms, but not all food-processing employees had the appropriate computers and internet access in their homes.”

Currently, most training for certificate classes such as BPCS, HACCP and PCHF have transitioned to a virtual format, Schaffner says.

As far as a best-practices approach to employee training on COVID-19 protocols, what works best for employee training can differ. “Small-group instruction with hands-on demonstration in the actual work environment in the language that employees understand would be the best of all worlds,” Schaffner explains. “In work settings where multiple languages are spoken, large visual diagrams or photos posted in employee welfare areas are helpful. Also helpful is placing colored stickers or tape on floors to mark the 6-foot social distancing space required between people waiting to use the time clock or waiting to go through a food vending area at lunch breaks.”

Schaffner finds many companies are asking for a return to in-plant trainings for their line-level employees. Additionally, COVID-related training continues to evolve as the U.S. Centers for Disease Control and Prevention (CDC) and Occupational Safety and Health Administration (OSHA) recommendations continue to change.

As employees have been harder to obtain, some companies also have purchased newer, more automated machinery and robotic components. “Each new component requires employee training regarding the cleaning and sanitation of the piece of equipment,” Schaffner says.



# FORM-FILL-SEAL

## PACKAGING DELIVERS

BY HALLIE FORCINIO  
CONTRIBUTING WRITER

The horizontal and vertical form-fill-seal machinery sectors will grow faster than almost any other packaging machinery segment between 2018 and 2024 with compound annual growth rates (CAGRs) just above 4 percent, according to the 2021 World Packaging Machinery Report published by PMMI, the Association for Packaging and Processing Technologies.

Sales of horizontal and vertical form-fill-seal machines typically outperform most other packaging machinery segments due to strong demand from the food industry, the largest market for these machines. This comes as no surprise since this equipment forms, fills and seals flexible packaging such as pouches and bags, which address market demands for sustainability, convenience, security and safety.

Flexible packaging also is well suited to meeting the needs of the growing ecommerce and meal kit markets. According to Midan Marketing, the number of consumers buying meat online continues to increase. In March 2021, Midan surveyed 1,000 meat and chicken consumers and found 33 percent purchased meat or chicken online for the first time since the pandemic began, up from 21 percent in April 2020 when much of the U.S. population was under stay-at-home orders. Consumers who order online like the convenience of eliminating the need to shop in person. Many online buyers also emphasize the importance of family meals and home-cooked food. This bodes well for prepared meat, poultry and seafood products such as meatballs and shredded chicken, which streamline meal preparation. These products often rely on flexible packaging (pouches and bags), which runs on form-fill-seal equipment.

### EQUIPMENT EVOLVES

Form-fill-seal equipment designed to handle raw, frozen or prepared meat, poultry and seafood products focuses on flexibility and hygienic design. Sanitary design features stainless steel construction, eliminates flat surfaces and crevices, seals electronics to prevent moisture ingress during washdown and makes it easy to reach and clean all components.

Built-in flexibility yields machines that accommodate products that vary in size and shape, produce multiple package formats (skin, vacuum, modified atmosphere), and/or handle different types of film and pouch/bag styles and sizes. Common pouch/bag styles include pillow, flat-bottom and gusseted. Easy-open and reclose features like tear strips and zippers also can be accommodated. For higher volume needs, machines capable of speeds of up to 120 bags per minute are readily available.

Large touch-screen operator interfaces and smart connected platforms simplify controls and offer advanced features such as remote monitoring and augmented reality capability to expedite maintenance and troubleshooting. Other important attributes include easy integration with labeling and coding equipment and quick changeover. The latter can be expedited by quick-disconnect parts such as heating elements and sealing jaws, automated adjustments, automated film splicing and dual reel holders.

One new flow wrapper (horizontal form-fill-seal) model simplifies belt removal and consolidates electrical and mechanical components to cut the number of cabinets to two. To create leak-free trayed products, film is stretched around the product and the package is vacuumed and sealed before moving through a hot-air or hot-water tunnel where just the ends of the package are shrunk so graphics are not distorted.

“ON THE MATERIALS SIDE, INTEREST IN SUSTAINABLE PACKAGING HAS NOT WAVERED. IF ANYTHING, IT’S GROWING AND SUPPLIERS ARE INTRODUCING MATERIALS THAT ARE EASIER TO RECYCLE, COMPOSTABLE, BASED ON RENEWABLE RESOURCES AND/OR CONTAIN RECYCLED CONTENT.”

### SUSTAINABLE MATERIALS

On the materials side, interest in sustainable packaging has not wavered. If anything, it’s growing and suppliers are introducing materials that are easier to recycle, compostable, based on renewable resources and/or contain recycled content.

One heat-resistant compostable film is certified for both industrial and home composting environments. Compatible with ovenable and microwaveable applications, the printable heat-seal coating/cellulose/heat-seal coating film is based on renewable resources and combines heat-sealability with an excellent barrier to gases and aromas, resistance to oils and greases, high transparency and gloss, anti-static properties and controlled slip characteristics.

Another renewable material, polyethylene furanoate (PEF), is derived from plants and outperforms polyethylene terephthalate (PET) films in terms of water vapor barrier (2X to 3X), oxygen barrier (10X) and mechanical strength. The oxygen and aroma barrier makes the material particularly suitable for packaging fish. PEF film is quite new to the market and not yet widely available, but a report from Grand View Research, “Polyethylene Furanoate Films Market...,” predicts demand for the material will experience a 9.7 percent compound annual growth rate that will push annual sales to \$801,000 in 2035.

Many films used for meat, poultry and seafood packaging consist of multiple materials and therefore are unlikely to be recycled. Mono-material films overcome that problem. One new all-PET film also scores additional sustainability points because it represents a source reduction of almost 10 percent versus multilayer films, contains post-consumer-recycled content and seals more quickly at lower temperatures thereby saving energy. Superior sealability characteristics ensure strong seals even through contamination. Options include peelable seals. With some mono-material films, brand owners may choose crystal clear or a color.

With ongoing developments in materials and form-fill-seal machines, it’s likely consumers will find even more pouched or bagged meat, poultry and seafood products in retail refrigerator and freezer cases as well as in their online grocery order or meal kit box.



# SMALLER HAMS HAVING A BIGGER IMPACT

BY RICHARD MITCHELL  
CONTRIBUTING WRITER

Ham sector activity is accelerating.

With processors responding to greater shopper interest in smaller and increasingly flavorful selections, ham is becoming a more popular everyday meal alternative, analysts say.

Smoked ham dollar and unit sales in 2020 were up 16.3 percent and 12 percent, respectively, versus the year-earlier period, according to Information Resources Inc. (IRI), a Chicago-based market research firm. While the large base of consumers eating more meals at home because of the COVID-19 pandemic contributed to the gains, smoked ham activity was already steadying with dollar and unit sales decreasing 0.9 percent and 2.9 percent, respectively, in 2019, after falling 3.8 percent and 3.2 percent in 2018.

“It is important for retailers to support the category, which fits the bill of an easy, versatile, kid-friendly and tasty cut that has done well in the past 18 months,” says Anne-Marie Roerink, principal of 210 Analytics LLC, a San Antonio-based market research and marketing strategies firm.

The growing number of smaller empty-nest families and younger consumers seeking smaller portions, along with a decline in family get-togethers during the pandemic, are fueling the popularity of smaller hams, including quarter pre-sliced, half spirals and ham steaks, says Kiersten Hafer, strategy and insights consultant with the Des Moines-based National Pork Board (NPB).

More merchandisers, meanwhile, are offering wider varieties of ham as they try to make it a more attractive alternative for breakfast, lunch or dinner throughout the year, rather than just an Easter, Thanksgiving and Christmas meal, she says.

Retailers also are increasingly positioning ham as a convenience selection by offering such options as pre-sliced, cubed and ham in julienne strips for use as an ingredient in salads, casseroles and other recipes, Hafer says. She notes that packers and processors are further adding to the allure by creating products with cleaner labels, such as uncured hams that are free of sodium nitrates or nitrites and other chemicals and additives.

Operators also are developing more flavor profiles by using different scents during the smoking and curing process, Hafer says.

It is important for merchandisers to aggressively market the selections, which can include spotlighting product benefits, in order to sustain and enhance activity, analysts say. That can include highlighting that there is less potential waste from serving smaller hams and the subsequent guilt from needing to discard food, Hafer says, adding that many consumers are “more engaged and happier with the smaller products.”

“A TRADITIONAL BONE-IN OR SPIRAL-CUT HAM THAT IS THE BACK HALF OF THE PIG IS A BIG PIECE OF MEAT, AND THERE IS LITTLE THE PROCESSOR NEEDS TO DO OTHER THAN TO MAKE SURE THAT IT IS GOOD, CLEAN AND WHOLESOME.



## PRODUCTION CAN BE A PROBLEM

The attractiveness of developing smaller ham options is offset in part by operational challenges some processors may face, says Kevin Sheehan, NPB director of processor engagement. That includes having the necessary personnel to support a more labor-intensive production process, which includes deboning, he says.

“A traditional bone-in or spiral-cut ham that is the back half of the pig is a big piece of meat, and there is little the processor needs to do other than to make sure that it is good, clean and wholesome,” Sheehan says. “Smaller hams require pulling the muscle apart, and there is no automated equipment that can do it efficiently. It is a very hands-on process.”

A photograph of several sausages arranged on a wooden cutting board. A sprig of fresh rosemary is placed next to the sausages. In the background, there is a small glass of oil and some other kitchen items.

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It also is typically more costly for processors to develop uncured hams with clean labels, Hafer says, which is leading merchandisers to add further value to the products, such as by offering pre-sliced selections, to compensate for the higher retail price tag.

Retailers can further make their ham options more appealing by leveraging attractive labels, offering recipe suggestions, providing a wide array of package sizes and brands and cross-merchandising the products with other meal components, Roerink says.

“Having a variety of portion sizes is important in order to support gatherings of all sizes,” she says, “otherwise, ham runs the risk of being replaced by something that is more easily adapted to a smaller size, like a ribeye.”

Roerink adds that the use of ham in protein kits and merchandising higher-quality selections also create attractive sales opportunities. “There is tremendous growth in premiumization that is driven by people wanting to do something nice and special for themselves and their families,” she says. “The challenge is to give people a reason to splurge.”

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# HOW AMERICAN COMPANIES ARE REIMAGINING THE WAY GOODS ARE SHIPPED ACROSS THE COUNTRY

BY KATERINA JONES

VICE PRESIDENT OF MARKETING AND BUSINESS DEVELOPMENT, FLEET ADVANTAGE

Companies across virtually every industry are reimagining the ways in which they move goods from their warehouses and distribution centers to local retail and grocery stores throughout the country. Challenges arise with the increased need to ship items direct to consumers in many cases – a method growing in popularity stemming from online shopping.

The demand for more dedicated and private fleets is a surging trend, as shippers continuously find it harder to identify and utilize for-hire trucks due to tighter capacity, particularly from an outpouring of online shopping, increased driver shortage challenges, and volatile rates for moving freight (spot rates).

Private and dedicated fleets are often more beneficial to all parties involved – the driver, transport company, and customer. Drivers typically enjoy slightly higher wages with regular routes and newer, safer trucks; companies benefit from higher customer service marks as well as improved corporate image knowing their trucks are cleaner; and customers enjoy more accurate, on-time delivery rates that translates into higher quality of customer satisfaction.

## INCREASED MOVES TOWARD PRIVATE FLEETS

Traditional for-hire transportation companies have taken notice and are shifting more of their operations over to the dedicated fleet side. Notable transportation brands such as J.B. Hunt and Transport America are increasingly moving more of their operations to dedicated fleets<sup>1</sup>.

The COVID-19 pandemic forced this shift for many retailers and their customers. As the economy saw drastic declines in 2020, some industries saw an increase in demand, such as grocery and convenience stores. This prompted many organizations to place a larger emphasis on private fleet operations to better-control costs and adapt quicker to these business climate changes.

For example, Ahold Delhaize USA says it is transitioning six facilities under its three-year initiative to switch to a fully integrated, self-distribution model driven by its own private fleet. With the transition of the six facilities in 2021, about 65% of Ahold Delhaize USA brand center-store volume will be self-distributed. In late 2019, the company unveiled a three-year, \$480 million plan<sup>2</sup> to expand its supply chain operations and shift to a self-distribution model, which includes e-commerce channels.

According to the National Private Truck Council's (NPTC) 2020 Benchmarking Survey Report<sup>3</sup>:

*"The primary reason companies reported operating a private fleet was to provide exceptional levels of customer service that is unavailable on the open market, especially at a time when transportation and logistics capacity has been relatively constrained. Operating a private fleet provides control over service levels, guarantees availability, and increasingly assures cost competitive transportation alternatives regardless of market conditions. In this year's survey, more than 92% of the respondents, in response to the open-ended question, "What is the Primary Reason Your Company Operates a Private Fleet?" answered "customer service."*

“THE PRIMARY REASON COMPANIES REPORTED OPERATING A PRIVATE FLEET WAS TO PROVIDE EXCEPTIONAL LEVELS OF CUSTOMER SERVICE THAT IS UNAVAILABLE ON THE OPEN MARKET, ESPECIALLY AT A TIME WHEN TRANSPORTATION AND LOGISTICS CAPACITY HAS BEEN RELATIVELY CONSTRAINED.

## NEWER TRUCKS DRIVE BETTER CUSTOMER SERVICE

There is a direct connection between a high level of customer service and a private fleet's focus on utilizing newer, cleaner, more reliable trucks that protect the environment and offer advanced safety features.

According to a recent industry report on truck utilization and costs, newer trucks offer significant benefits to a fleet's bottom line. Fleet operators can realize a first year per-truck savings of \$16,856 when upgrading from a 2016 sleeper model-year truck to a 2021 model. For a fleet of 100 trucks, when upgrading to a 2021 model-year fleet savings can reach \$1.7 million<sup>4</sup>.

Fuel economy represents a significant portion of the savings through truck replacement. Fleets can save \$5,084 per truck in fuel in the first year following replacement of a 2016 model-year sleeper, a 15% increase in fuel economy and reduction of CO<sub>2</sub> emissions.

Per a recent analysis, a Global 2000 and Top 100 Private Fleet health-conscious wholesale grocer reduced over 8,500 metrics tons of CO<sub>2</sub>, as well as helped conserve 848,575 gallons of fuel by upgrading to a newer fleet of trucks. At \$2.44 per gallon, that equals over \$2 million in avoided fuel expense, along with improved Miles per Gallon<sup>4</sup>. These savings greatly benefit the bottom line and the fleet's customer can boast about its attention toward conservation.

## PRIVATE FLEETS SEE STRONGER DRIVER RETENTION DRIVEN BY SAFETY

While there remains a national shortage of drivers, private fleets typically enjoy a higher level of driver retention because of fewer truck breakdowns and a higher level of attention toward their safety. The NPTC's latest benchmarking survey illustrated that 64% of its drivers reported that they returned home every night<sup>3</sup>.

Safety and confidence in the maintenance of each truck is a leading motive. A recent industry survey showed that 11% of transportation fleets estimate they have saved more than \$1 million in crash avoidance by upgrading to newer trucks with advanced safety features. The survey also illustrated that 55% of fleets said escalating maintenance and repair costs (M&R) is a leading motivating factor for upgrading to newer trucks<sup>5</sup>.

Each of these factors represents a growing reason why the transportation of goods in America is being reshaped by the structure by which today's leading transportation fleets operate. Many companies in a variety of industries are retaining their own private or dedicated fleet of trucks, driven by trusted drivers operating newer, cleaner, safer trucks that are more reliable and beneficial to everyone's bottom line.

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- 1: <https://www.transportdive.com/news/JB-Hunt-Baird-dedicated-fleet-conversion-trucking/589015/>
- 2: [https://www.supermarketnews.com/retail-financial/ahold-delhaize-usa-readies-six-facilities-self-distribution-2021?mod=djemlogistics\\_h](https://www.supermarketnews.com/retail-financial/ahold-delhaize-usa-readies-six-facilities-self-distribution-2021?mod=djemlogistics_h)
- 3: National Private Truck Council; 2020 Benchmarking survey Report
- 4: <https://www.fleetadvantage.com/press-releases/fleet-advantages-newest-truck-lifecycle-data-index-shows-continued-fuel-savings-carbon-reduction-when-replacing-aging-truck-units>
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