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THE STATE OF FOOD MANUFACTURING IN 2017

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2017 Manufacturing Survey Results: The Year of Uncertainty

Food & beverage manufacturers are less sure what the year ahead will bring, but that isn't preventing them from developing strategies for the ongoing issues they face.

By Kevin T. Higgins, Managing Editor

Call it cracked crystal ball syndrome, but if one word could sum up the outlook for food manufacturing in 2017, it would be uncertainty.

Whether the topic is salaries, staffing or capital spending, food production professionals who responded to Food Processing's 16th annual Manufacturing Outlook Survey were less certain about what the new year would bring than their

PLANT PRODUCTION ANTICIPATED CHANGE IN 2017

	2017	2016
Decline	6.7%	3.5%
Stay about the same	23.9%	22.6%
Increase 2-9%	29.9%	27%
Increase 10-19%	21.6%	25.6%
Increase 20%+	17.9%	21.3%
Total expecting increased production	69.4%	73.9%

peers who provided feedback in recent years. The ambivalence extended to their expectations for production in their own facilities, although twice as many anticipate an expansion in the number of lines or plants operated by their companies than a contraction or consolidation.

One development they are sure about is enforcement of the Food Safety Modernization Act (FSMA), with compliance required by all but the smallest processors by September. FSMA readiness ranked as the third most important issue in 2017, just below cost control and two notches behind food safety, the perennial top issue in food & beverage manufacturing.

General staff training nudged up in the top-issues rankings, although very few

MANUFACTURING PRIORITIES FOR 2017

(one in 27) rated it as a top concern. FSMA requires food-safety training of every production worker, with documentation of the dates and successful completion of that training. Asked what steps they were taking to upgrade sanitation and food safety practices, three-quarters of survey respondents cited employee training, up sharply from recent years. Validation of the effectiveness of cleaning and sanitation procedures “in accordance with FSMA” will be vital, a beverage manufacturer volunteered.

Participation in independent food-safety audits of their facilities also is on the rise. Major retailers and foodservice operators are pressuring their suppliers to seek certification under one of the food safety standards endorsed by the Global Food Safety Initiative, and most respondents indicated their companies have done so. One in five is audited under proprietary standards created by firms such as Silliker and AIB International. Only 15 percent say certification under any standard is not being considered.

To increase the odds their facilities will pass those audits, half of the survey participants say their companies are upgrading sanitation equipment, up from a third three years ago. Rapid microbial testing to validate the effectiveness of cleaning programs is used by three out of 10, 50 percent higher than in 2014. Beefed up HACCP plans, pest control and the use of expert consultants also are becoming more common.

	PERCENT RANKING IT FIRST	2017 SCORE*	2016 SCORE*
Food safety	21.6%	5.8	6.6
Cost control	14.2%	5.5	6.0
Capacity expansion	13.4%	4.16	4.7
FSMA & new regulations	13.4%	5.0	5.6
Worker safety	12.7%	4.94	5.1
Automation	10.4%	4.15	4.6
Staff turnover	4.5%	3.4	3.9
Environmental/sustainability issues	4.5%	4.19	4.5
Training	3.7%	4.05	4.7
Improved flexibility	1.5%	3.8	4.4

* This year's scores are based on a 10-point scale, 10 being the highest; 2016's were based on an 11-point scale

ATTITUDES HEADING INTO 2017

	2017	2016
Very optimistic	26.9%	27.8%
Somewhat optimistic	38.1%	39.1%
Neutral/ambivalent	26.1%	22.2%
Somewhat pessimistic	6.0%	8.3%
Very pessimistic	3.0%	2.2%
Total expressing some optimism	65.0%	66.9%

CAPITAL SPENDING OUTLOOK FOR 2017

	2017	2016
Increasing more than 10%	19.4%	18.1%
Increasing 5-10%	17.8%	14.0%
Increasing less than 5%	8.5%	9.0%
Unchanged	17.8%	27.1%
Decreasing less than 5%	4.9%	3.2%
Decreasing 5-10%	0.8%	1.1%
Decreasing more than 10%	2.3%	3.2%
Don't know	28.7%	24.0%

TALENT WANTED

Food industry employment mirrors the U.S. manufacturing sector, where the number of jobs is down 37 percent since its 1979 peak while output has more than doubled. Automation is the single biggest factor, and food companies face the same challenges as other manufacturers in recruiting and retaining qualified individuals to keep lines running.

“Limited workforce available for employment in production,” complained a produce processor, ranking the problem as a critical issue her company will face in 2017. “People availability in our region,” a poultry processor chimed in.

More than half of participating professionals indicated their companies were expanding in-house technical training to address the skills need. Recruitment of maintenance technicians was the next most common tactic, with two in five pursuing those in-demand workers. “Hiring individuals with automation background, computer skills, CAD/CAM, etc.,” a dairy processor wrote.

Similar strategies were evident in a question about optimization of assets: Almost half cited on-the-job training programs, and three in 10 said they were hiring more maintenance personnel. Even more are taking the work-team approach, shifting routine maintenance responsibilities to operators in order to free up time for preventive

STAFFING FACILITY PLANS IN 2017

	2017	2016	2015
Add to workforce	38.8%	46.2%	31%
Maintain existing staffing levels	37.3%	40.1%	40%
Reduce workforce through attrition	11.2%	7.1%	9.3%
Actively reduce staffing levels	4.5%	0.5%	3.3%
Don't know	8.2%	6.1%	16%

SALARY OUTLOOK FOR 2017

	2017	2016	2015
Increases expected	45.9%	44.1%	49%
Maintain current pay rates	33.8%	37.4%	36%
Pay cuts expected	0.8%	0.4%	1.2%
Don't know	19.5%	18.1%	14%

PLANT SERVICES MOST FREQUENTLY OUTSOURCED

	PERCENT OUTSOURCING
Pest control	67.7%
Microbiological testing	51.9%
Some/all engineering services	36.1%
Sanitation	17.3%
Maintenance	21.8%
Logistics management	24.1%
Staff training	17.3%

ENERGY-USE REDUCTION HOW IS YOUR PLANT ADDRESSING THIS?

Continuous improvement projects	48.5%
Alternative fuels for transportation	10.0%
Energy-use monitoring	36.2%
Regenerative drives	10.0%
Re-use of waste heat	12.3%

and complex repair tasks by maintenance technicians.

“Higher automation training needs to be made a priority for all electricians,” a beverage manufacturer suggested, touching on the electromechanical skills needed to maintain machinery with digital controls. One in six individuals surveyed indicated their companies were working with schools to help develop electromechanical courses.

One-quarter already are actively recruiting electromechanical technicians as they brace for the exodus of baby boomers. “The graying of the workforce, the need to hold on to skills that are not available in the marketplace” was of particular concern to one baker.

Given the challenge in attracting skilled technicians, one in four companies is seeking outside contractors of maintenance services, an approach being applied in other areas, as well. Despite the criticality of the issue, almost as many are not addressing it.

Assuming qualified individuals are added to the staff, the next mission is keeping them in the fold. “Retaining qualified employees is a challenge,” a snack food manufacturer allowed. Showing a little love with a robust worker safety program can help. Two-thirds indicate reductions in workplace injuries is a top priority of senior management at their companies, with machine-guarding

SANITATION AND FOOD SAFETY PRACTICES

HOW FOOD COMPANIES ARE UPGRADING

PERCENT IMPLEMENTING...	2017	2016
Employee training	73.7%	67.6%
New/improved HACCP plans	57.9%	45.1%
Upgraded sanitation equipment	48.9%	41.3%
Third-party audit/certification programs	49.6%	39.9%
Improved pest control program	41.4%	NA
Rapid microbial testing	30.1%	NA
Outside consulting services	32.3%	NA

THIRD-PARTY CERTIFICATION

WHAT HAS YOUR PLANT DONE?

Certified as SQF 2	21.1%
Certified as SQF 3	17.0%
BRC Global	19.0%
FSSC 22000	21.1%
IFS	15.0%
Certified to another GFSI standard	8.2%
Certified/audited under a proprietary program(e.g., AIB, Silliker, etc.)	21.8%
Considering certification under GFSI	12.2%
Considering certification under a proprietary program	14.3%
Not considering certification	15.0%

HOW IS YOUR ORGANIZATION ADDRESSING STAFFING NEEDS?

(CHECK ALL THAT APPLY)

Recruiting maintenance technicians	35%
Adding in-house engineering capabilities	25%
Expanding in-house technical training	50%
Working with schools to develop electromechanical curricula	16%
Outsourcing more job functions	19%
Hiring more line operators for semi-automated tasks	20%
Not addressing the issue	24%

initiatives under way at a similar ratio of firms – the highest proportion ever recorded in our Manufacturing Outlook Survey. Safety committees are actively engaged in identifying and correcting safety hazards at three in five plants.

FREE-FROM FALLOUT

Growing demand for free-from and clean-label products is stressing out food formulators, but it also impacts production: 60 percent indicate processes are being adjusted to accommodate the war on preservatives and enzymes with difficult-to-pronounce names.

Competition from clean-label products is negatively impacting many food manufacturers: one in five says sales demand for their products is declining because of free-from foods, though slightly more say throughput is holding steady or increasing, despite the existence of clean-label alternatives. Three in 10 indicate they are adding new technologies and equipment to enable their plants to manufacture products without shelf-life extenders.

“The demand by the younger generation for natural and organic food products” was flagged by one processor as a nettlesome concern in the coming year.

Energy use is a controllable cost. Many manufacturers want to reduce waste in this area, with half of respondents saying their

WHAT IS YOUR ORGANIZATION DOING TO MAKE THE WORKPLACE SAFER? (CHECK ALL THAT APPLY)

Senior management has made worker safety a top priority and part of the culture	68%
Near-miss events are recorded and reviewed for possible remedial actions	48%
Reportable injuries are steadily declining	36%
Machine guarding and safety is a continuous improvement priority	62%
Operators routinely observe their peers and provide feedback on at-risk activities	47%
Safety committee regularly reviews performance and recommends changes	60%

HOW ARE “CLEAN LABEL” TRENDS AFFECTING YOUR COMPANY’S OPERATIONS? (CHECK ALL THAT APPLY)

Processes are being adjusted to accommodate some of the changes	61%
Competition from products aligned with these trends is reducing volume demand for our production	19%
New technologies and equipment are being incorporated to add new manufacturing capabilities	34%
We have built new lines or new facilities to align with demand for minimally processed products	22%
Throughput demand at our plant has actually increased as a result	25%
Demand for conventional products is strong enough to maintain or increase throughput requirements	29%

IN TERMS OF PLANTS AND PRODUCTION FOR 2017, IS YOUR WHOLE COMPANY PLANNING TO...

Expand production and/or number of manufacturing plants	30%
Stay the same	41%
Consolidate production and/or number of manufacturing plants	15%
Don’t know	15%

companies have a continuous improvement program to identify inefficient practices that can be easily altered. Half of those firms also are monitoring energy use to quantify demand and identify consumption anomalies.

One in 10 manufacturers is using regenerative drives to reduce electric consumption, with slightly more capturing and reusing waste heat from processes. Compressed natural gas and other alternatives to diesel fuel are used at 10 percent of motor vehicle fleets, with slightly fewer firms purchasing credits from renewable sources such as wind and solar.

Outsourcing remains an attractive option for specialized services. Outside management of pest control programs topped last year's outsourcing results, and it grew to 68 percent in this year's survey, up from 61 percent. More than a third outsource some or all engineering services, and 24 percent outsource logistics management. Only one in six has moved sanitation services out of house.


Food processors will confront many new and continuing challenges in the coming months. That creates a level of trepidation.

WHAT STRATEGIES, TACTICS AND TOOLS IS YOUR ORGANIZATION USING TO OPTIMIZE ASSET USE?

(CHECK ALL THAT APPLY):

Additional maintenance technicians are being hired	31%
Condition monitoring tools are being used to drive preventive maintenance efforts	40%
Personnel skilled in electro-mechanical systems are being recruited	26%
On-the-job training programs are being added to expand maintenance workers' skill sets	50%
Routine maintenance duties are being assigned to machine operators	41%
Third-party maintenance services are complementing in-house personnel	28%
CMMS and asset-management programs are playing a larger role in managing maintenance activities	16%
Responsibilities for replacement-part inventories have been outsourced	12%

"Until there is more certainty from both U.S. and Canadian governments," a small processor wrote, "it makes it difficult to plan."

Despite the uncertainty, the optimism index offers some encouragement: 65 percent said they are somewhat or very optimistic about what 2017 will bring. Regardless of how chaotic the world becomes, the demand for food and drink will continue. 

Top 3 Ways Food and Beverage Sampling Improves Plant Efficiencies

Representative sampling is essential to ensure quality and safety. It also helps improve plant efficiencies. Learn how.

By Sentry Equipment

Running an efficient operation requires controlled, real-time data obtained through representative sampling. What exactly is representative sampling? It's the act of capturing a limited volume of product from the process stream that accurately reflects the characteristics of the entire lot or batch – and that product can then be analyzed. Nearly any food or beverage – including solid, powder, liquid and slurry foods, beverages and pet food – can be sampled.

Sampling is required to ensure quality, safety, and specific attributes. The data sampling provides is essential to helping food and beverage plants control and optimize processes for safety and efficiency. The top three ways automated sampling solutions can help your plant include:

1. IMPROVING YIELD

One specific way a plant can improve its yield is by keeping ingredient moisture content in the proper band. If it is too low, a plant may be giving away product, and if it is too high, the product will deteriorate more quickly. Improper moisture content also is key in product shrinkage or expansion, which directly affects the volume a product takes up in packaging. Plus, by sampling after a dryer, a plant can not only identify if a product is being over-dried or under-dried, but also monitor and control the drier power consumption.

In addition, sampling can help monitor product breakage to identify potential disruptions or issues within the process. Poor performance of the sizing equipment can result in a direct increase in product

needing to be discarded in landfills or sold at lower price points for non-target users.

2. ENSURING QUALITY

Food and beverage sampling is needed to ensure quality, safety and specific attributes. Sampling within a production environment easily can show product contamination and help identify the point at which it's happening. Sampling and analysis also shows specific attributes, such as e. coli, salmonella or listeria pathogens; specific food ingredients and content such as calories, fat and vitamins; trace chemical contaminants; DNA and appropriate mixture.

Sampling often is needed to meet regulations. To ensure sample integrity, samplers must feature easy-to-clean, sanitary designs and FDA-approved seals. Some samplers are available with sanitary connections such as a tri-clamp, which makes them easy to install and remove. Other samplers are third-party certified to conform to 3-A Sanitary Standards for dairy. This ensures they are easy to clean and that their design does not contain cracks or crevices where product can reside and create microbial growth. Other samplers are designed with these same standards in mind and meet USDA, Canadian Grain, FGIS and NOPA standards.

3. INCREASING EFFICIENCY AND REDUCING RISK THROUGH AUTOMATION

Automated sampling allows a composite sample to be easily and safely obtained with no need for direct human interface or interference. This ensures the sample integrity and increases efficiency over manual sampling, as production continues during sampling with no downtime. For further automation efficiency, the sampler controller can be incorporated with existing equipment and systems so sampling begins automatically without operator engagement. Because no operator is exposed to pressure, temperature or the media being sampled, sample automation is safer for operators. And, because no operator can potentially contaminate the process, sample automation is safer for consumers as well.

Representative sampling of food and beverages within a production environment is essential to ensure quality and safety and improve plant efficiencies. It's important to choose a sampling partner that understands the sampling needs of your plant and can design a solution to meet any application.

Learn more about Sentry's sampling solutions for the food and beverage industry at <http://www.sentry-equip.com/food-beverage>.

Wireless Technology and the Impact on Food Safety

Learn how wireless monitoring technology can help mitigate risk.
By Julian Hough, Marketing Specialist, Cooper-Atkins Corporation

CEOs in the food industry will face a worrying time in 2017. The same food safety concerns that worried them in 2016 will continue to plague them well into the new year. It has been an unwelcome friend to any executive that is charged with providing safe food to consumers. Despite the introduction of the Food Safety Modernization Act (FSMA) in 2011, and its recent 2016 upgrade, these government mandates, aimed at streamlining food safety regulations, have offered CEOs only a thin blanket of comfort.

PERCEPTION IS EVERYTHING

From a public point of view, perception, rather than possession, is 9/10ths of the law. In an era enveloped by 24/7 media coverage and viral social media posts, any recall stories are instantly spotlighted and hit

home hard. Millennial consumers are fickle; they are acutely aware of the food they are putting into their bodies. As a result, brand loyalty is severely damaged in every outbreak of foodborne illness.

Years of hard work, brand-building and clawing a market share in a highly competitive industry, can be undermined and toppled quicker than you can say “Salmonella.” This is a huge problem for any CEO and their brand. Recalls cost a company money. Lots of it. According to US Department of Agriculture (USDA) foodborne illnesses cost companies more than \$15.6 Billion annually.

A CASE FOR FOOD SAFETY INVESTMENT

In 2009, a single processor in the peanut

industry caused one of the largest food recalls in US history. The following recollections of the case by William D. Marler, Esq., a well-known foodborne illness litigation lawyer, pointedly address today's issues faced by CEOs.

"...Let's start with the human toll, which is what I know best. My firm represents over 100 people who were sickened by the Salmonella and two families who lost a family member to it."

"One of my good friends in the food processing industry estimates that the peanut recall will cost well over \$500 million. It's impossible to assign precise numbers, but you can start with the costs of tracking down, retrieving and transporting millions of items, most of which have already found their way onto retail shelves and kitchen cabinets."

"...Then there are the lost sales—not just of the tainted products themselves, but also of related peanut products that may be completely safe."

"...Let's not forget the costs of advertising and public relations aimed at restoring consumer confidence.

"...And, then there are the losses to stock prices. One major food processor lost \$1 billion in stock value following an E. coli outbreak."

"...Is anyone keeping track of the math? Let's call it \$1.5 billion—just because of the actions of one small player in the peanut industry. The likely costs of compensating their sickened customers are a tiny part of that number; virtually none of the rest of that \$1.5 billion will be covered by insurance."

As a result, the FDA has reached out to the industry to work in partnership to define the "leading practices" to ensure food safety. FSMA seeks to enact prevention rather than cure and to hold people accountable. CEOs know that imparting the seriousness of recalls has to be a trickle-down mantra. Every employee has to be on board and be invested in food safety protection.

THE IMPORTANCE OF HACCP

The development of HACCP (Hazard Analysis Critical Control Point) has provided a systematic way to identify and reduce the risk of food safety hazards in foodservice environments.

From a food processor's point of view, refrigerated storage is one of the most widely practiced methods for controlling bacterial growth in perishable foods because pathogen growth is reduced by colder temperatures.

From a grower's perspective, controlling and monitoring temperature and relative humidity will enable a grower to maintain optimum conditions for maximum storage

life of the crop. Karen L. B. Gast, Extension specialist at Kansas State University states, “Once a crop is harvested, it is almost impossible to improve its quality. Losses of horticultural crops due to improper storage and handling can range from 10 to 40 percent. Proper storage conditions—temperature and humidity—are needed to lengthen storage life and maintain quality once the crop has been cooled to the optimum storage temperature.”

WIRELESS MONITORING - A SOLUTION-BASED APPROACH

While the principles of HACCP are effective in reducing the risk of foodborne illnesses, it requires copious amounts of time, resources and training. Manual record keeping is inherently cumbersome, so foodservice directors are thus pressured to create efficient time and labor savings to reduce operating costs and remain profitable.

Any investment that can make food safe by monitoring environmental parameters, will be highly desirable. Wireless monitoring technology is a bastion of hope and a vanguard in mitigating risk associated with foodborne illness outbreaks.

Processing facilities that invest in a temperature monitoring system benefit in some of the following ways:

- Reduces/eliminates manual labor
- Streamlines the collection of environmental data

- Provides custom reporting
- Complies with the new FSMA laws and FDA rulings
- Maintains more stringent food temperature controls

The cost of investing in a monitoring system that helps to maintain product integrity, compared to the obscene amounts involved in a recall, is a no-brainer investment. Not investing in one is being pennywise and pound foolish.

Wireless monitoring systems protect inventory and help ensure equipment is operating correctly by monitoring factors including temperature and humidity. As an exception-based system, notifications are sent out only when readings fall outside preset conditions. This will help to maintain product integrity and quality and prevent costly food spoilage due to equipment failure.

Since its establishment in 1885, Cooper-Atkins Corporation has built a rock-solid reputation providing quality environmental monitoring solutions for more than 130-years. As a trusted brand in the food industry, it continues to push the boundaries of new-age technology by developing innovative and HACCP-compliant, wireless monitoring products, such as EnviroTrak™ and NotifEye™ that meet its customers’ needs.

Scott D’Aniello, Vice President of Industrial and Food Processing for

Cooper-Atkins says, “We are choosing to be a leader, not a follower. We have been around a long time and are fully vested in providing the best food safety solutions for our customers. Our goal is to make their business more viable – from both a financial and safety sense. McDonald’s recently awarded us the prestigious “Global Supplier of the Year 2015” which

speaks volumes about who we are and the level of service we provide.”

Despite many challenges, meeting regulatory and organizational requirements is still the main goal. It’s still complicated, but today’s technological innovations are helping to ease the burden and keep food safe for consumers.

Food Processing 2017

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10/05 Nutrition Facts Label: Meeting non-GMO requirements

10/19 Nutrition Facts Label: Meeting non-PHO requirements

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Control Pests and Bugs Around Your Loading Dock Doors

Goff's Enterprises introduces a new G-2 Lite Door.

By Goff's Enterprises, Inc.

Food safety has always begun with cleanliness and a clean facility simply isn't attainable if food crazed, pests are able to migrate through open dock doors. When unwanted pests invade your facility, whether it be of the ground moving or airborne variety, not much else can be focused on! To solve this specific issue, while helping to meet A.I.B. facility standards, Goff's Enterprises has brought to market the G-2 Lite Door.

Goff's Enterprises' G-2 Lite Door is a fully customizable high speed mesh dock door designed to keep unwanted bugs, birds, and other pests out of the loading dock area. Not only does it keep out pests, the G2 Lite Door helps to reduce heat from the sun while allowing light into work areas and improving ventilation. The Door is

constructed with 11 oz vinyl woven Mesh panels that provide a 65% shade factor to lower temperature and save energy. The 17x11 scrim provides small openings which make it difficult for insects, birds, and pests to penetrate, leaving your facility pest free and compliant with food facility sanctioning organizations.

G2 Lite Doors feature easily replaceable, exchangeable panels. Uniquely created fiberglass extrusions slide securely in custom extruded aluminum side beams in a variety of manual and motorized operations including: Spring Assist, manual chain hoist, 18" per second in tube motor, and 30" per second external jackshaft. Other standard features include: a reverse safety feature and standard rubber side seals & baffle.

Goff's G-2 Door line was adapted from tremendous research and communication with users and distributors. "Like in any business, the customers know what works best for them," states Tony Goff, President of Goff's Enterprises, Inc. "Using their feedback and requests we have developed a door that is not only functional and low maintenance but also affordable."

Another great option available from Goff's, is the Bug Blocking Side Seal Door. The Bug Blocking Side Seal Doors have all the same great benefits that the G-2 Lite offers in a side-sliding manual option. The Bug Blocking Side Seal Door is a "Best in Class" economical solution that offers increased productivity by providing additional employee comfort. The Bug Blocking Side Seal Doors include a wall bracket to secure the door when in use and



a tie back strap to keep it out of the way when not in use. All of Goff's Bug Blocking Doors and G-2 Lite Doors aid in the compliance of: FDA, AIB, IPM, ASI & HACCP Food Safety Programs.

Goff's Enterprises has been manufacturing a wide variety of flexible industrial space partitioning products for over 25 years. Based in Pewaukee, Wisconsin,

Goff's product line includes curtain walls, welding curtains & screens, high speed industrial vinyl and mesh roll-up doors, strip doors, sound control products, climate control curtains, food processing curtains and more.

Contact Goff's Enterprises, Inc. for more information:
800-270-0645, sales@goffscw.com, www.goffscurtainwalls.com/fpe

A Practical Guide to Washing Detachable Scale Parts from Multi Head Weighers

Learn how to achieve a higher standard of cleanliness and sanitation.

By Douglas Machines

Until recently, washing detachable scale parts from multi-head weighers has been a time consuming, hand washing process that extended turnaround times, damaged parts, and consumed too much labor, water, energy and chemicals. Lately, food processors have turned to manufactures of automated washing equipment to overcome these problems and help them better achieve today's higher standard of cleanliness

and sanitation. The key for manufactures has been to work with scale parts companies like Ishida and Yamato to developed specialized wash racks that are designed to hold their specific parts in the proper orientation to spray arms to maximize cleaning effectiveness and to protect them while cleaning and while in transport. The other task has been to maximize wash rack capacity, so as many parts as possible could be washed in a batch.



This has led to the development of roll-in type batch washers that are provided with specialized wash racks for buckets, feeder pans and chutes. Typically, batch washers feature a recirculating detergent wash tank and a separate fresh water, sanitizing rinse tank. In the case of Douglas Scale Parts Washers, cycles are selected from a short, medium or long sequence (4, 6 or 8 minutes) depending on soil conditions.

As opposed to a dishwasher (40 to 60 minute wash times), industrial strength batch washers utilize larger water pumps (15 to 25 H.P.), higher operating pressures (40 to 50 P.S.I) and specially designed, rotating spray nozzles. Each wash cycle is followed by a 30 second, 180-190 degrees Fahrenheit sanitizing rinse to provide sanitizing without the use of expensive chemicals. The sanitizing rinse water is recycled by routing it back to the recirculated wash tank. Most manufacturers build their machines with the option of electric, gas or

steam booster heating to maintain proper operating temperatures. Your preference will depend upon available utilities, the cost of utilities in your region combined with the cost of installation. Generally, gas or steam heated machines are more economical to operate but have a higher installation cost. This leads most companies to install electric heated units, especially since they are only in service for short periods of time.

INSTALLING SCALE PARTS WASHERS PRESENTS A NUMBER OF CHOICES

More often than not, washers are now being placed up on the mezzanine in a cut out next to the scales for ease of handling. If not, wash racks can be adapted for fork truck transport so loaded racks can be taken off the mezzanine, placed on the floor and rolled to a centralized wash room. This second option tends to come into play when the washer is used for cleaning other items as well. When installed in a wash room they can be used with loading ramps or recessed into the floor for ground level loading/unloading.

Regardless of the installation, it generally takes just one cycle to clean all of the buckets and feeder pans for up to a 16 head system (depending on the model) and just one cycle to clean the chutes. Since machines can operate up to 10 cycles an hour, clean-up is quick and efficient.

Primary Benefits of Automated Washing Systems

- *Develops a standard operating procedure*
- *Produces consistent results time after time*
- *Saves water, labor and energy*
- *Minimizes turnaround time*
- *Cleans and sanitizes in one step*
- *Extends parts life*

Selection, Care and Maintenance Guide for Food Contact Tools and Equipment

Properly selecting and using the right tools and equipment for each assigned task is essential to success. Learn more in this guide.

By Remco Products

Hygienic cleaning tools and methods are utilized throughout various industries as a safeguard to people's health and safety. Industries include: food processing, health care, retail food (restaurants and supermarkets), transportation, and janitorial services. In many cases, such as food processing, hygienic cleaning is a necessary step in maintaining an efficient, clean and code-compliant processing facility — one that controls internal hygiene, mitigates cross-contamination at every step, and documents the cleanliness of the process. Thus, it is important that the proper tools, cleaning and storage methods, and maintenance practices are utilized to assure the highest level of integrity.

SELECTION: CHOOSING THE RIGHT TOOL FOR THE JOB

When selecting tools for use with

food processing, it's important to begin by choosing the proper tools for the specific area or task.

Remco and Vikan products are specifically designed to meet the needs of food processing through these product attributes:

- One-piece construction with smooth surfaces that are free of seams and welds with no sharp angles, holes or crevices
- Constructed of materials that meet or exceed the requirements of the U.S. Food and Drug Administration (FDA) CFR Title 21, United States Department of Agriculture (USDA), EU Regulation No. 10/2011 (replaces 2002/72 in 2015) and EU Regulation No. 1935/2004
- Ergonomic designs that are safe for users
- Easy to dismantle and reassemble

STORAGE: KEEPING TOOLS CLEAN

It's important that the tools used around food processing maintain their hygienic qualities. Leaving food contact tools unorganized when not in use is not advised. Proper storage and in unsanitary locations in a clean, protected storage area ensures good hygiene and helps extend tool life. Limiting the storage of tools within their assigned areas

Extreme temperatures and/or humidity levels can affect the life and lasting quality of the food contact tools and equipment. Extremely cold temperatures or long exposure to very cold temperatures can cause fracturing of tools and possible physical hazards in a food facility. High-humidity areas that do not allow for proper tool drying can support the growth of microbial hazards. The location of the storage unit may be determined by whether or not the tools may be cleaned-in-place or cleaned-out-of-place (COP) in tanks, sinks, autoclaves or a location other than where they are used or stored. Multiple storage locations may be useful, pending whether the tool is needed during processing, or if the tool is used only during sanitation processes.

MAINTENANCE/REPLACEMENT: LONG-TERM COMPLIANCE

Removing the nutrients that bacteria need to grow and killing the bacteria that is present on food product contact surfaces

are the fundamentals of effectively cleaning food contact tools and equipment. The removal of visible contamination such as food soils or loose debris is only the first step. It's critical that personnel understand that proper cleaning is a process that must be followed, regardless of the time necessary.

CLEANING

Food contact equipment and tools should be regularly maintained according to industry standards. In most cases, the cleaning method — cleaned in place, cleaned-out-of-place (COP) or mechanically cleaned — will be determined by the equipment design, the facility environment, the equipment's zone in the facility (e.g., food contact or not), the target concerns (e.g., pathogens and allergens), and how often the equipment is cleaned. Generally, guidelines call for the removal of gross debris; tools should be rinsed with water to remove any additional loose debris and then washed in water containing a detergent or chemical deemed appropriate by the particular industry's standards. All contamination should be removed — either wiped or scrubbed off — until it is visibly clean. This should be followed by a rinse that removes any detergent/chemicals used.

STERILIZING/DISINFECTING.

Certain industries require sterilizing or disinfecting of material handling and cleaning tools. One option is to use an autoclave

which works with a combination of temperature, pressure and time. The idea behind the process is to raise the temperature high enough to kill vegetative cells. Thus, raising the temperature or pressure may produce positive results in a shorter amount of time. The use of an Auto-clave Log is also helpful in tracking that each autoclave cycle is properly executed. Depending on the food category and the

particular microbiological contaminants of concerns, different guidelines may apply as to the proper combination of temperature, pressure and time that should be followed to assure proper sterilization of the tools and equipment.

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