



Pathogens - Seek and Destroy

**Effective mitigation strategies for food
safety professionals**

Food Plant Target Pathogens

- Every food manufacturing facility will be responsible with the difficult task of effectively **removing and mitigating pathogen presence** in their production environment. Most plants will be faced with these three target organisms to monitor and remove in order to provide an environment to produce safe and wholesome product for consumers.

Listeria Monocytogenes



Salmonella Enteritidis



E Coli oh157





DeVere Understanding your EMPC Program

- To help monitor your plant for target organisms such as **Listeria** you must rigorously swab for pathogens through a comprehensive **EMPC** Program.
- EMPC stands for **E**nvironmental **M**onitoring **P**athogen **C**ontrol.
- Each plant must develop swab points throughout the facility's zone 3&4 locations (may also include zone 2).
- Each sample site will be swabbed on a weekly-monthly frequency, and all positives must be remediated through an plant specific corrective action procedure.

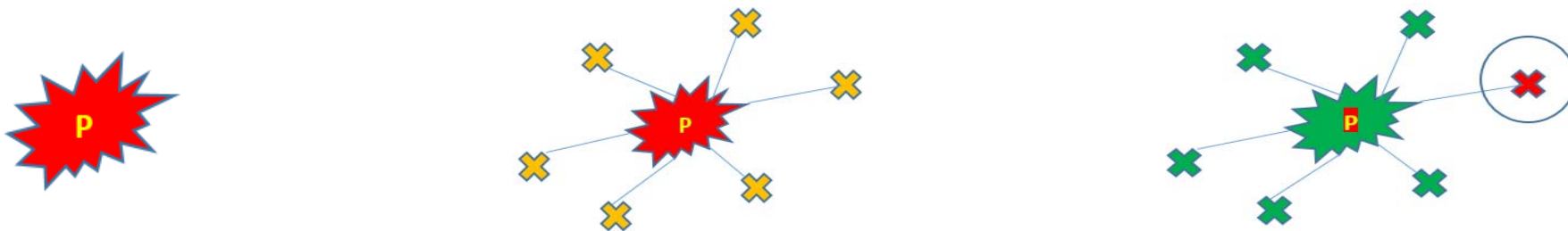


DeVere Understanding your EMPC Program Cont.

- Determining your swab locations shall be a collaborative effort including all quality team members for full F/Sfty transparency.
- Understand your swabbing locations may change as your **EMPC** program develops over time.
- Trained quality personal shall be responsible for developing, obtaining, and documenting all results during each swab cycle.
- If a **presumptive positive** is reported by your accredited laboratory the plant must perform a remediation clean and (3) swab cycles shall take place that achieve **all negative** results before that corrective action can be considered complete.

DeVere Understanding your EMPC Program Cont.


- If during your corrective action another positive is detected the plant shall perform what is called “vector swabbing”.
- **Vector swabbing** is a *technique* which will take place at the spot of the repeat positive including (6) additional swab locations around the positive site in order to find the source.





DeVere Understanding your EMPC Program Cont.


- While swabbing make sure your are visually breaking down any **potential swab point (PSP)** opportunities throughout the plant.
- Swab point opportunity's are anywhere in your plant that a **Non-Routine Swab** can be introduced into your normal sampling schedule. E.G. underneath a catwalk leading towards another swab location.



Do We clean here? If so-
How often do we clean here?



Does this pose a threat to our environment ?



Has this area ever been sampled before?



DeVere Understanding your EMPC Program Cont.

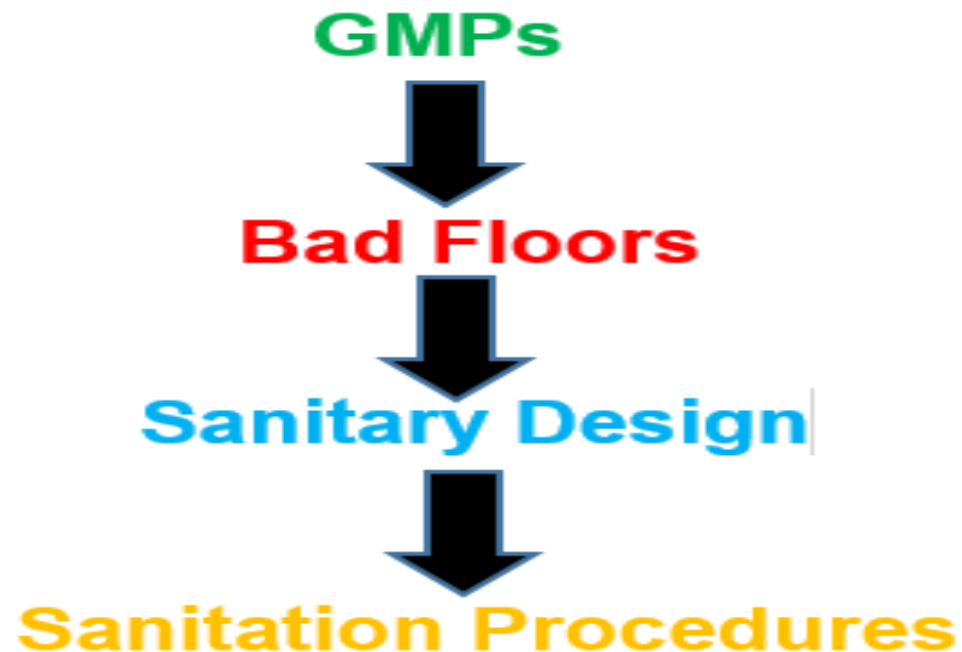
- All results and/or swab-investigation struggles should be round table discussed during monthly **Food Safety Team Meetings** in order to keep updated awareness on the forefront.





The Pathogen Equation

Every Plant will need to understand this 4 step *Pathogen Equation* in order to successfully combat them in your facility.





Pathogen Equation: **GMPs**


- Audit your plant personnel **GMP** etiquette on a dedicated frequency.
- Make sure you *coach* your operators on the importance of **Food Safety**, and the vital role they play at your plant.
- Increase the frequency of **GMP** refresher training with all plant personal. E.G. *Make an effort to mention GMP reminders during weekly tool-box talks with plant personnel .*
- Look for ways to make **GMP** adherence easier E.G. *Readily available PPE near production lines, Hand wash stations closer to line including hand sanitization stations, Inedible waste containers-touch free.*



Pathogen Equation: **Bad Floors**

- **Audit** your facilities flooring throughout all areas on at least a **quarterly basis**.
- During your audit try to have a member of **maintenance** with you so that your findings can be addressed **quickly**.
- Prioritize your corrective actions to be completed in **higher risk areas first**.





DeVere Pathogen Equation: Sanitary Design

- Sanitary Design plays a large role in your facilities battle with pathogens in and around food contact surfaces at your plant.
- Understand not everyone's plant will have capitol to repair ALL concerning equipment immediately.
- Be sure to communicate your concerns regarding sanitary design with all plant leadership. Develop a plan containing **FACTS** to obtain capitol project approval to improve S-Design.
- Find ways to **Hygienically Restore** older equipment through detail cleaning events. E.G. Leaching rollers (not Hermetically Sealed) have maintenance take bearings out and conducts detail inside/cleaning with COP tank, Disassemble belt housing for tough to reach conveyor applications *(you will be surprised on what your find!)*



DeVere Pathogen Equation: Sanitation Procedures

- In addition to your annual **SSOP review** be sure to conduct *validation studies* providing analytical data for cleaning effectiveness. Utilize personnel not used to cleaning to see if they can follow the current **SSOP instructions**.
- Through your **EMPC results** look for ways to clean your plant environment more effectively to reduce pathogen growth. E.G. *Reduce frequency of full wet wash on floors around high traffic areas (introduce more dry housekeeping).*
- Be sure you audit your utensils/ Floor scrubbers used during sanitation events. Ensure your floor scrubber is being properly **cleaned and sanitized** after use E.G. *Attach check-off clean sheets for employees to populate after each use.*



Pathogen Mitigation Strategies

- Each plant shall develop mitigation strategies to help combat the introduction/growth of target pathogens in ALL locations throughout the facility.
- Introducing a **Entry-Way Treatment** application is the best way to control your environment **24 hours a day**. Adding this preventative control is **STRONGLY** suggested to all food safety professionals, and if managed correctly **EWT** can strengthen your plants pathogen monitoring program creating a sanitary environment to produce wholesome-safe food for consumers.



DeVere Pathogen Mitigation Strategies Cont.

- There are many applications on the market these days, however here at **DeVere** we provide a *Peroxide Based floor treatment* that offers efficacy in dry and wet environments called **Security Floor Treatment**.
- Unlike all other **EWT** that require **water to activate** our *patented application* has proven to be **MOST** effective on all target pathogens with better kill time efficacy including a constant kill in dry environments which **NO** other product in the world can claim.



DeVere Pathogen Mitigation Strategies Cont.

- Application locations should be carefully selected collaboratively with your quality team to ensure all **EWT** sites throughout the plant are in areas such as:
 - High traffic locations e.g. employee entrances, exit/enter of employee locker rooms, break rooms, doors leading directly outside- egress .
 - Transition areas throughout the plant e.g. between RTE/RAW locations, in or near PPCA/GMP locations.
 - Outside high traffic wash rooms **suggested application(s) should be directly on floor before wash bay threshold.*
 - Outside the main office door leading into the production facility. (*this is a common location that is overlooked*)



Mitigations Strategies Cont.

- Other considerations regarding application style should be considered before a **EWT** plan is officially rolled out include:



- Application styles Utilize mat (standard size 32"x 36") or straight application on the floor (this applications desirable result will create a chalking effect) .
- Standard Application recommendations include **broadcast spreader** or **hand scoop** for manual use. All **EWT(s)** *shall* be applied per label instructions!
- Be sure to determine a frequency of **changing/cleaning mat locations**. A standard practice for **EWT** mat (depending on med-high traffic) is about once a week. For straight floor application also depending on traffic is around once per shift- every 24 hours.
- Before officially rolling out a **EWT** program be sure to communicate all strategy/locations to plant leadership followed by **ALL** employees across each shift. Be sure to include this program into all **contractor/visitor** safety/GMP videos to create awareness as well as ensuring they step through your EWT sites.



DeVere Pathogen Seek and Destroy Review

- Ensure your plant develops and sustains a rigorous swabbing **EMPC** program including transparent plant communication.
- Ensure all employees, vendors, and contractors at your site adhere to your *plant specific* **GMP** policy.
- Be sure to conduct thorough GMP, plant environment condition **audits** including flooring, and sanitary design review.
- Implement and manage an effective **Entry Way Treatment** program to effectively mitigate pathogens in your plant.
- Be sure to contact your **DeVere Professionals** for effective training/chemical applications tailored to your plant specific needs.

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