

SANITATION, CLEANING, AND DISINFECTING POULTRY FACILITIES

Diseases and infections have always been a major concern to the poultry industry. Fortunately, microbial contamination can be prevented and controlled using proper management practices and modern health products.

Microorganisms are everywhere! Some are relatively harmless, while others can cause disease. Some pose a lethal threat to one species of animal while remaining harmless to another species. Some organisms are easily destroyed, while others are very difficult to eliminate. The moral is, **Treat all microorganisms as if they are a severe threat to the chick s livelihood.**

Three terms are commonly used to describe microbial control:

Sterilization — Destroying all infective and reproductive forms of all microorganisms (bacteria, fungi, virus, and the like).

Disinfection — Destroying all vegetative forms of microorganisms. Spores are not destroyed.

Sanitation — Pathogenic organisms are present but are not a threat to the birds health.

Many producers have the impression that they create a sterile condition because they use disinfectants, when they may only achieve a sanitized condition at the very best.

The most important thing to remember when striving for a sanitized environment is that **cleanliness is essential**. Proper cleaning removes most germs and is always done before using disinfectants. This applies to all areas, including floors, walls, equipment, and personnel.

It is extremely important to remove as much organic matter as possible from surfaces being disinfected. After removing dust, chick down, droppings, tissue residues, and such, thoroughly clean surfaces, using warm water and appropriate cleaning aids. Focus on selecting the proper detergent to produce the cleanest environment possible with variations in water hardness, salinity, and pH. A thorough rinsing with enough clean, sanitized water completes the cleaning process and removes most lingering residues of detergents, organic matter, or microbial germs.

Only after facilities are thoroughly clean do you treat surfaces with an appropriate disinfectant solution. Not all disinfectants are suited for every situation.

When selecting the disinfectant, carefully consider these:

- The type of surface being treated.
- The cleanliness of the surface.
- The type of organisms being treated.
- The durability of the equipment/surface material.
- Time limitations on treatment duration.
- Residual activity requirements.

If the surface is free of organic matter and residual activity is not required, quaternary ammonium compounds or halogen compounds can be used effectively. However, if surfaces are difficult to clean, residual activity is required, or the contaminating organisms are difficult to destroy, then multiple phenols or coal tar distillates may be needed.

Be careful that the disinfectant, when used as directed, meets your requirements. Be reasonable and don t expect the product to produce impossible results. Otherwise, select a different product or change disease control practices.

Although many disinfectants are available, the disinfectant you select must be effective for the conditions being used.

Here are several considerations for getting the best results from a disinfectant:

- Consider the disinfectant s effectiveness on organisms of greatest concern. Not all disinfectants are effective against all organisms.
- Clean and disinfect in separate operations.
- Disinfectant solutions are more effective when applied as warm solutions rather than cold solutions. Hot solutions can reduce disinfectant efficiency.

DISINFECTANT CLASSIFICATIONS

<u>Disinfectant Type</u>	<u>Recommended Use</u>	<u>Considerations</u>
Alcohols	Small utensils	Poor residual activity, fire hazard, expensive
Halogens	Water systems, foot baths	Corrosive, poor residual activity, ineffective in presence of organic material
Quaternary ammonias	Incubation equipment, feeding systems	Non-corrosive, non-irritating, limited residual activity and effectiveness with organic matter
Phenols	General house use	Slightly irritating, good residual activity, effective with organic matter
Coal tar distillates	General house use	Corrosive, irritating, good residual activity, effective with organic matter
Aldehydes	Fumigating incubators/eggs	Highly toxic, slight residual activity, sporicidal, fungicidal
Oxidizing agents	Small utensils	Poor residual activity, corrosive, ineffective in presence of organic material

- Few disinfectants are effective instantaneously; allow enough contact time (usually 30 minutes is sufficient).
- Embryos are very sensitive and severely affected by chemical vapors. Use disinfectants having least effect on embryo development.
- Allow all surfaces to dry thoroughly before reuse. Dryness reduces reproduction and spread and transport of germs.
- Improper use of disinfectants can damage or hinder the function of equipment. Some disinfectants are corrosive or clog spray nozzles of water systems.
- Always follow label directions for their safe use. Never sacrifice personal safety for cost savings or productive efficiency.

Disease-free surfaces can be compromised if you do not properly maintain facilities. You can unknowingly act as a germ carrier and become a major source of infection. Provisions must be available for frequent washing of hands and footwear. Freshly laundered clothing and caps can significantly reduce the spread of germs. Restricted movement of personnel within specific areas also reduces the distribution of organisms.

The risk posed by disease causing organisms is a constant challenge. Use effective control measures rather than trusting visual cleanliness as an indicator of sanitation. A surface that looks clean is not necessarily disease-free. Assuming so may be fatal to the birds and management program.

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