

WATERLINE CLEANER/ DISINFECTANT VS pH ADJUSTERS



The OFFSP manual requires that a cleaning/disinfecting process be used either in between flocks or during the grow-out period.

Some farmers may choose to go over and above this requirement – by cleaning/disinfecting both during and in-between flocks. It’s also important to note that using a product to adjust the pH of the water/acidify the water is different than a cleaning/disinfecting process.

A cleaning/disinfection of the waterlines is important to remove biofilms which may have built up in the water lines. Biofilms are a layer of microorganisms that form on the inside of water pipes that come from the water itself, or from products added to the water. Biofilms are responsible for a wide range of water quality issues and can also be a food safety risk if the microorganisms are of public health significance (e.g. *Salmonella* spp., *Campylobacter* spp. etc.), as the bacterial cells from the biofilm can break off and be released into the water.

There are several methods that can be used to clean/disinfect water; examples include chemical products (e.g. chlorine, chlorine dioxide, iodine, hydrogen peroxide), UV light and reverse osmosis.

DIFFERENTIATING BETWEEN A CLEANING/DISINFECTION PRODUCT AND A PH MODIFIER/WATER ACIDIFIER

When chemical products are being used in the water lines, there can be confusion about what products can be used to clean/disinfect water lines vs. those products which are specifically used to adjust the pH of the water.

The bottom line is that products need to be used for the purposes as described on their product label, or for the purposes as described in the directions that are being used.

Here’s a list of products – based on their label claims and guidelines – that are used for cleaning/disinfecting water lines vs. those that are used to adjust pH of the water¹. This is not a complete list of chemicals or products, but rather an example.

Cleaners/Disinfectants	pH modifiers
<p>The majority are chlorine or hydrogen peroxide-based products. Some examples include:</p> <ul style="list-style-type: none"> » AquaPrime » Hyperox » Oxy-Blast » Proxy Clean » Twin oxide <p>Cleaning/Disinfecting chemicals include:</p> <ul style="list-style-type: none"> » Chlorine/Bleach » Chlorine dioxide » Hydrogen peroxide » Iodine » Vinegar 	<p>These product labels specifically refer to water acidification. Some examples include:</p> <ul style="list-style-type: none"> » 4wayacid pack » Agriacid » AquaPrime Trigger » Evolve » Jefacid » PWT (Poultry Water Treatment) » Selko Prohydro » Soluacid <p>Acids used for water acidification can include:</p> <ul style="list-style-type: none"> » Acetic, citric, hydrochloric, muriatic, sulfuric, etc.

Acids alone are not recommended to be used as the sole method of water cleaning/disinfection as they can cause bacterial or fungal growth in water systems¹. While acids and combinations of acid products are primarily used for water acidification, there are published guidelines for using these as the cleaning/disinfection process. When used in this manner, the label directions or the published guidelines are to be kept on file in order to demonstrate that the process is being followed correctly.

Following manufacturer instructions is important as some cleaners/disinfectants can react with the pH modifier in a way that decreases the effectiveness of the cleaner. Therefore, it is vital that manufacturer instructions be followed (i.e., the type of product that should be used first and the contact time required before adding the next product).

When using cleaners/disinfectants during the grow-out, remember that the concentration of the product needs to be tested twice during the flock.

WHAT PRODUCTS CAN BE USED?

Remember, products used for cleaning/disinfecting must either:

- » be approved for use in food animal premises (all disinfectants are required to have a DIN);
- » have directions specific for use in chicken production or livestock barns;
- » be listed on the Organic permitted substances list; or,
- » be used in conjunction with a veterinarian.

This means:

- » **Option #1:** The product has label directions for cleaning/disinfecting water lines
- » **Option #2:** The chemical being used (e.g. hydrogen peroxide, chlorine, iodine) is being used according to specific cleaning/disinfection directions for that product in water lines
- » **Option #3:** The product/chemical is being used according to veterinarian recommendations

For option #2, an example of concentration levels can be found in Tables 4.1 and 4.2 in the OFFSP manual. Other examples may be from research papers and published guidelines.

¹ Watkins, Susan. 2007. Water Line Sanitation. Aviotech Technical Information for the Broiler Industry. Aviagen Incorporated.

