

# INCUBATOR CLEANING AND CARE

By James Finger

An incubator is a great place for growing all kinds of organisms as well as embryos in our eggs. The very nature of the incubator, warm and moist, makes it ideal for the development of many different bugs. Add the waste products and bugs introduced at hatching time, and we soon have a very good brew of organisms which will be detrimental to future hatching success.

It is imperative to regularly clean your incubator. The principles of cleaning are the same from the smallest hobby incubator to the largest commercial model with 100,000 eggs.

Until recent times, the most common method of disinfecting an incubator was to use formalin and Condy's crystals. These components were mixed in a bowl in the incubator and produced a gas which fumigated the interior of the machine. This is a very cheap material and very toxic, and was reasonably effective at killing everything (operators included). This effectiveness is often lost because of a lack of physical cleaning of the incubator. The cheapness is also poor value when considering that the material is very dangerous.

## Cleaning and Care

Effective incubator cleaning consists of physical cleaning followed by sanitising.

1. There is no substitute for elbow grease. An incubator not physically clean will not respond to later sanitisation. Physical cleaning is best when done as soon as possible after the removal of the chicks at hatch time. Allowing the waste material of the hatching process to dry on the inside of the machine greatly increases the later workload of cleaning. Physical cleaning is usually best when assisted by a detergent. These are intended to lift dirt and usually contain surfactants which hold the dirt so it can be washed away. The best cleaning is done using a mechanical device such as a sponge mop or broom for larger machines, or a hand sponge for small ones. Remember that despite all the froth and bubbles produced, detergents are merely cleaners and do not disinfect or sanitise.

2. Sanitising or sterilising comes next. Once the surfaces are physically clean, a sanitiser will kill bacteria, viruses and fungal spores so that these will not contaminate the next setting of eggs. The selection of sanitising agent is often a confusing process and many different products are available.

Formaldehyde is effective but very difficult to handle and quite dangerous. Formaldehyde requires very careful handling procedures and for small operators, may be

too dangerous. Chlorine is a common disinfectant found in most homes as household bleach. The recommended dilution on the bottle is correct to use as a spray rinse in the incubator, and a few drops in the water tray is an excellent fumigator. Bleach becomes inactive in the presence of organic material, is only effective on clean surfaces. Nappisan is an oxygen bleach which is also effective as an incubator disinfectant but can be corrosive on metals. Other disinfectants are available (see list below) and all have a useful place.

The method of application of the sanitising agent is also important. Two different main methods are used. One is the spraying or misting of chemical into the incubator and onto the surface of the machine with a small pump pack. The incubator should be warm and run after the application of the sanitiser. The second method is fumigation where a sanitiser is evaporated into a gas form and the fumes reach all corners of the incubator. This method is most suited to larger machines.

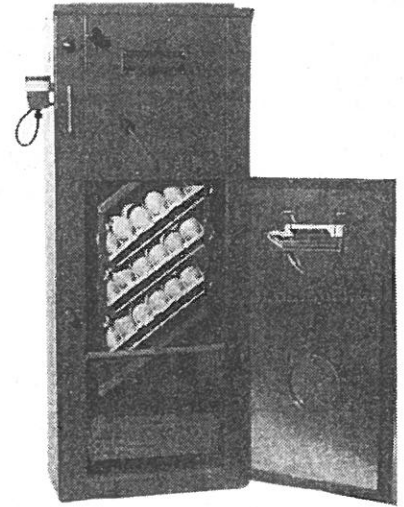
3. This final step is not so much about the cleaning of the incubator but of its future life. A very common problem with incubators and hatchers of all sizes, from the smallest to the largest, is corrosion caused by moisture and disinfectants. Cleaning an incubator involves wetting the inside of the machine and then spraying with a disinfectant. Many of the disinfectants are by nature corrosive and result in a degrading of incubator components. However, the corrosive nature of most of these products greatly reduces once they are dry. Washing an incubator, leaving it wet and storing it away is guaranteed to create problems, even failure, next season. After washing and sanitising, dry the incubator by leaving the unit to run for at least a day to completely dry out. This ensures no moisture is left in the system to corrode away at vital components.

## Commercial Disinfectants

*Halamid* is a product which uses the release of oxygen to kill many organisms followed by a slow release of chlorine. The availability in small sachets is very useful. One 27g sachet makes 2.5 litres of 1% fungicide/viricide solution.

*Avisafe* is a halogenated tertiary amine. This product is effective for small incubators and comes in a convenient, ready-to-use 500ml spray bottle but is a little pricey.

*Tektrol* aerosol spray is a surface disinfectant of synthetic phenols. It is very effective and convenient with excellent fumigating properties. (NB as an aerosol, this product cannot be sent by post).



*Virkon* is a long chain salt product effective over a wide range of viruses. The material turns pink upon mixing and loses the pink colour when the activity is lost. Available in a small sachet, which makes up to 2.5 litres.

*Bactosan* is suitable for use with medium-scale incubation facilities. This system uses a chlorine and an iodine in separate parts. The two parts are mixed in water, and this releases the active ingredients. If used in incubator water trays the material fumigates the inside of the incubator as the water evaporates. Two grams fumigates three cubic metres of incubator volume. Smallest pack size 200 grams total material.

A hand spray pump is recommended for use when small amounts of disinfectants are to be used.

Jim Finger is the proprietor of Bellsouth which carries a comprehensive range of disinfectants as well as spray pumps. An illustrated mail order catalogue is \$5 posted from Bellsouth, PO Box 1233, Narre Warren 3805. ❖