



Truck biosecurity in POULTRY PRODUCTION

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The recent outbreaks of Avian Influenza in three continents put question marks behind the application of biosecurity programs.

One of the identified vectors for spreading the disease is the so called “*mobile vector*” caused by vehicles and people (catching crews, collection of litter and dead birds, transport from the hatchery and to the processing plant, feed delivery trucks, ...).

In this article, we want to share some advices on truck hygiene.

The first rule is that hygiene consists of two parts: CLEANING and DISINFECTION.

Cleaning is the removal of (organic) dirt in which micro-organisms live.

At the outside, it's the “traffic film”. This is a build up of dirt consisting of dust and grease (or petroleum and exhaust residues) that is attached to the body by the electrostatic load on the truck. During summer time, dead insects will be added to the traffic film (by themselves already a carrier of different bugs).

At the inside, the dirt depends on the load: it can be albumen and yolks from broken hatching eggs; fluff and droppings from day old birds, droppings from birds ready to slaughter, feed left overs, ...

So both inside and outside, the dirt is mainly organic. Therefore, a slightly alkaline detergent should be used. (Alkaline products remove organic dirt like fats and certain proteins; while acid products remove inorganic dirt like lime scale). However, if the product is too alkaline, or contains sodium hydroxide or chlorine, it will

corrode the body of the truck, especially the aluminium parts. In other words, a SPECIAL product should be used such as HATCHONET™.

This is a product that is free of sodium hydroxide and chlorine, but rich in surfactants or wetting agents that will decrease the surface tension and break through the dirt. Water with high pressure alone won't be possible to remove these specific types of dirt.

Table 1 shows what the characteristics of detergents are:

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CHARACTERISTICS OF DETERGENTS:

- Wetting: decreases *surface tension*
- Dispersing: *splits up* dirt particles
- Emulsifying: *splits and suspends* oil and fat
- Suspending: *floats and carries* away dirt particles
- Sequestering: *dissolves* salts

Ideally, the detergent should be applied as a foam, using a foam lance and a high pressure sprayer (min. pressure 500 psi), starting at the bottom and going up with the lance. The foam allows for a better coverage, and doesn't dry up that fast, ensuring the chemical does its job, described in table 1. Therefore, it's advisable to clean first the inside and then the outside, especially during summer. Avoid truck washing under the sun.

After the cleaning, the truck shampoo or detergent should be rinsed off with plain water, before the disinfectant is applied. Here fore, the best result is obtained when starting at the bottom and going up, moving the high pressure lance

from the left to the right and back. Then, do a quick rinse from the front towards the end to remove the remainders of the foam. The high pressure replaces the brush: no need for “*elbow grease*”.

A good cleaning job should remove about 80% of the microbes. On a clean surface, it's possible to eliminate log 4 (i.e. 99.99%) of the remaining 20% microbes with an adequate disinfectant.

So, what are the major criteria for a good truck disinfectant?

1. efficacy: it should cover the full spectrum: bactericide, virucide, fungicide and sporicide to kill ALL types of bugs, in all temperatures, pH values and water hardness and in presence of some organic load. Therefore check if the product has the appropriate AOAC claims! [The specific AOAC standard works with > 5% organic load and in 400 ppm CaCO3 hard water. VIROCID® passed the Avian Influenza test per AOAC at 1:400 only.]
2. safety: for people: not carcinogenic (containing no formalin) and for the truck body: it should obviously be not corrosive (it should therefore have a neutral pH) neither affect the paint
3. residual activity: never rinse the disinfectant! Particularly when applied as foam, the disinfectant will remain active for a longer time and prevent early re-contamination.
4. versatility: the product should be applicable by spraying, foaming and fogging, without having to add any carrier or other additives.

Often, critical places are forgotten to treat, such as the underneath of the vehicle and the inside of the wheel arches. One of the most contaminated areas is the steps towards the cabin. Also the driver's cab itself should be disinfected inside! Equally important is the replenishment of farm gate wheel dips. Last but not least, we've observed wheel disinfectant pads that were smaller than the circumference of the vehicle's wheels!

(Automatic) spraying installations, reaching the underneath and the arches deliver a better job. Here, the non-corrosivity is even more important as different materials will be reached. They also assure "fresh" disinfectant to be used. But they cannot operate when the temperature is freezing. Then, a manual disinfection is required.

Don't forget to disinfect the feed delivery pipes of the feed trucks. Bulk carriers can be disinfected by misting or fogging, hence the importance of the product's versatility. It should be ready to use for spraying, foaming and fogging.

If plastic day old bird boxes are used, they usually go back to the hatchery. There, they can be washed (and disinfected) in the tray washing machine (tunnel). The same procedure is required for hatcher trays. Also crates for bird transport should be washed and disinfected after every use. So should all tools that come with the truck like shovels etc.

The principle for all these activities are the same: first wash, then disinfect. In a crate washer, the non-foaming product *DM-CID*TM is recommended. Tools and all other equipment can be pressure washed with the foaming *HATCHONET*TM. All disinfection can be done with *VIROCID*TM.

As a summary, we can state that it's advisable to clean the truck on a daily basis at night and to disinfect it at every arrival on farm.