

Is your smartphone safe to take into the hatchery?

There are many smartphone apps available which make the phone a convenient tool for hatchery monitoring.

However, despite smartphones being useful gadgets, they do present some biosecurity risks if they are taken into the hatchery.

A recent study conducted by Aviagen[®] hatchery specialists quantified bacterial contamination on 36 smartphones whose owners were asked (without prior warning) to remove the phone case and swab the phone's screen and camera lens areas – as shown in the picture. The swabs were taken to a lab, streaked onto non-selective agar plates and incubated overnight. A lab technician counted the colonies on all plates. In total, 91% of the plates grew some bacteria, carrying up to 2,000 CFU (colony forming units).

We did not identify the organisms in this trial, but some of the bacteria that could be living on your phone include *E. coli*, *Staphylococcus aureus*, *Streptococcus* and *Pseudomonas*, all possible threats for chick livability as they are the main causes for omphalitis and first week mortality.

It is for this reason that some companies make the hatchery a “cell-phone free zone” while others allow the device to be brought inside after some kind of disinfection procedure.

If you are taking your phone into the hatchery, a correctly carried out disinfection process should take place every time. Suitable processes include:

- **Fumigation with paraformaldehyde** – this is the most effective process. Unfortunately, formaldehyde is not permitted in many countries.
- **High Intensity Ultra Violet light.** An Aviagen study in the UK showed that 10 minutes exposure is enough to inactivate 99.9% of bacterial load. The disadvantage is that UV lamps can be very expensive and need to be replaced regularly.
- **Disinfectant wipes** – in the study described above participants were asked to completely wipe their phones with ammonium chloride wipes and swab again after some minutes. Wiping the phones with disinfectant wipes significantly reduced the bacterial load, see graph overpage.

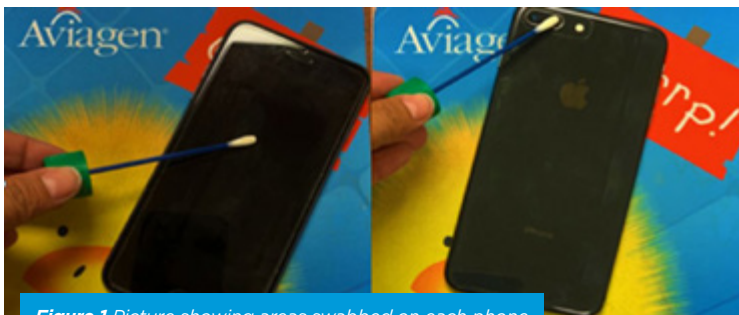


Figure 1 Picture showing areas swabbed on each phone



Is your smartphone safe to take into the hatchery? *Continued*

As well as daily dry cleaning and disinfection there are other everyday practices that will help to reduce the amount of bacteria that is lurking on your phone; such as:

- **The phone case should never be taken inside as it may be carrying bacteria and other microorganisms. Ideally use a silicone or similar case which can be washed, and always remove the case daily while you dry clean and disinfect the phone.**
- **Avoid taking your phone into the bathroom – this is a great opportunity for microorganisms to get onto your phone.**

This tip is a guide to help you to keep using your smartphone and all the available hatchery assessment apps without bringing any hazardous bacteria into the hatchery.

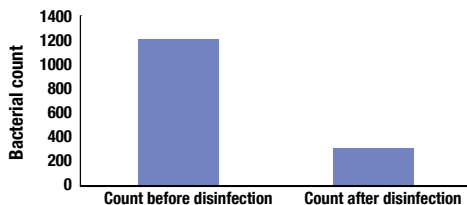


Chart 1 Average bacterial load on 36 mobile phones swabbed before and after disinfection. Before disinfection 91% of the phones had bacteria present. After disinfection only 29% still had bacteria present.