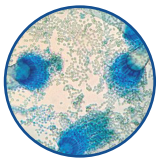




Life without Imazalil (Clinafarm) for poultry production: Mold management tactics of the future

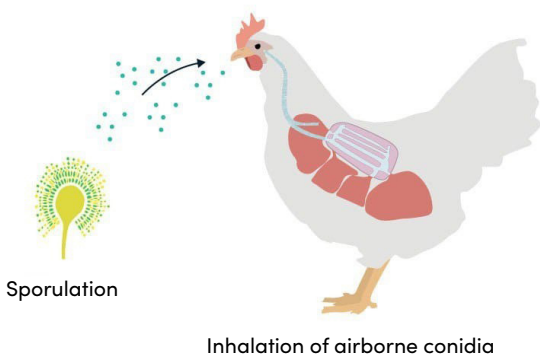
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INTRODUCTION



Keeping guard against *Aspergillus fumigatus* (“Asper”) a respiratory pathogen in poultry production facilities will continue to be an on-going practice requiring due diligence in understanding the impact of Asper on commercial operations and what steps are needed to break the Asper cycle. The Aspermold species forms spores that, when aerosolized, spread throughout poultry hatcheries and barns into the lungs of turkeys and chickens, hatched chicks and poults, and onto eggs throughout the hatch cycle. Managing the impact of *A. fumigatus* can be accomplished by thoroughly analyzing hatchery egg breakouts, conducting field diagnosis of the respiratory disease coupled with cultured pulmonary necropsy tissue, and observation of mold on litter and woody/paper material.

Aspergillus Transmission



“Moving forward, the management of *Aspergillus fumigatus* will focus on two strategies:

- 1) Innovate these two lost chemistries with greener formulations that will be sporicidal to Asper.
- 2) Help manage the avian environment by minimizing growth and harborage of mold.

While Arxada and Enviro Tech will focus on innovating the sporicidal to Asper formulation, poultry producers and managers can do their part to help keep Asper at bay.

Prior to the late 2010's, two EPA-registered disinfectants were focused on controlling *Aspergillus fumigatus*: Biosentry 904™ and Clinafarm™ (EC or SG). In the past, federal environmental regulators targeted the elimination of trybutyltin oxide (TBTO), a metal “tin”-containing chemical, from commercial disinfectant products due to potential impact on and persistence within the environment. From anti-fouling paints and coatings to marine transportation surfaces, TBTO was removed from all U.S. disinfectant formulations (including Biosentry's “Evap 100” for evaporative cooling pad and swamp cooler disinfection). The TBTO in that formulation was specifically added as an effective fungicidal co-ingredient and thus with the loss of TBTO the remaining quaternary ammonium by itself was no longer a desirable anti- Asper management tool.

Fast forward to 2022, “when Imazalil, a second fungicidal tool”, was also eliminated from the poultry management toolbox in the United States. The Imazalil fungicidal chemical was previously marketed under the brand name “Clinafarm,” and sold in two formats: a liquid Emulsifiable Concentrate (EC) (Figure 1) and a Smoke Generator (SG) (Figure 2) commonly used in transport and hatchery applications. Due to similar environmental regulatory demands, the business decision was made to no longer manufacture and market Imazalil as a poultry fungicide into the U.S.

Moving forward, the management of *Aspergillus fumigatus* will focus on two strategies: 1) Innovate these two lost chemistries with greener formulations that will be sporicidal to *Asper*, and 2) Help manage the avian environment by minimizing growth and harborage of mold. As the focus on innovating greener formulations is underway, poultry producers and managers can do their part to help keep *Asper* at bay by implementing the following mold prevention tactics:

- **Remove Unnecessary Water** – repair or replace leaky nipples, do not let standing water pool at hatcheries, squeegee standing water, repair leaky roofs and above-head pipes, exhaust all steam from hatchery tray and box washers (eliminate the “sauna effect”).
- **Clean Mold Growth Harbors** – clean and disinfect exhaust plenums from hatchery separator rooms, eliminate hatchery swamp coolers, ensure no wood or paper enters pooled water.
- **Watch Air Filtration** – diligently change air filters in HVAC units, watch for mold on cellulosic evap cooling pads, clean and descale barn evap pads, ensure no compost mold exists, and dump all cull eggs daily.

Re-Think Disinfectants for *Asper*

Now is the time to re-think the type of disinfectants you are using to combat *Asper*. I encourage you to explore sporicidal and oxidation-type chemistries. In addition, be sure you calculate the proper dilution rate required to kill spores... not vegetative hyphae. Incorporating these mold management tactics and revised chemistries will be key to having a successful poultry production today and beyond.



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Figure 1. Liquid Emulsifiable Concentrate (EC)



Figure 2. Smoke Generator (SG)