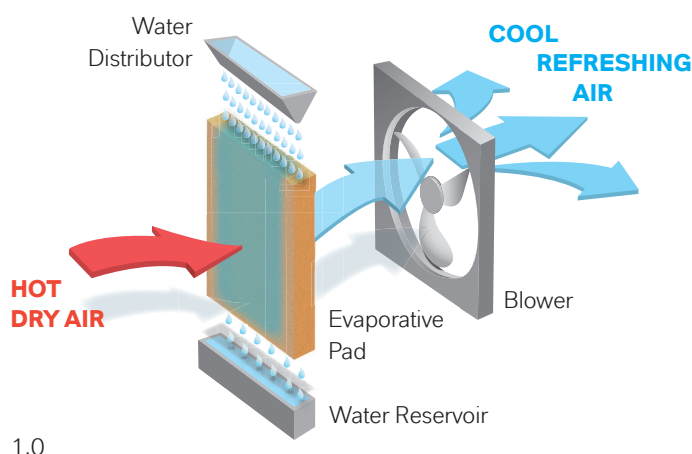


Evaporative Cooling

Introduction

Temperatures within animal housing can dramatically increase during periods of warm weather and will have a detrimental effect on the health of the livestock within. Therefore, evaporative cooling systems are used to reduce the indoor air temperature.

An evaporative cooling system works by pumping cold clean water from a reservoir tank to a feed pipe situated across the top of a corrugated cool cell pad. The water naturally flows slowly downward wetting the entire pad as a large fan, situated on the inside edge, draws air through it and into the building, see diagram 1.0. As the air passes through the core of the system, it is naturally cooled by the continuous flow of cold water over the cells, thereby reducing the ambient temperature within the livestock housing.



Pathogen challenges & mineral deposits

The warm and wet conditions within the cool cell pads provide the ideal environment in which algae and bacteria can grow, increasing the potential for disease-causing organisms to be introduced.

Dust particles being drawn into the building can also be considered a possible source of infection as their surface has the potential to transport disease-causing organisms from one place to another, over long distances, as they travel through the air.

With water constantly passing over the cool cell pads, mineral and scale deposits can block the corrugated openings, restricting air flow and decreasing the efficiency of the cooling system. Therefore, as a result, the fans need to work harder to achieve the same amount of air flow into the building, which in turn will increase energy costs and required maintenance for the cooling system.

- Reduces scale build-up & mineral deposits

- Compatible with cool cell pad materials

Proven reduction in hard water scale build-up

By its nature, the oxidative chemistry of Virkon™ S combined with the high level of sequestrant within its formulation helps to keep minerals in solution, thus mitigating the build-up of scale deposits on the cool cell pads.

Proven materials compatibility

Virkon™ S does not have any detrimental effect on the integrity of the materials used in the construction of cool cell pads, especially the adhesive.

In a practical use study carried out, sections of cool cell pads (approximately 8" x 3" x 3") were immersed in a 2% Virkon™ S solution for three weeks, the recommended application rate of Virkon™ S solution for continuous cool cell pad disinfection is 0.5% (once the pads have been cleaned).

The pads were visually inspected over the course of the study and, as can be seen in the images, no degradation of the construction materials was observed. The adhesive and structural integrity of the cool cell pads remained intact.

How to apply Virkon™ S

At the start of the warm weather season, use an acidic heavy-duty cleaner such as Biosolve™ AquaMax™ XL to clean and remove mineral deposits from evaporative coolers prior to disinfection with Virkon™ S. (Virkon™ S is not approved for use in evaporative cooling systems in California).

Prepare a 1% Virkon™ S solution (1:100 dilution rate) to disinfect evaporative coolers by adding 1.3oz of the concentrate per gallon of water for the total volume of the reservoir/sump.



Treat existing algae and slime contaminated surfaces with a 1:100 dilution of Virkon™ S. Treat cooler water every week with a dilution of 1:200 or 0.65 oz. of Virkon™ S for every gallon of cooler water.

Make Virkon™ S your one step disinfectant for cleaning and disinfecting your evaporative coolers, and decrease your energy costs and improve maintenance of your cooling system.

As with any product, use of the products mentioned in this publication in a given application must be tested (including field testing, etc.) by the user in advance to determine suitability.

Health and Safety Information: Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS products mentioned in this publication. For materials mentioned which are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. Consult your LANXESS Corporation representative or contact the Product Safety and Regulatory Affairs Department at LANXESS.

LANXESS
Energizing Chemistry

LANXESS Corporation
19 Campus Blvd. Suite 100
Newtown Square, PA 19073

biosecurity@lanxess.com
<http://virkon.us/>
lanxess.com

LANXESS Corporation

111 RIDC Park West Drive • Pittsburgh, PA 15275 • Phone: 1-800-LANXESS • www.US.LANXESS.com

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

Note: The information contained in this publication is current as of March, 2018. Please contact LANXESS Corporation to determine if this publication has been revised.

©2018 LANXESS. Virkon™ and any associated logos are trademarks or copyrights of LANXESS Corporation. LANXESS™ and the LANXESS Logo are trademarks of LANXESS Deutschland GmbH. All trademarks are registered in many countries worldwide.