

Ask A Vet: Disinfecting Your Barn

Sunday, July 12, 2015

Dear Dr. Weldy's,

My children are just finishing up with their 4-H livestock projects and I want to use a good disinfectant for my barn. What would you recommend?

-Clean Freak

Dear Reader,

Thank you for this question because there are a lot of misconceptions out there about proper cleaning and what is adequate. It is also a very sad and anticlimactic time to put away all the show equipment, clean the barn and reflect on the past show season at the same time anticipate the next year. If you go to state fair as well, it also means the summer is about gone.

There is a certain amount of build-up in barns whether at a show or in your own barn. Because of this, it is vital for biosecurity that proper cleaning and disinfecting be done. Without insulting anyone's intelligence and so we are on the same page, we should first look at some terms and what they mean. Disinfectants are chemical agents that are put on non-living objects to inactivate or destroy microorganisms. Please note some viral spores or viruses are resistant to some of these. Sanitizers are chemical agents used to lessen fungal and viral loads without actually killing the microorganism when put on non-living or inanimate things. Detergents are chemical substances that contain cleansers and solvents. When added to water detergents will decrease the surface tension allowing water to penetrate easier thus removing more dirt from surfaces.

Anything left behind in a barn such as dirt, dust; old manure or organic matter like saw dust, etc. are all great environments to protect microorganisms from disinfectants. It is difficult for disinfectants to penetrate these surfaces and may be inactivated by organic material. Nothing beats a shovel and brush followed by high pressure water and detergents to remove dirt and manure that likes being stuck on surfaces. The Animal and Plant Health Inspection Service (APHIS) have great guidelines they recommend for cleaning barns. Bottom line is "you cannot disinfect dirt". Stage one is to "dry clean" meaning remove the organic material off all surfaces and remove equipment to get properly cleaned. Stage two is "wet clean" using water, disinfectants and soaps that will work together. High pressure or steam cleaning is recommended at temperatures of 200 degrees Fahrenheit. Obviously avoid electrical outlets.

Selecting your disinfectant is very important. Contact time and temperatures will greatly influence the effectiveness of what you choose. Hard water may neutralize some disinfectants as well as outdated ones. Types of disinfectants are saponated solution of cresol (contains soap) working best in hot solutions acceptable on vehicles as well; synthetic phenols (has odor issues) and wide range of antimicrobial activity; iodines/iodophores (2 or 7%) may stain but has residual qualities; chlorine compounds have fast action against microorganisms but sunlight and organic material reduces effectiveness; and quaternary ammonium compounds (QAC) used a lot in meat-packing and food-handling industry on equipment not as effective on some viruses or fungi. Newer compounds like Virkon SR or Oxy-Sept333R are at top of list to use. Bottom line is to follow all labeled instructions and you can maintain biosecurity on your farm with confidence.

-Dr. Wanda Schmeltz

