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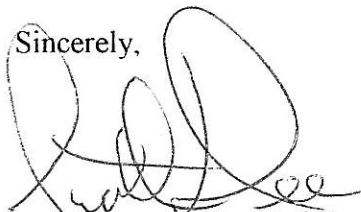
Dear Mr. Richard,

Enclosed find my final report regarding the trial I conducted at the University of Minnesota Swine Disease Eradication Center research farm on the efficacy of Wescodyne Plus against PRRSV-contaminated surfaces and transport vehicles.

In my opinion, when used properly, Wescodyne Plus is a highly efficacious disinfectant against PRRSV-contaminated surfaces and trailers. I encountered no negative effects of the product during handling or following exposure to the skin. I would highly support its use to disinfect PRRSV-contaminated fomites and premises found on swine farms. To insure the proper effect, it is important (as in all cases of disinfectant use) that users pay close attention to concentration, temperature and contact time.

I thank you for the opportunity to work with your company.

Sincerely,



Scott Dee DVM MS PhD Dipl; ACVM
Associate Professor

PRRSV: Wescodyne Plus summary

Objective 1: Surface testing

The goal of this experiment was to compare the efficacy of 2 different concentrations of Wescodyne Plus against PRRSV across a variety of farm-related surfaces and temperatures.

Variables

Surfaces: pieces of wood, plastic, concrete and metal

Temperatures: -20⁰C, 10⁰C, 20⁰C and 30⁰C

Concentrations: 75 ppm and 150 ppm

Procedure

1. Various surfaces were inoculated with 5×10^5 TCID₅₀ PRRSV isolate MN-30100
2. Surfaces were stored at designated temperatures.
3. Wescodyne Plus was applied using low pressure foamer.¹
4. Swabs were collected at 0, 30, 60, and 120 minutes post-treatment.
5. Swabs were frozen at -20⁰ C immediately post-collection.
6. Swabs were tested for the presence of PRRSV RNA by PCR.

¹: At -20⁰C, all disinfectants were diluted in 40% methanol instead of water to control freezing. Dilution rates remained the same.

Controls

Synergize control (1:128 dilution)

Virus control (stock virus, no disinfectant applied)

Negative control (virus-free cell culture fluid)

Conclusions

Effect of temperature: Wescodyne Plus performed best between at -20⁰C to 20⁰C.

Effect of concentration: The efficacy of the product against PRRSV is enhanced at the higher (150 ppm) concentration versus the lower concentration (75 ppm).

Effect of surface: Wescodyne Plus was effective across all surfaces between -20⁰C to 20⁰C.

Effect of time: Wescodyne Plus was most effective following a minimum contact period of 120 minutes.

Summary: At a 150 ppm concentration and with a 120 minute contact time, the efficacy of Wescodyne Plus was equal to that of Synergize at temperatures ranging from -20⁰ C to 20⁰ C across all surfaces.

Objective 2: Trailer testing

The purpose of this experiment was to assess the efficacy of 2 different concentrations of Wescodyne Plus in PRRSV-contaminated scale model trailers.

Variables

Time: 0, 30, 60 and 120 minutes post-inoculation

Temperature: 10⁰C and 20⁰C

Concentration: 75 ppm and 150 ppm

Procedure

1. Trailer models were inoculated with 5×10^5 TCID₅₀ PRRSV isolate MN-30100
2. Trailers were housed at 10⁰C or 20⁰C.
3. Trailers were washed using cold (20⁰C) water for 72 seconds
4. Wescodyne Plus was applied using low pressure foamer.
5. Swabs were collected at 0, 30, 60 and 120 minutes post-treatment.
6. Swabs were frozen at -20⁰ C immediately post-collection.
7. Swabs were tested for the presence of PRRSV RNA by PCR.
8. A total of 10 replicates were conducted.

Controls

Synergize control (1:128 dilution)

Virus control (stock virus, no disinfectant applied)

Negative control (virus-free cell culture fluid)

Drying control (PRRSV-positive trailers allowed to dry for 8 hours)

Summary

At a 150 ppm concentration and with a 120 minute contact time, the efficacy of Wescodyne Plus against PRRSV in model trailers was equal to that of Synergize when trailers were housed at 10⁰C.

At a 150 ppm concentration and with a 60 minute contact time, the efficacy of Wescodyne Plus against PRRSV in model trailers was equal to that of Synergize when trailers were housed at 20⁰C.