Survival time of PED virus in different media

Media	Conditions	Duration (time)	Comments (objective of the study)
Virus on a metal surface in the presence of faeces[6]	71°C (160°F)	Inactivated in 10 minutes	To determine a combination of temperature and application time to inactivate the virus on a metal surface in the presence of feces.
	20°C (68°F)	Inactivated in 7 days	
Viruses in fresh faeces (spiked)	40°C (104°F) and 30% RH 40°C (104°F) and 50% RH 40°C (104°F) and 70% RH	3 days[2] / 7 days[1,8] 1 day[2] / 7 days[1.8] / 14 days[8] 7 days[1,2,8]	To determine the stability of the virus in different media under different temperatures and relative humidity levels. Note: The virus survives at least the number of days indicated.
	50°C (122°F) and 30% RH 50°C (122°F) and 50% RH 50°C (122°F) and 70% RH	1 day[2] / 3 days[8] / 7 days[1.8] 3 days[2] / 7 days[1,8] 7 days[1,2,8]	
	60°C (140°F) and 30% RH 60°C (140°F) and 50% RH 60°C (140°F) and 70% RH	3 days[8] / 7 days[1,2] 3 days[2,8] / 7 days[1] 7 days[1,2,8]	
Virus in the slurry pit (spiked)	-20°C (68°F) and 30% RH -20°C (68°F) and 50% RH -20°C (68°F) and 70% RH	> 28 days[1,2,8] N/A[1,2,8] N/A[1,2,8]	To determine the stability of the virus in different media under different temperatures and relative humidity levels. Note: The virus survives at least the number of days indicated.
	4°C (39°F) and 30% RH 4°C (39°F) and 50% RH 4°C (39°F) and 70% RH	> 28 days[1,2,8,10] > 28 days[1,2,8,10] > 28 days[1,2,8,10]	
	25°C (77°F) and 30% RH 25°C (77°F) and 50% RH 25°C (77°F) and 70% RH	14 days[1,2] / >28 days[8] 14 days[1,2] / >28 days[8] 7 days[2] / 14 days[1]/ >28 days[8]	
Samples of slurry in a pit from virus-positive pig faeces	Viral load measured by viral replication in an infected pit	> 9 months[11] The infectivity of the virus varies according to the depth of the pit (top < middle and bottom) and environmental conditions.	To assess the survival of the virus over a long period of time in slurry pits.

Media	Conditions	Duration (time)	Comments (objective of the study)
Bioassay on piglets infected with manure from virus-positive pigs	13/15 positive PCR farms and bioassay on 13 21-day-old piglets infected with slurry 14/15 positive PCR farms and 14 21-day-old piglets infected with slurry	4 months post-infection: 2 positive piglets[7] 6 months post-infection: 0 positive piglet[7]	To assess the validity of PCR to confirm the survival of the virus in slurry pits over a long period of time.
	PCR on slurry from infected pigs removed from the farm 7 days post-infection 5-day-old piglets infected with slurry	< 161 days[14] 82 days (2.7 months): positive[14] 107 days (3.5 months): negative	
Virus in a dry feed	24°C (75°F)	> 1-week survival[1,2,8,10] Absence after 2 weeks[1,8]	To determine the stability of the virus in different media.
Virus in a wet feed	25°C (77°F)	> 14-day survival[10]	
Virus in a wet feed mixture	24°C (75°F)	Survival > 28 days[1,10] Survival > 4 weeks[2]	
Virus in a feed subjected to a higher temperature (spiked)	120°C (248°F) 130°C (266°F) 140°C (284°F) 145°C (293°F)	Inactivated in 20-25 minutes[2] Inactivated in 10-15 minutes[2] Inactivated in 10-15 minutes[2]/15 minutes[3] Inactivated in 5-10 minutes[2]/10-15 minutes[3]	Intervention to control the virus in feed and feed ingredients.[2] To evaluate strategies and processes to control the virus in feed and feed ingredients.[3]
Virus in a spiked feed[3]	60°C (140°F) and 30% RH 70°C (158°F) and 30% RH 80°C (176°F) and 30% RH 90°C (194°F) and 30% RH 90°C (194°F) and 70% RH	Inactivated in 15 minutes Inactivated in 15 minutes Inactivated in 15 minutes Inactivated in 10 minutes Inactivated in 10 to 30 minutes	To determine the survival of the virus at different temperature and relative humidity level s in animal feed.
Virus in an irradiated feed[3] (spiked)	10 kGy 20 kGy 30 kGy 50 kGy	90% inactivated virus 95% inactivated virus 98% inactivated virus 99.97% inactivated virus	To evaluate strategies and processes to control the virus in feed and feed ingredients.

Media	Conditions	Duration (time)	Comments (objective of the study)
Virus in a feed with the addition of acidifying/drying agents (spiked)	Sugar, salt	> 99% inactivated virus in 21 days[3]	
Virus in plasma (spiked)	90°C (194°F) and 30% RH	Inactivated in 15 minutes[3,9]	To determine the survival of the virus at different temperature[3,9] and relative humidity level s in animal feed[9].
Virus in swine feed ingredients (Spiked)[12]	Soybean meal Complete feed Distillers' grains Choline <u>Synthetic amino acids</u> Lysine HCL D/L methionine Threonine White Fat Bone and meat meal Red blood cells Limestone	> 180 days > 45 days > 30 days > 30 days > 30 days > 30 days > 14 days > 30 days > 30 days > 30 days > 7 days	To assess the survival of the virus in individual ingredients (18) of commercial swine feeds. Note: The virus survives at least the number of days indicated.
Virus in plasma (Spiked)	90°C (194°F) and 30% RH	Inactivated in 15 minutes[3,9]	To determine the survival of the virus at different temperature[3,9] and relative humidity levels in animal feed[9].
Virus in drinking water	25°C (77°F)	Survival > 1 week[1,8] Survival > 2 weeks[2] Absence after 2 weeks[8]	To determine the stability of the virus in different settings.
Virus in recycled water	25°C (77°F)	Survival > 1 week[1,2] Survival > 2 weeks[8] Absence after 3 weeks[8]	
Inactivated virus in the presence of liquid lime after 10 minutes[4]	0.1% 0.5%	99.95% 99.98%	To assess the inactivity of the virus under different lime state, concentration and contact time.

Media	Conditions	Duration (time)	Comments (objective of the study)
Inactivated virus in the presence of powdered lime after 20 minutes[4]	1 mg 5 mg	99.90% 99.99% of the virus inactivated	
Virus inactivated in 60 minutes subjected to different pH values[4]	pH 3.0 pH 9.5 pH 10.0	65.87% 73.96% 97.71%	To assess virus inactivity at different pH values.
Virus in cell culture[5]	≥ 60°C (140°F) Ether or chloroform	Inactivated in 30 minutes Inactivated in 5 minutes	To determine the biological and biophysical properties of the virus in cell culture (Vero cells).
	50°C (122°F)	Stable > 30 minutes	
	Freeze/thaw (10 times) Ultrasonication (3 minutes)	Stable Stable	
	4°C (39°F) at pH 5.0 to 9.0 37°C (99°F) at pH 6.5 and 7.5	Stable Stable	
Virus on styrofoam, nitrile gloves, cardboard, aluminum, Tyvek® coveralls, clothing, metal, rubber and plastic	25°C (77°F)	1 day[13]	To assess the inactivity of the virus on different materials.[13]
Virus on styrofoam, aluminum, Tyvek® coveralls, clothing and plastic	4°C (39°F)	15 days[13]	
Virus on styrofoam, metal and plastic	4°C (39°F)	< 20 days[13]	Assess the inactivity of the virus on different materials using a more sensitive method.[13]

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