Factors That Interfere in the Action of Sanitizers against Ochratoxigenic Fungi Deteriorating Dry-Cured Meat Products

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As supplementary material, Tables S1–S3 detail the statistical results of the tested variables.

Table S1. *Aspergillus westerdijkiae* colonies recovered after exposure to different concentrations of sanitizing agents at different temperatures and concentrations of organic matter.

Aspergillus westerdijkiae (Initial Count = 5.49 CFU/mL)							
		Organic Matter 0.3%			Organic Matter 3.0%		
Sanitizer	**Conditions**	**10 °C**	**25 °C**	**40 °C**	**10 °C**	**25 °C**	**40 °C**
Sodium hypochlorite (0.50%)	SH.0.50% 10′	4.45 ^{A}	4.12 ^{ABCDEF}	3.76 ^{BCDEFGH}	4.69 ^{A}	4.69 ^{AB}	4.58 ^{ABCD}
	SH.0.50% 15′	4.36 ^{ABCDE}	3.91 ^{ABCDEFG}	3.53 ^{FGHIJK}	4.68 ^{AB}	4.63 ^{ABC}	4.44 ^{ABCD}
	SH.0.50% 20′	3.57 ^{FGHIJK}	3.53 ^{FGHIJK}	3.32 ^{GHIJK}	4.57 ^{ABCD}	4.26 ^{ABCDEFG}	3.54 ^{MNOPQR}
Sodium hypochlorite (0.75%)	SH.0.75% 10′	4.32 ^{ABC}	3.40 ^{GHIJK}	3.28 ^{GHIJK}	4.66 ^{ABC}	4.28 ^{ABCDEF}	4.34 ^{ABCDEF}
	SH.0.75% 15′	3.65 ^{EFGHIJK}	3.36 ^{GHIJK}	3.27 ^{GHIJK}	4.44 ^{ABCD}	4.24 ^{ABCDEFGH}	4.21 ^{CDEFGHIJ}
	SH.0.75% 20′	3.45 ^{GHIJK}	3.31 ^{GHIJK}	3.15 ^{IJKL}	4.50 ^{ABCD}	4.15 ^{DEFGHIJKL}	4.17 ^{DEFHIJK}
Sodium hypochlorite (1.00%)	SH.1% 10′	4.20 ^{ABCDE}	3.51 ^{FGHIJK}	3.71 ^{CDEFGHIJ}	4.60 ^{ABCD}	4.43 ^{ABCD}	4.40 ^{ABCDE}
	SH.1% 15′	3.76 ^{BCDEFGHI}	3.32 ^{GHIJK}	**2.43** ^{N}	4.50 ^{ABCD}	4.29 ^{ABCDEF}	4.23 ^{BCDEFHI}
	SH.1% 20′	3.50 ^{GHIJK}	3.18 ^{HIJKL}	**2.41** ^{N}	4.41 ^{ABCDE}	4.27 ^{ABCDEFG}	3.74 ^{KLMNO}
Benzalkonium chloride (0.30%)	BC.030% 10′	4.23 ^{ABCDE}	4.27 ^{ABCD}	4.35 ^{AB}	4.35 ^{ABCDEF}	4.59 ^{ABCD}	4.68 ^{AB}
	BC.0.30% 15′	3.56 ^{FGHIJK}	3.75 ^{BCDEFGHI}	4.29 ^{ABCD}	4.27 ^{ABCDEFG}	4.52 ^{ABCD}	4.67 ^{ABC}
	BC.0.30% 20′	3.51 ^{FGHIJK}	3.70 ^{DEFGHIJK}	3.77 ^{BCDEFGH}	3.82 ^{GHIJKLMN}	4.41 ^{ABCDE}	4.59 ^{ABCD}
Benzalkonium chloride (1.20%)	BC.1.2% 10′	2.50 ^{MN}	2.59 ^{LMN}	3.11 ^{JKL}	3.75 ^{JKLMNO}	3.96 ^{EFGHIJKLM}	4.46 ^{ABCD}
	BC.1.2% 15′	**2.40** ^{N}	**2.45** ^{N}	2.63 ^{LMN}	3.77 ^{IJKLMN}	3.81 ^{GHIJKLMN}	4.35 ^{ABCDEF}
	BC.1.2% 20′	**1.38** ^{O}	**1.69** ^{O}	**2.41** ^{N}	3.70 ^{LMNOP}	3.79 ^{HIJKLMN}	3.94 ^{FGHIJKLM}
Benzalkonium chloride (2.00%)	BC.2% 10′	**N**	**N**	3.09 ^{KLM}	3.45 ^{NOPQR}	3.23 ^{QR}	3.20 ^{QR}
	BC.2% 15′	**N**	**N**	**N**	3.45 ^{NOPQR}	3.15 ^{R}	3.15 ^{R}
	BC.2% 20′	**N**	**N**	**N**	**2.13** ^{S}	**2.24** ^{S}	**N**
Peracetic acid (0.30%)	PA.0.30% 10′	**N**	**N**	**N**	4.41 ^{ABCDE}	3.64 ^{MNOPQ}	**2.24** ^{S}
	PA.0.30% 15′	**N**	**N**	**N**	3.31 ^{OPQR}	**2.33** ^{S}	**2.13** ^{S}
	PA.0.30% 20′	**N**	**N**	**N**	3.24 ^{PQR}	**2.30** ^{S}	**N** ^{T}
Peracetic acid (0.60%)	PA.0.60% 10′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.0.60% 15′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.0.60% 20′	**N**	**N**	**N**	**N**	**N**	**N**
Peracetic acid (1.00%)	PA.1% 10′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.1% 15′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.1% 20′	**N**	**N**	**N**	**N**	**N**	**N**

Averages within the same column followed by the same letters did not show any significant difference (P > 0.05) by Tukey's test. Legend: ' = minutes, "**N**" = colonies not detected, bold = effective (inactivation > 3 log CFU), SH = sodium hypochlorite, BC = benzalkonium chloride, PA = peracetic acid.

Table S2. Colonies of *Penicillium verrucosum* recovered after exposure to different concentrations of sanitizing agents at different temperatures and concentrations of organic matter.

***Penicillium verrucosum* (Initial Count = 5.29 log CFU/g)**							
		Organic Matter 0.3%			**Organic Matter 3.0%**		
Sanitizer	**Conditions**	**10 °C**	**25 °C**	**40 °C**	**10 °C**	**25 °C**	**40 °C**
Sodium hypochlorite (0.50%)	SH.0.50% 10′	5.05 ^{A}	4.86 ^{A}	4.43 ^{ABCDE}	5.28 ^{A}	5.20 ^{AB}	5.06 ^{ABC}
	SH.0.50% 15′	4.96 ^{A}	4.84 ^{AB}	4.41 ^{ABCDE}	5.16 ^{AB}	5.13 ^{AB}	5.06 ^{ABC}
	SH.0.50% 20′	4.97 ^{A}	4.65 ^{ABC}	3.94 ^{CDEFG}	5.08 ^{AB}	5.03 ^{ABCDE}	5.01 ^{ABCDE}
Sodium hypochlorite (0.75%)	SH.0.75% 10′	4.61 ^{ABCD}	4.41 ^{ABCDE}	3.79 ^{DEFGH}	5.24 ^{AB}	4.93 ^{ABCDEF}	4.87 ^{ABCDEFG}
	SH.0.75% 15′	4.41 ^{ABCDE}	3.99 ^{CDEFG}	3.64 ^{EFGHI}	5.05 ^{ABCD}	4.77 ^{ABCDEFGH}	4.77 ^{ABCDEFGH}
	SH.0.75% 20′	3.69 ^{EFGH}	3.55 ^{FGHI}	3.38 ^{FGHIJ}	4.95 ^{ABCDEF}	4.61 ^{BCDEFGH}	3.88 ^{IJKLMN}
Sodium hypochlorite (1.0%)	SH.1% 10′	4.01 ^{BCDEF}	3.54 ^{FGHI}	3.43 ^{FGHIJ}	4.67 ^{ABCDEFGH}	4.34 ^{FGHIJ}	4.28 ^{GHIJ}
	SH.1% 15′	3.87 ^{CDEFG}	3.84 ^{CDEFGH}	3.32 ^{FGHIJK}	4.44 ^{CDEFGHI}	4.24 ^{GHIJ}	4.21 ^{HIJK}
	SH.1% 20′	3.15 ^{GHIJKL}	2.81 ^{IJKLM}	2.48 ^{KLM}	4.41 ^{EFGHI}	4.15 ^{HIJKL}	3.74 ^{JKLMNO}
Benzalkonium chloride (0.30%)	BC.0.30% 10′	2.38 ^{LM}	2.64 ^{JKLM}	2.99 ^{HIJKL}	3.14 ^{OPQR}	3.56 ^{LMNOP}	4.41 ^{DEFGHI}
	BC.0.30% 15′	**N**	**2.09** ^{M}	2.47 ^{LM}	2.95 ^{PQRS}	3.32 ^{NOPQ}	3.59 ^{KLMNO}
	BC.0.30% 20′	**N**	**N**	**0.99** ^{NO}	2.80 ^{QRS}	3.38 ^{MNOPQ}	3.97 ^{IJKLM}
Benzalkonium chloride (1.2%)	BC.1.2% 10′	**N**	**N**	2.66 ^{JKLM}	**N**	**1.66** ^{T}	3.93 ^{IJKLMN}
	BC.1.2% 15′	**N**	**N**	**1.18** ^{N}	**N**	**0.89** ^{U}	**1.80** ^{T}
	BC.1.2% 20′	**N**	**N**	**N**	**N**	**N**	**1.74** ^{T}
Benzalkonium chloride (2.00%)	BC.2% 10′	**N**	**N**	2.44 ^{LM}	**N**	**1.64** ^{T}	2.44 ^{S}
	BC.2% 15′	**N**	**N**	**N**	**N**	**N**	**N**
	BC.2% 20′	**N**	**N**	**N**	**N**	**N**	**N**
Peracetic acid (0.30%)	PA.0.30% 10′	**0.75** ^{NOP}	**0.39** ^{NOP}	**0.30** ^{OP}	4.20 ^{HIJK}	2.94 ^{PQRS}	2.94 ^{PQRS}
	PA.0.30% 15′	**0.50** ^{NOP}	**0.30** ^{OP}	**N**	3.83 ^{IJKLMN}	2.63 ^{RS}	2.54 ^{RS}
	PA.0.30% 20′	**0.39** ^{NOP}	**N**	**N**	**1.72** ^{T}	**N**	**N**
Peracetic acid (0.60%)	PA.0.60% 10′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.0.60% 15′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.0.60% 20′	**N**	**N**	**N**	**N**	**N**	**N**
Peracetic acid (1.00%)	PA.1% 10′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.1% 15′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.1% 20′	**N**	**N**	**N**	**N**	**N**	**N**

Averages within the same column followed by the same letters did not show any significant difference (P > 0.05) by Tukey's test. Legend: ' = minutes, "**N**" = colonies not detected, bold = effective (inactivation > 3 log CFU), SH = sodium hypochlorite, BC = benzalkonium chloride, PA = peracetic acid.

Table S3. Recovered colonies of *Penicillium nordicum* after exposure to different concentrations of sanitizing agents at different temperatures and concentrations of organic matter.

***Penicillium nordicum* (Initial Count = 4.67 log)**							
		Organic Matter 0.3%			**Organic Matter 3.0%**		
Sanitizer	**Conditions**	**10 °C**	**25 °C**	**40 °C**	**10 °C**	**25 °C**	**40 °C**
Sodium hypochlorite (0.50%)	SH.0.50% 10′	3.82 ^{A}	3.59 ^{AB}	3.54 ^{AB}	4.18 ^{A}	3.99 ^{ABC}	3.91 ^{ABCD}
	SH.0.50% 15′	3.53 ^{AB}	3.39 ^{ABCD}	3.34 ^{ABCDE}	4.13 ^{A}	3.82 ^{ABCDE}	3.72 ^{ABCDEF}
	SH.0.50% 20′	3.41 ^{ABC}	3.15 ^{BCDEF}	2.87 ^{CDEFG}	3.99 ^{ABC}	3.70 ^{ABCDEF}	3.69 ^{ABCDEFG}

Sodium hypochlorite (0.75%)	SH.0.75% 10′	2.82 DEFGH	2.79 EFGH	2.71 FGHI	4.06 AB	4.00 ABC	3.88 ABCDE
	SH.0.75% 15′	2.77 EFGH	2.69 FGHI	2.68 FGHIJ	4.04 AB	3.90 ABCD	3.36 BCDEFGHIJ
	SH.0.75% 20′	2.71 FGHI	2.68 FGHIJ	2.64 FGHIJK	3.75 ABCDEF	3.66 ABCDEFG	2.88 HIJKLM
Sodium hypochlorite (1.00%)	SH.1% 10′	2.51 GHIJKL	2.24 HIJKLMN	2.19 IJKLMN	3.56 ABCDEFGH	3.15 EFGHIJKL	3.14 EFGHIJKL
	SH.1% 15′	2.34 GHIJKLM	2.10 KLMN	1.82 MNOP	2.95 GHIJKL	2.80 IJKLMN	2.44 LMNOPQ
	SH.1% 20′	2.16 IJKLMN	**1.47** OPQ	**1.28** PQ	2.77 JKLMNO	2.73 JKLMNO	2.15 MNOPQR
Benzalkonium chloride (0.30%)	BC.0.30% 10′	1.72 NOPQ	1.98 LMNNO	2.33 GHIJKLM	2.77 JKLMNO	3.16 DEFGHIJKL	3.53 ABCDEFGHI
	BC.0.30% 15′	1.94 LMNO	2.11 JKLMN	2.17 IJKLMN	2.83 HIJKLMN	2.84 HIJKLMN	2.90 HIJKL
	BC.0.30% 20′	**N**	**N**	**1.15Q**	2.53 KLMNOP	2.60 KLMNOP	2.68 JKLMNO
Benzalkonium chloride (1.20%)	BC.1.2% 10′	**N**	**N**	**N**	3.06 FGHIJKL	3.15 EFGHIJKL	3.36 BCDEFHIJ
	BC.1.2% 15′	**N**	**N**	**N**	2.82 HIJKLMN	3.14 EFGHIJKL	3.27 CDEFGHIJK
	BC.1.2% 20′	**N**	**N**	**N**	2.15 MNOPQR	2.85 HIJM	3.23 DEFGHIJK
Benzalkonium chloride (2.00%)	BC.2% 10′	**N**	**N**	**N**	**1.64** RSTU	2.04 OPQRS	3.06 FGHIJKL
	BC.2% 15′	**N**	**N**	**N**	**1.33** STU	**1.62** RSTU	2.10 NOPQR
	BC.2% 20′	**N**	**N**	**N**	**0.92 U**	**1.20 TU**	**1.26 TU**
Peracetic acid (0.30%)	PA.0.30% 10′	**N**	**N**	**N**	2.46 LMNOPQ	1.75 QRST	**1.20 TU**
	PA.0.30% 15′	**N**	**N**	**N**	1.87 PQRST	**1.50 RSTU**	**1.16 TU**
	PA.0.30% 20′	**N**	**N**	**N**	1.74 QRST	**1.25 TU**	**1.13 TU**
Peracetic acid (0.60%)	PA.0.60% 10′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.0.60% 15′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.0.60% 20′	**N**	**N**	**N**	**N**	**N**	**N**
Peracetic acid (1.00%)	PA.1% 10′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.1% 15′	**N**	**N**	**N**	**N**	**N**	**N**
	PA.1% 20′	**N**	**N**	**N**	**N**	**N**	**N**

Averages within the same column followed by the same letters did not show any significant difference ($P > 0.05$) by Tukey's test . Legend: ′ = minutes, "**N**" = colonies not detected, bold = effective (inactivation > 3 log CFU), SH = sodium hypochlorite, BC = benzalkonium chloride, PA = peracetic acid.