

**Table S1.** Main features of predictive models for growth/no growth (G/NG) boundaries of *S. aureus* used in Study 1.

Reference	Modelling approach adopted	Independent variables [range of applicability]		Food matrix of application
		Intrinsic	Extrinsic	
Borneman et al. [25]	Logistic regression polynomial	pH [4.0 – 7.0] a <sub>w</sub> [0.68-0.98]	Temperature [21°C] Time [28 days]	Vacuum-packaged meat products (dry and semi-dry fermented sausages, jerky, etc.)
Polese et al.[14]	Gamma model <sup>a</sup>	pH [4.0 to 7.0] a <sub>w</sub> [0.88 to 0.99]	Temperature [0-30 °C]	Various
Sym'Previus portal [26]	Gamma model	-	-	-

<sup>a</sup>: preservatives such as organic acids are also included in the model structure, but they are not used in the present study.