



International Commission on
Microbiological Specifications for Foods

Workshop on:
**Microbiological Sampling and
Testing in Food Safety Management**



“Securing Global Food Safety”
Sohel Albert Park Hotel, Melbourne, Australia
September, 2011



the Australian Institute of
Food Science and Technology
Incorporated




International Commission on
Microbiological Specifications
for Foods (ICMSF)



International Association for
Food Protection

Role of microbiological criteria and value of sampling: Calculations 1

Marcel Zwietering
Martine Reij



WAGENINGEN UNIVERSITY
WAGENINGEN

Probability that all samples are negative

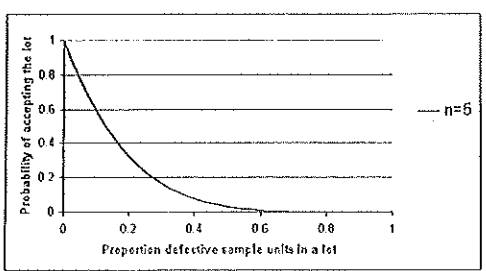
P defective	P 1 x negative (1- Pdef) =	P 2 x negative (1- Pdef) ² =	P 5 x negative (1- Pdef) ⁵ =
0.00	1.00	1.00	1.00
0.05	0.95	0.90	0.77
0.10	0.90	0.81	0.59
0.15	0.85	0.72	0.44
0.20	0.80	0.64	0.33
0.25	0.75	0.56	0.24
0.30	0.70	0.49	0.17

10.000 bars l

If 1% contaminated (=1000 bars l) and you take 60 samples
Probability to accept is still $0.99^{60}=0.55$

WAGENINGEN UNIVERSITY
WAGENINGEN

Probability of 5 negative results



WAGENINGEN UNIVERSITY
WAGENINGEN

