List of Appendixes- Manuscript I

A. Estimation of the storage time, storage temperature and portion size based on the INCA 3

Storage time before consumption of a portion of the food considered (ti) is reported categorically in INCA 3 with two different approaches for reporting the time of consumption: relative to the use-by-date or relative the time of purchase.

Considering as reference the use-by-date (UBD), the categories of the time of consumption of the last serving were provided as: ”before the use-by-date”, “on the use-by-date”,”1 to 3 days after the use-by-date”, “4 to 6 days after the use-by-date”, “7 to 15 days after the use by date”, “more than 15 days after the use-by-date”, ”Doesn´t look at the use-by-date”,” judges by the product´s appearance or odour”, and “never purchases”. It was assumed that individuals that do not regard as reference the UBD, could consume the food item at all times considered within the maximum range. All foods except cheese were reported with reference to the use-by-date.

The UBD approach we apply is based on Ricci et al, (2018) and utilizes the remaining shelf life given by the producer as reference. We estimated that it follows a truncated exponential distribution, with the rate being the inverse value of m (1/m) as reflected by Ricci et al 2018.

Ricci et al. (2018) used 10% of extra time beyond the UBD to account for the consumptions after the UBD, whereas we adjusted the time of consumption by adding a sampled value from a pert distribution with values as answered by the respondents, with minimum of 1 hour, maximum of maximum time of the answer and mode of 1, censored to < 30 days. Those individuals that answered qualitatively were assign the answer “more than 15 days after the use-by-date”.

Considering as reference the time of purchase by the consumer was only reported for soft and semi-soft cheese the categorical answers were “1 day after purchasing”,” 2 or 3 days after purchasing”,”4 to 7 days after purchasing”, “More than 7 days after purchasing”, “Doesn’t know”, “Judges by the product's appearance or odour”, and “Never purchases”.

After considering different distributions for transforming reported non-numerical storage values into numeric values, we decided to use a gamma distribution, since Gamma (k, t) distribution describes the waiting time for k events (shape) with mean waiting time (t) each, which resembles k portions from a purchase that are on average consumed after t hours (scale). This approach considered that the last consumption estimated is the one finishing the food item and that no food item could be consumed afterwards. We fitted a gamma distribution by maximum likelihood estimation considering the frequency of each storage being reported across the population and assuming that the rate of consumption is constant in the overall population. For the purpose of fitting, we only considered those individuals that reported consumptions based on the date of purchase. Individuals that did not reported a quantitatively storage time for soft and semi-soft cheese were assumed to have reported “More than 7 days after purchasing”.

We estimated that the best fitting is a shape of 2.56 with the scale of the gamma(t) being 63 for soft and semi-soft cheese. We decided to truncate the values from this defined gamma distribution, based on the responses from the INCA3 to the longest quantitative answer to < 30 days.

Temperature of storage has been monitored in the refrigerators of the individuals included in the study. Out of the variables provided in the INCA3 study, three measurements of the temperature were analyzed with the potential to be used as temperature values: minimum temperature, maximum temperature, and temperature at the time of at the time lecture. We decided to use temperature at the time of lecture as reference value for temperature for the individual as minimum and maximum could be potentially leading to a more extreme under or over estimation of the risk.

The mean portion size for each individual was the mean of all the consumptions reported within the length of the INCA3 study (3 x 24h recalls). Thus, individuals that did not report portion size, although they reported consumption of the food item in the food frequency questionnaire, are not accounted as consumers of that food as no portion size information data is reported.

B. Frequency of consumption

We estimated the frequency of consumption from the variables of INCA3:

- “PPM_poissgras_tot_freq_M” variable from INCA3 stands for the frequency of consumption of oily fish per month. We assumed that all fishes consumed either as cold/hot smoked or gravad fish are oily fish. We accounted that not oily fish consumption correspond to the species of our interest so we adjusted based on previous data with a ratio based on the CALYPSO data.(Leblanc et al., 2006)
- “VC_porc_freq_M” variable from INCA3 stands for the frequency of consumption of cooked pork, ham and sausage. We assumed that we could not distinguish in between the frequency of the different foods. Thus, we are assuming the individual is consuming the same frequency as reported without any transformation. We are aware that this may overestimate the frequency of consumptions for the individual food item.
- “VC_pate_foie_freq_M” variable from INCA3 stands for the frequency of consumption of liver pâte, mouse, foie gras, and VC_ pâte_autre_freq_M stands for the frequency of consumption of other pâtés, terrines, rillettes, etc. We assumed the addition of the frequency of both categories as representative if they do not add up over 365 days otherwise, we estimated 365days.
- “PL_fromage_tot_freq_M” variable from INCA3 stands for the frequency of consumption of soft and semi-soft cheese. We are aware that his frequency may overestimate the consumption of the cheeses that are accounted in the model; however, the variable does not distinguish in between types of cheeses. We assumed that the population consumes at the same ratio as the cheese types are being produced. Soft and semi-soft cheeses stand for 40% of the total cheese produced.

C. Exposure to L. monocytogenes

Table C1 shows that the individuals in each subgroup group were exposed to different doses of *L.monocytogenes* from each of the foods with contaminated servings only.

Table C1. Mean Exposure to L. monocytogenes through consumption of seven foods in two types of packaging in France, by subgroup (mean log10(CFU)/portion; results of 10,000 simulations)

	Soft and semi-soft cheese	Cold smoked fish		Hot smoked fish		Gravad fish		Pâte		Cold cut meat		Sausage	
Subgroup	Normal	ROP*	Normal**	ROP*	Normal**	ROP*	Normal**	ROP*	Normal**	ROP*	Normal**	ROP*	Normal**
1	0.62	1.08	1.08	1.33	1.24			0.72	0.75	1.03	1.07	1.16	1.18
2	0.78	1.1	1.08	1.35	1.24			0.93	0.96	1.02	1.05	1.35	1.37
3	0.67	1.24	1.24	1.49	1.41	1.57	1.77	1.08	1.2	1.18	1.21	1.06	1.1
4	0.72	1.41	1.37	1.66	1.53	1.75	1.92	0.99	1.05	1.14	1.17	1.23	1.26
5	0.65	1.38	1.38	1.63	1.54			0.97	1.08	1.19	1.22	1.48	1.52
6	0.8	1.78	1.79	2.03	1.95	1.53	1.62	1.08	1.17	1.39	1.43	1.4	1.45
7	0.77	1.47	1.43	1.72	1.59	1.55	1.74	1.26	1.43	1.34	1.37	1.41	1.44
8	0.86	1.6	1.53	1.84	1.68	2.19	2.18	1.29	1.48	1.39	1.42	1.41	1.46
9	0.82	1.42	1.42	1.67	1.59	1.83	1.93	1.27	1.47	1.31	1.34	1.58	1.63
10	0.85	1.56	1.53	1.81	1.69	1.6	1.78	1.24	1.35	1.33	1.36	1.35	1.39
11	0.73	1.41	1.38	1.65	1.55			1.29	1.48	1.34	1.37	1.53	1.58
12	0.81	2.37	2.2	2.62	2.34	1.04	1.03	1.43	1.63	1.28	1.32	1.96	2.04
13	0.74	1.45	1.45	1.71	1.62	1.64	1.7	1.29	1.47	1.28	1.31	1.42	1.45
14	0.8					2.19	1.94	1.53	1.71	1.19	1.22		

*ROP: reduced oxygen atmosphere packaging

**Normal packaging

*** Empty spaces mean that there is no consumption of the food item in the population group

Table C2 shows that the theoretical individuals in each sex were exposed to different doses of *L.monocytogenes* from each of the foods with contaminated servings only.

Table C2. Mean Exposure to L. monocytogenes through consumption of seven foods in two types of packaging in France, contaminated products only, by sex (mean log10(CFU)/portion; results of 10,000 simulations)

	Packaging	Male	Female
Soft and semi-soft cheese		0.787	0.721
Cold smoked fish	ROP*	1.617	1.405
	Normal**	1.549	1.376
Hot smoked fish	ROP*	1.802	1.590
	Normal**	1.755	1.586
Gravad fish	ROP*	1.728	1.700
	Normal**	1.796	1.810
Pâte	ROP*	1.200	1.189
	Normal**	1.331	1.351
Cold cut meat	ROP*	1.275	1.278
	Normal**	1.285	1.287
Sausage	ROP*	1.461	1.446
	Normal**	1.487	1.467

In the INCA3 study, a large proportion (64%) of the population only consumed one food item and less than 10% reported three or more food items. Within the 1,512 individuals reporting only 1 food item, 667 reported only cold cut meat (44%) and 617 reported only cheese (41%).

D. Exposure assessment results

The plots below show the exposure for each of the individuals that consumed that food in log^{10}CFU per portion, ordered from the lowest to the largest exposure. The plots have been generated through Monte Carlo simulations after 10.000 simulations. The more iterations with the highest exposure, reflects the differences in the storage and temperatures of the refrigerator.

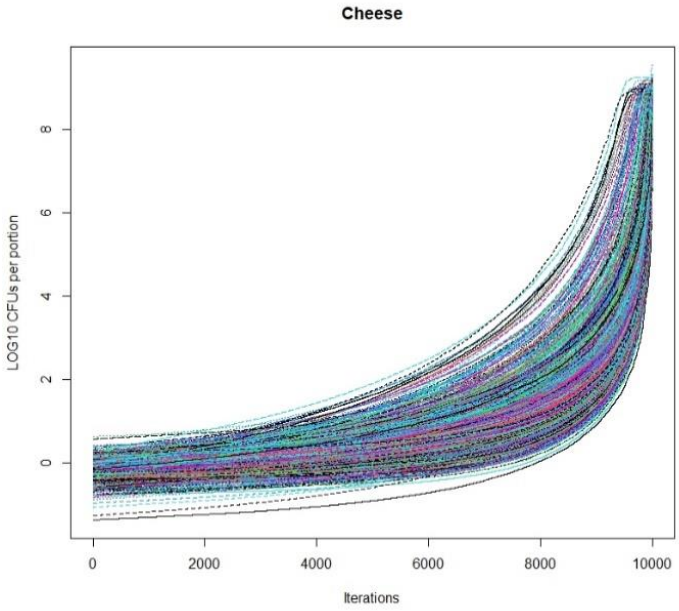


Figure D1-Exposure to Listeria monocytogenes from Cheese fish products in normal atmosphere in log10 CFU per portion.

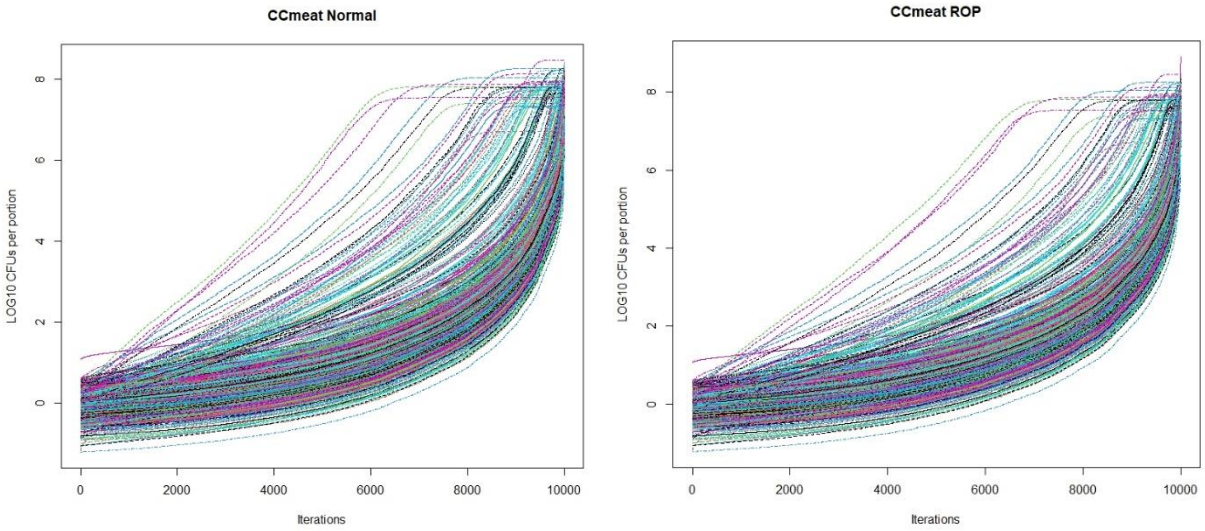


Figure D2-Exposure to Listeria monocytogenes from Cold cooked cut meat products in normal atmosphere (left) and exposure to Listeria monocytogenes from Cold cooked cut meat products in ROP (right) in log10 CFU per portion.

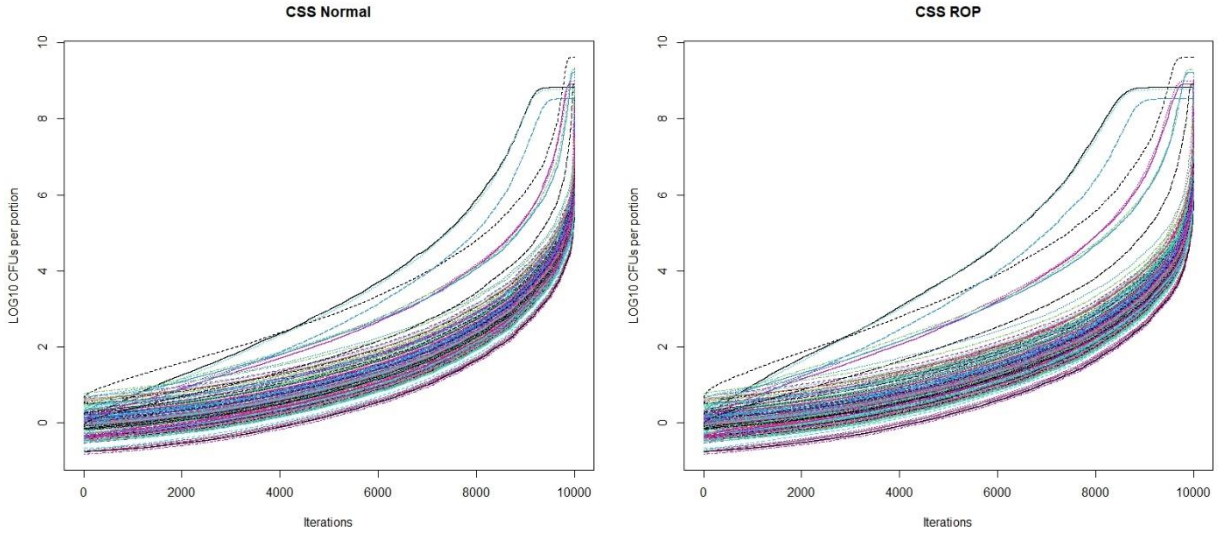


Figure D3-Exposure to Listeria monocytogenes from Cold smoked fish products in normal atmosphere (left) and exposure to Listeria monocytogenes from Cold smoked fish products in ROP (right) in log10 CFU per portion.

in ROP.

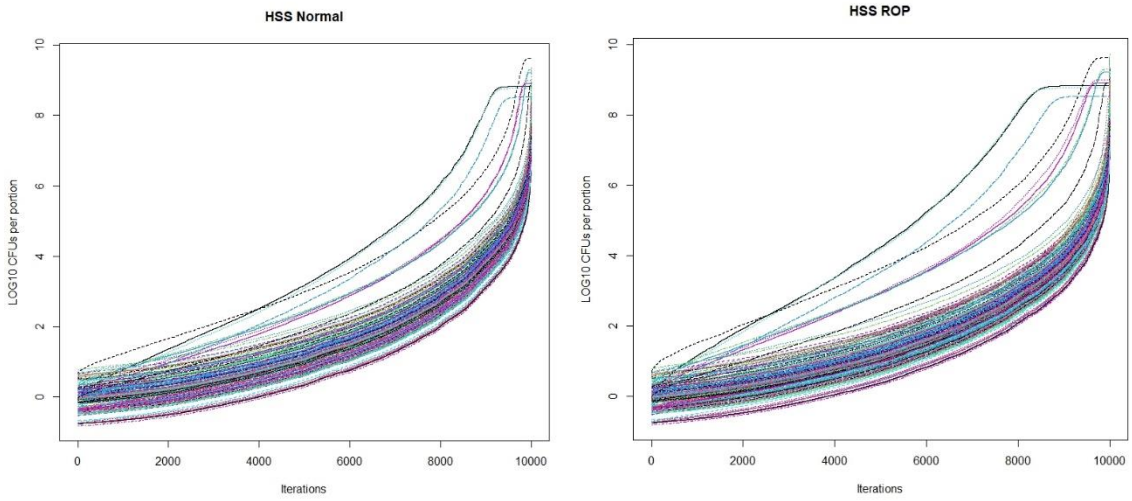


Figure D4-Exposure to Listeria monocytogenes from Hot smoked fish products in normal atmosphere (left) and exposure to Listeria monocytogenes from Hot smoked fish products in ROP (right) in log10 CFU per portion.

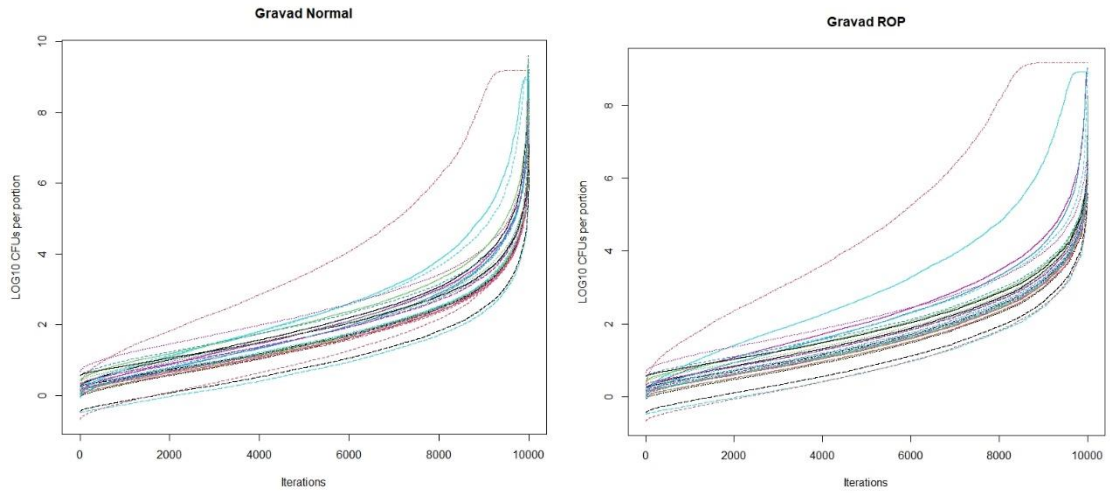


Figure D5-Exposure to Listeria monocytogenes from Gravad fish products in normal atmosphere (left) and exposure to Listeria monocytogenes from Gravad fish products in ROP (right) in log10 CFU per portion.

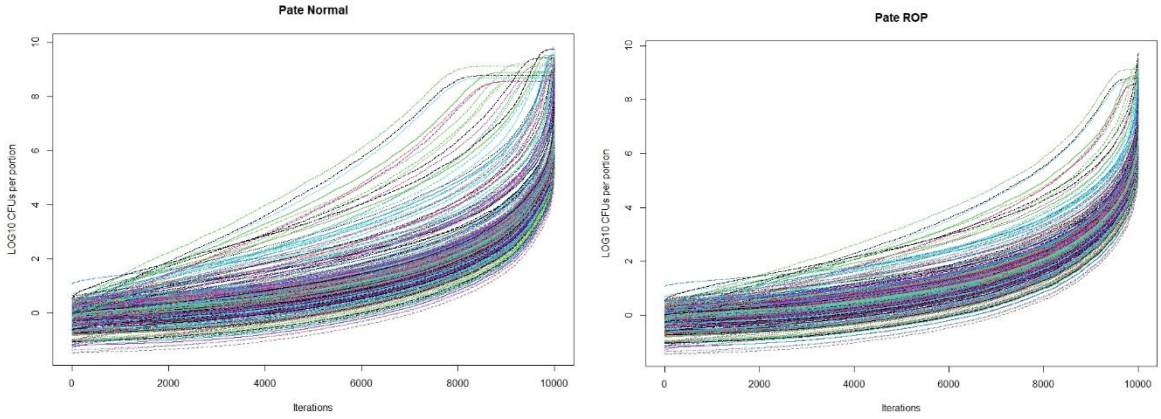


Figure D6-Exposure to Listeria monocytogenes from Pâte products in normal atmosphere (left) and exposure to Listeria monocytogenes from Pâte products in ROP (right) in log10 CFU per portion.

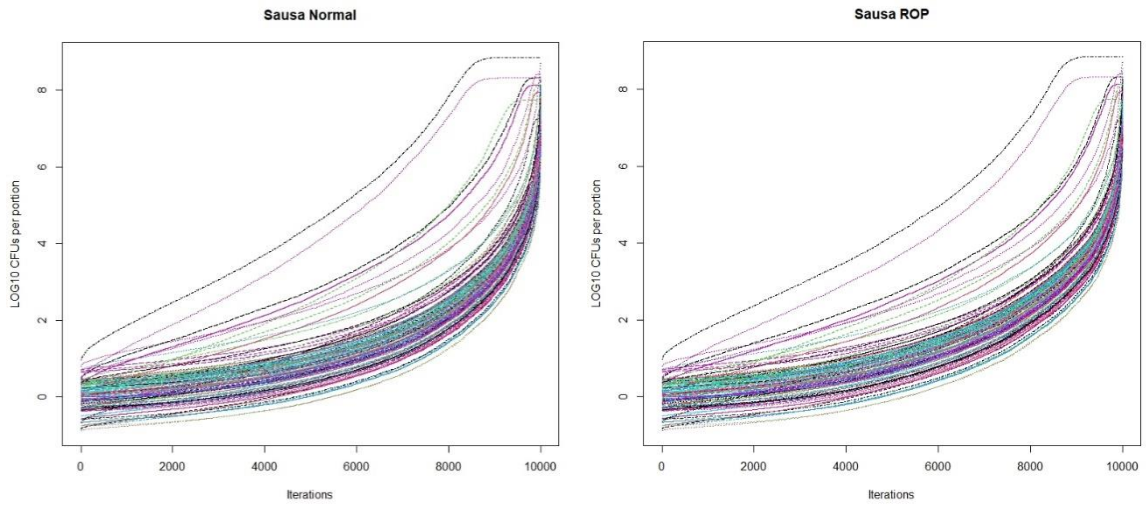


Figure D7-Exposure to Listeria monocytogenes from sausage in normal atmosphere (left) and exposure to Listeria monocytogenes from sausage in ROP (right) in log10 CFU per portion.

E. Annual Risk of developing Listeriosis

Table 7 describes in terms of proportions the food source of the annual risk of developing Listeriosis per subgroup.

Table E1- Percentage of annual risk of listeriosis in France attributed to each food group per subgroup.

Age	Gender	Probyearcheese	Probyear pâte	Probyearccmeat	Probyearsmo	Probyearsausa	Probyeargrav
1 to 4	Female	0.18	0.03	0.78	0.00	0.00	0.00
	Male	0.38	0.03	0.58	0.01	0.01	0.00
5 to 14	Female	0.20	0.37	0.41	0.01	0.00	0.00
	Male	0.25	0.16	0.24	0.34	0.01	0.02
15 to 24	Female	0.07	0.83	0.09	0.01	0.00	0.00
	Male	0.22	0.17	0.51	0.01	0.09	0.00
25 to 44	Female	0.07	0.49	0.11	0.32	0.00	0.00
	Male	0.05	0.41	0.06	0.43	0.00	0.05
45 to 64	Female	0.17	0.49	0.19	0.01	0.10	0.05
	Male	0.22	0.38	0.26	0.12	0.02	0.01

65 to 74	Female	0.12	0.19	0.24	0.38	0.06	0.00
	Male	0.05	0.26	0.07	0.56	0.06	0.00
above 75	Female	0.36	0.10	0.50	0.02	0.02	0.00
	Male	0.08	0.07	0.12	0.00	0.00	0.72

Table E2- Annual risk of developing Listeriosis by gender in France

Gender	Prob.cheese	Prob.pâte	Prob.ccmeat	Prob.smokedfish	Prob.sausage	Prob.gravad
Male	1.08 x 10^{-6}	3.72 x 10^{-6}	1.45 x 10^{-6}	5.86 x 10^{-6}	6.09 x 10-^{7}	2.64 x 10^{-7}
Female	1.24 x 10^{-}6	3.98 x 10^{-6}	1.82 x 10^{-6}	1.87 x 10-6	4.47 x 10-^{7}	1.69 x 10^{-7}

Table E3- Percentage of yearly risk attributed to each food item per gender in France

Gender	Prob.cheese	Prob.pâte	Prob.ccmeat	Prob.smokedfish	Prob.sausage	Prob.gravad
Male	0.083362	0.286248	0.11189	0.451226	0.04692	0.020355
Female	0.130621	0.417723	0.191293	0.19576	0.046883	0.01772

Table E4 Annual risk of developing Listeriosis per age in France

Age	Prob.cheese	Prob.pâte	Prob.ccmeat	Prob.smokedfish	Prob.sausage	Prob.gravad	n
1	4.8 x 10^{-}8	3.52 x 10^{-}9	7.7 x 10^{-}8	1.21 x 10^{-}8	0	0	2
2	5.36 x 10^{-}8	8.38 x 10^{-}9	2 x 10^{-}6	3.21 x 10^{-}9	0	0	17
3	2.67 x 10^{-}7	3.73 x 10^{-}8	5.49 x 10^{-}7	3.32 x 10^{-}9	1.22 x 10^{-}8	0	23
4	5.7 x 10^{-}7	3.28 x 10^{-}8	7.78 x 10^{-}8	4.57 x 10^{-}9	3.74 x 10^{-}9	0	27
5	9.24 x 10^{-}8	1.01 x 10^{-}8	4.47 x 10^{-}8	2.44 x 10^{-}9	2.53 x 10^{-}9	3.9x 10^{-}8	50
6	4.05 x 10^{-}7	5.21 x 10^{-}9	4.77 x 10^{-}8	4.31 x 10^{-}9	3.35 x 10^{-}9	0	65
7	5.74 x 10^{-}8	2.17 x 10^{-}7	5.21 x 10^{-}8	2.03 x 10^{-}9	2.94 x 10^{-}9	0	69

8	1.54 x 10^{-7}	6.88 x 10^{-7}	9.65 x 10^{-7}	1.89 x 10^{-9}	1.91 x 10^{-9}	0	73
9	2.12 x 10^{-7}	1.14 x 10^{-8}	2.08 x 10^{-7}	3.57 x 10^{-9}	6.97 x 10^{-9}	4.18 x 10^{-9}	70
10	3.47 x 10^{-8}	3.45 x 10^{-7}	1.65 x 10^{-7}	1.37 x 10^{-9}	3.55 x 10^{0}	0	79
11	1.52 x 10^{-7}	5.27 x 10^{-7}	9.81 x 10^{-8}	4.97 x 10^{-9}	1.1 x 10^{-9}	0	58
12	8.02 x 10^{-8}	2.36 x 10^{-8}	2.86 x 10^{-7}	3.0 x 10^{-9}	1.49 x 10^{-9}	5.2 x 10^{-9}	69
13	1.61 x 10^{-7}	4.83 x 10^{-8}	9.68 x 10^{-8}	1.89 x 10^{-8}	4.36 x 10^{-9}	2.38 x 10^{-10}	67
14	1.32 x 10^{-7}	1.56 x 10^{-7}	4.01 x 10^{-7}	8.55 x 10^{-7}	3.17 x 10^{-9}	2.04 x 10^{-10}	59
15	2.36 x 10^{-7}	4.57 x 10^{-6}	6.98 x 10^{-7}	1.51 x 10^{-8}	0	0	66
16	1.68 x 10^{-7}	2.22 x 10^{-7}	7.23 x 10^{-8}	2.81 x 10^{-8}	3.31 x 10^{-9}	9.7 x 10^{-11}	62
17	8.09 x 10^{-8}	7.07 x 10^{-8}	4.22 x 10^{-8}	3.83 x 10^{-9}	1.99 x 10^{-9}	0	64
18	2.51 x 10^{-7}	0	1.43 x 10^{-6}	0	0	0	58
19	6 x 10^{-8}	4.83 x 10^{-8}	1.81 x 10^{-8}	0	0	0	7
20	5.08 x 10^{-9}	5.42 x 10^{-8}	2.96 x 10^{-7}	0	1.42 x 10^{-7}	0	3
21	8.34 x 10^{-9}	5.74 x 10^{-8}	4.04 x 10^{-7}	1.87 x 10^{-8}	0	1.74 x 10^{-9}	5
22	8.85 x 10^{-8}	4.58 x 10^{-9}	1.35 x 10^{-6}	3.7 x 10^{-8}	0	0	7
23	5.59 x 10^{-7}	1.3 x 10^{-7}	2.14 x 10^{-7}	2.53 x 10^{-8}	0	0	7
24	5.8 x 10^{-7}	1.72 x 10^{-7}	2.88 x 10^{-7}	1.75 x 10^{-9}	6.64 x 10^{-7}	0	10
25	4.97 x 10^{-7}	8.47 x 10^{-8}	2.8 x 10^{-7}	2.66 x 10^{-5}	0	0	13
26	3.45 x 10^{-7}	2.23 x 10^{-7}	9.73 x 10^{-8}	1.62 x 10^{-8}	4.58 x 10^{-8}	0	15

27	1.03 x 10-7	2.2 x 10-7	1.16 x 10-5	0	9.3 x 10-8	0	9
28	4.98 x 10-6	4 x 10-5	1.77 x 10-7	0	3.82 x 10-8	1.94 x 10-9	13
29	3.02 x 10-7	5.85 x 10-6	9.8 x 10-8	0	0	0	13
30	2.65 x 10-7	9.6 x 10-7	1.03 x 10-7	1.1 x 10-7	0	3.95 x 10-8	19
31	1.96 x 10-7	1.81 x 10-5	1.92 x 10-6	1.04 x 10-8	0	0	19
32	8.62 x 10-7	6.43 x 10-6	2.22 x 10-7	1.51 x 10-7	1.81 x 10-7	0	15
33	8.33 x 10-7	2.45 x 10-7	7.42 x 10-6	1.26 x 10-8	0	0	16
34	2.62 x 10-8	1.43 x 10-7	3.81 x 10-7	1.81 x 10-8	0	7.34 x 10-9	17
35	8.71 x 10-7	2.29 x 10-6	3.43 x 10-6	1.81 x 10-8	0	0	20
36	1.22 x 10-6	5.43 x 10-8	5.31 x 10-7	1.44 x 10-8	1.08 x 10-7	4.56 x 10-9	18
37	3.71 x 10-7	2.32 x 10-6	4.7 x 10-7	1.95 x 10-8	5.19 x 10-8	0	12
38	1.23 x 10-6	6.14 x 10-6	2.42 x 10-6	3.85 x 10-9	3.3 x 10-8	0	27
39	6.34 x 10-7	1.05 x 10-7	7.75 x 10-7	3.32 x 10-7	0	7.83 x 10-7	23
40	7.8 x 10-7	0	6.77 x 10-7	5.9 x 10-5	0	0	14
41	8.48 x 10-7	8.05 x 10-8	1.52 x 10-7	8.5 x 10-9	1.7 x 10-8	2.71 x 10-6	24
42	3.37 x 10-6	4.37 x 10-6	1.42 x 10-6	3.56 x 10-8	0	1.5 x 10-7	20
43	1.95 x 10-7	3.09 x 10-7	1.59 x 10-6	5.3 x 10-6	3.2 x 10-8	0	25
44	8.66 x 10-7	4.9 x 10-8	2.39 x 10-7	5.59 x 10-9	6.68 x 10-8	1.71 x 10-	24

						7	
45	4.18×10^{-6}	4.5×10^{-8}	1.77×10^{-7}	2.26×10^{-7}	4.59×10^{-9}	0	34
46	3.04×10^{-7}	1.59×10^{-6}	2.3×10^{-7}	0	1.95×10^{-8}	0	34
47	7.49×10^{-8}	1.34×10^{-6}	1.17×10^{-6}	7.3×10^{-8}	0	0	29
48	1.97×10^{-6}	1.78×10^{-7}	4.75×10^{-7}	8.8×10^{-9}	3.86×10^{-8}	1.73×10^{-9}	26
49	9.97×10^{-7}	1.89×10^{-6}	4.83×10^{-6}	3.69×10^{-7}	6.7×10^{-7}	1.52×10^{-8}	34
50	7.75×10^{-7}	7.01×10^{-7}	2.06×10^{-7}	1.18×10^{-7}	0	0	35
51	2.98×10^{-6}	1.06×10^{-6}	3.79×10^{-7}	6.9×10^{-8}	1.65×10^{-9}	3.91×10^{-7}	18
52	2.45×10^{-6}	5.89×10^{-8}	2.11×10^{-7}	1.17×10^{-5}	0	0	27
53	1.08×10^{-6}	2.32×10^{-7}	4.69×10^{-7}	8.12×10^{-8}	1.33×10^{-7}	2.54×10^{-9}	25
54	1.14×10^{-6}	9.56×10^{-8}	2.54×10^{-7}	2.17×10^{-7}	1.15×10^{-7}	0	26
55	9.51×10^{-7}	2.01×10^{-6}	8.22×10^{-6}	4.41×10^{-9}	1.83×10^{-8}	0	17
56	2.57×10^{-6}	5.17×10^{-6}	7.25×10^{-7}	1.43×10^{-7}	2.98×10^{-8}	1.3×10^{-8}	19
57	1.19×10^{-6}	1.19×10^{-5}	8.56×10^{-7}	2.08×10^{-8}	8.03×10^{-8}	4.21×10^{-9}	39
58	3.37×10^{-6}	2.86×10^{-5}	9.53×10^{-7}	1.1×10^{-8}	1.88×10^{-7}	2.12×10^{-8}	28
59	2.6×10^{-6}	2.46×10^{-8}	4×10^{-7}	1.77×10^{-7}	6.25×10^{-9}	8.44×10^{-6}	35
60	5.67×10^{-7}	5.08×10^{-6}	1.2×10^{-6}	6.29×10^{-8}	1.03×10^{-7}	6.43×10^{-8}	23

61	3.32×10^{-6}	4×10^{-7}	8.68×10^{-6}	1.16×10^{-7}	3.22×10^{-7}	0	30
62	3.36×10^{-6}	2.54×10^{-6}	8.31×10^{-6}	7.73×10^{-8}	8.23×10^{-6}	0	27
63	3.72×10^{-6}	7.84×10^{-7}	3.45×10^{-7}	1.1×10^{-7}	1.06×10^{-6}	9.31×10^{-9}	40
64	2.07×10^{-6}	2.57×10^{-5}	8.41×10^{-6}	3.46×10^{-8}	1.35×10^{-6}	0	29
65	1.51×10^{-6}	1.51×10^{-6}	1.06×10^{-5}	6.07×10^{-5}	1.55×10^{-7}	0	32
66	1.06×10^{-6}	2.54×10^{-6}	5.23×10^{-7}	1.19×10^{-7}	5.06×10^{-7}	0	44
67	3.63×10^{-6}	1.07×10^{-6}	6.45×10^{-7}	8.63×10^{-8}	0	0	36
68	9.48×10^{-7}	4.28×10^{-5}	6.04×10^{-6}	1.61×10^{-7}	1.08×10^{-5}	0	33
69	1.69×10^{-6}	1.31×10^{-6}	1.41×10^{-6}	1.79×10^{-7}	4.19×10^{-7}	0	37
70	3.75×10^{-6}	2.27×10^{-6}	6.8×10^{-7}	3.09×10^{-5}	3.93×10^{-6}	1.01×10^{-8}	24
71	1.42×10^{-7}	2.2×10^{-5}	4.67×10^{-6}	1.47×10^{-5}	4.34×10^{-7}	0	28
72	8.11×10^{-6}	2.01×10^{-5}	1.06×10^{-5}	7.37×10^{-7}	6.1×10^{-6}	0	19
73	3.59×10^{-6}	4.17×10^{-7}	1.04×10^{-6}	3.31×10^{-7}	6.81×10^{-8}	0	30
74	8.73×10^{-7}	5.22×10^{-6}	1.62×10^{-6}	6.89×10^{-8}	0	0	25
75	3.97×10^{-7}	1.64×10^{-7}	1.37×10^{-5}	0	2.6×10^{-7}	1.5×10^{-5}	19
76	1.06×10^{-5}	7.79×10^{-7}	2.76×10^{-6}	2.6×10^{-7}	1.42×10^{-8}	0	14
77	5.94×10^{-7}	5.68×10^{-8}	2.0×10^{-6}	0	1.82×10^{-7}	4.77×10^{-8}	22
78	3.5×10^{-7}	3.47×10^{-6}	2.7×10^{-6}	0	2.84×10^{-7}	0	23
79	9.67×10^{-7}	4.7×10^{-7}	2.53×10^{-6}	3.6×10^{-7}	4.82×10^{-8}	0	18

Table E5 -Percentage of annual risk attributed to each food group per year in France

Age	Prob.cheese	Prob. pâte	Prob.ccmeat	Prob.smokedfish	Prob.sausage	Prob.gravad
1	0.341304	0.025055	0.547797	0.085844	0	0
2	0.025935	0.004057	0.968452	0.001556	0	0
3	0.307415	0.042915	0.631861	0.003823	0.013986	0
4	0.827425	0.047617	0.112908	0.00663	0.00542	0
5	0.481115	0.052557	0.233042	0.012698	0.013174	0.207415
6	0.869928	0.011186	0.102416	0.00927	0.0072	0
7	0.173226	0.65448	0.15727	0.006144	0.008881	0
8	0.085135	0.379883	0.532882	0.001045	0.001056	0
9	0.475262	0.025541	0.466249	0.007994	0.015593	0.009361
10	0.063367	0.63139	0.302086	0.002508	0.000649	0
11	0.193934	0.67313	0.125187	0.006349	0.0014	0
12	0.200672	0.059099	0.715942	0.007558	0.003727	0.013003
13	0.48804	0.146787	0.293864	0.057338	0.013248	0.000723
14	0.085516	0.100631	0.259114	0.552561	0.002048	0.000132
15	0.042815	0.827958	0.126494	0.002733	0	0
16	0.340515	0.449345	0.146389	0.05684	0.006714	0.000197
17	0.405216	0.354272	0.211369	0.019166	0.009977	0
18	0.148735	0	0.851265	0	0	0
19	0.474972	0.382225	0.142803	0	0	0
20	0.010227	0.109077	0.595298	0	0.285398	0

21	0.017025	0.117028	0.824174	0.038232	0	0.003541
22	0.059927	0.0031	0.911878	0.025095	0	0
23	0.602418	0.139928	0.230457	0.027197	0	0
24	0.340247	0.100681	0.168782	0.001026	0.389264	0
25	0.018128	0.003089	0.010553	0.96823	0	0
26	0.474609	0.306497	0.133708	0.022248	0.062939	0
27	0.008612	0.018392	0.965238	0	0.007758	0
28	0.034345	0.964158	0.00122	0	0.000263	1.34E-05
29	0.048224	0.936099	0.015677	0	0	0
30	0.17921	0.649765	0.069815	0.074513	0	0.026698
31	0.009667	0.894782	0.09504	0.000511	0	0
32	0.109802	0.819515	0.028319	0.019273	0.023091	0
33	0.09792	0.028776	0.871829	0.001475	0	0
34	0.045511	0.248855	0.661464	0.031433	0	0.012737
35	0.131862	0.346226	0.519171	0.002742	0	0
36	0.632117	0.028038	0.274069	0.007422	0.056	0.002353
37	0.114783	0.717058	0.146066	0.006023	0.01607	0
38	0.125432	0.624679	0.246131	0.000392	0.003367	0
39	0.241253	0.039804	0.294764	0.126174	0	0.298006
40	0.012887	0	0.011198	0.975915	0	0
41	0.222381	0.021101	0.039786	0.002242	0.004467	0.710024
42	0.360012	0.467685	0.151619	0.003808	0	0.016876

43	0.026194	0.04151	0.213315	0.714592	0.004388	0
44	0.619966	0.035102	0.171079	0.004	0.04779	0.122064
45	0.902339	0.009715	0.03811	0.048846	0.000991	0
46	0.142055	0.74153	0.107325	0	0.009089	0
47	0.028104	0.503907	0.440331	0.027658	0	0
48	0.737313	0.066613	0.177711	0.003292	0.014423	0.000648
49	0.113632	0.215057	0.551162	0.042055	0.076364	0.001731
50	0.430481	0.389342	0.114509	0.065668	0	0
51	0.609612	0.218076	0.0777	0.01428	0.000337	0.079995
52	0.169764	0.00408	0.014619	0.811537	0	0
53	0.539731	0.116309	0.235127	0.040673	0.066887	0.001273
54	0.626806	0.052348	0.138963	0.118608	0.063275	0
55	0.084869	0.179368	0.733738	0.000393	0.001633	0
56	0.296938	0.597775	0.083756	0.016572	0.003446	0.001514
57	0.085002	0.846494	0.061002	0.00148	0.005722	0.0003
58	0.101766	0.862865	0.028732	0.000332	0.005667	0.000638
59	0.223354	0.002112	0.034298	0.015149	0.000537	0.724551
60	0.080162	0.718081	0.169161	0.008885	0.014627	0.009085
61	0.258796	0.031198	0.675901	0.009022	0.025084	0
62	0.149104	0.112853	0.369152	0.003432	0.365459	0
63	0.617181	0.130009	0.057214	0.018193	0.175859	0.001544
64	0.055228	0.683777	0.223985	0.000922	0.036088	0

65	0.020247	0.020242	0.142132	0.815299	0.00208	0
66	0.223823	0.534567	0.110057	0.025051	0.106501	0
67	0.667812	0.197678	0.11863	0.01588	0	0
68	0.015601	0.70409	0.099453	0.00265	0.178207	0
69	0.337958	0.261366	0.281266	0.035737	0.083673	0
70	0.090131	0.054497	0.016362	0.744194	0.094572	0.000243
71	0.000815	0.126289	0.026819	0.843587	0.002489	0
72	0.177812	0.440477	0.231739	0.016159	0.133812	0
73	0.65943	0.076564	0.190712	0.060784	0.01251	0
74	0.112189	0.670902	0.208055	0.008853	0	0
75	0.013343	0.005513	0.45972	0	0.00876	0.512663
76	0.734922	0.054131	0.191909	0.018052	0.000986	0
77	0.200405	0.019173	0.702958	0	0.061372	0.016092
78	0.051159	0.507364	0.399892	0	0.041585	0
79	0.220829	0.1074	0.577604	0.083153	0.011014	0

F. Consumption distribution

Table F1 Quantity of individuals reporting food consumptions per food group

Number of consumptions reported food consumption		Frequency
ccmeat		667
cheese		617
cheese	ccmeat	356

pâte				121
cheese	pâte			110
cheese	pâte	ccmeat		83
pâte	ccmeat			72
smo				68
cheese	smo			37
cheese	ccmeat	smo		28
sausa				24
ccmeat	smo			22
cheese	sausa			20
cheese	ccmeat	sausa		16
grav				15
ccmeat	sausa			15
cheese	pâte	ccmeat	sausa	14
cheese	pâte	sausa		13
cheese	pâte	smo		11
pâte	sausa			10
pâte	ccmeat	smo		8
cheese	pâte	ccmeat	smo	7
pâte	smo			5
pâte	ccmeat	sausa		5
cheese	grav			5

ccmeat	grav			3
cheese	ccmeat	grav		2
cheese	pâte	ccmeat	grav	2
smo	grav			2
cheese	smo	sausa		1
cheese	pâte	smo	sausa	1
ccmeat	smo	sausa		1
cheese	pâte	grav		1
pâte	ccmeat	grav		1
pâte	smo	grav		1
cheese	ccmeat	smo	grav	1

Table 1 Quantity of individuals reporting food consumption per number of food

Number of products consumed	**Frequency**
1 product	1512
2 products	657
3 products	171
4 products	25

Table F3 Portion size average per subgroup

		Soft and semi-soft cheese	**Cold cut meat**	**Smoked fish**	**Gravad fish**	**Pâte**	**Sausa**
AGE	**Gender**	**mean**	**mean**	**mean**	**mean**	**mean**	**mean**
1 to 4	Female	30.52	33.61	21.43	0	18.76	42.43
	Male	25.04	32.09	19.86	0	27.55	62.95

5 to 14	Female	32.43	38.33	37.49	60.29	34.8	37.53
	Male	34.73	42.07	36.43	96.72	33.67	70.28
15 to 24	Female	35.18	44.46	60.54	77.14	28.27	77.68
	Male	43.79	57.62	144.82	64.29	46.26	58.61
25 to 44	Female	39.1	52.94	49.05	78.14	51.66	96.68
	Male	41.99	63.95	53.05	112.5	52.37	56.37
45 to 64	Female	37.49	48.59	60.43	61.39	47.6	73.88
	Male	42.96	56.51	61.64	85.44	52.5	78.18
65 to 74	Female	38.42	48.97	39.75	0	49.87	69.17
	Male	43.15	48.85	108.34	17.14	58.12	100.46
above 75	Female	42.02	35.25	85.71	85.71	52.73	75.06
	Male	44.15	41.48	0	39.29	79.71	0

Table 2 Monthly frequency of consumption per subgroup

Subgroup	**Soft and semi-soft cheese**	**ccmeat and sausage**	**Smoked fish**	**Pâte**
	mean	**mean**	**mean**	**mean**
1	22.1	11.0	4.3	8.5
2	23.7	11.3	3.3	8.7
3	21.9	10.5	3.9	6.7
4	22.8	11.0	2.7	9.0
5	21.0	8.4	3.2	8.3
6	18.4	9.7	3.2	9.7
7	20.4	11.0	5.1	4.9
8	21.3	11.9	2.8	8.3
9	21.7	9.4	6.3	4.7
10	22.8	10.9	3.8	8.4
11	24.1	10.6	5.0	3.8
12	24.5	9.3	4.8	5.6
13	24.7	8.3	4.8	1.7
14	22.4	7.4	0.0	1.8

Table 3 Average Temperature per subgroup

Subgroup	Soft and semi-soft cheese	Cold cut meat	Smoked fish	Gravad fish	Pâte	Sausa
	mean	mean	mean	mean	mean	mean
1	6.3	5.3	8	.	6.5	6
2	7.2	5.5	6.7	.	5	7
3	5.5	5.3	5.1	6.7	5.3	4.9
4	6	5.2	6.1	5.5	5.5	4.9
5	5.5	5.5	5.7	12	6.5	2.5
6	6	5.8	6.2	3.5	5.9	4.7
7	5.7	5.5	6.7	5.8	5.9	6
8	5.9	6.3	5.8	6.5	6.4	6.3
9	6.1	6.2	5.7	6.5	5.9	6.6
10	6.1	5.6	5.4	4.4	6	5.4
11	6	6.1	5.6	.	5.8	6.4
12	6.5	6.3	9.4	1	7.3	8
13	5.7	5.6	6.5	2	4.7	6.7
14	5.8	6.7	.	5	7.5	.

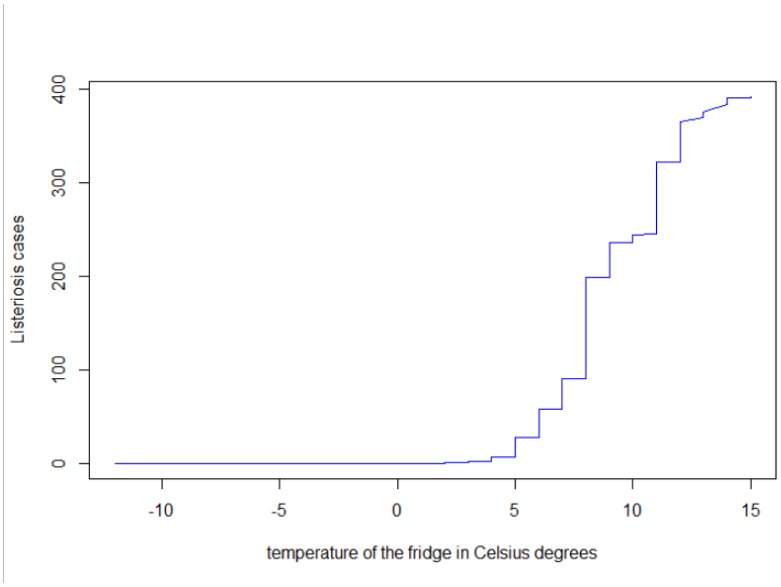


Figure F1. Number of estimated cases of listeriosis by temperature of the refrigerator (^{o}C)

G High-risk and low-risk individuals

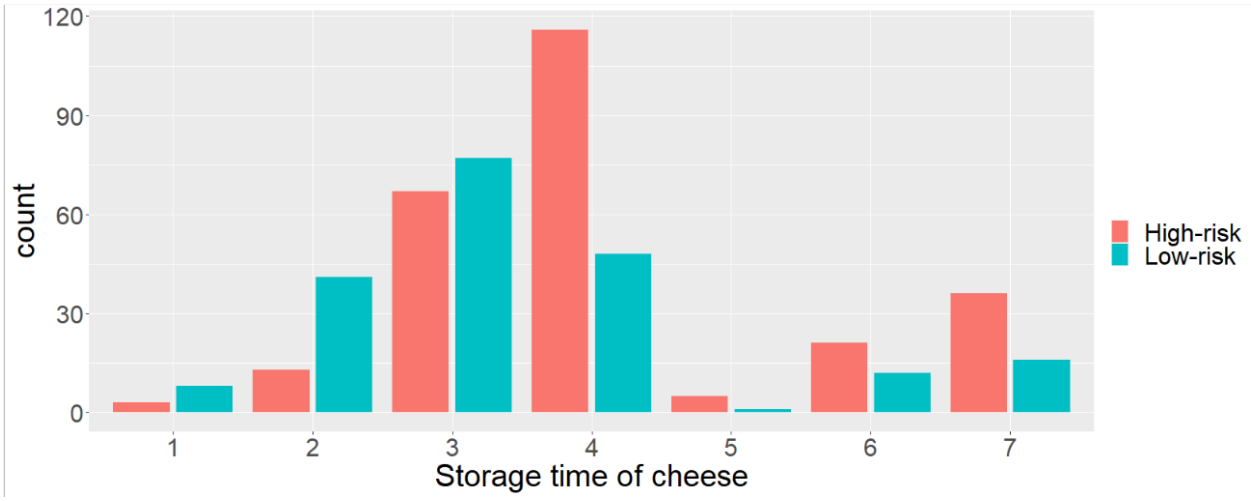


Figure G1 Distribution of storage time of cheese. Categories are: 1) "1 day after purchasing",2)" 2 or 3 days after purchasing", 3) "4 to 7 days after purchasing", 4) "More than 7 days after purchasing", 5)"Doesn't know", 6) "Judges by the product's appearance or odour", and 7"Never purchases"

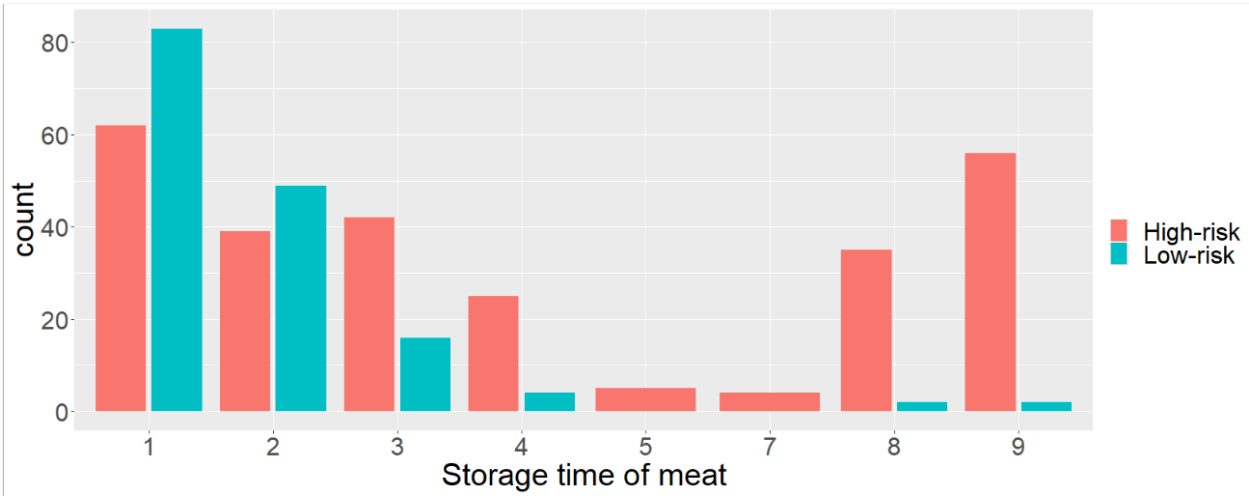


Figure G2 Distribution of storage time of meat products. Categories are: 1)Before the use-by date, 2)On the use-by date, 3) 1 to 3 days after the use-by date, 4) 4 to 6 days after the use-by date, 5) 7 to 15 days after the use-by date, 6) More than 15 days after the use-by date, 7) Doesn't look at the use-by date, 8) Judges by the product's appearance or odour, 9) Never purchases.

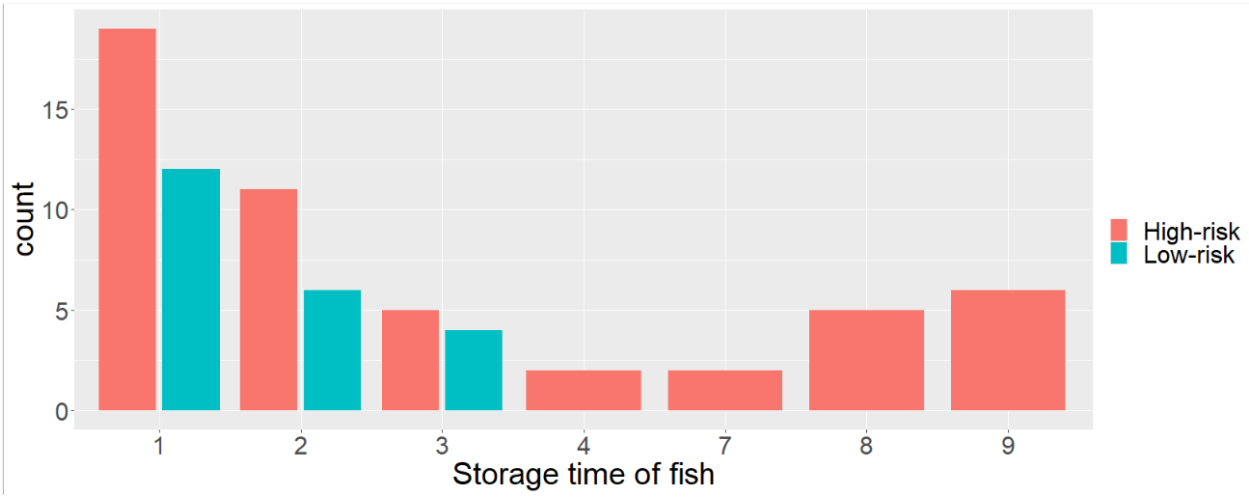


Figure G3 Distribution of storage time of fish products. Categories are: 1)Before the use-by date, 2)On the use-by date, 3) 1 to 3 days after the use-by date, 4) 4 to 6 days after the use-by date, 5) 7 to 15 days after the use-by date, 6) More than 15 days after the use-by date, 7) Doesn't look at the use-by date, 8) Judges by the product's appearance or odour, 9) Never purchases.

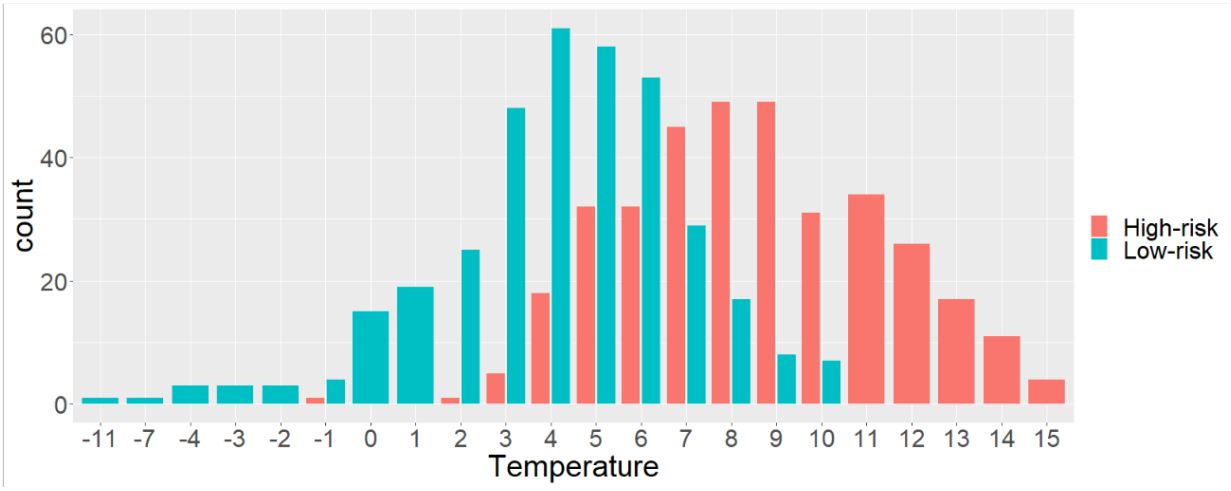


Figure G4 Distribution of temperatures of the refrigerator in Celsius degrees.

H. Cases estimation

Table H1 Annual cases associated per subgroup

Subgroup	Cases
1	0.2
2	0.6

3	1.7
4	1.0
5	2.7
6	2.3
7	88.2
8	20.8
9	31.8
10	33.8
11	39.2
12	151.0
13	7.7
14	4.3

I. Food categorization

R scripts with the Foodex2 Codes available under the FSKX format.

J. Graphical representation of population parameters

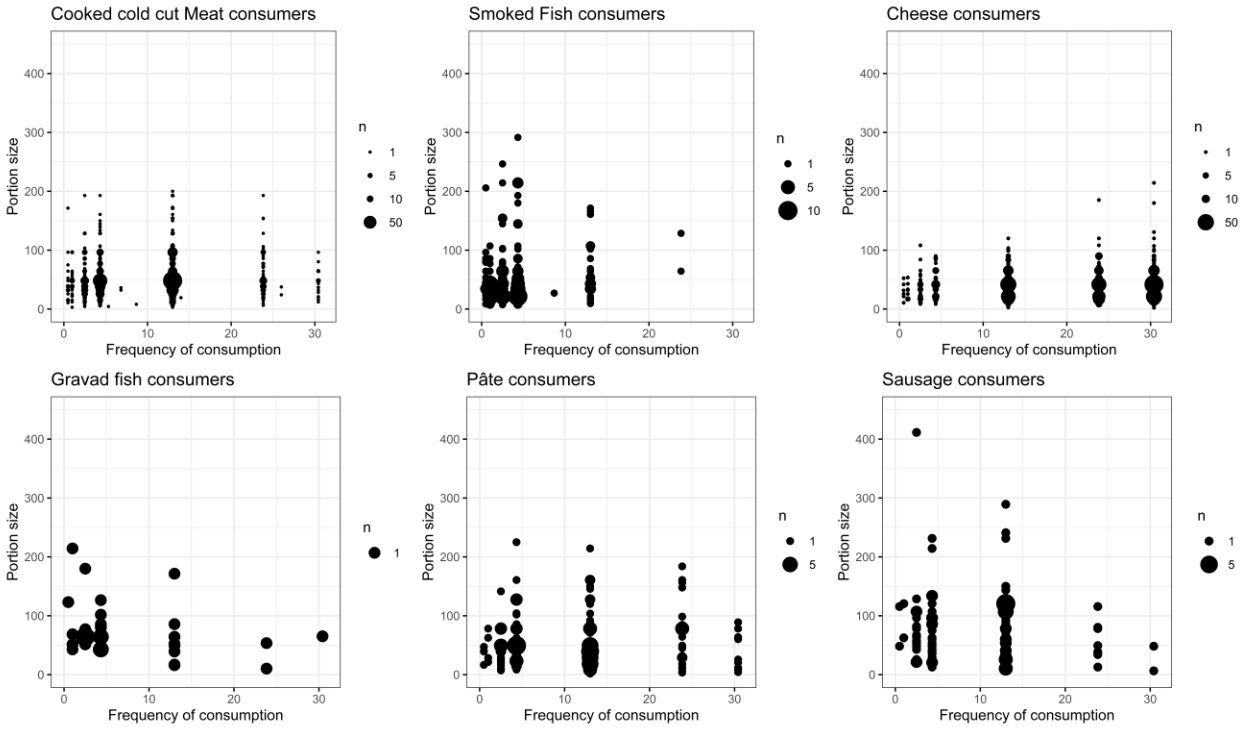


Figure J1 Distribution of reported portion size and monthly frequency of consumption for all individuals.

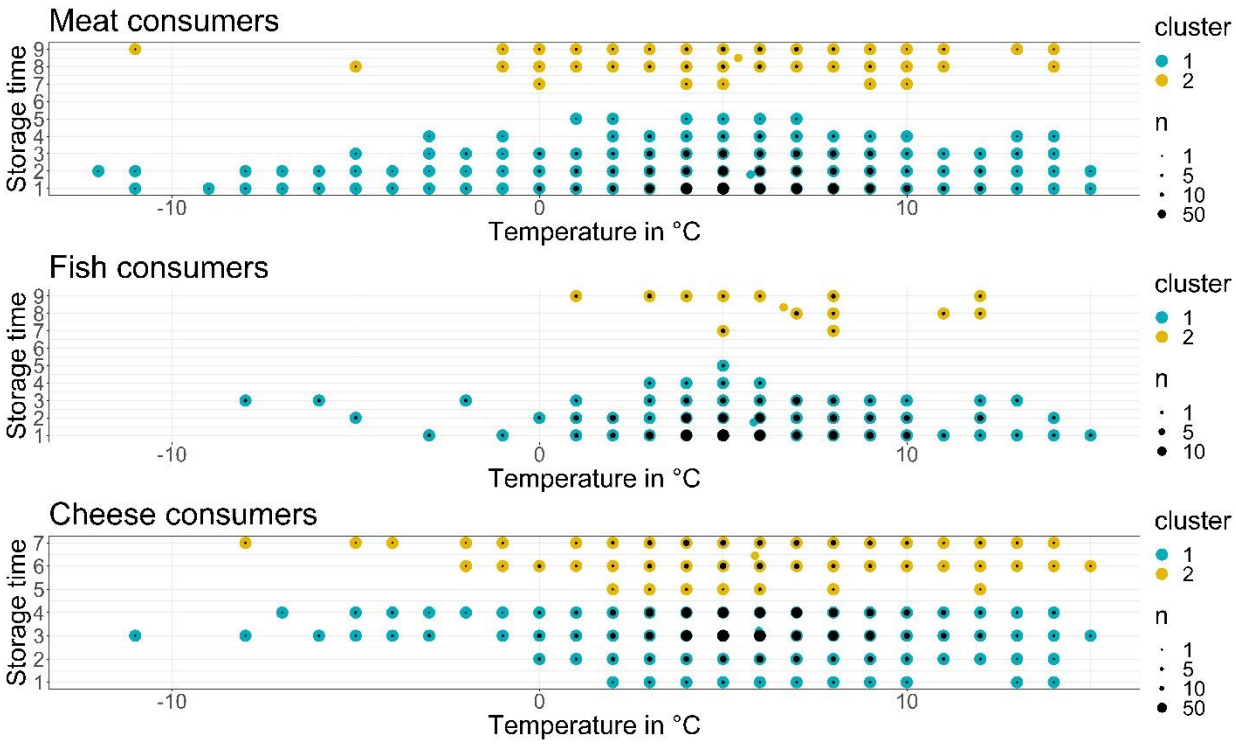
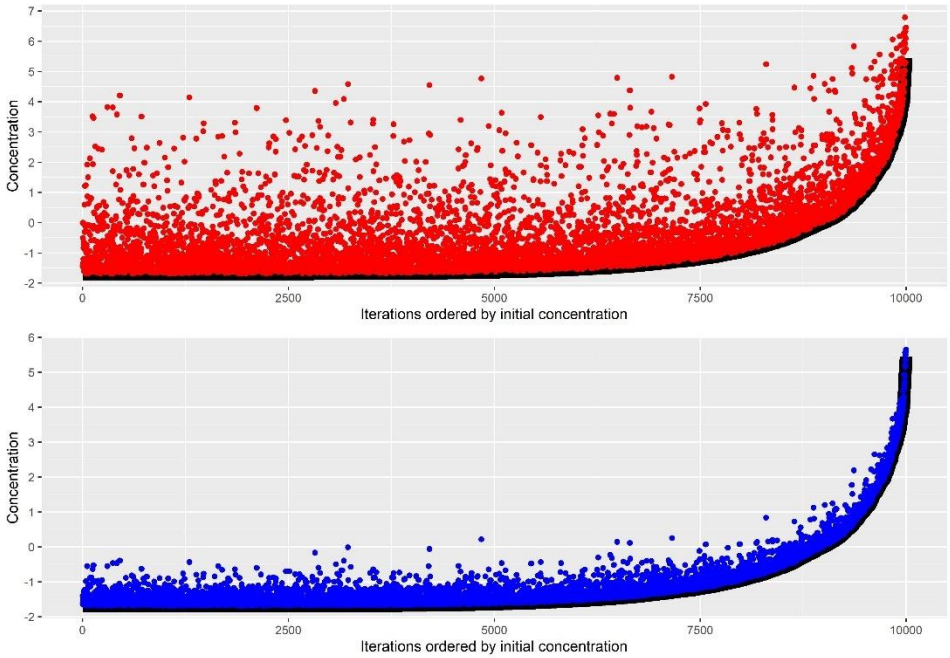


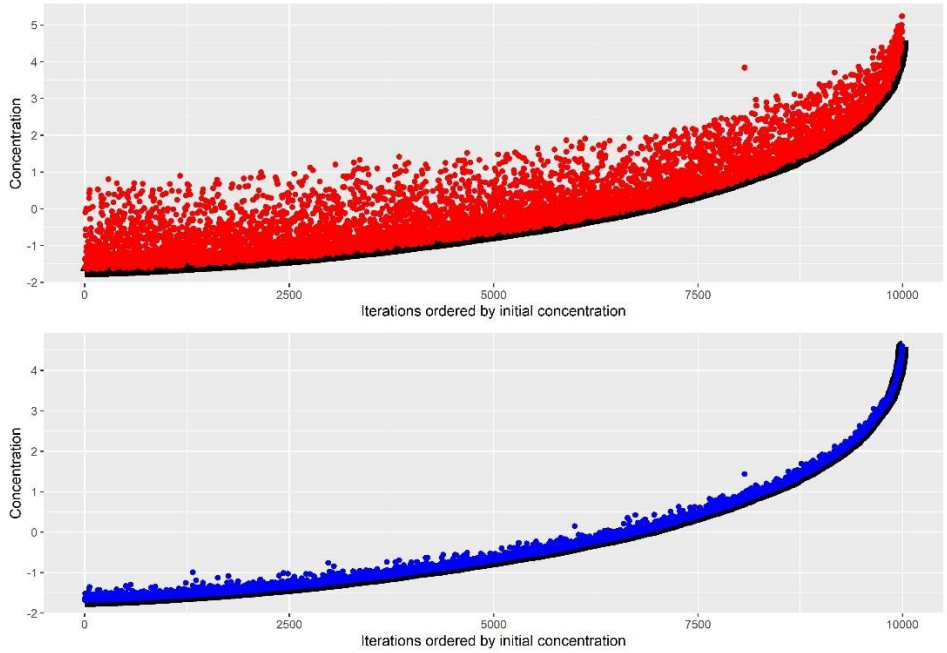
Figure J2. Distribution of storage time and temperature of storage for all individuals as reported in INCA3. Cluster 1 are quantitative answers and Cluster 2 are non-quantitative answers to INCA3 study. The area of the circle in black indicates the number of individuals that have these reported values.

K. Initial concentration (black line) versus concentration at the time of exposure for high-risk individuals (red dots) and low-risk (blue dots)

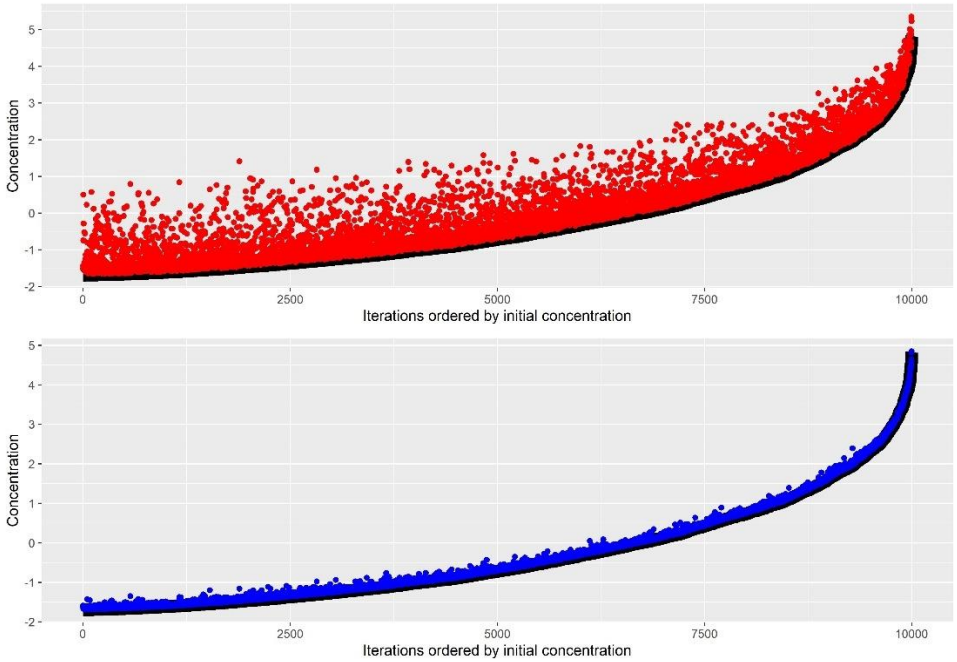
#Soft and semi-soft cheese



CSS ROP



CSS Normal



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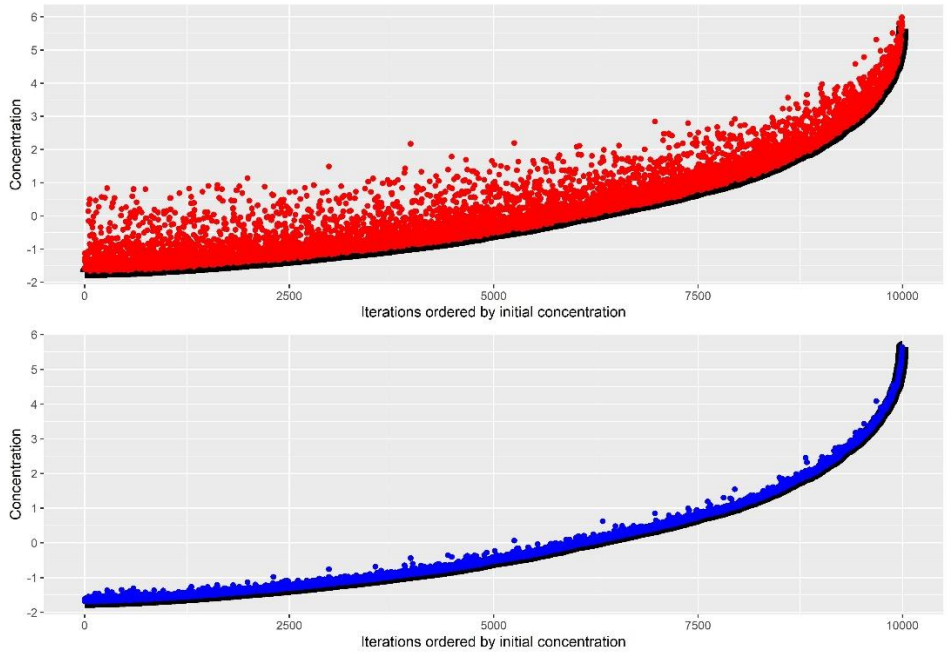

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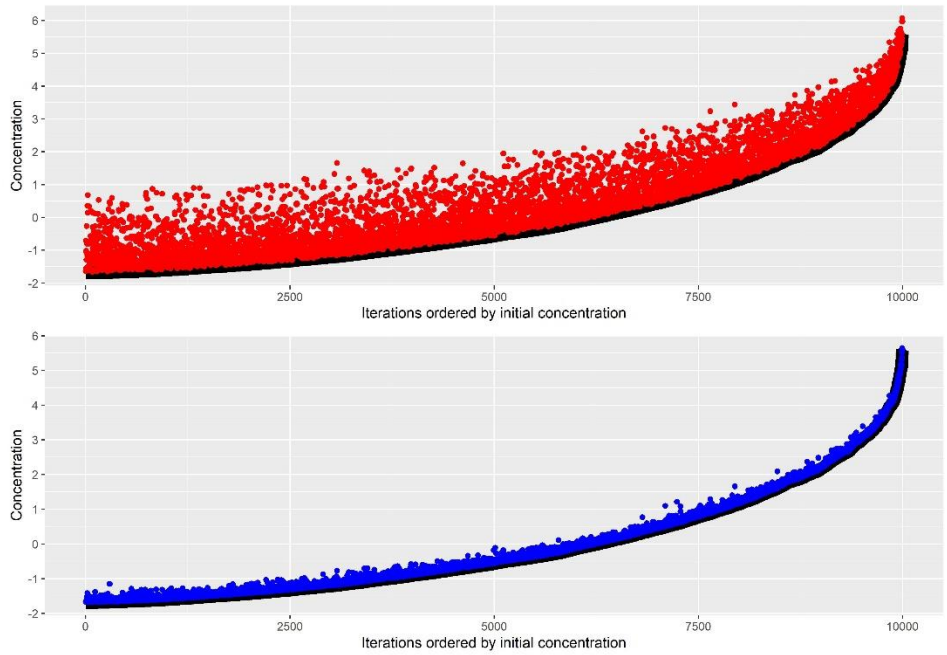
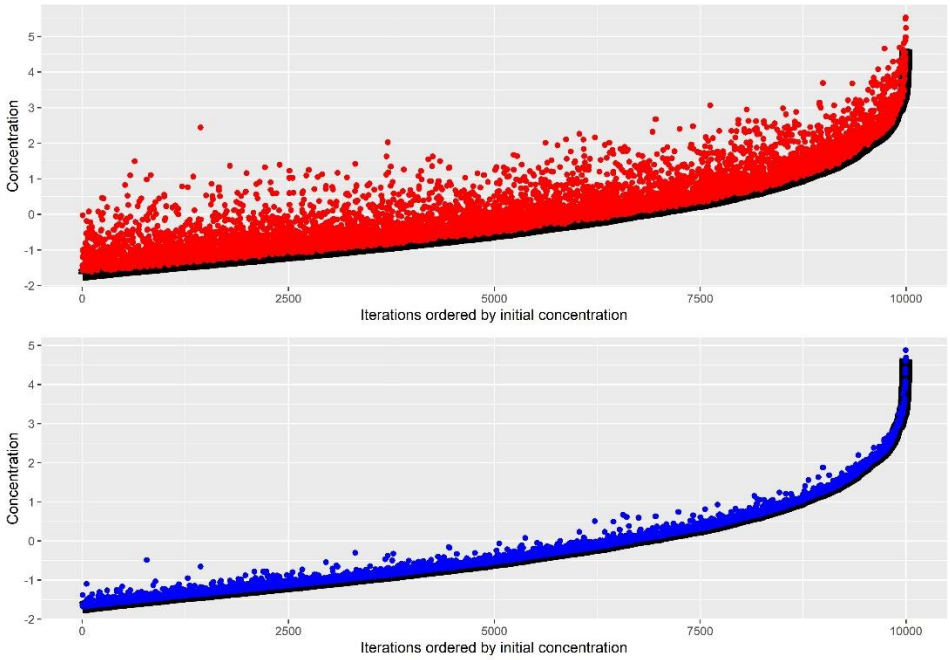


#Grav ROP



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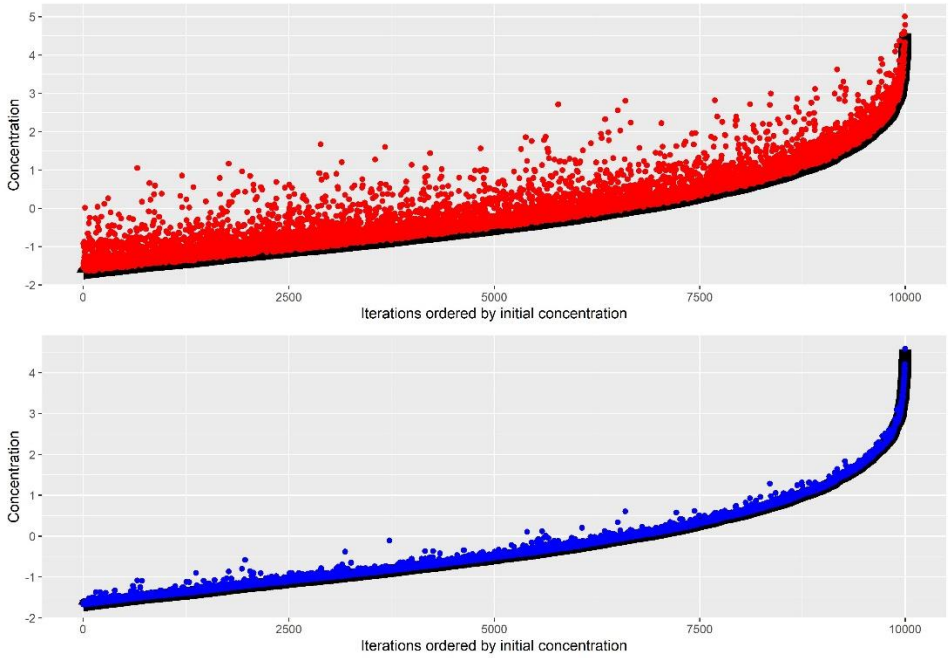
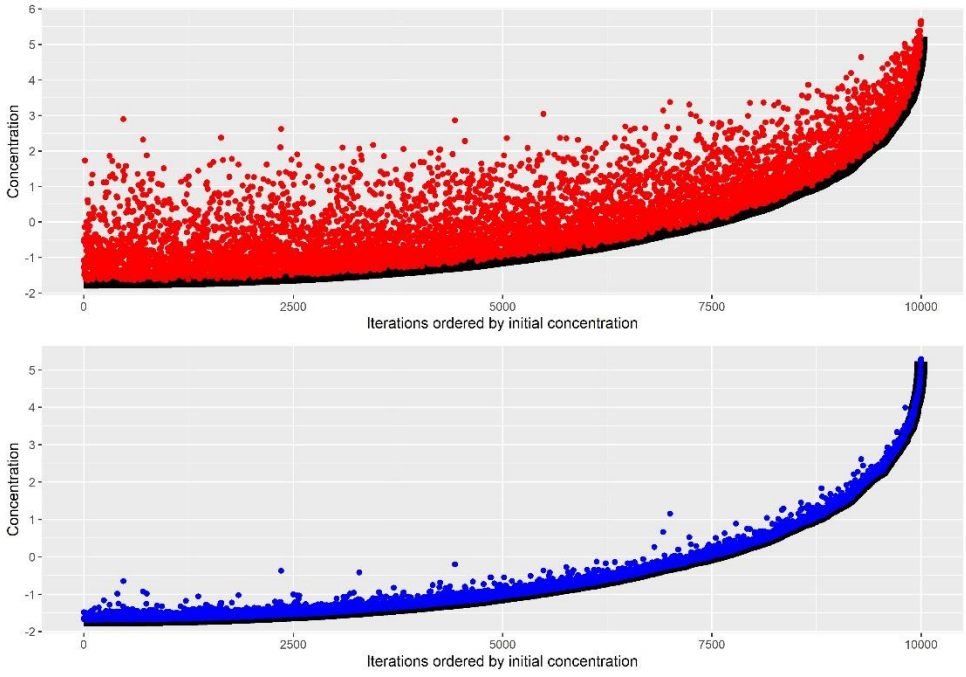
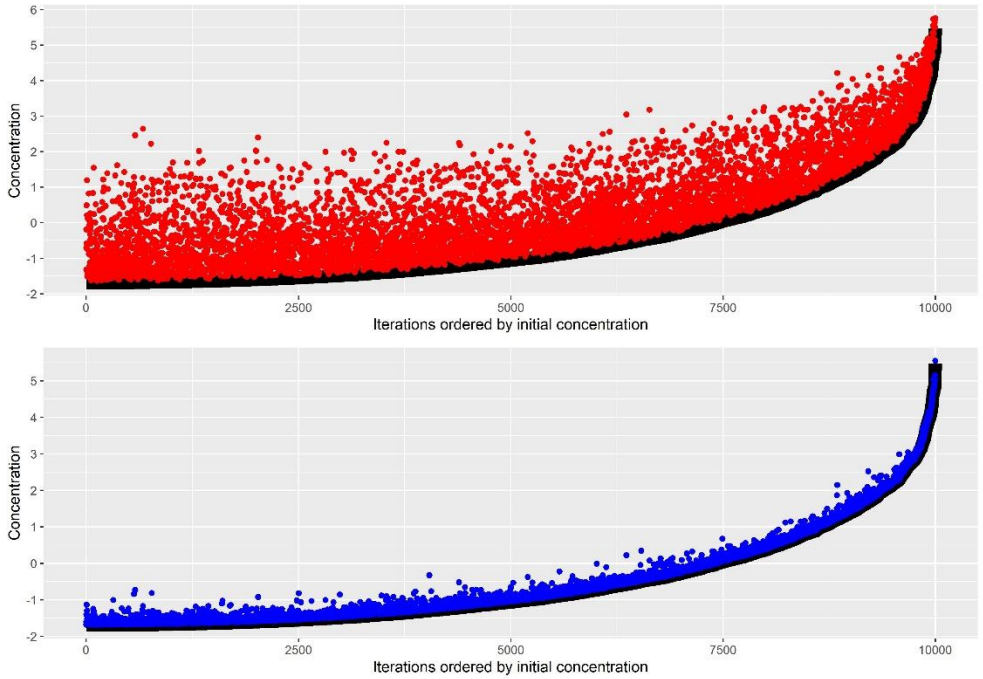


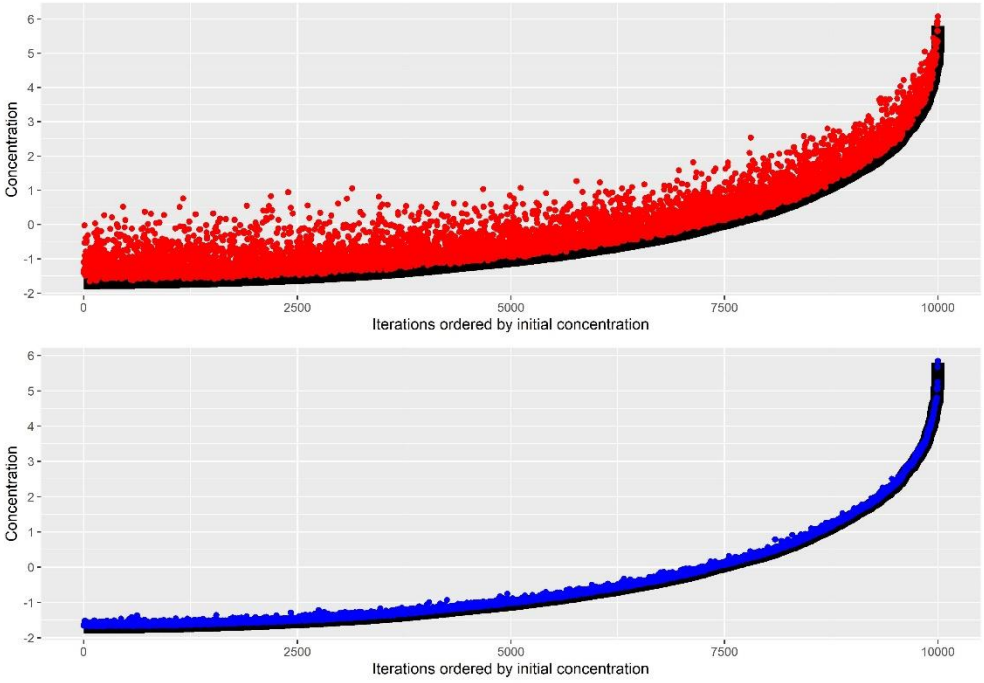
CCMEAT ROP



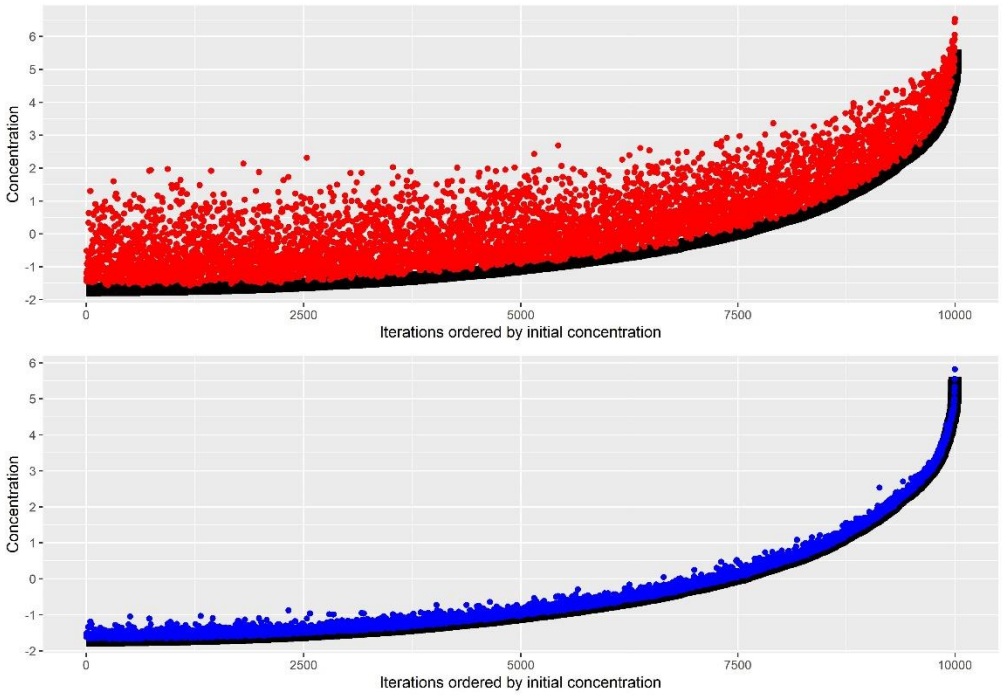
CCMEAT Normal



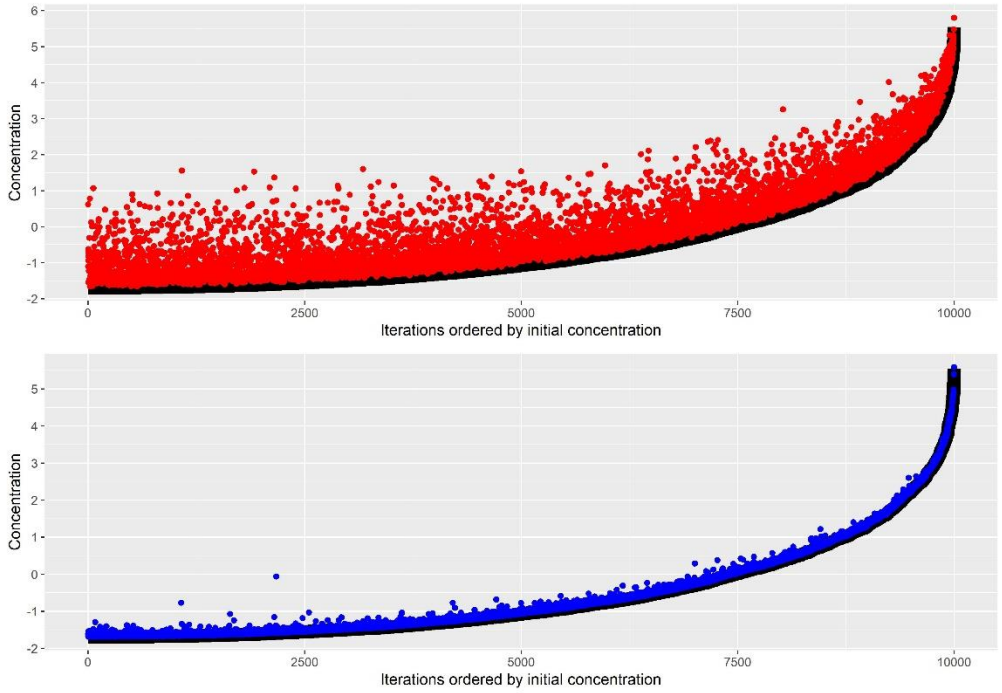
#Pâte ROP



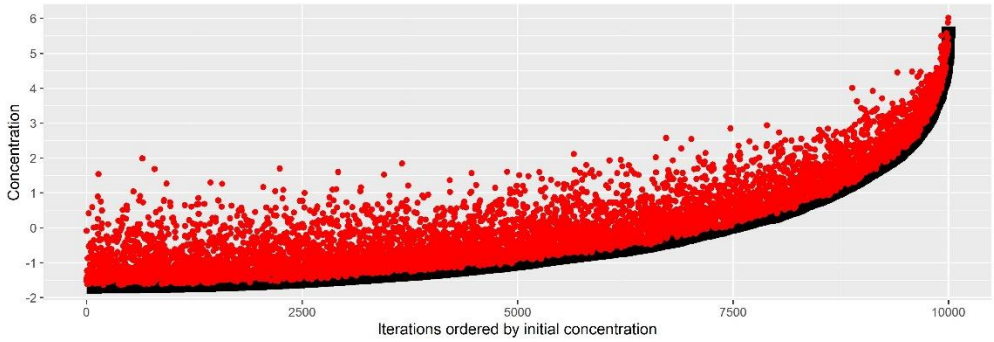
Pâte Normal

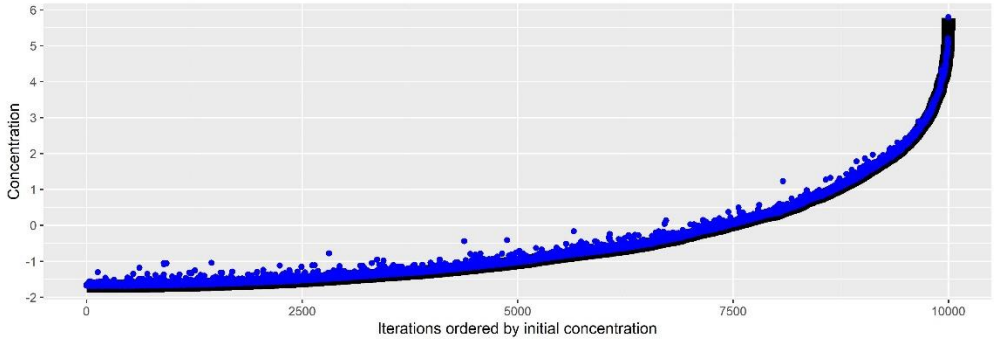


#Sausa ROP



Sausa Normal


Concentration
6
5
4
3
2
1
0
-1
-2
0
2500
5000
7500
10000
Iterations ordered by initial concentration


Concentration
6
5
4
3
2
1
0
-1
-2
0
2500
5000
7500
10000
Iterations ordered by initial concentration