

Annual report zoonoses Jun-2023

***Listeria monocytogenes* i produktionsmiljø (fødevarer)**

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L. monocytogenes i produktionsmiljø

Stor udbrud i 2014

→ FVST kampagne om *Listeria* bl.a. 2 FVST projekter (4294 and 5217) fokus på miljøet hos engrosvirksomheder, der producerer ready-to-eat (RTE) fiske og kød produkter

- Forekomsten
- Genfindelse/persistens
- En genetisk variation af *L. monocytogenes* i positive miljøprøver



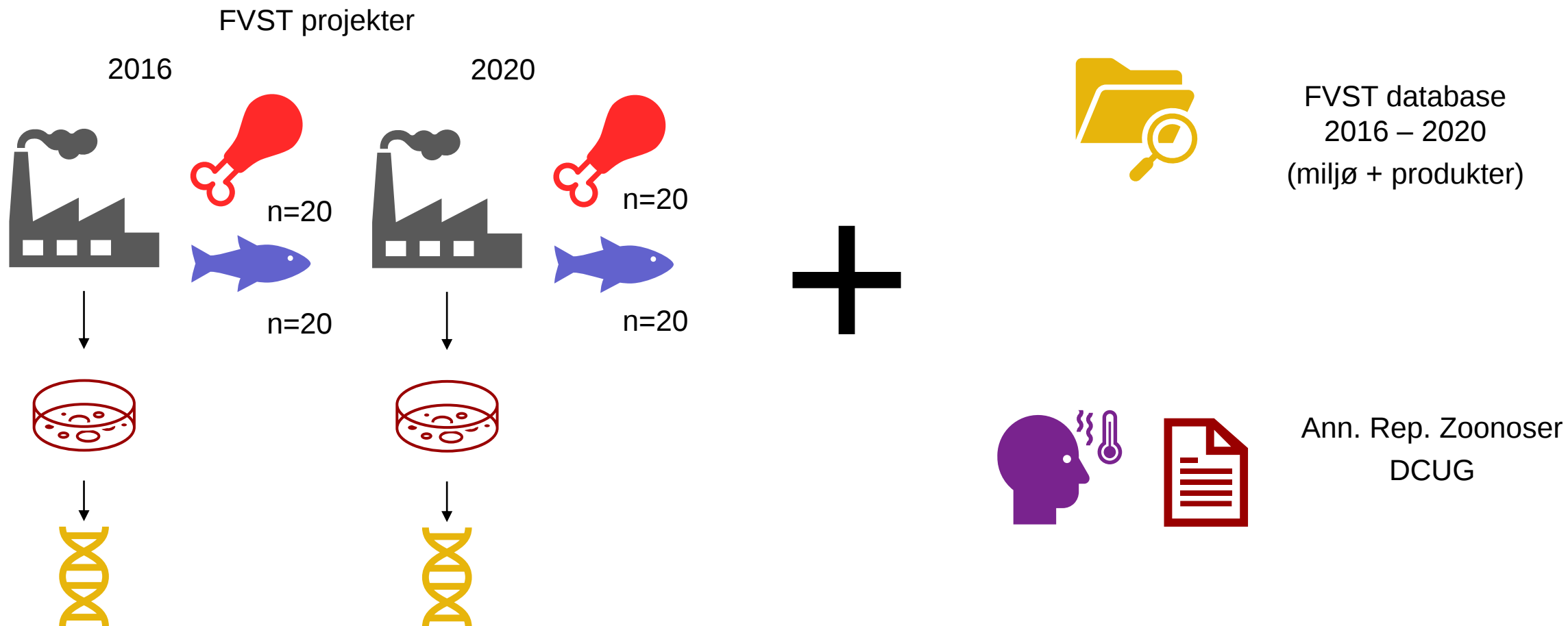
Article

Presence and Persistence of *Listeria monocytogenes* in the Danish Ready-to-Eat Food Production Environment

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Hygiene **2023**, *3*, 18–32. <https://doi.org/10.3390/hygiene3010004>

Metode



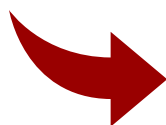
Resultater

777 prøver fra 53 virksomheder (20 fra begge år)

Positive	2016	2020	Total
Prøver	7.5%	5.7%	6.7%
Virksomhed	43.5%	32.4%	45.3%

Year	2016		2020	
Product Type of the Company	Meat	Fish	Meat	Fish
No. of samples	251	175	181	170
No. of companies	22	17	18	16
No. of samples per company	6–25		10–20	
No. of samples positive for <i>L. monocytogenes</i> by culture	15 (6.0) ^a	17 (9.7)	10 (5.5)	10 (5.9)
No. of companies positive for <i>L. monocytogenes</i> by culture	8 (36.3)	9 (52.9)	7 (38.9)	4 (25.0)

^a Numbers in brackets are % positives.

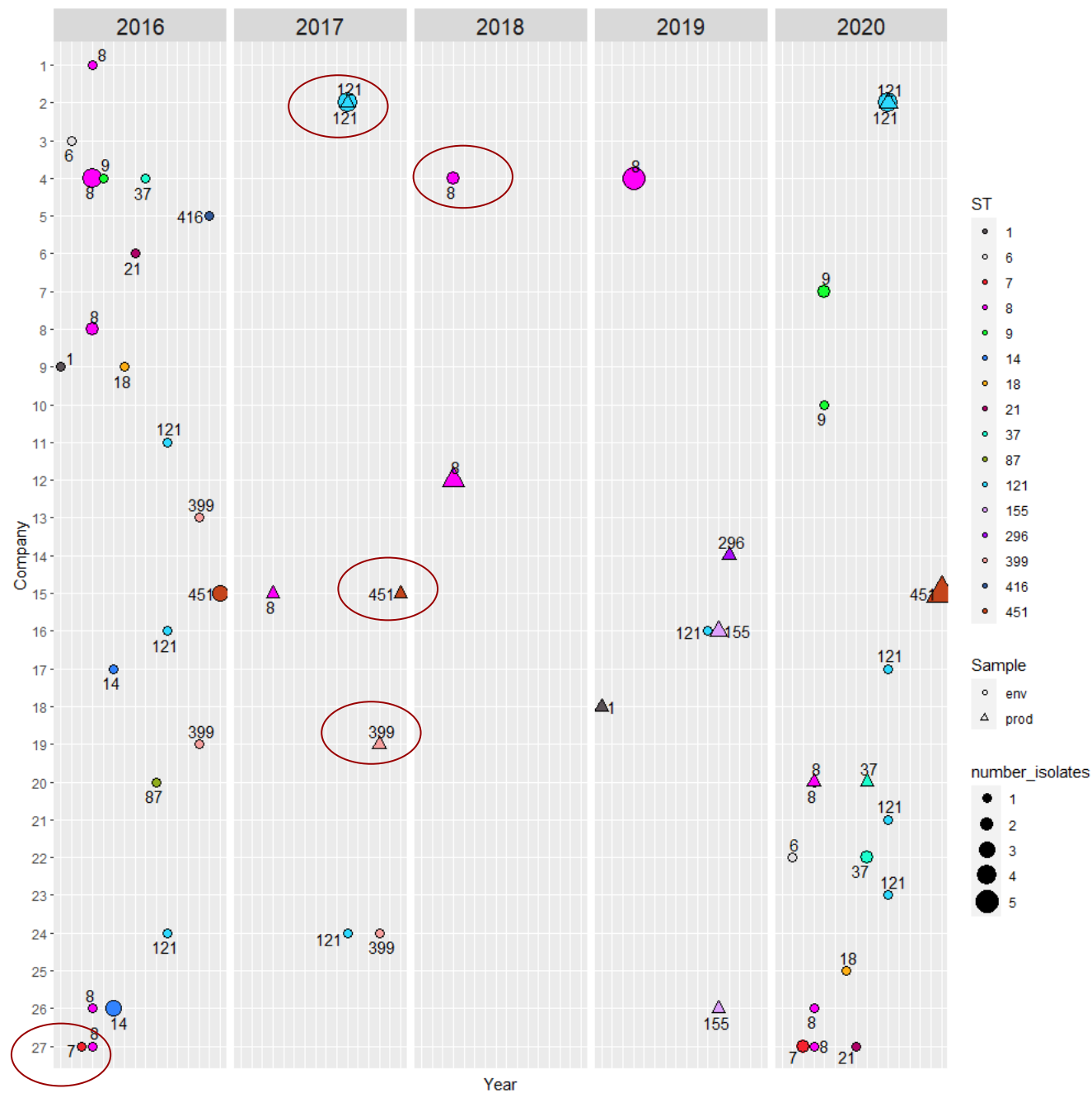


WGS data af 50 *Lm* isolater fra 27 virksomheder
+ WGS data af ekstra 35 *Lm* isolater

WGS analyser

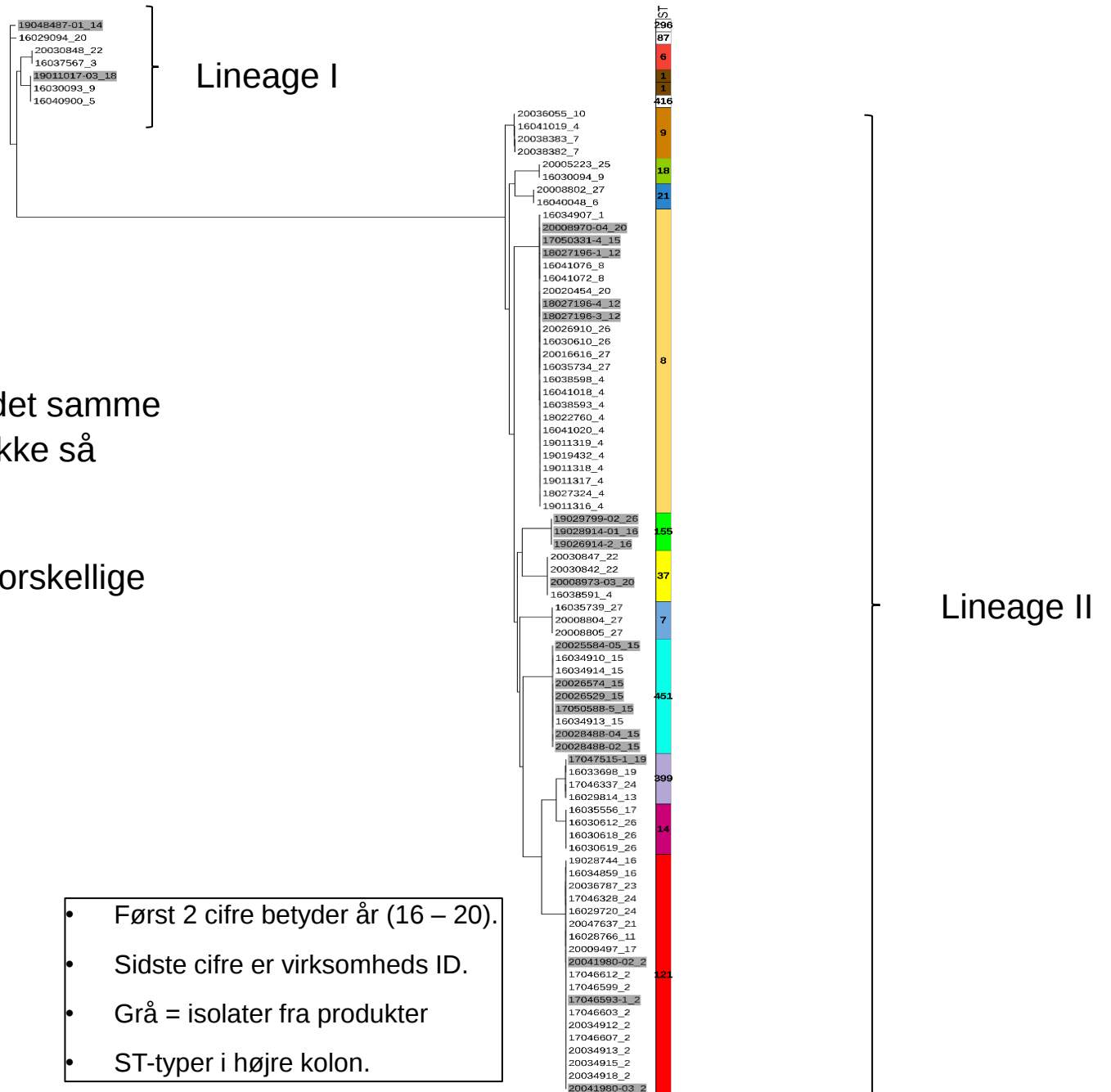


ST-type	Lineage	Serotype	Company ID	Total no. isolates
ST 1	I	IVb	9, 18 (K&F)	2
ST 6	I	IVb	3, 22 (K)	2
ST 7	II	IIa	27 (K)	3
ST 8	II	IIa	1, 4, 8, 12, 15, 20, 26, 27 (K&F)	24
ST 9	II	IIc	4, 7, 10 (K&F)	4
ST 14	II	IIa	17, 26 (K)	4
ST 18	II	IIa	9, 25 (F)	2
ST 21	II	IIa	6, 27 (K)	2
ST 37	II	IIa	4, 20, 22 (K&F)	4
ST 87	I	IIb	20 (K)	1
ST 121	II	IIa	2, 11, 16, 17, 21, 23, 24 (K&F)	19
ST 155	II	IIa	16, 26 (K)	3
ST 296	I	IIb	14 (K)	1
ST 399	II	IIa	13, 19, 24 (K&F)	4
ST 416	I	IVb	5 (K)	1
ST 451	II	IIa	15 (K)	9



SNP analyser

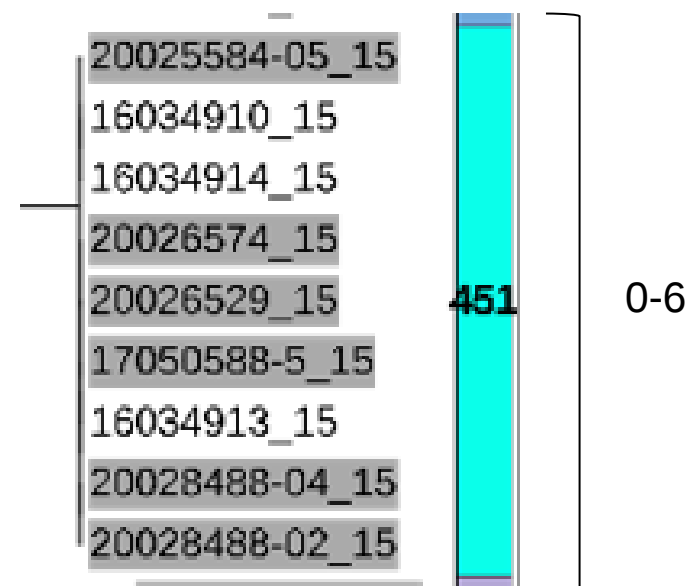
- Isolater med samme ST-type fra det samme virksomheder ligger sammen og ikke så store forskel (<10 SNP)
- Isolater med samme ST-type fra forskellige virksomheder har SNP > ca.50



Resultater: ST451

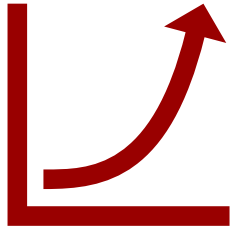
- 9 isolater fra det samme virksomheder i 2016, 2017, and 2020 (3 fra miljø og 6 fra produkter).
- Link til humane infektioner i 2014 – 2020
- Persisterende i produktionsmiljøet

Sample ID	Company		year	type	MLST
	no.				
16034910	15		2016	env	ST451
16034913	15		2016	env	ST451
16034914	15		2016	env	ST451
20026529	15		2020	prod	ST451
20026574	15		2020	prod	ST451
17050588-05	15		2017	prod	ST451
20025584-05	15		2020	prod	ST451
20028488-02	15		2020	prod	ST451
20028488-04	15		2020	prod	ST451



Opsummering og perspektiver

- *L. monocytogenes* var fundet fra ca. 1/3 af RTE fødevarervirksomheder
- Evidens for persistens i produktionsmiljø



Effekt af FVSTs Listeria kampagne?

- lidt lavere i 2020, men stadig 32.4%
- ↑ cases i 2022



Kan vi gøre det bedre?

- Risiko kommunikation
- ↑ Hygiejne hos produktion og hjemme
- HACCP
- Listericidal behandling/stabilisering af produkter

Lidt ekstra fra EFSA EREN (emergin risk exchange network)

Listeria monocytogenes

- - [France](#) 2022 : vegetable specialties with almond milk and cashew nuts
- 5 sick people in France
(4 pregnant women, who gave birth prematurely)
- 3 sick people in the Netherlands, Belgium and Germany



One of the recalled products in France

Five sick in French Listeria outbreak linked to cheese alternative

By Joe Whitworth on January 21, 2023

<https://www.foodsafetynews.com/2023/01/five-sick-in-french-listeria-outbreaklinked-to-cheese-alternative/>

Lidt ekstra

- *Salmonella*
 - CDC. (2014). Multistate outbreak of *Salmonella* Stanley infections linked to raw cashew cheese
 - Schmitt, N., Yu, G., Greve, R., & McIntyre, L. (2018). Outbreak of *S. Weltevreden* linked to fermented cashew nut cheese in Victoria, BC.
- *Clostridium* (Pernu et al. 2020)
 - 2022: recall of a wide range of plant-based milk substitutes (oat, almond, coconut, soy and pea) in the USA
 - February 2023: recall of almond and oat milk in Australia



<https://hitechglitz.com/german/ruckruf-von-oatly-premier-protein-und-mehr-haben-sie-eine-dieser-marken-gekauft/>



<https://www.foodsafetynews.com/2023/02/botulism-case-linked-to-almond-milk-in-australia/#:~:text=A%20brand%20of%20almond%20milk,date%20of%20March%201%2C%202023>

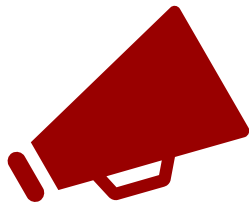
Lidt ekstra



"intet udbrud = ingen risiko"?



"Listeria kommer (kun) fra rå mælk"?



"Plantebaseret mad er sund"?

Tak og spørgsmål?