



Differences between clinical and food isolates of *Listeria monocytogenes* in biofilm formation

Barbosa, J., Silva, J., Magalhães, R., Santos, I., Almeida, G. and Teixeira, P.
CBQF/Escola Superior de Biotecnologia, Universidade Católica Portuguesa
Porto, Portugal

Joana Silva
jglaranjeira@mail.esb.ucp.pt



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25
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Bacillus
Gram positive
Oxidase -
Catalase +

“Listeriosis”

Genus *Listeria*:

L. monocytogenes

L. innocua

L. seeligeri

L. welshimeri

L. ivanovii

L. grayi

L. murrayi



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Listeriosis

Is it a problem?

- **Low incidence**
- **High severity (mortality rate > 30%)**
- **Dose of infection is still unknown**

Risk groups for listeriosis:

Pregnant women

Newborns

Persons with weakened immune systems

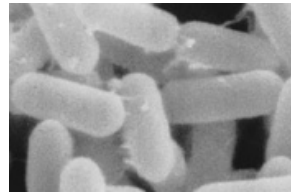
Persons with cancer, diabetes, or kidney disease

Persons with AIDS

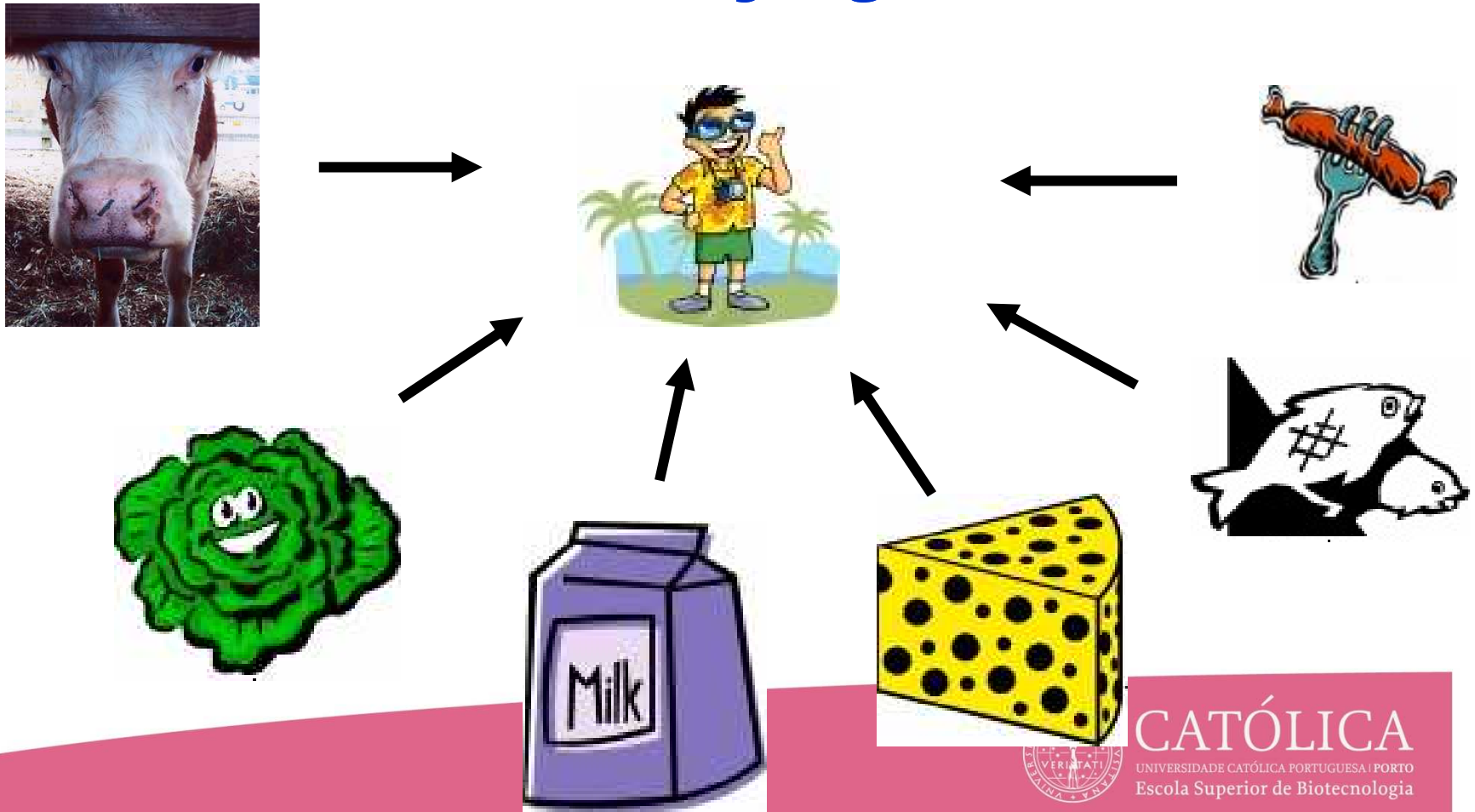
The elderly



Healthy adults and children occasionally get infected with *Listeria*, but they rarely become seriously ill.



Epidemiology of *L. monocytogenes*



Research article

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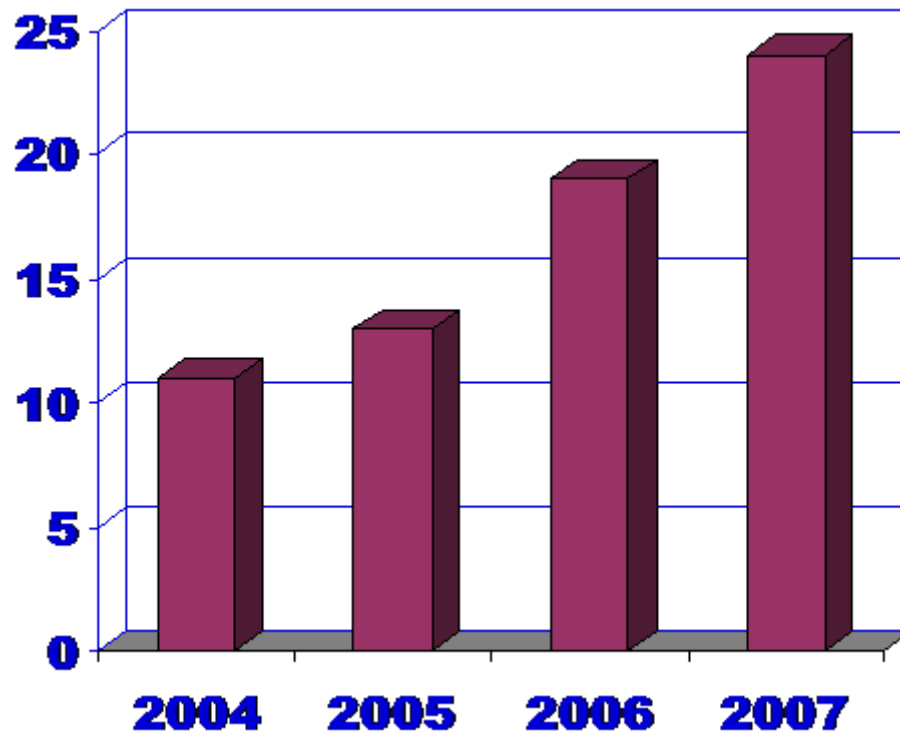
Listeriosis in Portugal: an existing but under reported infection

Gonçalo N Almeida[†], Paul A Gibbs[†], Tim A Hogg[†] and Paula C Teixeira^{*†}

Address: Escola Superior de Biotecnologia, Universidade Católica Portuguesa, Rua Dr. António Bernardino de Almeida, 4200-072 Porto, Portugal

Email: Gonçalo N Almeida - gnalmeida@esb.ucp.pt; Paul A Gibbs - pgibbs@esb.ucp.pt; Tim A Hogg - tahogg@esb.ucp.pt; Paula C Teixeira* - paula@esb.ucp.pt

* Corresponding author †Equal contributors



Lethality > 40% for the 24 cases that it was know the progress of the infection



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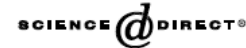


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Food Control 16 (2005) 121–124

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FOOD
CONTROL

Chemical and microbiological characterization of *alheira*:
A typical Portuguese fermented sausage with particular reference
to factors relating to food safety

Vânia Ferreira, Joana Barbosa, Sandra Vendeiro, Ana Mota, Fátima Silva,
Maria João Monteiro, Tim Hogg, Paul Gibbs, Paula Teixeira *

Escola Superior de Biotecnologia, Universidade Católica Portuguesa, R. Dr António Bernardino de Almeida, 4200-072 Porto, Portugal

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Incidence of *Listeria* spp. in domestic refrigerators in Portugal

^a, Mafalda Regalo ^a, Cristina Mena ^a, Gonçalo Almeida ^a, Luísa Carneiro ^a,
Paula Teixeira ^{a,*}, Tim Hogg ^a, Paul A. Gibbs ^{a,b}

^a *Escola Superior de Biotecnologia, R. Dr António Bernardino de Almeida, 4200-072 Porto, Portugal*

^b *Leatherhead Food International, Surrey, UK*

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FOOD
MICROBIOLOGY

Incidence of *Listeria monocytogenes* in different food products
commercialized in Portugal

Cristina Mena^a, Gonçalo Almeida^a, Luísa Carneiro^a, Paula Teixeira^{a,*},
Tim Hogg^a, Paul A. Gibbs^{a,b}

^a *Escola Superior de Biotecnologia, R. Dr António Bernardino de Almeida, 4200-072 Porto, Portugal*

^b *Leatherhead Food International, Surrey, UK*

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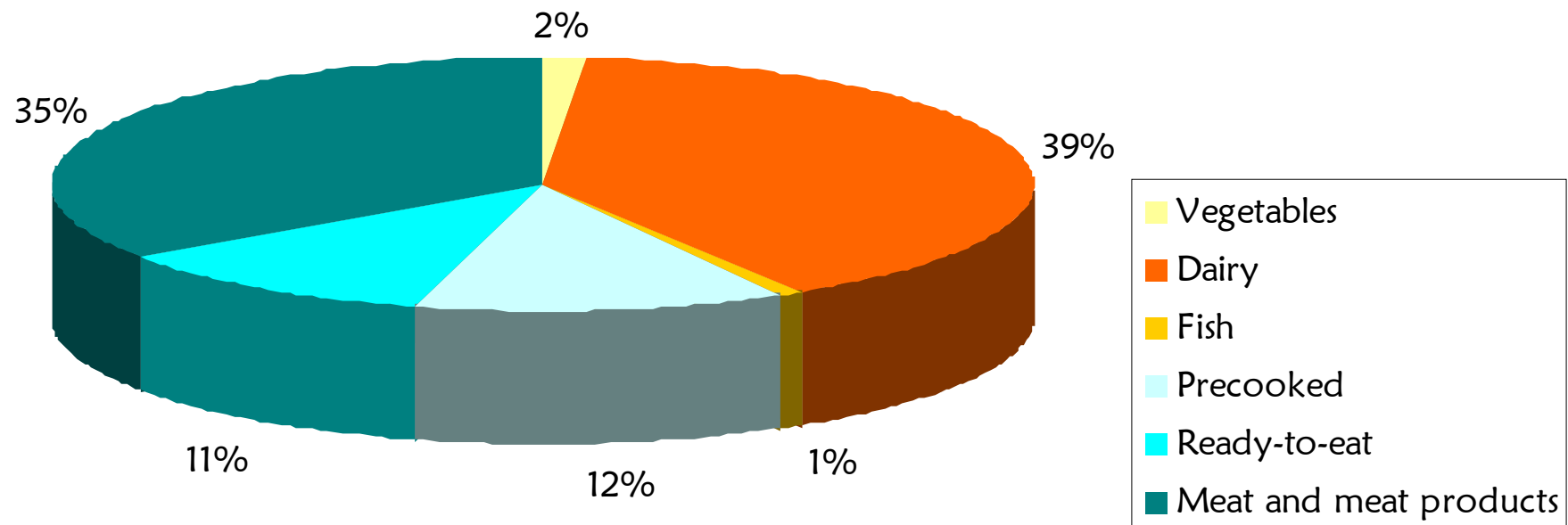
***Listeria monocytogenes* in foods: contributing data for risk assessment (PTDC/AGR-ALI/64662/2006)**

Task 1: General characterization of *L. monocytogenes* strains
isolated from different sources

(...)

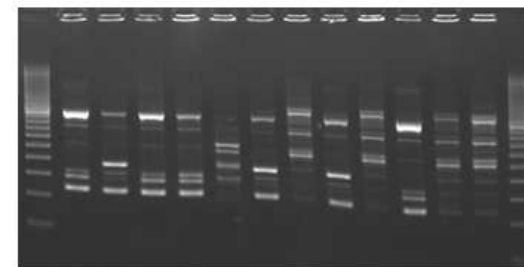
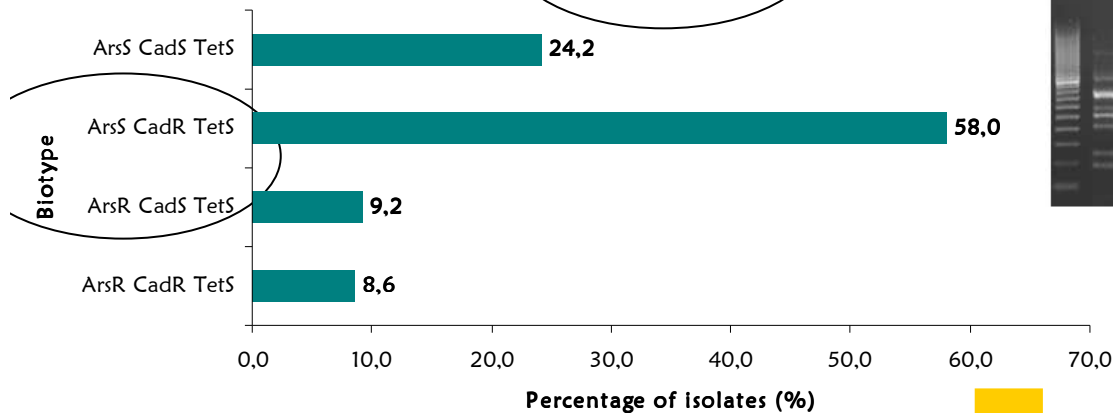
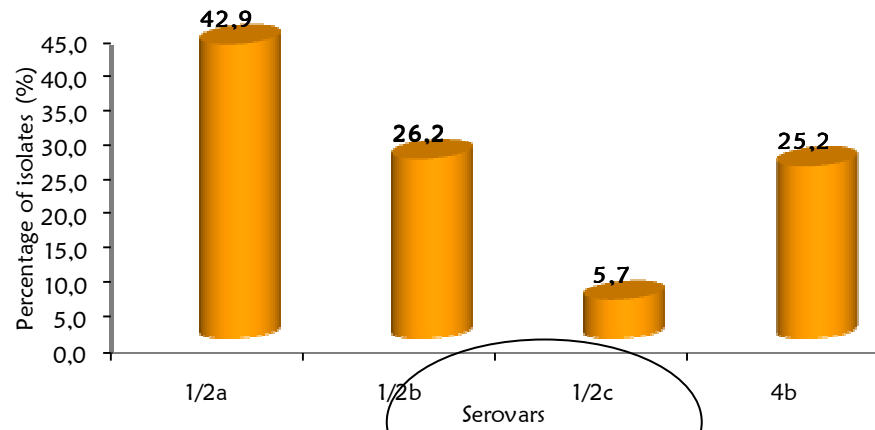
Capacity to form biofilms
(Cerca *et al.*, 2004)

Diversity

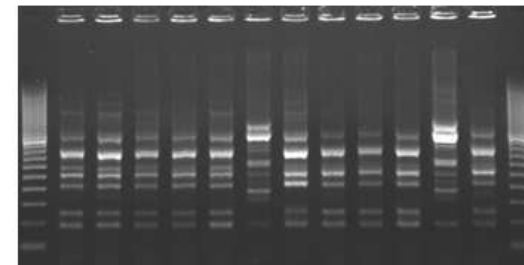


Diversity of products containing *L. monocytogenes* (n=1975)

Typing the isolates of *L. monocytogenes* (n=1975)

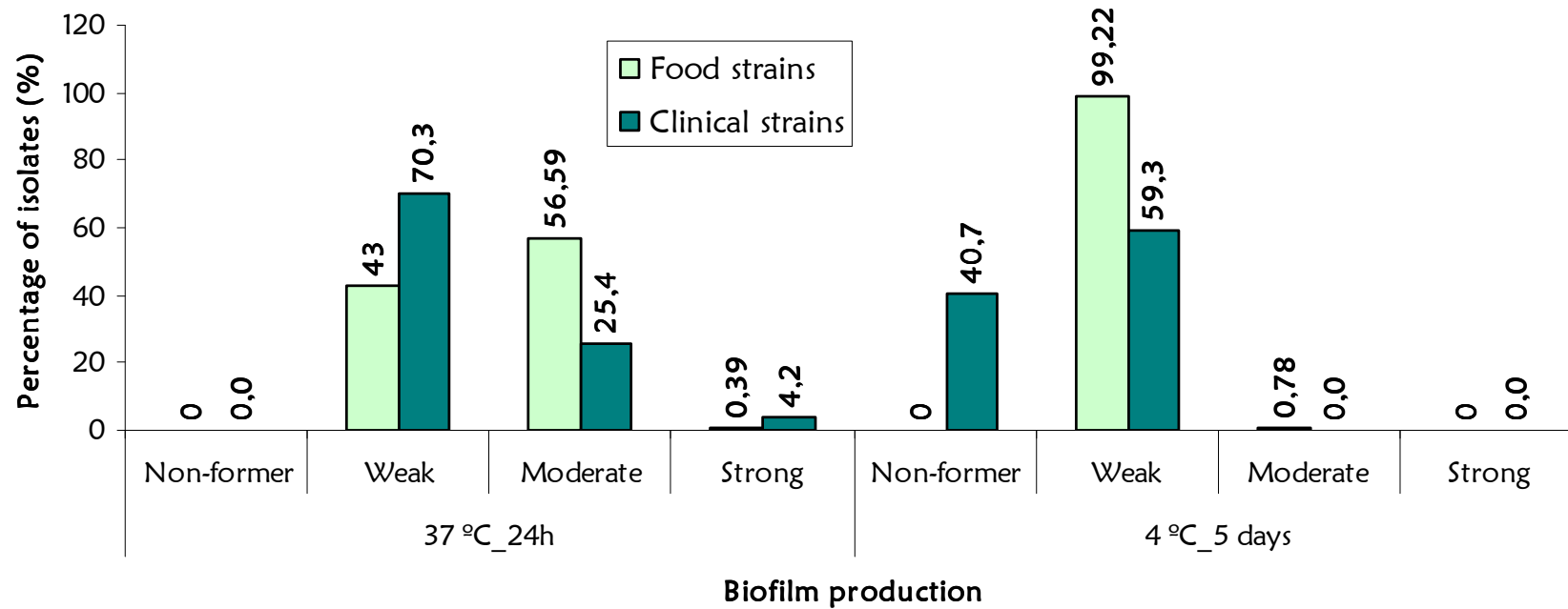


UBC155
(14 profiles)



OPM01
(16 profiles)

258 isolates



Percentage of food (n=258) and clinical isolates (n=118) for biofilm formation test

Conclusions

- In general, food strains have more capacity to form biofilms;
- At 37°C, 4.2% of the clinical strains of *L. monocytogenes* were classified as strong biofilm producers against 0.39% of the food isolates;
- The biofilm production was temperature, strain and time dependent

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