


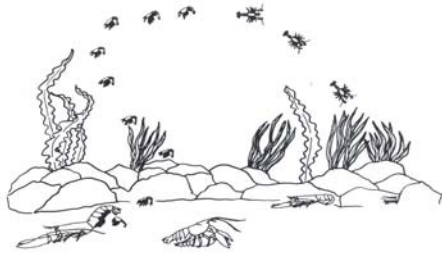
## Quality Optimization of Hatchery-reared Lobster Larvae for Survival in the Wild

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### Introduction

Natural Life cycle



### Introduction

Our intervention

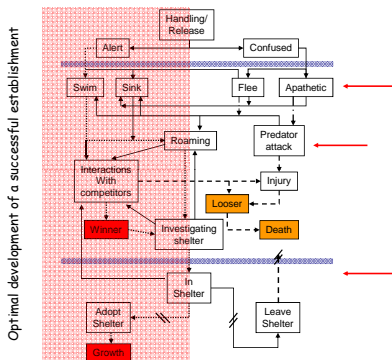


Safe rearing of young lobster stages through the most vulnerable life stages

~ 14 days

~ 1-2 months

### Problematic



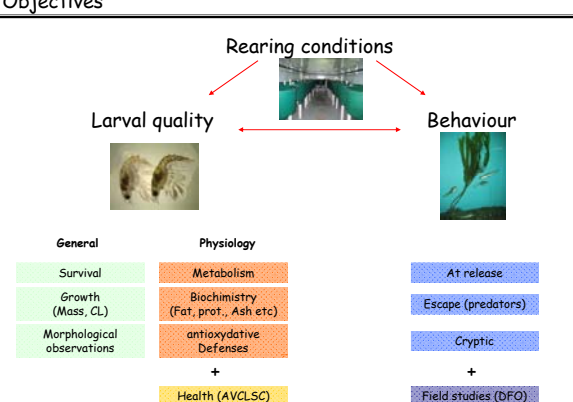
Optimal development of a successful establishment

Modified from Gro Van Der Meeren 2005

### Objectives

Rearing conditions

Larval quality ← → Behaviour



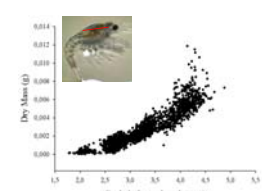
General		Physiology		Behaviour
Survival	Growth (Mass, CL)	Metabolism	Biochemistry (Fat, prot., Ash etc)	At release
Morphological observations		antioxydative Defenses		Escape (predators)
		+		Cryptic
		Health (AVCLSC)		+
				Field studies (BFO)

### Methods

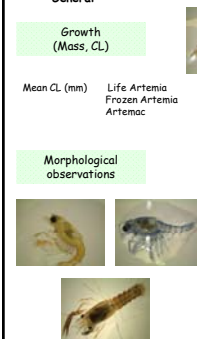
#### Larval quality

General		Stage 1 (x 12,5)	Stage 2 (x 12,5)	Stage 3 (x 6)	Stage 4 (x 6)
Growth (Mass, CL)	Life Artemia	2,07 ± 0,10	2,78 ± 0,11	3,32 ± 0,16	4,23 ± 0,19
	Frozen Artemia	2,07 ± 0,10	2,72 ± 0,10	3,31 ± 0,17	4,28 ± 0,51
	Artemac	2,07 ± 0,10	2,66 ± 0,10	3,18 ± 0,14	3,85 ± 0,16

N = 1960 larvae



Morphological observations



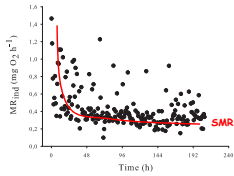


### Methods

#### Larval quality

Physiology

Metabolism






Modified from Daoud et al. 2007

### Methods

#### Behaviour

At release




5 min observations:

<24h stage 4	13% hidden
24h+ stage 4	36%
48h+ stage 4	39%
72h+ stage 4	73%

Escape from predator

Cryptic behaviour




Master Project  
Gilles Miron (UMCM)  
Sébastien Plante (UMCS)

Using technics developped at the CZRI by Theriault et al. 2007

### Methods

#### The field part



Lobster survival:

after 1 month in condos	(2008)
after >8 months in condos	(2009)
after >8 months in collectors	(2009)


+ BACI experimental seeding sites (DFO collaboration)

### Conclusion

A multidisciplinary project (from the lab to the field)

Multiple collaborations  
(DFO-Moncton, DFO-Mont-Jolie, AVCLSC, Moncton University ...)

A lot of work !



Department of Fisheries NB

Maritime Fishermen's Union

