



Reproduction of
P. vannamei
in Europe

Eric De Muylder

CreveTec

www.crevetec.be

EU Legislation

EU legislation does not allow imports from other countries than US

Logic ??????

US is not free from Whitespot and other diseases

Import of crustaceans for ornamental purposes is allowed
(American crayfish has destroyed local species)

Import of any fish species is allowed

Import of frozen (raw, not cooked) crustacean, carrying shrimp diseases is allowed, so anybody can use them as bait and infect natural resources (Australia)

Import from US problematic

Only 2-4 hatcheries on mainland US (not including Hawaii)

One has announced to stop, one is destroyed, one is limited in capacity and the 4th is yet to start operation

There is already a shortage for US shrimp farmers, so why would they be interested to export

Long transit time causes problems

Import from US problematic

PL are cooled down to 18-20 degrees to calm them and reduce metabolism

In Winter they arrive at 16 and in summer at 21 degrees

Even if they claim to send PL11, PL sizes are sometimes smaller (6-7 mm)

Gills of PL should be completely developed to survive low temperature (oxygen transfer rate goes down a lot at low temperature) , smaller PL will suffer

PL that suffered will carry this weakness during the rest of the cycle and die continuously

Without feeding, vibrio take the opportunity to develop in the intestine, further weakening the PL

Reproduction in Europe ?

Assumptions

Selling price 30 Euro per 1000 PL15

1 million sales per month, income 30 000 Euro per month

Staff required for 24 hours: 3-4 persons + experienced !

Dry out periods regularly

Import of broodstock

Presently such operation is not really profitable

Solution ?

Shrimp farming is profitable when total survival is $>40\%$

Small hatcheries linked to growout (common staff and infrastructure) → risk of contamination !

Cooperation for exchange of broodstock ?

Production site for naupplii (genetic center) and then larval growong units ?

We can wait for more farms, but if we wait too long there will be less farms

Farming a “European” species ?

Kuruma Prawns (*P. japonicus*) is common in the Mediterranean sea.

It is said it only grows in extensive systems and requires a sandy soil and natural feed



Farming japonicus trial 1

Sandy soil

Plastic substrates

Earthen soil

Lined bottom

Starter, high protein

(54 %) feed

Frozen copepods twice per day



Farming japonicus trial 1

Starter feed	sand	nets	liner	Sand + nets	earth
Copepods	sand	nets	liner	Sand + nets	earth

Trial for 2 weeks , starting at 0,2-0,4 g, 50 shrimp/m2

Farming japonicus trial 1

	growth	% growth	survival
pl800	0,105	38,18%	89,60%
copepods	0,040	23,17%	81,60%
nets	0,092	33,70%	86,50%
no nets	0,066	25,66%	73,50%
sand	0,133	42,64%	82,50%

Farming japonicus trial 2

3 densities (20, 100 and 250 shrimp/m²)

Trial for 5 weeks , starting at 0,4g

2 feeding regimes, all 10% of bodyweight p1800
starter diet, some complemented twice daily
with bioflocs loaded with plankton (mostly
copepods and rotifers)

Farming japonicus trial 2

	average weight				
number	start	end	growth	survival	FCR
250	0,52	1,44	0,92	93,40%	2,187
100	0,44	1,76	1,31	99,00%	1,196
20	0,44	2,46	2,01	87,50%	0,912

No difference for feeding regime

Density does not affect survival

Survival is good

Growth is affected by density

Thank you !

