

Shrimp hatcheries in Europe

Personal experience and future perspectives

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Marsupenaeus japonicus Kuruma shrimp

- Wider temperature range (10-35°C)
- Easier reproduction technique
- Lower stocking densities
- Requires sandy/muddy pond bottom
- Possible transport and sale of live shrimps
- High market value



Penaeus vannamei Whiteleg shrimp

- Narrow temperature range (20-35°C)
- Reproduction requires more labour
- Higher stocking densities
- Lined ponds work better at higher densities
- Low market value

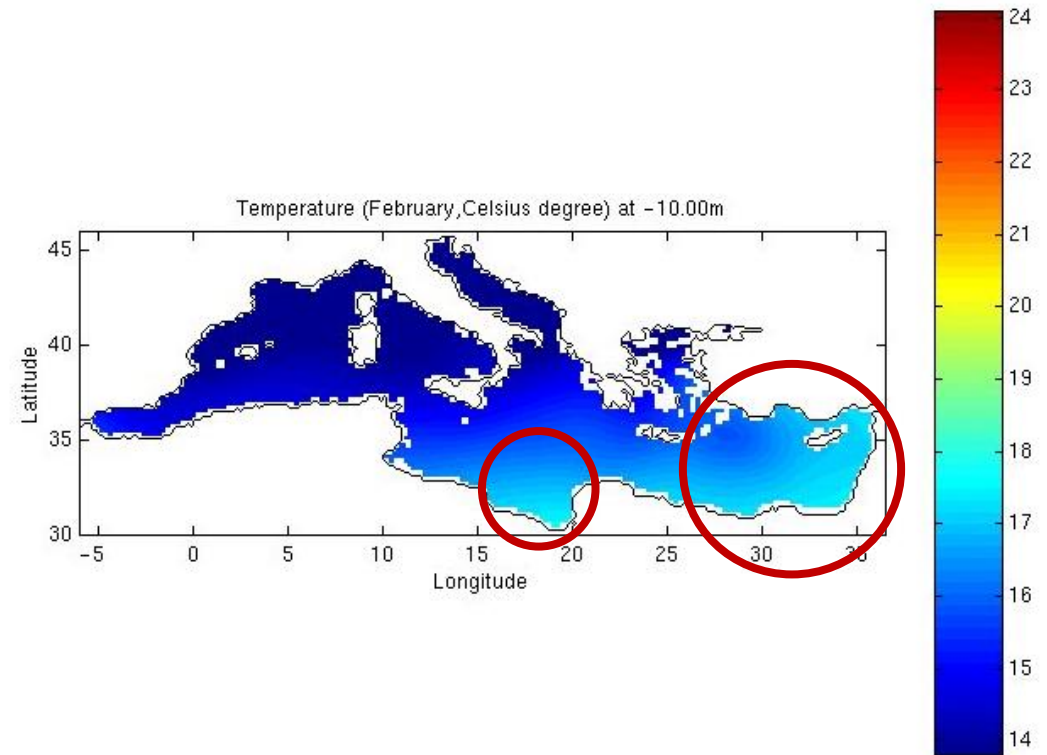
Temperature tolerance



Sub-tropical



Tropical



Marsupenaeus japonicus

Kuruma shrimp



Italian experience

- 70'-80': Release in lagoons from using French post larvae
- 90'-2000: Pond farming in extensive conditions
- From 2000: Italian hatcheries



Veneto
Sardinia
Apulia
Sicily

Marsupenaeus japonicus Kuruma shrimp



Italy - hatcheries

- Valle Verde snc, Lesina (Apulia)
- GEPRIGAP, Carloforte (Sardinia)
- Veneto agricoltura (Veneto)





Marsupenaeus japonicus

Italy, Lesina

- Extensive farming (40 ha)
- 1-2 pcs/square meter
- Very poor pond management
- Poor results



Marsupenaeus japonicus Kuruma shrimp



Intensive farming (Japan)

- 50 pcs/square meter
- Clean sand bottom
- Aeration

Results:

- High survival



Marsupenaeus japonicus

Personal experience



What do we miss?

- Customized feeds
- Pond management (modern approach)
- Disease monitoring
- Post larvae



Penaeus vannamei

Personal experience



First trials 2010-2012

- Biofloc technology
- Super-intensive (>400 pcs/ square meter)
- Relatively low cost installation
- 100% recirculation

Results:

Good survival

Issues:

Price not accepted by the market

Very unstable system

Poor or none probiotic use

Biofloc vs Vibrio sp.?

Penaeus vannamei

Personal experience



From 2015 European projects booming

- Very diverse technology
- Super-intensive
- Mostly high installation costs (RAS)
- Small water exchange

Pros:

- Very good marketing
- High market price
- Stable systems

Issues:

- Low survival
- Vibriosis still very common

Penaeus vannamei

Personal experience



Italian project
Mixed technology
Biofloc/RAS



Penaeus vannamei

Personal experience



2018 Post larvae production in Italy

- Only **SPF broodstock** from US (Hawaii)
- SPR for many diseases
- High growth rates
- Very **high survival** (up to 90%) compared to previous experience (20-50%)

Italian hatchery Personal experience



Italy, Lesina

Present hatchery capacity:
2 millions pls/month

Target production: 5-7
millions/month



Penaeus vannamei

Present list of vannamei farms



Country	Existing projects	Projects under construction	Total capacity (tons/year)	Average capacity (tons/year)	Post larvae needed (millions/year)
Austria	1	2	90	30-60	5.4
Belgium	1		20	20	1.2
France	2		20	5-15	1.2
Germany	6	2?	120	5-30	7.2
Italy	1		30	30	1.8
Netherland		2	20	10	1.8
Latvia	?				
Spain	3		100	30-40	6
Sweden		1	?	?	
Switzerland	2	1	90	10-60	5.4
Total			490		30

European production capacity:
490 tons/year

Number of PLs:
30 millions/year

Marsupenaeus japonicus

Existing japonicus farms in Italy



Location	Post larvae stocked (millions/season)	Location	Post larvae stocked (millions/season)
Valle San Leonardo	0.5	Valle Sparesera	0.3
Valle Bagliona	0.4	Valle Chiara	0.04
Valle Scanarello	0.3	Area of Grado	0.15
Valle Sacchetta	0.15	Marano (Cicotin)	0.05
Valle Ca Pisani	0.3	Valle Pozzatini	0.2
Valle Chiusa	0.3	Mesagne (Lumare)	?
Valle Smerlaca	0.3	Petrosino (Sicily)	?
Valle Bonello	0.2	Sardinia	1
Valle Zappa	0.1	Lesina and Manfredonia	3
Total			

Number of PLs (extensive farming):
 1 cycle/year - **8** millions/year
 2 cycles/year - **16** millions/year

Penaeus vannamei

List of vannamei hatcheries



Country	Old hatcheries	Existing hatcheries	Future hatcheries	Total capacity (million pls/month)
Austria			1	2-10?
Belgium		1		?
France	?			
Germany		1	1	1?
Italy	2	1		5-7
Spain	?	1		1-2?
Switzerland			1	?

Estimated European production capacity: **10-20** millions/month

Estimated European need: **3-5** millions/month

Shrimp farming and Aquaculture are the future We are here to stay and build it together

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