CEVA
CENTRE D'ETUDE & DE VALORISATION DES ALGUES

Towards a sustainable production of novel food from new high value seaweeds

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Aquaculture & Environment

Who are we ?

A technical Centre dedicated to promoting a green, circular and sustainable economy with MACRO & MICROALGAE

CEVA
ECOLOGY & ENVIRONMENT

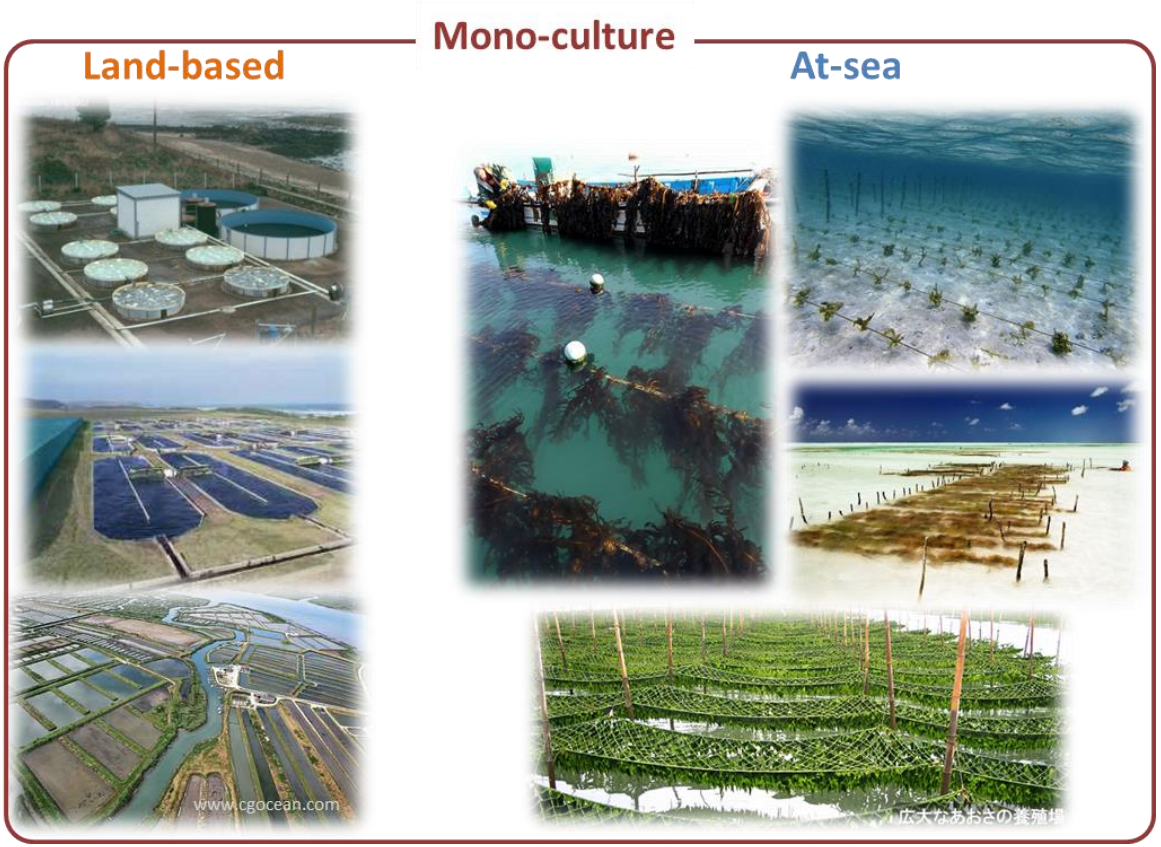
CEVA
AQUACULTURE & SOURCING

CEVA
INNOVATION & PRODUCTS

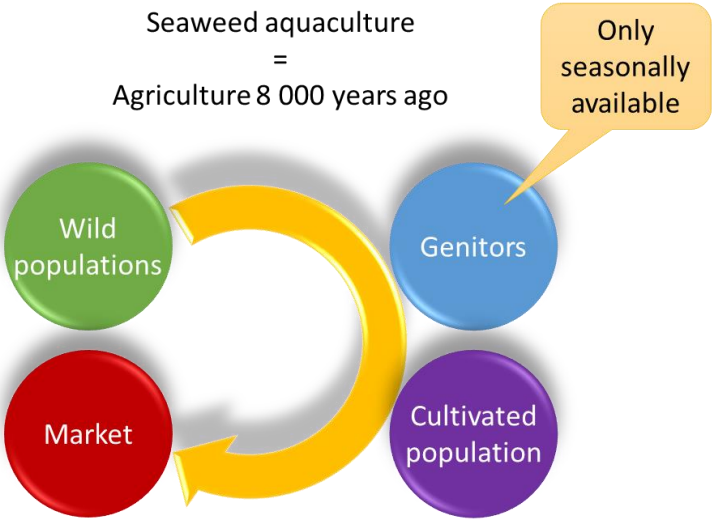
3 teams
« From the wild to the market »

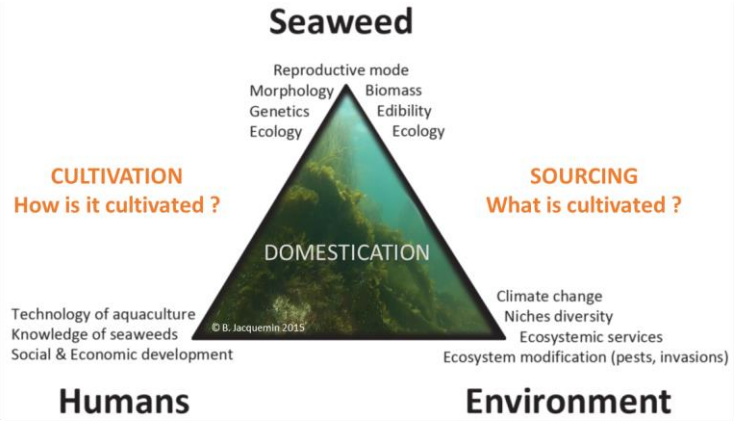
From domestication to a sustainable aquaculture

Seaweeds are still under domestication process



Seaweed aquaculture
=
Agriculture 8 000 years ago

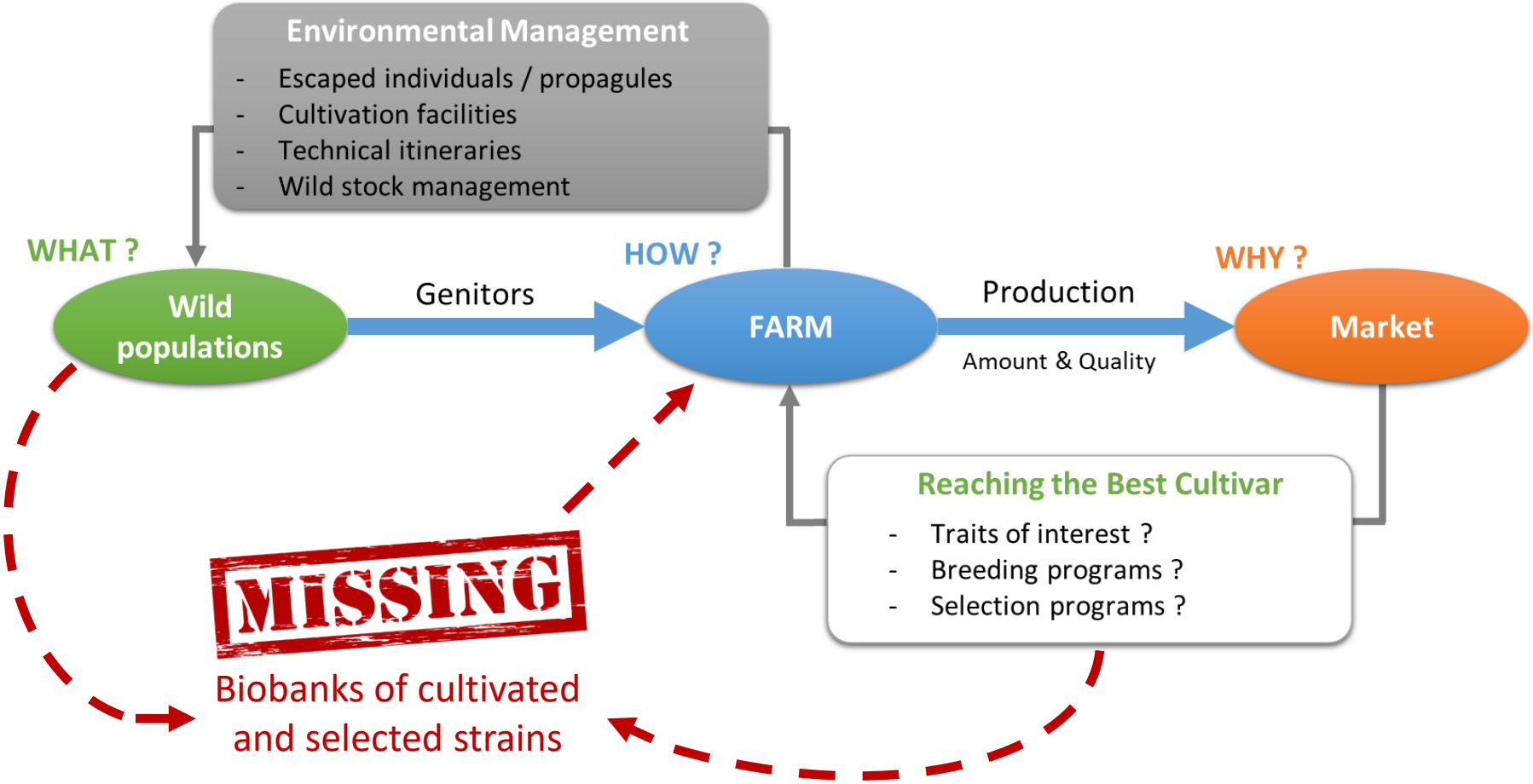




Adapted from Valero et al., 2017

From domestication to a sustainable aquaculture

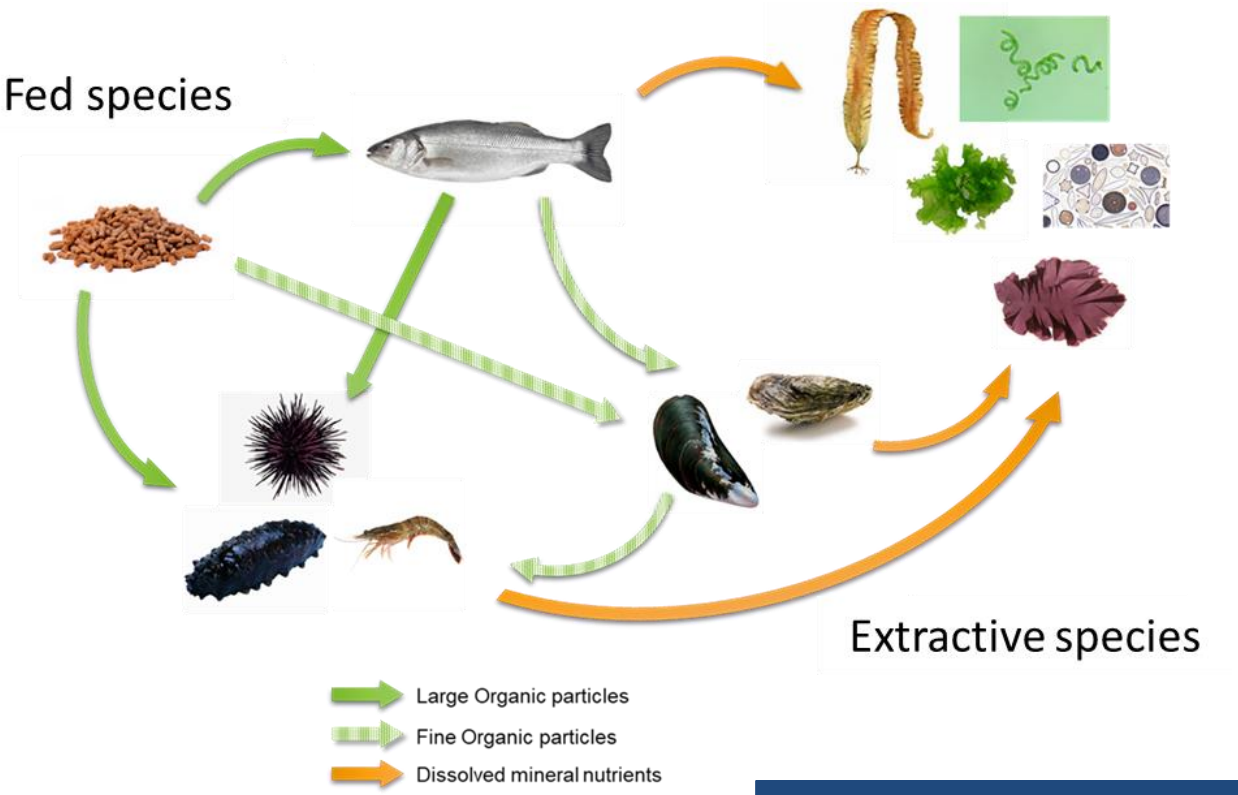
Bottlenecks and challenges for the seaweed farmers

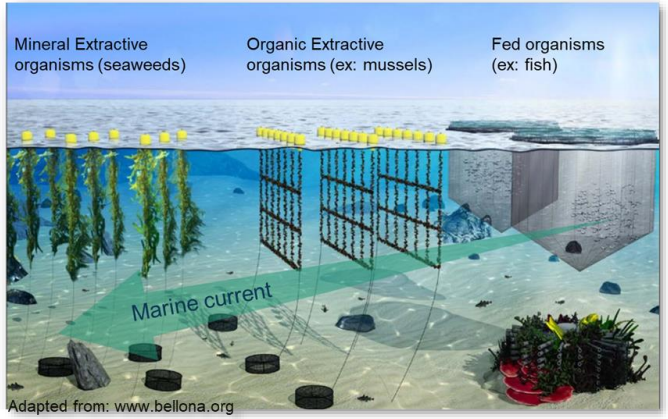


From domestication to a sustainable aquaculture

INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA)

From Guttman & Neori (2017)

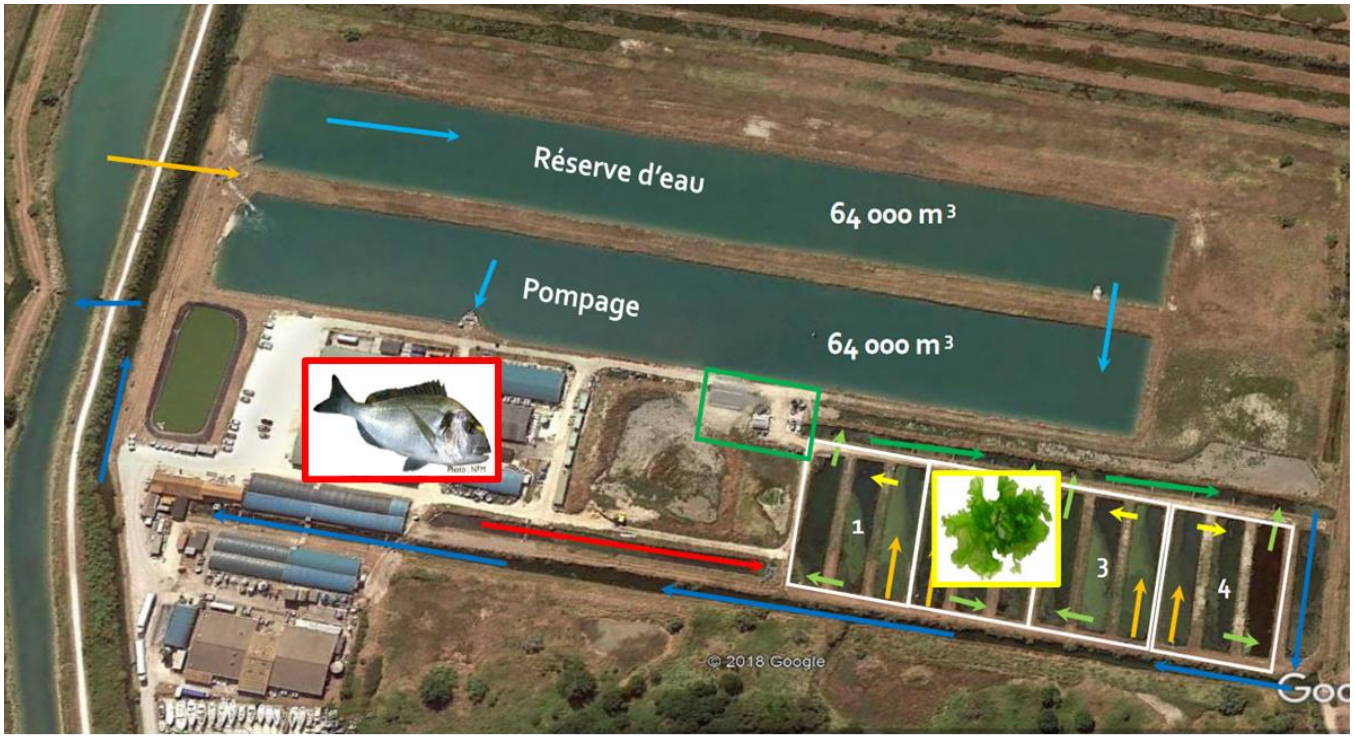




- To reduce the environmental impact
- Income diversification and secured activity

Novel food and high value species

Ulva sp. (Sea lettuce)



© Ferme Marine du Douhet

Protein content (% dry matter) in early summer

- Wild sea lettuce= 14%
- Cultivated sea lettuce = 29%

Novel food and high value species

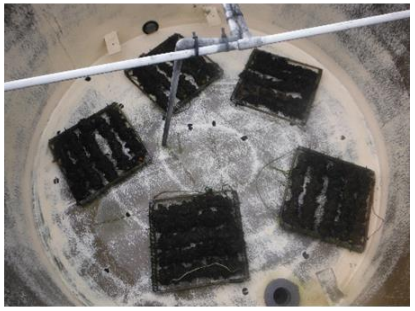
Codium tomentosum

At sea cultivation of *C. tomentosum* is not allowed in France
Only hatchery step and land-based cultivation were developed

Three technical routes for land-based or sea-based cultivation can now be proposed to farmers for commercial scale assays.

freefloating

Oyster pockets



Mussel rope

Rope + Kuralon

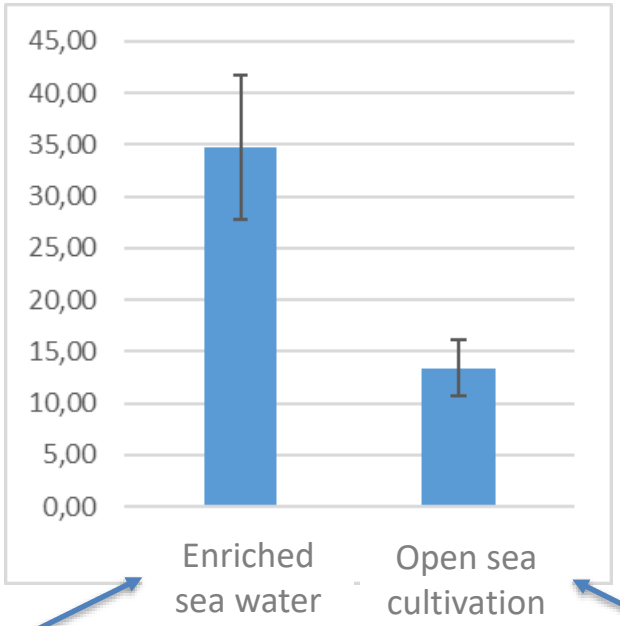
3 months later...

Novel food and high value species

Palmaria palmata (Dulse)

- Land-based freefloating cultivation
- Seawater enriched with finfish effluents

Protein content (% dry matter)



- Oyster pocket
- PVC tubes
- Rope

Novel food and high value species

Porphyra sp. (Nori) combined with oysters

STRATEGY #1

Natural recruitment on oyster pockets

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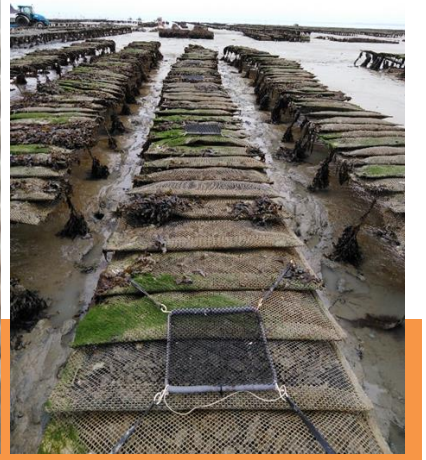
How to manage and use this new resource ?



STRATEGY #2

Artificial seeding on oyster pockets

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Which technical routes and cultivation processes ?

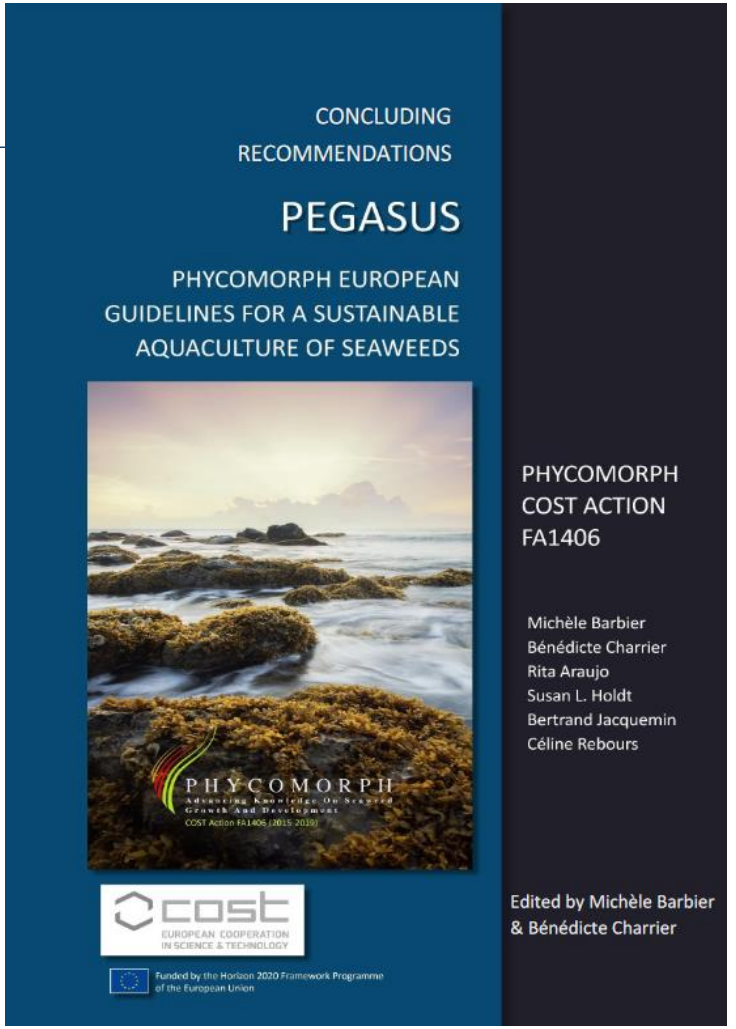
What next ?

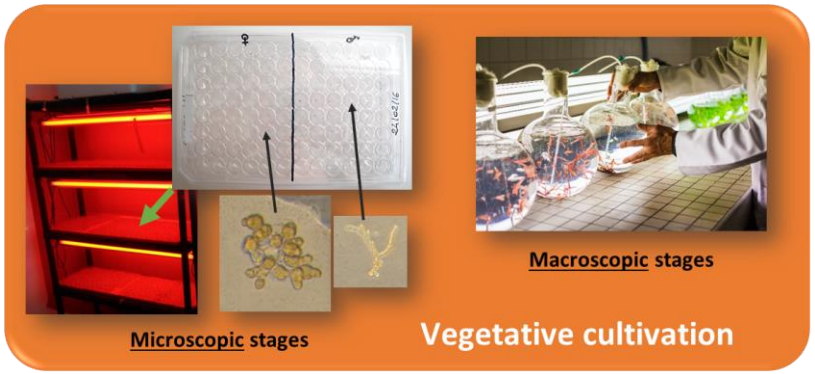
Improve such cultivation systems to a commercial scale

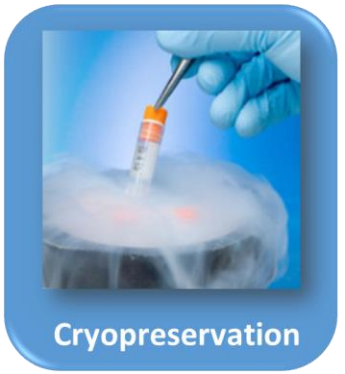
Explore the wild resource for other high value species

Develop selection programs for these high value species

Develop biobanks for cultivated and wild strains







Thank you for your attention

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