



HORTIMARE

Cultivating Confidence

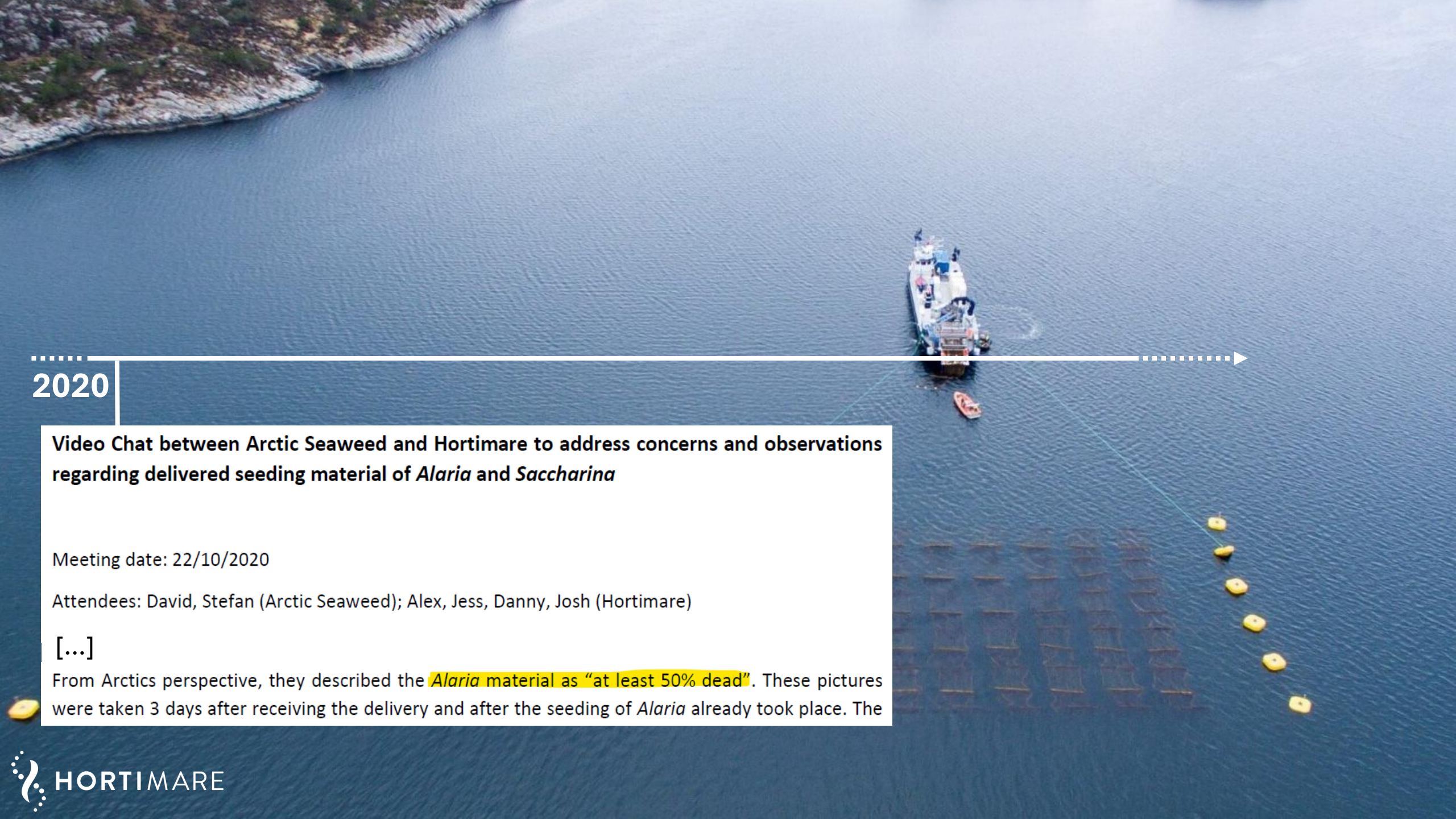
The role of research-backed scaling to
supply high-quality seaweed starting material

Jessica Schiller – 17th of June, Gothenburg



2021





2020

Video Chat between Arctic Seaweed and Hortimare to address concerns and observations regarding delivered seeding material of *Alaria* and *Saccharina*

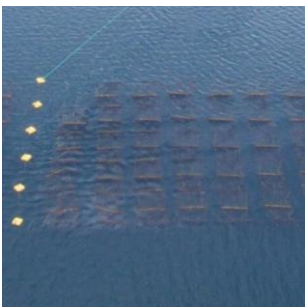
Meeting date: 22/10/2020

Attendees: David, Stefan (Arctic Seaweed); Alex, Jess, Danny, Josh (Hortimare)

[...]

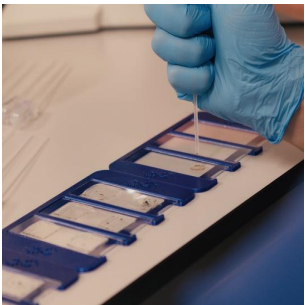
From Arctics perspective, they described the *Alaria* material as “at least 50% dead”. These pictures were taken 3 days after receiving the delivery and after the seeding of *Alaria* already took place. The

What went wrong when it *usually* went right?



- Contamination remained hidden in highly controlled conditions, but bloomed in client nursery
- Assessments were made on few QC points and subjective risk assessment
- Lack of universal standards for seedling quality
- Real scale only used during production season

From research to standards



- Revisited *all* core protocols in internal research
- Focus on robust sporophyte production
 - Water sterilisation
 - spatial and/or temporal process separation
 - Redundancy
- Focus on internal quality controls and data traceability
 - Growth, fertilisation, and contamination tracking
 - Conservative decision making

So, thank you for the material and whatever changed from last year to this year with how images are taken to represent the material, I would say has been very effective.



David Cohen

I've had a good look at the seedstock you sent, it's looking great! Actually, it's the best seedstock we've received from Hortimare. It's exactly what we were hoping for and it travelled very well.

On behalf of our whole team, I thank you for your hard work!

David Cohen

2021

2022

2020

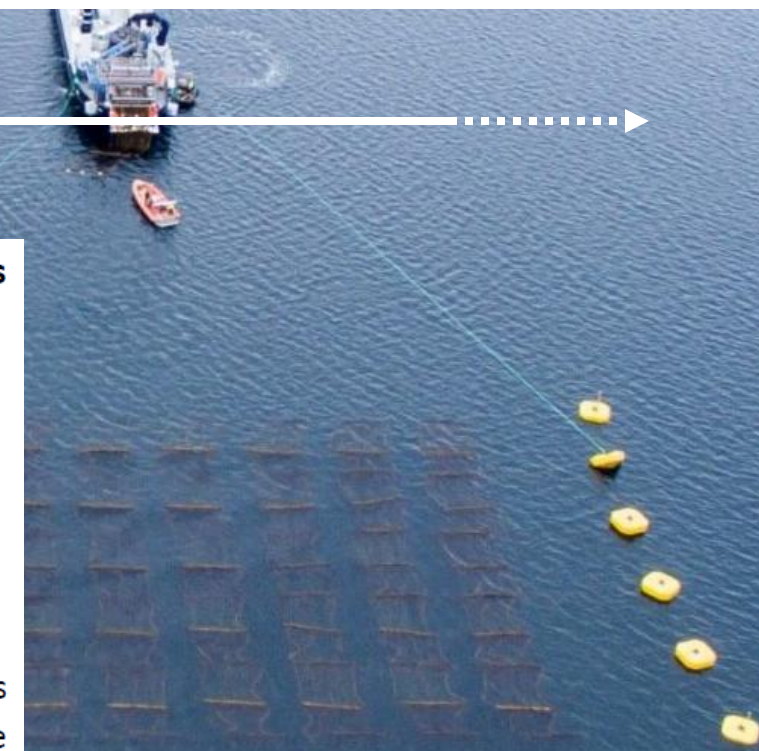
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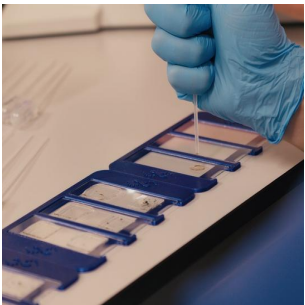
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- Scale testing
- **Full restructuring of the procedure pipeline**
 - **From species focused to process focused → specialists in each area**

Full trust in the process enables progress



- Process optimisation
 - Scaling, efficiency, automation

Production potential for kelp:

- **2 billion sporophytes per month**
= 125-500km direct seeded line
- Protocol transfer with confidence
 - To other species and other locations
- Standardised seedling quality and gene bank as foundations for improvements
 - Attachment research, breeding, priming

What have we learned?

Trust in the process must precede scale.

Scale must happen incrementally and consciously.

Scale can never be a shortcut involving ignored black boxes.

If there is a knowledge gap, we need to explore or at least acknowledge it.

A green nursery and dissatisfied client triggered
fundamental changes that led
to **two big developments in 2026**





Scotland Nursery Hub





 HORTIMARE



ARCTIC
SEAWEED



HORTIMARE



www.hortimare.com

**Find us at Seagriculture EU 2026
or reach out via email to the whole team!**



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