SW-GROW partner meeting, Galway, Ireland

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DTU Update

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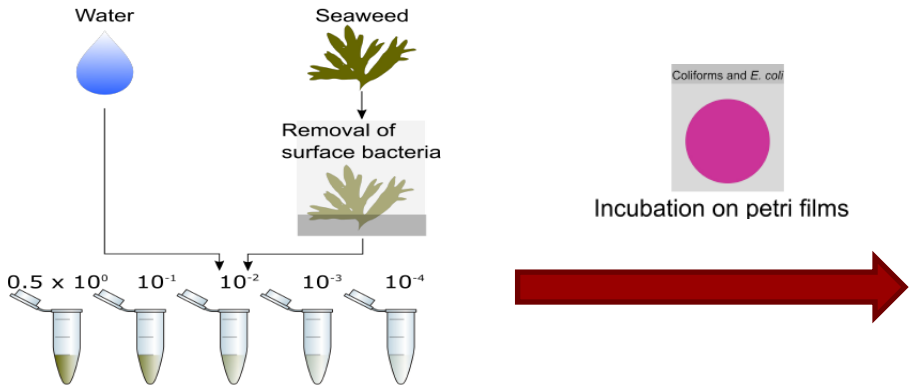
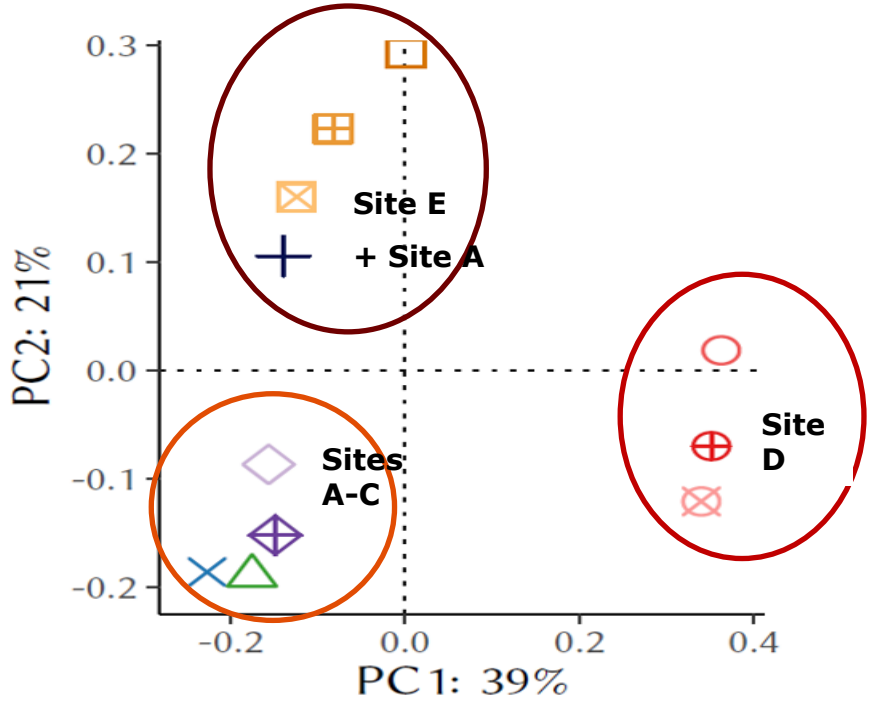
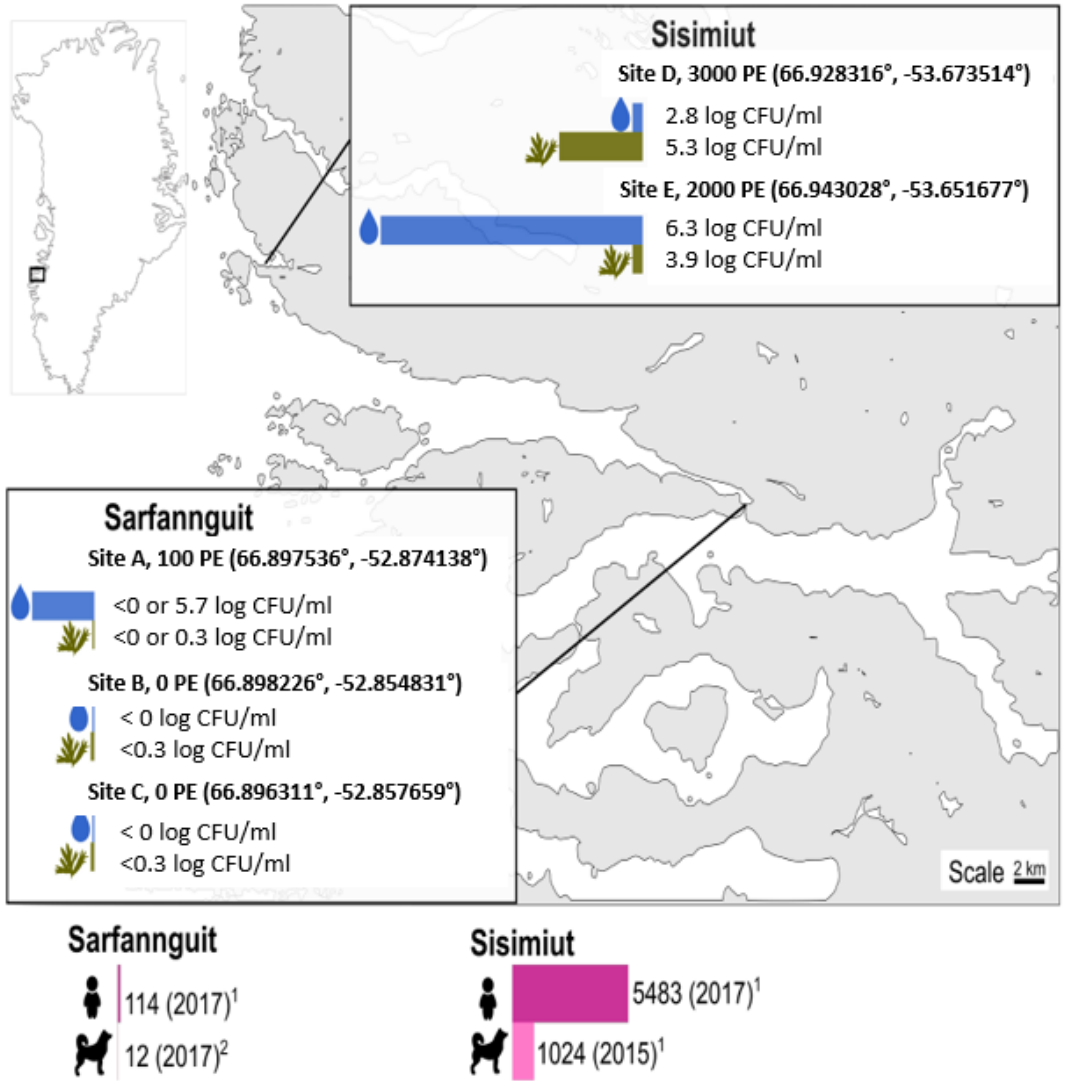
Part 1. Impact of harvest site: human sewage

- Objective:
  - Investigate the effect of wastewater discharge on the microbiota of wild populations of *Fucus* sp. sampled in the tidal zones
  - Generate knowledge that can be used to establish best practise for licensing
- Two communities were sampled:
  - Sarfannguit, a smaller settlement (~110 inhabitants) with limited discharge
  - Sisimiut, Greenland's second biggest town (~5500 inhabitants), close to municipal wastewater outlets.



Seaweed microbiota beta diversity

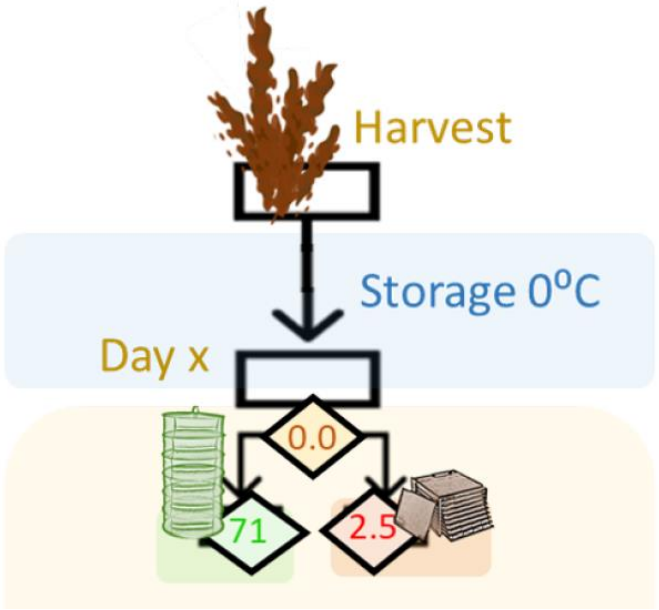


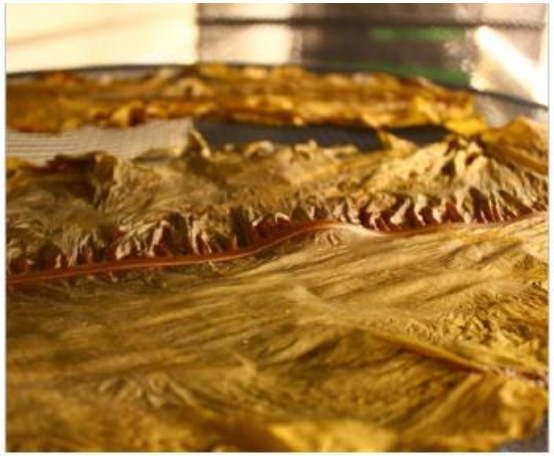


Part 1: Conclusions

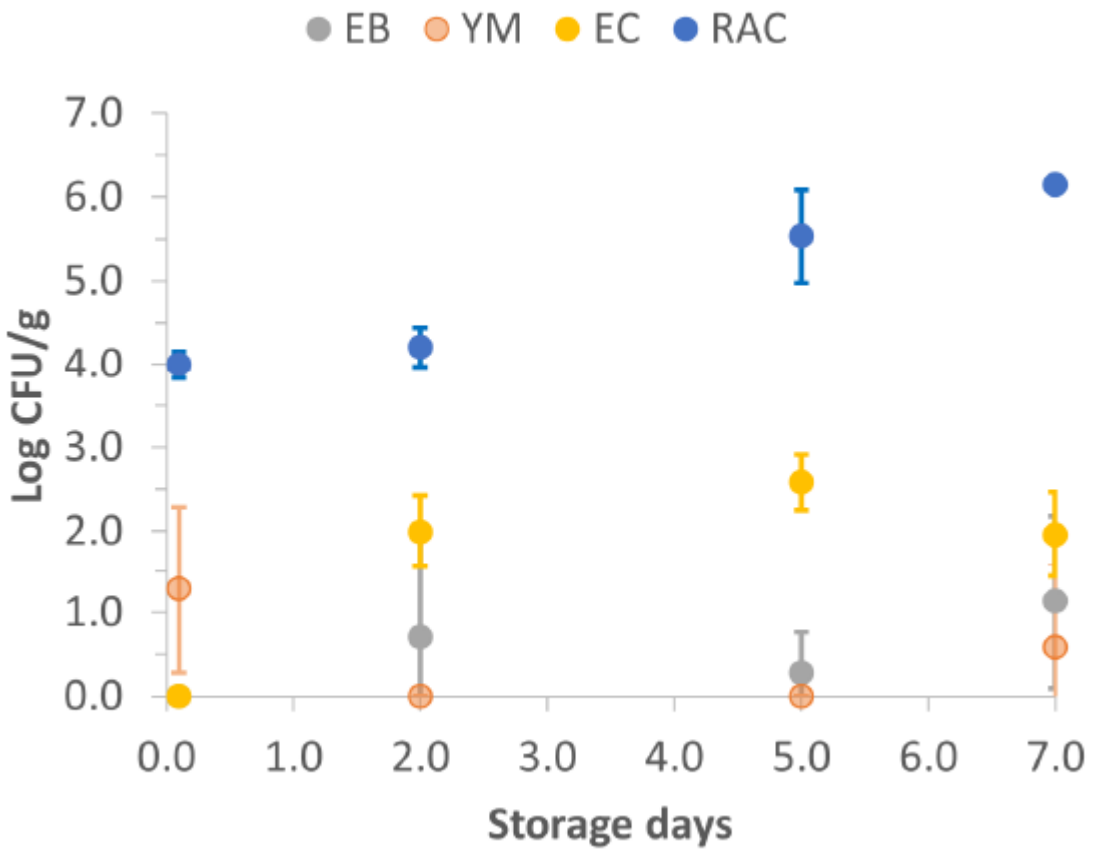
- Greenland *Fucus* sp. collected close to sewage discharge contained human pathogens
- Endogenous bacteria were psychrophilic and counted $10^{9\text{-}10}$ per g seaweed
- The main bacterial families on *Fucus* sp. were *Flavobacteriaceae* and *Rhodobacteraceae*
- Guidelines for harvest sites would promote microbiological safety of seaweed

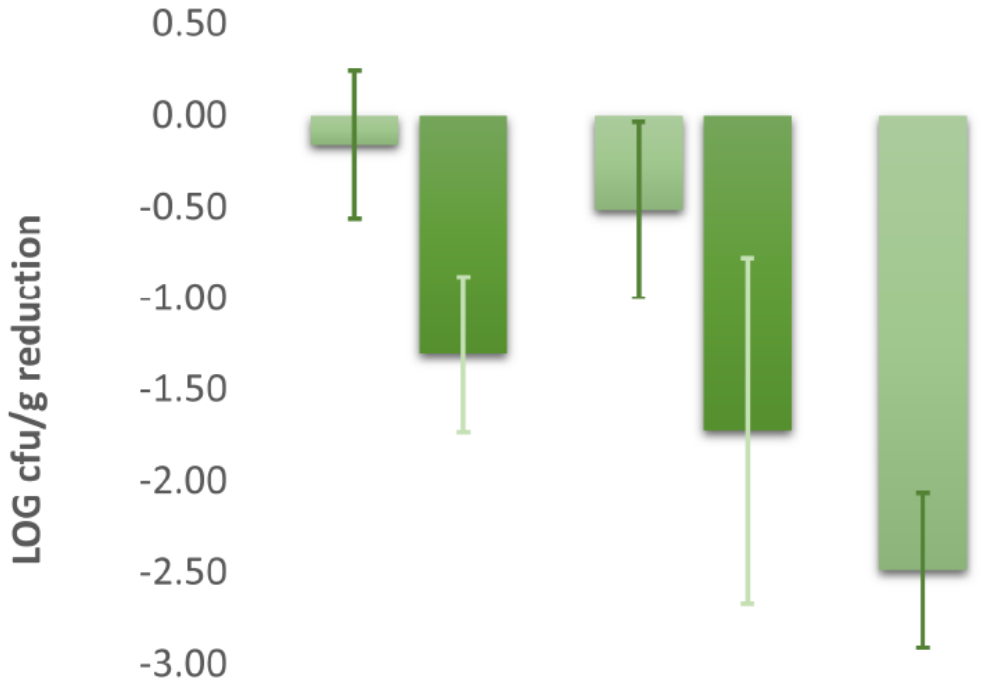
Part 2. Drying





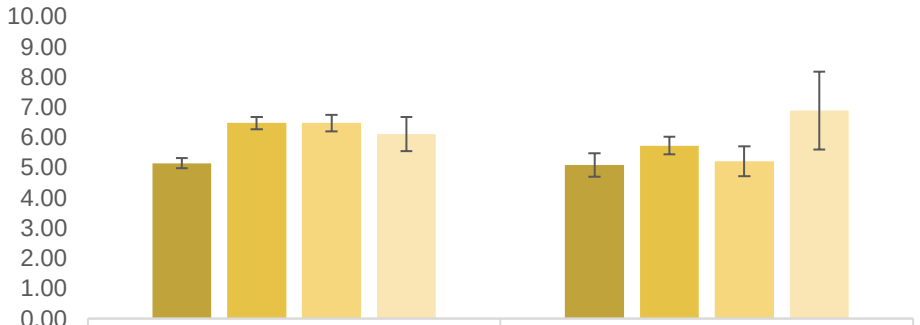
Inactivation of bacteria





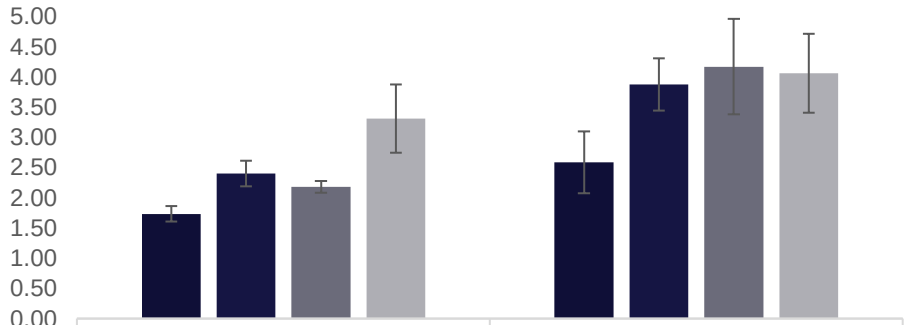
Physiochemical properties of the dried kelp

Water binding capacity



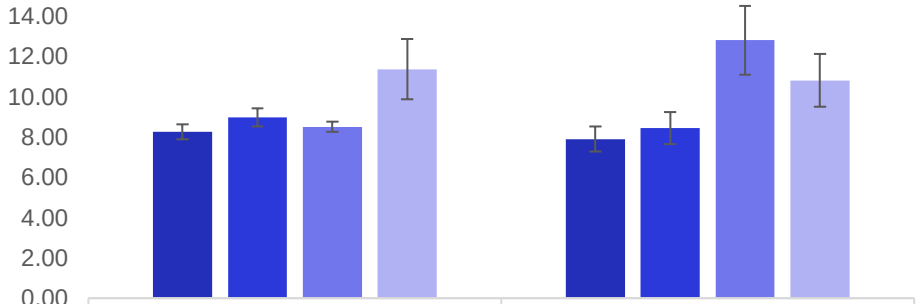
	2.5	71
A0	5.14	5.09
A2	6.47	5.73
A5	6.47	5.20
A7	6.11	6.88

Lipid binding capacity



	2.5	71
A0	1.73	2.59
A2	2.40	3.87
A5	2.18	4.17
A7	3.31	4.06

Swelling capacity



	2.5	71
A0	8.25	7.88
A2	8.96	8.43
A5	8.49	12.79
A7	11.35	10.80

Remaining work to do

- Work related to drying of kelp
  - Run analysis of carbohydrates
  - Data analysis of free amino acids
  - Correlation between the theoretical water loss and the observed values
  - Writing of the scientific paper
- Work related to shelf life
  - In the final step of writing the manuscript, will be submitted to Frontiers special issue: Algae as Food and Ingredient: From Production to Consumer Acceptance.