

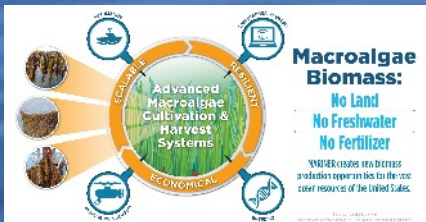
Increasing Farm Yield: Co-culturing of two kelp species.

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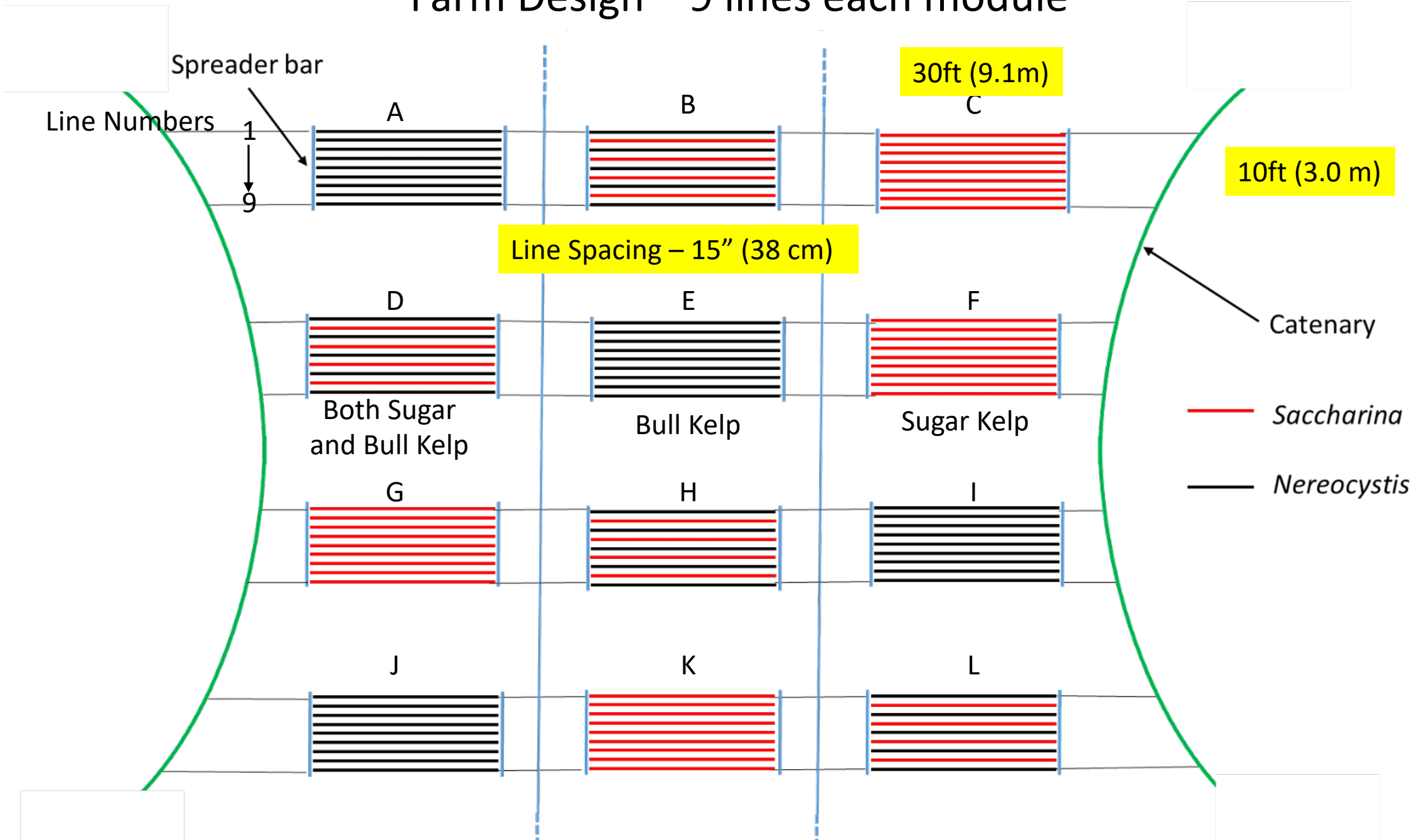


Saccharina latissima
(Sugar Kelp)

Nereocystis Luetkeana
(Bull Kelp)



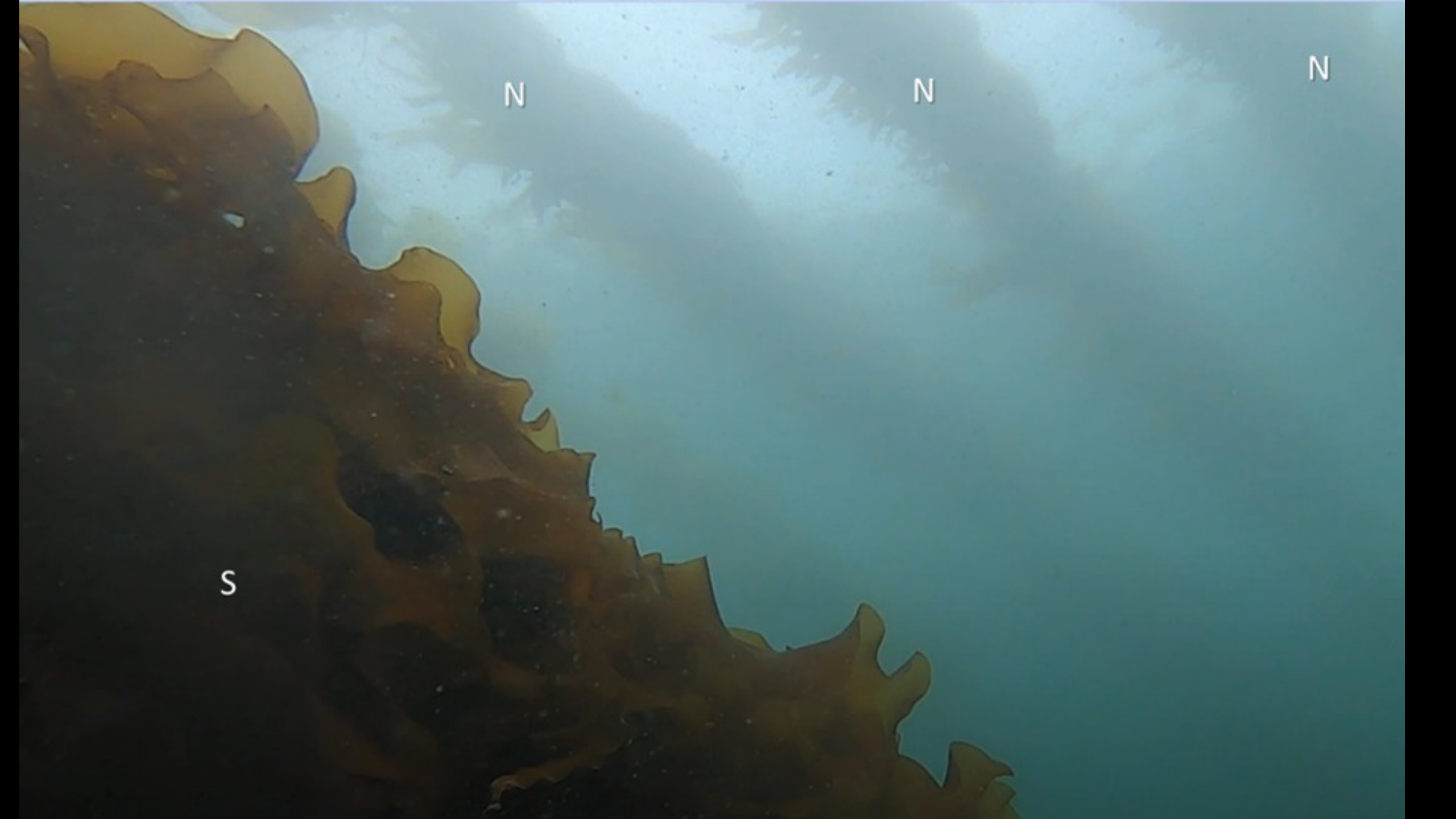
Farm Design – 9 lines each module



Outplanted: Feb 4
Harvested: July 1







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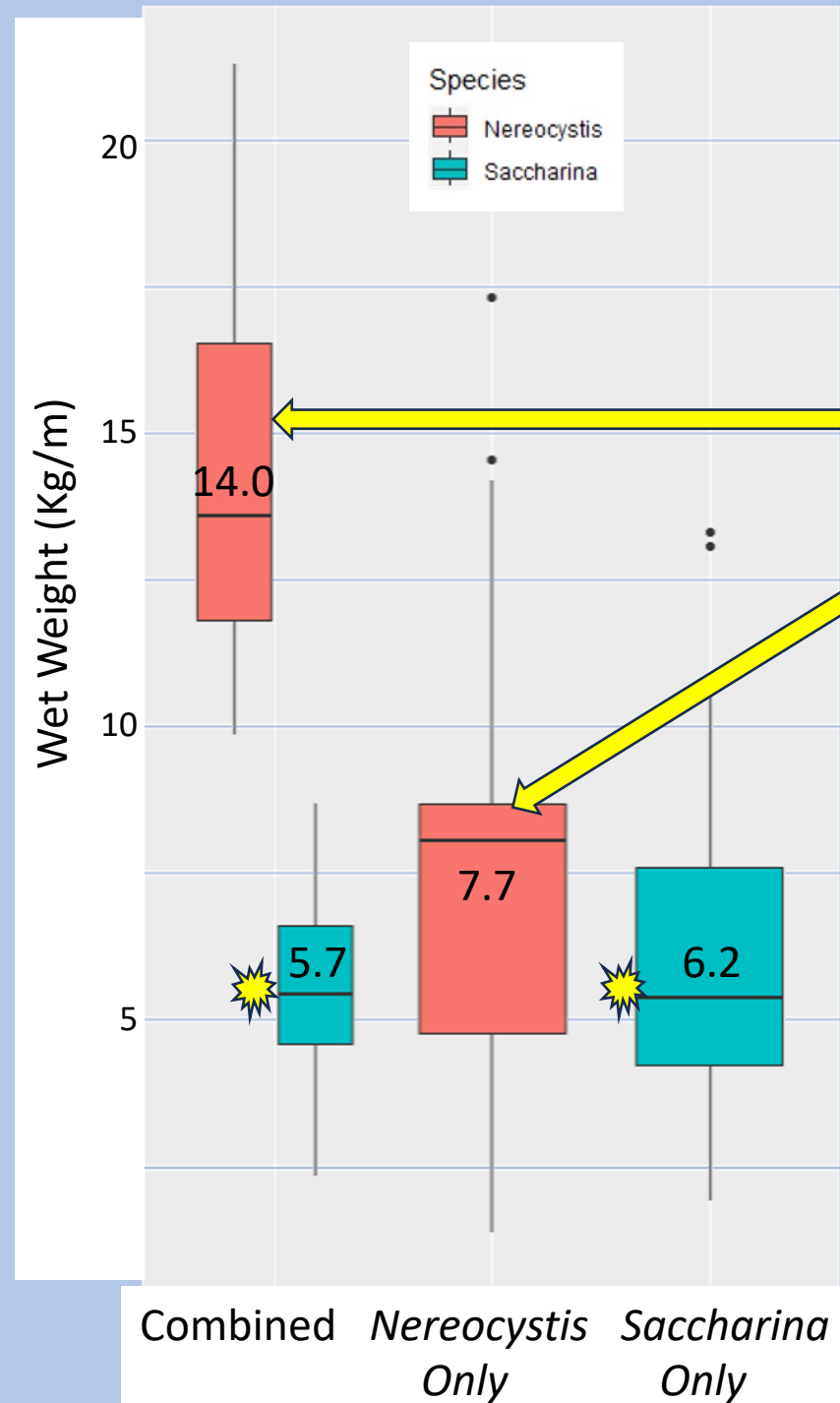
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Harvest Results

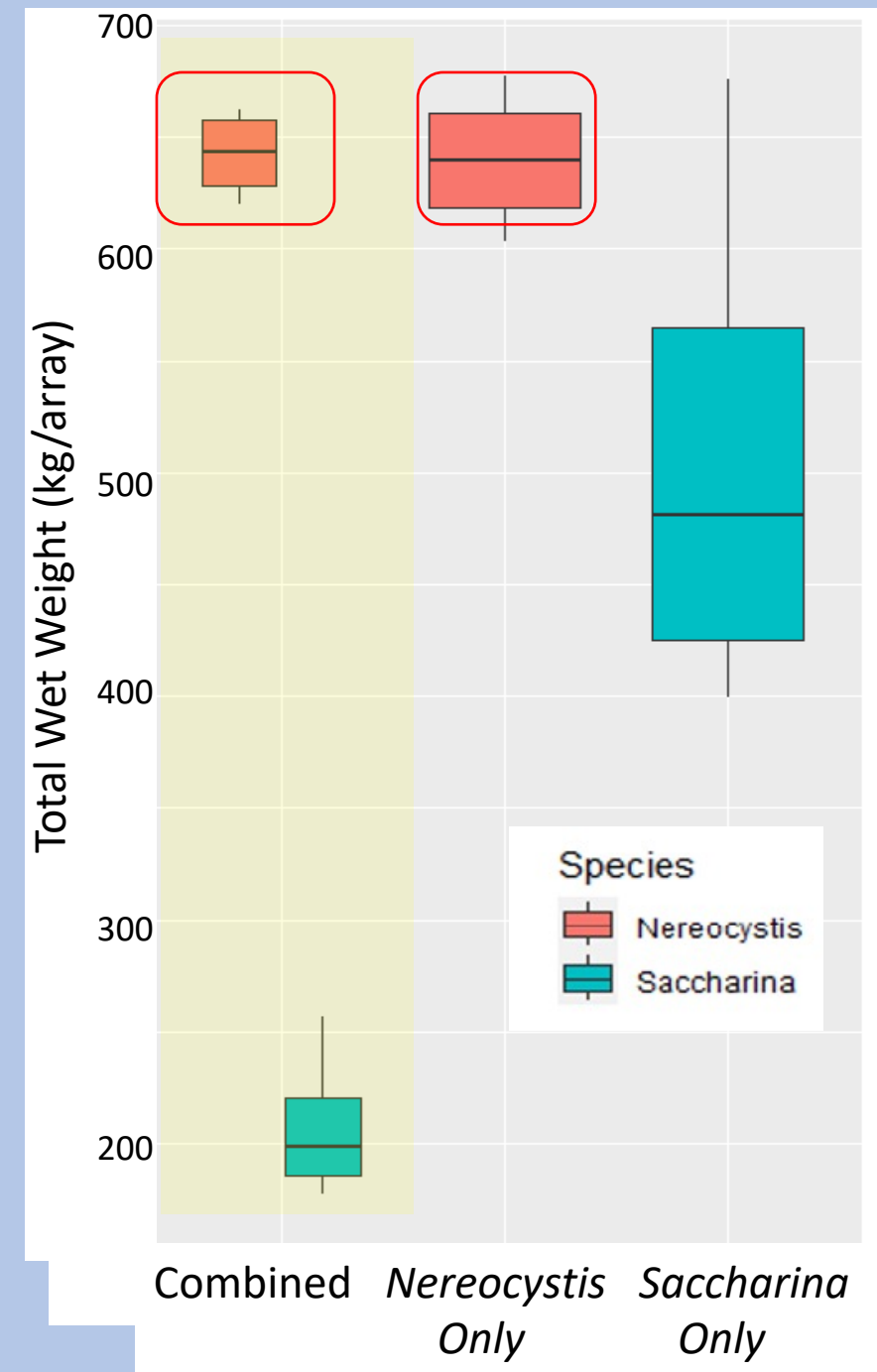
Kg/m



The yield per meter was almost twice as much for the Bull Kelp on the Combined array versus the Bull Kelp only array.

Line spacing plays a large role in overall yield for Bull Kelp but less so for Sugar Kelp.

The Sugar Kelp yield per meter was almost the same on both arrays.



The Total Yield per array for the Bull Kelp over the entire farm was slightly more on the combined array despite have 45% fewer grow-lines.

Yield per m²

Bull Kelp – 9 lines
(*Nereocystis*) 22.97 kg/m²

Sugar Kelp – 9 lines
(*Saccharina*) 18.28 kg/m²

Combination 30.51 kg/m²

Bull Kelp – 5 lines
Sugar Kelp – 4 lines

Overall

About 33% more biomass per array compared to Bull Kelp alone and 67% more compared to Sugar Kelp alone.



This works!

But we had Bleached Bulbs

Due to:

Sun?

Air?

Both?

Caused by growing at fixed depth below the surface?
Bulbs always exposed once they reach the surface.

Possible solutions:

- Grow at fixed depth below the surface if currents and/or waves keep bulbs submerged.
- Grow at fixed depth below 0 tide, *i.e.* fixed height above the bottom –like in real kelp life.