Table S1. Biomass yields from some AMOPs cultivated outdoors on large-scale

Species	Dry Weight Biomass Yield		Notes	Ref.
	$g/(m^2 day)$	metric tons /		
		(ha*yr)		
Arthrospira maxima	7 annual	27 annual	Annual Food-grade Yields,	[8]
			carbonate and NO ₃ . Mexico	
Arthrospira maxima	7.35 annual	27 annual	Year-long experiment, raceway	[2]
(cyanobacterium)			ponds (6 ponds, 3 m ² each),	
			fertilized sea water and urea	
			nitrogen source. (bi)carbonate	
			carbon source. Italy.	
Arthrospira platensis	25-27 summer	60-70	Year-long experiment. Heated	[1]
(cyanobacterium)	12-14 winter	annual	raceway pond (2.5 m ²). Standard	
			medium, NO ₃ nitrogen source.	
			(bi)carbonate carbon source. Israel.	
Gloeotrichia	14.7-18.1	54-66	45 day experiment, raceway pond	[4]
Natans (cyanobacterium)	summer	summer	(2.5 m^2) . NH_4^+ and/or air as	
			nitrogen source (diazotrophic	
			cyanobacterium). Air as carbon	
			source (no CO ₂). Israel.	
Chlorella sp.	23 summer	84 summer	3-day experiments. Outdoor open	[6]
(green algae)			thin-layer photobioreactor (55 m ²).	
			Urea nitrogen source, Flue-gas	
			(CO ₂) carbon source. Czech	
			Republic.	
Tetraselmis suecica	10.5 annual avg.	38 annual	Year long, and 4 month	[3]
(green algae)	19 summer	69 summer	experiments. raceway pond (1000	
			m ²). NH ₄ ⁺ or urea nitrogen source,	
			CO ₂ bubbling carbon source. New	
			Mexico, USA	
Tetraselmis suecica	40 summer	146 summer	1 month experiments. shallow	[5]
(green algae)			outdoor flume bioreactor (48.4 m ²)	
			NH ₄ ⁺ , CO ₂ . Hawaii.	
Skeletonema costatum	61 summer	223 summer	20 Heat-controlled bioreactors (28	[7]
(diatom)			m ² each). India.	

Table S1 references

- 1. Richmond A, Lichtenberg E, Stahl B, Vonshak A: Quantitative assessment of the major limitations on productivity of Spirulina platensis in open raceways. *Journal of Applied Phycology* 1990, **2**:195-206.
- 2. Tredici MR, Papuzzo T, Tomaselli L: **Outdoor Mass-Culture of Spirulina-Maxima in Sea-Water**. *Applied Microbiology and Biotechnology* 1986, **24**:47-50.
- 3. Sheehan J, Dunahay T, Benemann J, Roessler P: A Look Back at the U.S. Department of Energy's Aquatic Species Program: Biodiesel from Algae. Edited by Laboratory NRE: US Department of Energy; 1998.

- 4. Querijero-Palacpac NM, Martinez MR, Boussiba S: Mass Cultivation of the Nitrogen-Fixing Cyanobacterium Gloeotrichia-Natans, Indigenous to Rice-Fields. *Journal of Applied Phycology* 1990, **2**:319-325.
- 5. Laws EA, Taguchi S, Hirata J, Pang L: **High Algal Production-Rates Achieved in a Shallow Outdoor Flume**. *Biotechnology and Bioengineering* 1986, **28**:191-197.
- 6. Doucha J, Straka F, Livansky K: **Utilization of flue gas for cultivation of microalgae** (**Chlorella sp.**) in an outdoor open thin-layer photobioreactor. *Journal of Applied Phycology* 2005, **17**:403-412.
- 7. Kitto MR, Regunathan C, Rodrigues A: **An industrial photosynthetic system for Skeletonema costatum in arid regions**. *Journal of Applied Phycology* 1999, **11**:391-397.
- 8. Ciferri O, Tiboni O: **The biochemistry and industrial potential of Spirulina**. *Annu Rev Microbiol* 1985, **39**:503-526.