Table S1. Summary of available research employing mixed agro-industrial wastewater streams as cultivation medium for microalgae, presenting growth conditions and yields.

Wastewater blends	Substrate pretreatment/ Growth conditions	Mixing ratio	Species	Initial COD concentration (mg L^{-1}) / % Removal	% Removal					Biomass Productivity (mg L^{-1} d^{-1}) / Growth rate (d^{-1})	% lipids (DCW^3)	Reference
					TN[1]	NH_4^-	NO_3^-	TP[2]	PO_4^{3-}			
Brewery (BW)- Expired fruit juice (FJ)- Cheese way (CW)	Filtration of CW/ T: 25± 2 °C, 60-75 µmol photons m^{-2} s^{-1}, pH 7.5, 200 rpm, PBR[4]: 150 mL flasks	Optimization per specie	*C. vulgaris* BW: FJ: CW: 31%: 43.5%: 0.5%	-/ 82.0	-	50.0	-	-	88.0	3.8 gL^{-1} / -	-	[19]
			N. oculate BW: FJ: CW: 50%: 37.5% : 0.5%	-/81.0	-	50.0	-	-	95.0	3.5 gL^{-1} / -	-	
			Scenedesmus sp. BW: FJ: CW: 35%, 39.5%, 0.5%	-/55.0	-	40.0	-	-	62.0	1.8 gL^{-1} / -	-	
Piggery (PIW[5]) - Brewery streams (malting (BM), brewing (BB), packaging (BP))	-/ T: 25 °C, 200 µmol photons m^{-2} s^{-1}, 12/12 L/D, PBR[4]: 750 mL flasks	PIW:BM: 1:1 (w/w), PIW:BB: 1:1 (w/w)	*C. vulgaris* FACHB-31	- /83.0-91.0	32.0-90.0	19.0-100	-	28.0-66.0	-	0.7-1.8 gL^{-1} / -	-	[4]
		PIW: BP: 1:1, 1:5, 1:9 (w/w)		- /83.0-90.0	79.0-96.0	100	-	58.0-95.0	-	1.9- 2.7 gL^{-1} / -	-	
PIW[5] -Winery (WW[6])	Sterilization, sedimentation/ T: 23 °C, 200 µmol photons m	PIW: WW: 20:80%, 50:50%, 80:20%,	*Chlorella* sp. MM3	-/-	43.9-89.3	-	-	11.2-56.5	-	-/-	≈ 25-50.0	[5]

	$^{-2}$ s^{-1}, PBR[4]: 100 mL flasks	PIW: 100%, WW: 100%		-/-	40.8-97.8	-	-	3.1-35.6	-	-/-	≈ 20.0	
Raisin (RW[7]) - WW[6]	Fabric filtration/ T: 28± 2 °C, 200 µmol photons m $^{-2}$ s^{-1}, pH 7-9, PBR[4]: 3.5 L rectangular glass	RW: WW: 85-15%	*Leptolyngbya* sp.-based consortium	2.644-6389/ 36.7-92.8	57.3-78.1	-	28.7-62.4	56.6-60.0	45.9-99.0	79.8-87.8/ 0.16-0.22	12.5-12.9	[34]
		RW: 100%, WW: 100%		1633-3660/ 63.0-93.3	55.4-83.6	-	36.0-51.2	31.0-53.0	78.8-97.0	64.0-123.2/ 0.24-0.47	7-11.6	
RW[7] - WW[6]	-/ T: 28± 2 °C, 200 µmol photons m $^{-2}$ s^{-1}, pH 7-9, PBR[4]: 3.5 L rectangular glass operating as attached growth system	RW: WW: 85-15%	*Leptolyngbya* sp.-based consortium	1927.5-5091/ 89-91.5	77.8-97.1	-	55.0-90.5	-	52.9-87.4	113.0- 230.7/ 0.42-0.587	9.8-18.6	[35]
Expired orange & 9 fruits juice	-/ T: 26± 2 °C, 200 µmol photons m $^{-2}$ s^{-1}, pH 7-9, PBR[4]: 3.5 L glass aquariums	50-50% v/v	*Leptolyngbya* sp.-based consortium	3300-3373.4/ 85.0-93.9	93.4-95.2	-	91.8-96.7	-	83.9-84.6	316.3-340.0/ 0.354-0.371	14.1-19.1	[30]
Dairy processing (mother liquor, salt whey, liquid whey)- Slaughterhouse	Dilution/ PBR[4]: agar plates	1:1 v/v	*C. vulgaris* (UTEX 2714)	3130-6000/ 71.1-82.7	57.8-71.1	92.1-98.0 (NH_3)	-	-	12.2-67.8	1.3-2.6 gL^{-1} /-	19.1-20.8	[20]
PIW[4] – Starch from bakery (SW)	Sterilization, filter clothing/ T: 28± 2 °C, 200 µmol photons m $^{-2}$ s^{-1}, 12/12 L/D, pH: 6.5, PBR[4]: 350 mL glass bottles	PIW: SW: 5:1	*C. vulgaris* - *R. sphaeroides*	-/ 97.0	95.0	100	-	96.0	-	4.1 gL^{-1} /-	6.0	[11]
		PIW: 100%	*C. vulgaris*	-/ 41.0	30.0	36.0	-	43.0	-	0.8 gL^{-1} /-	8.0	

Cattle – Swine & Poultry Digestates	Sedimentation, filter clothing, sterilization/ T: 25± 2 °C, 150 µmol photons m^{-2} s^{-1}, 0.5 L min^{-1} aeration, pH 7.7 PBR[4]: 100 mL flasks	0.125: 0.4375: 0.4375	*C. vulgaris*	680/ 43.9	85.0	-	-	65.6	-	-/-	-	[16]
Mixture digestates (end-life dairy products, pig, chicken & cow manure, cheese whey, slaughterhouse)	Centrifugation, filtration, sterilization/ T: 25± 2 °C, 200 µmol photons m^{-2} s^{-1}, 0.5 L min^{-1} aeration, PBR[4]: 300-400 mL flasks	-	*P. kessleri*	-/ 5.9-33.3	-	9.4 - 49.7 (NH_3)	-	11.6-94.5	-	-/-	19.6-31.3	[17]
			A. obliquus	-/ 8.1-53.7	-	4.3-32.3 (NH_3)	-	8.4-93.8	-	-/-	19.5-26.6	
Dairy (DW[8])-Anaerobically digested DW[8] (DWW)	Centrifugation, sterilization/ T: 28 °C, 5800 lx, 12:12 h L:D, , PBR[4]: 150 mL flasks	D:W: DDW: 1:3, 1:1, 3:1	*Scenedesmus acutus*	-/ 64.5-95.2	86.2-93.3	-	-	-	69.9-89.8	312-372/-	-	[15]
			Tetradesmus spp.	-/ 88.6-91.0	95.2-97.9	-	-	-	68.0-83.0	669-740.3/-	-	
Whey permeate (WP)- dairy processing water	Nannofiltration (WP), sterilization/ T: 25 °C, 12:12 h L:D, PBR[4]: 25 mL flasks	1:1	*C. vulgaris, N. oceanica, T. obliquus*	-/-	-	100	100	-	100	0.42 gL^{-1} /-	-	[12]
Mixed municipal wastewaters (MW)-DW[8]- Poultry extracts (PE)	Filtration, centrifugation, sterilization/ T: 25± 2 °C, 167 µmol photons m	75% MW-25% DW+ PE (5, 10,15, 20 g L^{-1})	*Chlorella* sp.	-/ 76.2-92.2	88.1-92.6	85.7-98.4	73.1-92.1	83.2-97.4	-	220-315/ 0.55-0.60	25.8-32.7	[18]

	$^{-2}$ s^{-1}, CO_2 addition, PBR[4]: 500 mL column											
Second Cheese whey (SCW)-poultry (PW)	Net filtration/ T: 28± 2 ^{o}C, 200 µmol photons m^{-2} s^{-1}, pH 7-9, PBR[4]: 150 mL flasks	SCW: PW: 70: 30% (based on d-COD concentration)	*Leptolyngbya* sp.-based consortium	2914/ 89.2	64.0	-	57.8	-	60.0	268.3 / 0.360	14.0	Present study

[1]TN= Total Nitrogen,
[2]TP= Total Phosphorus
[3]DWC= Dry cell weight
[4]PBR= Photobioreactor
[5]PIW= Piggery wastewater
[6]WW= Winery wastewater
[7]RW= Raisin wastewater
[8]DW= Dairy wastewater