

Techno-Economic Analysis of Fungal Biomass Production from Agricultural Byproducts: Exploring a Low-Cost Solution for Myco-Food Production

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Table S1 Equipment labels, sizing, and purchase cost information used in the two scenarios

Equipment	Label	Scenario 1		Scenario 2	
		Throughput	Cost (\$/unit)	Throughput	Cost (\$/unit)
Grinder	GR-101	50 MT/h	296,000	50 MT/h	296,000
Blending tank	V-101	746 m ³	1,456,000	746 m ³	1,456,000
Heat exchanger	HX-101	134 m ²	65,000	134 m ²	65,000
Screw Press	SP-101	42 MT/h	881,000	42 MT/h	881,000
Microfilter	MF-101	1,109 m ²	671,000	1,109 m ²	671,000
Fermenter*	FR-101	832 m ³	2,085,000	1,306 m ³	2,732,000
Stationary screen	SCR-101	707 MT/h	22,000	1,108 MT/h	35,000
Rotary vacuum filter	RVF-101	159 m ²	355,000	251 m ²	467,000
Stirred reactor	R-101			258 m ³	816,000
Centrifuge	DS-101			116 m ³ /h	2,400,000
Ultrafilter	UF-101			441 m ²	285,000

* There were 5 identical fermenters used in the process, the throughputs and prices listed were for one fermenter.

Table S2 Annual mass flow of input and output streams in two scenarios (unit: MT/year)

Input stream	Scenario 1	Scenario 2	Output stream	Scenario 1	Scenario 2
Almond	15,650	15,200	Fungal	2,906	4,593
NH ₄ Cl	527	845	Solid waste	32,437	22,676
Yeast	210	337	Aqueous	265,887	287,079
Spores	0.004	0.007	Emissions	2,026,456	3,087,471
Air	2,025,726	3,086,361			
Water	293,801	425,656			
Pectinase	0	88			
Cellulase	0	438			

Table S3 Annual utilities consumption in Scenarios 1 and 2

	Scenario 1	Scenario 2
Standard power (MW-h)	34,201	52,417
Steam (MT)	45,040	59,655
Cooling water (MT)	4,074,570	6,208,953
Chilled water (MT)	3,553,660	4,942,581