

Bill of Materials - Rural Food Processing

Team Cocoyam									
Part #	Part Name	Qty	Description	Functions	Material 1	Material 2	Dimensions (mm)	Cost 1	Cost 2
1	Reservoir	1	Reservoir	Hold cocoyam to be dispensed	Plexiglass	Metal	280x200x200	\$33.60	\$67.58
2	Nozzle	1	Nozzle	Directs extruded cocoyam	3D Printed	Metal	50.68x90.68x106.35	\$0.84	\$7.45
3	Plunger	1	Plunger	Pushes cocoyam through reservoir into nozzle	3D Printed	Metal	193.65x193.65x283.18	\$1.78	
4	Roller Base	1	Base, Roller	Base for all rolling operations	Plexiglass	Metal	400x82.41x300	\$8.40	-
5	Roller Handle	1	Handle, Roller	Provides grip to user to engage in rolling	3D Printed	Metal	250x15.88	\$0.50	-
6	Handle Bottom Bracket	1	Bracket, Handle Bottom	Clamps belt to roller bar and provides mounting point for top bracket	3D Printed	Metal	200x41.11x22.23	\$0.42	-
7	Roller Bar	1	Bar, Roller	Guides cocoyam through rolling process	3D Printed	Metal	400x15.88	\$0.81	-
8	Belt	1	Belt	Provides shaping of cocoyam	Rubber Sheet	Rubber Sheet	200x300	\$7.83	\$7.83
9	Side Rail	2	Rail, Side	Guides roller bar through motion	3D Printed	Metal	400x46.35x56.35	\$1.09	-
10	Belt End Bracket	1	Bracket, Belt End	Clamps end of belt to roller base	3D Printed	Metal	260x125x3.18	\$0.71	-
11	Handle Top Bracket	1	Bracket, Handle Top	Connects handle to roller bar	3D Printed	Metal	33.18x70x20	\$0.17	-
12	Handle Pin	1	Pin, Handle	Secures handle to top bracket	3D Printed	Metal	40x20	\$0.04	-
13	90116A211	12	Screw, M4 x 0.7 mm	Fastener	COTS	COTS	M4 (14mm long)	\$12.05	\$12.05
14	94205A230	12	Nut, M4 x 0.7 mm	Fastener	COTS	COTS	M4 (5mm tall)	\$5.49	\$5.49
Total Cost Estimate:								\$73.72	\$100.40

Note: Cost 2 has price for 90mx2m sheet, and 1219.2mm long rod which is sufficient for all parts
 Sheet metal is also enough to make multiples of each part, meaning total cost overall would be lower

	Link to Cost estimate 1	Link to Cost estimate 2
1	https://www.amazon.com/Plexiglass-12-Clear-Acrylic-Sheet/dp/B01NBVKDPD	African weld shop contact
2	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	African weld shop contact
3	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	https://www.steelssupply.com/sku/119871?gclid=EAlaQobChMI_LDGmPbV5QIVchitBh0CGAtUEAQYBCA
4	https://www.amazon.com/Plexiglass-12-Clear-Acrylic-Sheet/dp/B01NBVKDPD	African weld shop contact
5	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	https://www.steelssupply.com/sku/119871?gclid=EAlaQobChMI_LDGmPbV5QIVchitBh0CGAtUEAQYBCA
6	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	African weld shop contact
7	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	https://www.steelssupply.com/sku/119871?gclid=EAlaQobChMI_LDGmPbV5QIVchitBh0CGAtUEAQYBCA
8	https://www.grainger.com/product/E-JAMES-Neoprene-Rubber-Sheet-1MXC8	https://www.grainger.com/product/E-JAMES-Neoprene-Rubber-Sheet-1MXC8
9	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	African weld shop contact
10	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	African weld shop contact
11	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	African weld shop contact
12	(\$0.10 per gram) https://nau.edu/library/3d-design-and-scanning/	https://www.steelssupply.com/sku/119871?gclid=EAlaQobChMI_LDGmPbV5QIVchitBh0CGAtUEAQYBCA
13	(50 per pack) https://www.mcmaster.com/90116a211	(50 per pack) https://www.mcmaster.com/90116a211
14	(50 per pack) https://www.mcmaster.com/94205a230	(50 per pack) https://www.mcmaster.com/94205a230