



PHilMech

Transforming the Future of Agriculture



Multi-Commodity Solar Tunnel Dryer

The Multi-Commodity Solar Tunnel Dryer (MCSTD) technology was adapted by PHilMech as a viable alternative to sundrying and use of commercial mechanical dryers. This dryer is a modified version of the solar tunnel dryer developed by the researchers of the Hohenheim University in Germany.

Benefits

- Cheaper in investment and operation cost than other available commercial mechanical dryers
- Dries commodities simultaneously, efficiently and hygienically
- Preserves the quality of dried products longer because of lesser microbial contamination
- Allows ready supply of processed food products even during lean months
- Uses locally available materials to suit the needs of farmers and fisherfolks engaged in processing
- Easy to install/dismantle and maintain
- Convenient to use
- Gender friendly, can be used by women



Specifications

Commodities: Banana, Cassava, Danggit, Dilis, Camias, Mushroom, Tomato, Espada, etc.

Construction Materials :
Heat collector and drying bed: Bended metal sheet, G.I. pipe and plastic sheet

Blower: 1.0-1.25 m/sec
220 V, single phase

Dimension:
Heat collector: L = 7.3 m, W = 2.0m
Drying bed: L= 9.8 m, W= 2.0 m
Axial fan: 88 watts, 220 V

Investment Cost P180,000.00 to P 230,000.00

Drying Performance

Aside from providing better quality dried products, the drying performance of MCSTD is significantly better than the traditional sundrying methods in terms of shorter drying time.

Product	Load (kg)	MCSTD (days)	Sundrying (days)
Banana	100	1	1-2
Cassava	200	1.5	2
Danggit	50	1	2
Dilis	50	1	1-1.5
Dried camias	100	1	2
Dried mushroom	60	1	2
Dried tomato	400	3-4	7
Espada	40	half day	1-1.5
Mango	160	2.5	3-4
Squid	40	half day	1-1.5
Shrimp	60	half day	1
Tamarind sweet	300	3-4	7
Tomato sweets	600	3-4	7
Young Tilapia	60	1-1.5	3-4

