

BIO-DIESEL YIELDS FROM DIFFERENT SOURCES

S. #	PLANT	AREA	NO. OF SEASONS PER YEAR	NO. OF TREES *	SEED YIELD PER SEASON (kg) **	CRUDE OIL YIELD ***		BIO-DIESEL TRANSESTERIFIED FROM CRUDE OIL ****		GLYCERINE YIELD FROM CRUDE OIL *****		SOAP YIELD FROM CRUDE OIL *****		OIL CAKE YIELD *****	
						Liters	As % of seed quantity	Liters	As % of crude oil	kg	As % of crude oil	kg	As % of crude oil	kg	As % of seed quantity
1	PONGAMIA PINNATA	PER ACRE @ 20kg seed per tree	1	96	1,920	672	35%	591	88%	60	9%	20	3%	1,248	65%
		PER HECTARE @20kg seed per tree	1	240	4,800	<u>1,680</u>	35%	<u>1,478</u>	88%	151	9%	50	3%	3,120	65%
		PER ACRE @ 50kg seed per tree	1	96	4,800	1,680	35%	1,478	88%	151	9%	50	3%	3,120	65%
		PER HECTARE @ 50kg seed per tree	1	240	12,000	<u>4,200</u>	35%	<u>3,696</u>	88%	378	9%	126	3%	7,800	65%
2	CASTOR BEAN	PER ACRE	2	800	5,600	2,072	37%	1,782	86%	249	12%	41	2%	3,528	63%
		PER HECTARE	2	2,000	<u>14,000</u>	<u>5,180</u>	37%	<u>4,455</u>	86%	622	12%	104	2%	8,820	63%
3	JATROPHA	PER ACRE	1	896	3,584	538	15%	462	86%	65	12%	11	2%	3,046	85%
		PER HECTARE	1	2,240	<u>8,960</u>	<u>1,344</u>	15%	<u>1,156</u>	86%	161	12%	27	2%	7,616	85%

* NO. OF TREES		** SEED YIELD PER SEASON		*** CRUDE OIL YIELD FROM SEED		**** BIO-DIESEL TRANSESTERIFIED FROM CRUDE OIL	
(a) Pongame		(a) Pongame		(a) Pongame		(a) Pongame	
No. of kanals in 1 acre:	8	Seed yield by weight for 5-yr old tree:	20 kg	Maximum:	37% by weight of seed	% yield of Bio-diesel:	88% of crude oil
No. of trees in 1 kanal:	12	Seed yield by weight for mature tree (10-15 yrs old):	40-60 kg	Average:	35% by weight of seed		
No. of trees in 1 acre:	12 x 8 = 96		Avg 50 kg	Crude oil yield calculated on the basis of average %age yield			
		Yield calculated on the basis of average seed yield for 5-yr old as well as mature tree					
No. of kanals in 1 hectare:	20						
No. of acres in 1 hectare:	20/8 = 2.5						
No. of trees in 1 hectare:	2.5 x 96 = 240						
(b) Castor Bean		(b) Castor Bean		(b) Castor Bean		(b) Castor Bean	
No. of Castor Bean shrubs in 1 kanal	100	Seed yield by weight	6-8 kg	%age oil yield:	37% by weight of seed	% yield of Bio-diesel:	86% of crude oil
No. of Castor Bean shrubs in 1 acre	100 x 8 = 800	Average	7kg				
No. of Castor Bean shrubs in 1 hectare:	800 x 2.5 = 2,000	Yield calculated on the basis of average seed yield					
(c) Jatropha		(c) Jatropha		(c) Jatropha		(c) Jatropha	
No. of Jatropha bushes in 1 kanal	112	Seed yield by weight	4-5 kg	%age oil yield:	10-15% by weight of seed	% yield of Bio-diesel:	86% of crude oil
No. of Jatropha bushes in 1 acre	112 x 8 = 896	Average	4 kg	Crude oil yield calculated on the basis of maximum %age yield			
No. of Jatropha bushes in 1 hectare:	896 x 2.5 = 2,240	Yield calculated on the basis of average seed yield					

***** GLYCERINE YIELD FROM CRUDE OIL		***** SOAP YIELD FROM CRUDE OIL		***** OIL CAKE YIELD FROM SEED	
(a) Pongame		(a) Pongame		(a) Pongame	
% yield of Glycerine:	9% of crude oil	% yield of soap:	3% of crude oil (88% Bio-diesel, 9% glycerine, 3% soap)	Crude oil yield from seed:	35% (average)
				Oil cake yield from seed:	65%
(b) Castor Bean		(b) Castor Bean		(b) Castor Bean	
% yield of Glycerine:	12% of crude oil	% yield of soap:	2% of crude oil	Crude oil yield from seed:	37% (average)
				Oil cake yield from seed:	63%

<p><u>(c) Jatropha</u></p> <p>% yield of Glycerine: 12% of crude oil</p>	<p>(86% Bio-diesel, 12% glycerine, 2% soap)</p> <p><u>(c) Jatropha</u></p> <p>% yield of soap: 2% of crude oil (86% Bio-diesel, 12% glycerine, 2% soap)</p>	<p><u>(c) Jatropha</u></p> <p>Crude oil yield from seed: 15% (maximum)</p> <p>Oil cake yield from seed: 85%</p>
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