

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Moringa oleifera*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROTEIN	Seed	384000.0	400000.0	1.478470052739822	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FAT	Seed	200000.0	500000.0	1.235787477603246	--
0	CARBOHYDRATES	Seed	199000.0	207290.0	-1.2562940905081785	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CARBOHYDRATES	Leaf	134000.0	536000.0	-0.6032032039619312	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Seed	120000.0	380000.0	2.1447229043962737	--
0	PROTEIN	Shoot	94000.0	440485.0	2.067455694533936	USDA's Ag Handbook 8 and sequelae)
0	CARBOHYDRATES	Fruit	85300.0	722880.0	-0.3208598062793106	USDA's Ag Handbook 8 and sequelae)
0	CARBOHYDRATES	Shoot	82800.0	388000.0	-1.1642307623170411	USDA's Ag Handbook 8 and sequelae)
0	4-(ALPHA-L-RHAMNOSYLOXY)-BENZYLISOTHIOCYANATE	Seed	80000.0	100000.0		--
0	PROTEIN	Leaf	67000.0	268000.0	0.5601998907619823	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	FIBER	Seed	35000.0	36450.0	-0.7764211777551326	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Seed	32000.0	33333.0	-0.43754270100269194	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Leaf	23000.0	92000.0	-0.4730938536967384	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Shoot	22600.0	105900.0	0.07700906195753883	USDA's Ag Handbook 8 and sequelae)
0	PROTEIN	Fruit	21000.0	177965.0	0.9178226683592118	USDA's Ag Handbook 8 and sequelae)
1	BEHENIC-ACID	Seed	17200.0	43000.0	3.348182643310443	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FAT	Leaf	17000.0	68000.0	0.2299130779748209	USDA's Ag Handbook 8 and sequelae)
0	ARACHIDIC-ACID	Seed	16600.0	39000.0	3.1623085140096574	--
15	FIBER	Shoot	15000.0	70290.0	-1.2000644927201543	USDA's Ag Handbook 8 and sequelae)
0	FAT	Shoot	14000.0	65600.0	0.36045988673155943	USDA's Ag Handbook 8 and sequelae)
15	FIBER	Fruit	13000.0	110170.0	-0.2973093581717314	USDA's Ag Handbook 8 and sequelae)
8	GLUTAMIC-ACID	Shoot	10350.0	48500.0	0.39220423591385656	USDA's Ag Handbook 8 and sequelae)
0	ASH	Fruit	9700.0	82200.0	0.6612698014711165	USDA's Ag Handbook 8 and sequelae)
3	ASPARTIC-ACID	Shoot	9200.0	43110.0	0.6418932393390641	USDA's Ag Handbook 8 and sequelae)
15	FIBER	Leaf	9000.0	36000.0	-1.5523832439995344	USDA's Ag Handbook 8 and sequelae)
2	LEUCINE	Shoot	7910.0	37065.0	1.5509660952798279	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Shoot	6110.0	28630.0	1.4529988914891638	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Seed	6000.0	60000.0	0.7364062176558109	--
13	PALMITIC-ACID	Seed	6000.0	60000.0	0.538393633616372	--
4	LYSINE	Shoot	5370.0	25165.0	1.0391828214272667	USDA's Ag Handbook 8 and sequelae)
14	ARGININE	Shoot	5320.0	24930.0	1.0	USDA's Ag Handbook 8 and sequelae)
3	ALANINE	Shoot	5320.0	24930.0	1.0	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Shoot	5170.0	24225.0	1.0	USDA's Ag Handbook 8 and sequelae)
7	PHENYLALANINE	Shoot	4870.0	22820.0	1.0	USDA's Ag Handbook 8 and sequelae)
0	GADOLEIC-ACID	Seed	4800.0	12700.0	1.1785496122154857	--
14	POTASSIUM	Fruit	4610.0	39065.0	1.8710838289675698	USDA's Ag Handbook 8 and sequelae)
0	PROLINE	Shoot	4510.0	21135.0	1.4258944352803073	USDA's Ag Handbook 8 and sequelae)
3	ISOLEUCINE	Shoot	4510.0	21135.0	1.2767041989957935	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Leaf	4400.0	17600.0	-0.05720258224768924	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	SERINE	Shoot	4140.0	19400.0	1.0	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Shoot	4110.0	19260.0	1.2868384427185613	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Shoot	3470.0	16260.0	1.0	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Shoot	3370.0	15790.0	-0.5662125913142811	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Leaf	2200.0	8800.0	0.37260776805039464	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FAT	Fruit	2000.0	16950.0	-0.5117893532088643	USDA's Ag Handbook 8 and sequelae)
7	HISTIDINE	Shoot	1960.0	9185.0	1.0	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Shoot	1470.0	6890.0	-0.08383731719594234	USDA's Ag Handbook 8 and sequelae)
29	TRYPTOPHAN	Shoot	1440.0	6745.0	1.41273485856346	USDA's Ag Handbook 8 and sequelae)
2	CYSTINE	Shoot	1400.0	6560.0	1.0	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Shoot	1230.0	5765.0	1.0	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Shoot	1120.0	5250.0	0.8439806405575019	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Leaf	700.0	2800.0	-0.39951935749949974	USDA's Ag Handbook 8 and sequelae)
0	KILOCALORIES	Shoot	640.0	3000.0	0.22432885857282978	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Shoot	517.0	2425.0	-0.25371279504053523	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Fruit	500.0	4235.0	0.309512468648855	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Fruit	450.0	3815.0	0.7803747555207075	USDA's Ag Handbook 8 and sequelae)
1	SODIUM	Fruit	420.0	3560.0	0.15364001538601127	USDA's Ag Handbook 8 and sequelae)
0	KILOCALORIES	Fruit	370.0	3135.0	-0.7982227106899622	USDA's Ag Handbook 8 and sequelae)
28	CALCIUM	Fruit	300.0	2545.0	-0.30259294089165506	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	SODIUM	Shoot	90.0	420.0	0.03209133983378128	USDA's Ag Handbook 8 and sequelae)
0	TOCOPHEROLS	Leaf	74.0	296.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
93	TOCOPHEROL	Leaf	74.0	296.0	-0.42871944832620335	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	IRON	Leaf	70.0	280.0	-0.21085163399012055	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
53	BETA-CAROTENE	Shoot	45.0	215.0	0.25672153528088315	USDA's Ag Handbook 8 and sequelae)
6	IRON	Shoot	40.0	185.0	-0.4205794716292474	USDA's Ag Handbook 8 and sequelae)
53	BETA-CAROTENE	Leaf	18.0	72.0	-0.8243829994255151	--
0	VIT-B-6	Shoot	12.0	56.0		USDA's Ag Handbook 8 and sequelae)
39	NIACIN	Shoot	8.0	105.0	-0.03554155028579542	USDA's Ag Handbook 8 and sequelae)
15	RIBOFLAVIN	Shoot	6.0	30.0	1.1234399209254322	USDA's Ag Handbook 8 and sequelae)
6	IRON	Fruit	3.0	30.0	-0.40848626836489793	USDA's Ag Handbook 8 and sequelae)
39	NIACIN	Fruit	2.0	52.0	-0.1162786785242452	--
31	THIAMIN	Shoot	2.0	12.0	-0.11133380761319199	USDA's Ag Handbook 8 and sequelae)
0	VIT-B-6	Fruit	1.0	10.0	0.30163780025644493	USDA's Ag Handbook 8 and sequelae)
12	COPPER	Leaf	1.0	4.0	-0.6510387463181428	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	RIBOFLAVIN	Fruit	0.7	6.3	0.27642502355036735	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	RIBOFLAVIN	Leaf	0.6	6.0	-0.1497366095229266	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
31	THIAMIN	Fruit	0.5	4.5	-0.10659124509620688	USDA's Ag Handbook 8 and sequelae)
12	IODINE	Leaf	0.05	0.7	-0.1409355592404101	--
0	MORINGINE	Root Bark				--
0	CAMPESTANOL	Seed				--
0	D-GALACTOSE	Resin, Exudate, Sap				Abstract (See species file)
9	OXALIC-ACID	Fruit		1010.0	-0.25065522800719753	--
0	STIGMASTANOL	Seed				--
0	PROLAMINE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	BETA-SITOSTERONE	Stem				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
0	ALKALOIDS	Root Bark		1000.0	-0.7738595760878411	--
0	BRASSICASTEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	VANILLIN	Stem				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
0	OXALATE	Leaf		32400.0	0.3002991678428363	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
2	PHYTOSTEROLS	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
47	BETA-SITOSTEROL	Stem				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
9	SPIROCHIN	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	LIGNOCERIC-ACID	Seed				--
47	BETA-SITOSTEROL	Seed				--
14	GAMMA-TOCOPHEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	MYRISTIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
112	ASCORBIC-ACID	Fruit		1200.0	-0.2098766141984456	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
20	CHOLINE	Leaf		4230.0	-0.22919225965734855	--
0	OCTACOSANOIC-ACID	Stem				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
0	NIAZIMIN	Leaf				--
53	BETA-CAROTENE	Seed		100.0	5.8216177591739955	--
0	INDOLEACETONITRILE	Fruit				--
6	MORINGININE	Root Bark				--
0	L-RHAMNOSE	Resin, Exudate, Sap				Abstract (See species file)
32	ALPHA-TOCOPHEROL	Seed				--
20	CHOLINE	Fruit		4230.0	0.27421908226876107	--
0	ERGOSTADIENOL	Seed				--
75	KAEMPFEROL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	INDOLE-ACETIC-ACID	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	MYROSIN	Stem				Tramil
0	BENZYL-AMINE	Root Bark				--
0	L-ARABINOSE	Resin, Exudate, Sap				Abstract (See species file)
0	28-ISOAVENASTEROL	Seed				--
4	DELTA-TOCOPHEROL	Seed				--
0	GLUCOTROPAEOLIN	Root		500.0	-1.0	--
0	BENZYL-AMINE	Bark				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	MYRISTIC-ACID	Shoot				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	WATER	Shoot		786600.0	-1.9587651690049068	USDA's Ag Handbook 8 and sequelae)
0	2,4-METHYLENE-CHOLESTEROL	Seed				--
0	DELTA-7,14-STIGMASTANOL	Seed				--
0	GLUCOSINOLATES	Seed		70000.0		--
6	MORINGININE	Bark				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	EMULSIN	Stem				Tramil
0	WATER	Seed		40000.0	-0.7199266968199146	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	4-(ALPHA-L-RHAMNOSYLOXY)-BENZYLGLUCOSINOLATE	Seed				--
1	DELTA-7-AVENASTEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BAYRENOL	Bark				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
176	QUERCETIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	EICOSANIC-ACID	Seed				--
0	MORINGINE	Bark				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CLEROSTEROL	Seed				--
0	D-XYLOSE	Resin, Exudate, Sap				Abstract (See species file)
0	WATER	Leaf		750000.0	-0.28755334470838456	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ALKALOIDS	Bark		1000.0	-0.8842751242621937	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
75	KAEMPFEROL	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	4-(ALPHA-L-RHAMNOSYLOXY)-BENZYLGLUCOCYANATE	Root		10000.0		--
1	DELTA-5-AVENASTEROL	Seed				--
4	PTERYGOSPERMIN	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FLUORINE	Leaf		4.0	-0.09229434366379953	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
102	CAFFEIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	BASSORIN	Stem				Tramil
1	CHOLESTEROL	Seed				--
0	D-MANNOSE	Resin, Exudate, Sap				Abstract (See species file)
0	WATER	Fruit		882000.0	0.4844831271590589	USDA's Ag Handbook 8 and sequelae)
0	TOCOPHEROLS	Seed				--
0	1-BETA-D-GLUCOSYL-2,6-DIMETHYL-BENZOATE	Root				--
14	SULFUR	Leaf		1370.0	-0.8143977090530928	--
20	BENZYL-ISOTHIOCYANATE	Root				--
2	CAMPESTEROL	Seed				--
0	D-GLUCURONIC-ACID	Resin, Exudate, Sap				Abstract (See species file)
0	4-HYDROXYMELLEIN	Stem				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
9	OXALIC-ACID	Leaf		1010.0	-0.4465321906788087	--
12	STIGMASTEROL	Seed				--

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176	QUERCETIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SULFUR	Fruit		1370.0	-0.031020916059269096	--