

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Bixa orellana*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	APIGENIN-7-BISULPHATE	Leaf				Wealth of India.
0	APIGENIN-7-GLUCOSIDE	Leaf				Wealth of India.
14	ARGININE	Seed		14260.0	-0.4395439633741807	--
112	ASCORBIC-ACID	Fruit	20.0	130.0	-0.2764059964188801	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Seed	47000.0	54000.0	0.18407167746881994	--
0	ASH	Fruit	10000.0	64100.0	0.19256401305898344	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	BETA-BETA-CAROTENE	Seed				--
53	BETA-CAROTENE	Fruit	0.9	113.0	0.0676263349229542	--
0	BIXAGHANENE	Leaf				--
0	BIXEIN	Seed				--
3	BIXIN	Seed		130000.0		--
0	BIXOL	Seed	220.0	290.0		--
0	BIXORELLIN	Leaf				Wealth of India.
28	CALCIUM	Seed	970.0	1640.0	-0.46032369768938997	--
28	CALCIUM	Fruit	70.0	450.0	-0.7860359228467187	--
0	CARBOHYDRATES	Fruit	143000.0	916666.0	0.7154135234419929	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
1	CELLULOSE	Plant		123300.0	-1.4847190579938083	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
10	CROCETIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	CRYPTOXANTHIN	Seed				--
7	CYANIDIN	Plant				--
51	ELLAGIC-ACID	Plant				--
0	EO	Leaf		4000.0	-0.6627798744630032	Wealth of India.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EO	Seed	755.0	844.0	-0.5398304306445602	--
0	FAT	Seed	15000.0	50000.0	-1.1345234870329484	--
0	FAT	Fruit	3000.0	19230.0	-0.4943748966046909	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Seed	158000.0	163000.0	0.2228392359452432	--
15	FIBER	Fruit	5000.0	32000.0	-1.0349590542553007	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	HEMICELLULOSE	Plant		375000.0		Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
7	HISTIDINE	Seed	3620.0	3930.0	-0.5832919077335342	--
0	HYPOLAETIN-8-BISULFATE	Leaf				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	HYPOLAETIN-8-SULFATE	Leaf				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
6	IRON	Fruit	8.0	56.0	-0.3053512758796	--
6	IRON	Seed	42.0	56.0	-0.4404378000213121	--
0	ISHWARANE	Leaf		5400.0		--
0	ISOBIXIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ISOLEUCINE	Seed	5870.0	6380.0	-0.5246406712144218	--
0	KILOCALORIES	Fruit	540.0	3460.0	-0.3046038471441325	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	LEUCINE	Seed	6340.0	8140.0	-0.8558650541221829	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	LIGNIN	Plant		88200.0	-0.9356977799809222	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
15	LUTEIN	Seed				--
0	LUTEOLIN-7-BISULPHATE	Leaf				Wealth of India.
7	LUTEOLIN-7-GLUCOSIDE	Leaf				Wealth of India.
4	LYSINE	Seed	10130.0	14250.0	0.29141709727681386	--
15	METHIONINE	Seed	1280.0	1660.0	-0.6855194715371594	--
0	METHYL(7Z,9Z,9Z')-APO-6'-LYCOPENOATE	Seed				--
0	METHYL(9'Z)-APO-6'-LYCOPENOATE	Seed				--
0	METHYL(9Z)-8'-OXO-8',6'-DIAPOCAROTEN-6-OATE	Seed				--
0	METHYL(9Z)-APO-8'-LYCOPENOATE	Seed				--
0	METHYL(E,E,E)-8'-APO-BETA-CAROTEN-8'-OATE	Seed				--
0	METHYL(E,E,E)-APO-6'-LYCOPENOATE	Seed				--
0	METHYL(E,E,E)-APO-8'-LYCOPENOATE	Seed				--
0	METHYL-BIXIN	Seed				--
3	MUCILAGE	Seed		44000.0	-0.9660399853095324	Wealth of India.
6	MYRISTIC-ACID	Seed	85.0	540.0	-0.2889341505846919	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	NEUROSPORENE	Seed				--
39	NIACIN	Fruit	3.0	19.0	-0.5574314089774005	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	NITROGEN	Seed	24000.0	25200.0	0.09346138760231938	--
2	NORBIXIN	Seed				--
18	OLEIC-ACID	Seed	365.0	5960.0	-0.9301055120263978	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.

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0	ORELLIN	Seed				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
13	PALMITIC-ACID	Seed	660.0	4225.0	-0.6124255906203983	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	PALMITOLIC-ACID	Seed	600.0	3800.0	-1.0	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
24	PECTIN	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	PENTOSANS	Seed		136000.0	1.1963723177917103	Wealth of India.
0	PENTOSANS	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
7	PHENYLALANINE	Seed	4510.0	4650.0	-0.8228397046414154	--
4	PHOSPHORUS	Seed	2820.0	3490.0	-0.4924079511882795	--
4	PHOSPHORUS	Fruit	100.0	641.0	-0.7821283308336285	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PHYTOENE	Seed				--
0	PHYTOFLUENE	Seed				--
0	PROTEIN	Seed	130000.0	176000.0	-0.5141259519411926	--
15	RIBOFLAVIN	Seed		5.0	0.565600070103957	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
15	RIBOFLAVIN	Fruit	0.5	3.0	-0.4303249009534089	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
34	SALICYLIC-ACID	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	SAPONINS	Seed		475.0	-0.49914143402450717	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	SILICA	Plant		2200.0	-1.2488431788851886	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
8	STEARIC-ACID	Seed	200.0	1275.0	-0.5377268697892619	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	TANNINS	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
31	THIAMIN	Seed		2.3	-1.0221252861804977	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
4	THREONINE	Seed	4360.0	7600.0	-0.12022495865829007	--
0	TOMENTOSIC-ACID	Plant				--
0	TOMENTOSIC-ACID	Root				--
29	TRYPTOPHAN	Seed	1340.0	1680.0	-0.5610320274420169	--
3	VALINE	Seed	7620.0	7730.0	-0.5273131819394478	--
0	WATER	Fruit		844000.0	0.3192555702202083	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	WATER	Seed		114000.0	-0.43595782900284474	Wealth of India.
0	WAX	Testa		30000.0		Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
5	ZEAXANTHIN	Seed				--