

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	Fruit	70.0	450.0	-0.7860359228467187	--
28	CALCIUM	Seed	970.0	1640.0	-0.46032369768938997	--
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	Seed	42.0	56.0	-0.4404378000213121	--
6	IRON	Fruit	8.0	56.0	-0.3053512758796	--
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	Fruit	0.5	3.0	-0.4303249009534089	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.
34	SALICYLIC-ACID	Plant				--

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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				--