

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	CARBOHYDRATES	Fruit	143000.0	916666.0	0.7154135234419929	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	WATER	Fruit		844000.0	0.3192555702202083	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.
0	PROTEIN	Seed	130000.0	176000.0	-0.5141259519411926	--
15	FIBER	Seed	158000.0	163000.0	0.2228392359452432	--
0	PENTOSANS	Seed		136000.0	1.1963723177917103	Wealth of India.
3	BIXIN	Seed		130000.0		--
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.
0	WATER	Seed		114000.0	-0.43595782900284474	Wealth of India.
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.
0	ASH	Fruit	10000.0	64100.0	0.19256401305898344	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Seed	47000.0	54000.0	0.18407167746881994	--
0	FAT	Seed	15000.0	50000.0	-1.1345234870329484	--
3	MUCILAGE	Seed		44000.0	-0.9660399853095324	Wealth of India.
15	FIBER	Fruit	5000.0	32000.0	-1.0349590542553007	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.
0	NITROGEN	Seed	24000.0	25200.0	0.09346138760231938	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FAT	Fruit	3000.0	19230.0	-0.4943748966046909	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	ARGININE	Seed		14260.0	-0.4395439633741807	--
4	LYSINE	Seed	10130.0	14250.0	0.29141709727681386	--
2	LEUCINE	Seed	6340.0	8140.0	-0.8558650541221829	--
3	VALINE	Seed	7620.0	7730.0	-0.5273131819394478	--
4	THREONINE	Seed	4360.0	7600.0	-0.12022495865829007	--
3	ISOLEUCINE	Seed	5870.0	6380.0	-0.5246406712144218	--
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.
0	ISHWARANE	Leaf		5400.0		--
7	PHENYLALANINE	Seed	4510.0	4650.0	-0.8228397046414154	--
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	EO	Leaf		4000.0	-0.6627798744630032	Wealth of India.
7	HISTIDINE	Seed	3620.0	3930.0	-0.5832919077335342	--
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.
4	PHOSPHORUS	Seed	2820.0	3490.0	-0.4924079511882795	--
0	KILOCALORIES	Fruit	540.0	3460.0	-0.3046038471441325	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.
29	TRYPTOPHAN	Seed	1340.0	1680.0	-0.5610320274420169	--
15	METHIONINE	Seed	1280.0	1660.0	-0.6855194715371594	--
28	CALCIUM	Seed	970.0	1640.0	-0.46032369768938997	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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	EO	Seed	755.0	844.0	-0.5398304306445602	--
4	PHOSPHORUS	Fruit	100.0	641.0	-0.7821283308336285	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.
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.
28	CALCIUM	Fruit	70.0	450.0	-0.7860359228467187	--
0	BIXOL	Seed	220.0	290.0		--
112	ASCORBIC-ACID	Fruit	20.0	130.0	-0.2764059964188801	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Fruit	0.9	113.0	0.0676263349229542	--
6	IRON	Seed	42.0	56.0	-0.4404378000213121	--
6	IRON	Fruit	8.0	56.0	-0.3053512758796	--
39	NIACIN	Fruit	3.0	19.0	-0.5574314089774005	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.
15	RIBOFLAVIN	Fruit	0.5	3.0	-0.4303249009534089	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
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.
0	PHYTOENE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	METHYL(9Z)-APO-6'-LYCOPENOATE	Seed				--
0	APIGENIN-7-BISULPHATE	Leaf				Wealth of India.
51	ELLAGIC-ACID	Plant				--
0	BIXORELLIN	Leaf				Wealth of India.
7	LUTEOLIN-7-GLUCOSIDE	Leaf				Wealth of India.
0	ISOBIXIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	ZEAXANTHIN	Seed				--
7	CYANIDIN	Plant				--
0	BETA-BETA-CAROTENE	Seed				--
0	PENTOSANS	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	LUTEOLIN-7-BISULPHATE	Leaf				Wealth of India.
10	CROCETIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	TOMENTOSIC-ACID	Root				--
0	METHYL(9Z)-8'-OXO-8',6'-DIAPOCAROTEN-6-OATE	Seed				--
24	PECTIN	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
15	LUTEIN	Seed				--
0	METHYL-BIXIN	Seed				--
2	NORBIXIN	Seed				--
0	METHYL(7Z,9Z,9Z')-APO-6'-LYCOPENOATE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
0	TANNINS	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
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.
0	METHYL(9Z)-APO-8'-LYCOPENOATE	Seed				--
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	TOMENTOSIC-ACID	Plant				--
0	METHYL(E,E,E)-APO-8'-LYCOPENOATE	Seed				--
0	NEUROSPORENE	Seed				--
0	METHYL(E,E,E)-APO-6'-LYCOPENOATE	Seed				--
34	SALICYLIC-ACID	Plant				--
0	BIXEIN	Seed				--
0	METHYL(E,E,E)-8'-APO-BETA-CAROTEN-8'-OATE	Seed				--
2	CRYPTOXANTHIN	Seed				--
0	PHYTOFLUENE	Seed				--
0	BIXAGHANENE	Leaf				--
0	APIGENIN-7-GLUCOSIDE	Leaf				Wealth of India.