

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Vigna unguiculata*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
112	ASCORBIC-ACID	Seed	15.0	75.0	-0.2934304844563088	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Shoot	360.0	3523.0	-0.20054370498849433	USDA's Ag Handbook 8 and sequelae)
81	GENISTEIN	Seed	0.0	23.3	-0.30344190861721754	--
77	ZINC	Seed	10.0	144.0	2.8068806741239425	--
65	MAGNESIUM	Shoot	430.0	4207.0	-0.4549159897888148	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Seed	389.0	14400.0	4.52535925086701	--
60	SELENIUM	Seed	0.014	0.14	-0.262388354806188	--
53	BETA-CAROTENE	Shoot	0.7	6.9	-0.6931546659984213	USDA's Ag Handbook 8 and sequelae)
53	BETA-CAROTENE	Seed	0.3	21.9	0.939644288358904	USDA's Ag Handbook 8 and sequelae)
39	NIACIN	Seed	13.0	48.0	0.1530815697418368	USDA's Ag Handbook 8 and sequelae)
39	NIACIN	Shoot	11.2	110.0	0.026896308324385245	USDA's Ag Handbook 8 and sequelae)
32	DAIDZEIN	Sprout Seedling				--
32	DAIDZEIN	Seed	0.3	57.0	-0.2125369606375547	--
31	THIAMIN	Shoot	3.5	35.0	2.0225641716396563	USDA's Ag Handbook 8 and sequelae)
31	THIAMIN	Seed	1.1	10.0	0.8149652509512033	USDA's Ag Handbook 8 and sequelae)
29	TRYPTOPHAN	Seed	340.0	3293.0	-0.010944634020923666	USDA's Ag Handbook 8 and sequelae)
28	CALCIUM	Shoot	630.0	6164.0	-0.6258987216812653	USDA's Ag Handbook 8 and sequelae)
28	CALCIUM	Seed	253.0	14400.0	1.8831517184349278	--
27	LINOLEIC-ACID	Shoot	600.0	5871.0	-0.7071067811865476	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Seed	1168.0	5783.0	-0.8682842975102318	--
24	CHROMIUM	Seed	0.0	3.6	-0.15803066410283484	--
23	FOLIC-ACID	Seed	0.8	4.1	-0.34543737171395295	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
23	FOLIC-ACID	Fruit		8.9	1.3736151072685194	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
20	CHOLINE	Seed		2020.0	0.3271935080070224	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
18	OLEIC-ACID	Shoot	130.0	1272.0	0.7071067811865476	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Seed	430.0	1295.0	-0.9684545510666389	USDA's Ag Handbook 8 and sequelae)
16	VANADIUM	Seed	0.21	2.4	1.6930882198424906	--
15	FIBER	Shoot	13000.0	127202.0	-0.5669583695517698	USDA's Ag Handbook 8 and sequelae)
15	FIBER	Seed	14000.0	14630.0	-0.9487156244318786	--
15	METHIONINE	Seed	420.0	3805.0	-0.1316395939175249	USDA's Ag Handbook 8 and sequelae)
15	RIBOFLAVIN	Shoot	1.8	17.0	-0.1402564054554619	USDA's Ag Handbook 8 and sequelae)
15	RIBOFLAVIN	Seed	1.5	4.5	0.3739729747548329	USDA's Ag Handbook 8 and sequelae)
15	ALPHA-LINOLENIC-ACID	Shoot	440.0	4305.0	0.7071067811865475	USDA's Ag Handbook 8 and sequelae)
15	FOLACIN	Seed	1.6	7.6	2.0682130439848376	USDA's Ag Handbook 8 and sequelae)
15	ALPHA-LINOLENIC-ACID	Seed	1390.0	4187.0	-0.24831019472936172	USDA's Ag Handbook 8 and sequelae)
14	ARGININE	Seed	2070.0	18500.0	-0.2600067837600784	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Shoot	4550.0	44520.0	1.4507822800952703	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Seed	3067.0	43200.0	2.693704634799985	--
14	SUCROSE	Seed		15000.0	-0.4844987516547245	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	MANGANESE	Seed	5.6	240.0	2.322918402808286	--
13	COUMESTROL	Seed		0.0	-0.5230347066964424	H. Adlercreutz, pers. comm.
13	MUFA	Shoot	220.0	2153.0	0.7071067811865472	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	MEDICARPIN	Leaf Diffusate				--
13	MUFA	Seed	710.0	2139.0	-0.7761344560700081	USDA's Ag Handbook 8 and sequelae)
13	PALMITIC-ACID	Shoot	530.0	5185.0	-0.7071067811865476	USDA's Ag Handbook 8 and sequelae)
13	PALMITIC-ACID	Seed	1690.0	5090.0	-0.5945778339379274	USDA's Ag Handbook 8 and sequelae)
13	COUMESTROL	Stem				--
12	COPPER	Seed	1.3	12.0	-0.2552864959153795	--
12	GLYCINE	Seed		8550.0	-0.3473145994431742	--
12	STIGMASTEROL	Seed	14.0	250.0	-0.21258318014348276	--
11	PANTOTHENIC-ACID	Seed	1.5	18.0	0.13162088067496297	USDA's Ag Handbook 8 and sequelae)
9	PHYTIC-ACID	Seed	5100.0	10270.0	-0.5654961058494626	--
8	GLUTAMIC-ACID	Seed		43190.0	0.06230694169044158	--
8	TYROSINE	Seed	1210.0	8631.0	0.20612685879563236	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Shoot	80.0	783.0	0.7071067811865476	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Seed	270.0	813.0	-0.547750700975292	USDA's Ag Handbook 8 and sequelae)
7	SALICYLATES	Seed		0.0	-0.3401776874861938	--
7	HISTIDINE	Seed	950.0	8290.0	0.5758042547287241	USDA's Ag Handbook 8 and sequelae)
7	CHLORINE	Seed		100.0	-0.5339655100481104	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	CYCLOARTENOL	Seed		26.0	-1.0	Noorwala, M., Mohammad, F. V., Ahmad, V. U. 1995. A New Monodesmosidic Triterpenoid Saponin From the Seeds of Vigna unguiculata subsp. unguiculata. J Nat Prod, 58(7): 1070-1074.
7	PHENYLALANINE	Seed	1620.0	13330.0	0.21370641560862036	--
6	IRON	Seed	10.0	240.0	0.414482571355087	--
6	MYRISTIC-ACID	Shoot	10.0	98.0	-0.7071067811865472	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	MYRISTIC-ACID	Seed	20.0	60.0	-0.29521776570773867	USDA's Ag Handbook 8 and sequelae)
6	IRON	Shoot	19.0	188.0	-0.41656177802271527	USDA's Ag Handbook 8 and sequelae)
5	STARCH	Seed	390000.0	400000.0	0.3637981937344068	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	DAUCOSTEROL	Seed		29.0	-0.5232091320104255	Noorwala, M., Mohammad, F. V., Ahmad, V. U. 1995. A New Monodesmosidic Triterpenoid Saponin From the Seeds of Vigna unguiculata subsp. unguiculata. J Nat Prod, 58(7): 1070-1074.
5	ALUMINUM	Seed	6.0	840.0	1.0345858754946278	--
4	TIN	Seed	0.0	0.743	-0.5558568362873569	--
4	THREONINE	Seed	1100.0	10165.0	0.45355146665561646	USDA's Ag Handbook 8 and sequelae)
4	BORON	Seed	3.0	60.0	1.7023728763919526	--
4	PHOSPHORUS	Shoot	90.0	881.0	-1.137001922652881	USDA's Ag Handbook 8 and sequelae)
4	PUFA	Shoot	1060.0	10372.0	-0.707106781186547	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Seed	520.0	15593.0	2.705918935611486	--
4	PUFA	Seed	3380.0	10181.0	-0.7284523501046448	USDA's Ag Handbook 8 and sequelae)
4	LYSINE	Seed	1940.0	18069.0	0.8087210120864397	USDA's Ag Handbook 8 and sequelae)
3	SILVER	Seed	0.0	0.027	-0.7510465161267134	--
3	ASPARTIC-ACID	Seed	25730.0	32254.0	0.8580176579870061	--
3	ALANINE	Seed	9830.0	12175.0	0.4291515327049883	--
3	VALINE	Seed	1710.0	12731.0	0.0886090981382839	USDA's Ag Handbook 8 and sequelae)
3	KIEVITONE	Shoot				--
3	NICKEL	Seed	0.0	6.0	0.2386455902980222	--
3	ISOLEUCINE	Seed	1580.0	10857.0	0.04663136021106514	USDA's Ag Handbook 8 and sequelae)
3	SECOISOLARICRESINOL	Seed		0.0	-0.7071067811865476	H. Adlercreutz, pers. comm.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	COBALT	Seed	0.0	1.2	-0.1538982679232917	--
2	PALMITOLEIC-ACID	Shoot	10.0	98.0	-0.7071067811865472	USDA's Ag Handbook 8 and sequelae)
2	PALMITOLEIC-ACID	Seed	20.0	60.0	-0.29702733695651784	USDA's Ag Handbook 8 and sequelae)
2	LEUCINE	Seed	2111.0	20466.0	0.32396510235553866	USDA's Ag Handbook 8 and sequelae)
2	MOLYBDENUM	Seed	0.0	8.0	0.8013968154161384	--
2	ERUCIC-ACID	Shoot	80.0	783.0		USDA's Ag Handbook 8 and sequelae)
2	ERUCIC-ACID	Seed	120.0	753.0	-0.8073979706388439	USDA's Ag Handbook 8 and sequelae)
2	CYSTINE	Seed	440.0	2953.0	-0.13702213509121086	USDA's Ag Handbook 8 and sequelae)
1	STACHYOSE	Seed		20000.0	-0.14946118450450904	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	MERCURY	Seed	0.0	0.58	2.901693112322827	--
1	SODIUM	Shoot	70.0	685.0	1.246977776398358	USDA's Ag Handbook 8 and sequelae)
1	LIGNOCERIC-ACID	Seed		104.0	-0.616879293507422	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	SODIUM	Seed	38.0	200.0	-0.39823278368050724	USDA's Ag Handbook 8 and sequelae)
1	BEHENIC-ACID	Seed		380.0	-0.6425757782204549	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	VERBASCOSE	Seed		31000.0	0.212365765320629	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	RAFFINOSE	Seed		4000.0	-0.5182147587354947	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	3-O-ACETYLOLEANOLIC-ACID	Seed				Noorwala, M., Mohammad, F. V., Ahmad, V. U. 1995. A New Monodesmosidic Triterpenoid Saponin From the Seeds of Vigna unguiculata subsp. unguiculata. J Nat Prod, 58(7): 1070-1074.
1	SERINE	Seed		12030.0	0.2789841931102547	--
0	WATER	Shoot		897800.0	0.4370594814561554	USDA's Ag Handbook 8 and sequelae)
0	SCANDIUM	Seed	0.001	0.005	0.03442141954107567	--
0	2'-O-METHYLPHASEOLLIDINISO FLAVAN	Stem				--
0	PROLINE	Seed		14050.0	0.5332177435578753	--
0	LINOLENIC-ACID	Seed		1168.0	-0.5594717682926993	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	(-)-PHASEOLLIDIN	Plant				--
0	CARBOHYDRATES	Seed	218000.0	681771.0	0.6293892606569036	USDA's Ag Handbook 8 and sequelae)
0	WATER	Seed	115600.0	668000.0	1.6899712624925167	USDA's Ag Handbook 8 and sequelae)
0	FAT	Shoot	2500.0	24462.0	-0.41716050743090644	USDA's Ag Handbook 8 and sequelae)
0	ARACHIDIC-ACID	Seed		86.0	-0.6474037548149362	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	WATER	Leaf		890000.0	0.4109041271949558	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	RUBIDIUM	Seed	13.0	39.0	1.867598229659653	--
0	FAT	Seed	8000.0	24300.0	-1.269894579902171	--
0	ANTIMONY	Seed	0.0	0.031	-1.0908011931060053	--
0	VIT-B-6	Seed	0.67	4.0	-0.3381637475413548	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	VIGNALIN	Seed				Noorwala, M., Mohammad, F. V., Ahmad, V. U. 1995. A New Monodesmosidic Triterpenoid Saponin From the Seeds of Vigna unguiculata subsp. unguiculata. J Nat Prod, 58(7): 1070-1074.
0	GLYCEROPHOSPHATASE	Leaf				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	EUROPIUM	Seed	0.0	0.002	-0.9775595655057863	--
0	AMYLOSE	Seed	108420.0	111200.0	-0.7071067811865476	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	VIGNAFURAN	Sprout Seedling				--
0	MATIRE SINOL	Seed		0.0	-0.7071067811865476	H. Adlercreutz, pers. comm.
0	PHYTATE	Seed	8150.0	9180.0	-0.41288964530829575	--
0	BETA-AMYLASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	SUCCINOXIDASE	Sprout Seedling				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PHOSPHORYLASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	LEAD	Seed	0.4	8.4	1.7415492539694504	--
0	GLUCOSE-6-PHOSPHATASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	BARIUM	Seed	1.0	60.0	-0.18088426714725162	--
0	SFA	Shoot	660.0	6458.0	0.7071067811865475	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PYROPHOSPHATASE	Leaf				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	SUCCINOXIDASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	KILOCALORIES	Shoot	290.0	2837.0	0.0038497995209622452	USDA's Ag Handbook 8 and sequelae)
0	CESIUM	Seed	0.005	0.174	-0.12186739824619156	--
0	SFA	Seed	2100.0	6325.0	-0.5162901185062924	USDA's Ag Handbook 8 and sequelae)
0	STRONTIUM	Seed	2.0	60.0	1.1374390139425143	--
0	KILOCALORIES	Seed	1270.0	3825.0	-0.8090814886227038	USDA's Ag Handbook 8 and sequelae)
0	CERIUM	Seed	0.0	0.1	-0.7777777777777779	--
0	3-ACETYLOLEANOLIC-ACID	Seed		19.0		Noorwala, M., Mohammad, F. V., Ahmad, V. U. 1995. A New Monodesmosidic Triterpenoid Saponin From the Seeds of Vigna unguiculata subsp. unguiculata. J Nat Prod, 58(7): 1070-1074.
0	ASH	Shoot	10500.0	102740.0	0.0038352567973591037	USDA's Ag Handbook 8 and sequelae)
0	PHENYL-PHOSPHATASE	Leaf				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ZIRCONIUM	Seed	0.8	2.4	-0.27471609580504064	--
0	ASH	Seed	16000.0	120000.0	2.1691952551104605	--
0	PROTEIN	Shoot	41000.0	401174.0	1.7137953975462468	USDA's Ag Handbook 8 and sequelae)
0	YTTRIUM	Seed	0.21	2.4		--
0	TITANIUM	Seed	0.2	84.0	2.3610348068554363	--
0	PROTEIN	Seed	90000.0	283800.0	0.4448108753115457	--
0	(-)-PHASEOLLIN	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	CARBOHYDRATES	Shoot	48200.0	471624.0	-0.6875308105221123	USDA's Ag Handbook 8 and sequelae)