

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in Zea mays**

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
67	1,8-CINEOLE	Silk Stigma Style	--	--		
5	24-METHYLENE-CYCLOARTANOL	Shoot	--	--		
1	3-O-CAFFELOYLQUINIC-ACID	Plant	--	--		
3	4-HYDROXYBENZALDEHYDE	Cob	--	--		
4	4-VINYL-GUAIACOL	Seed	--	--		
1	5-O-CAFFELOYLQUINIC-ACID	Plant	--	--		
1	ACONITIC-ACID	Root	--	--		
1	ACONITIC-ACID	Shoot	600	600		
11	ADENINE	Seed	--	--		
28	ADENOSINE	Seed	--	--		
28	ADENOSINE	Leaf	--	--		
3	ALANINE	Seed	2950	12272	0.44977179228929015	USDA's Ag Handbook 8 and sequelae)
12	ALLANTOIN	Seed	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
12	ALLANTOIN	Embryo	--	--		
10	ALPHA-AMYRIN	Plant	--	--		
7	ALPHA-CAROTENE	Seed	0.5	2.5		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	ALPHA-LINOLENIC-ACID	Seed	160	666	-0.3177446681679559	USDA's Ag Handbook 8 and sequelae)
28	ALPHA-PINENE	Husk Essent. Oil	--	--		
23	ALPHA-TERPINEOL	Silk Stigma Style	--	--		
32	ALPHA-TOCOPHEROL	Oil	90	257	-0.32062252332922786	
32	ALPHA-TOCOPHEROL	Fruit	--	--		
32	ALPHA-TOCOPHEROL	Seed	--	--		
32	ALPHA-TOCOPHEROL	Seed Oil	--	--		
5	ALUMINUM	Seed	1	275	0.09410564288080694	
5	ALUMINUM	Silk Stigma Style	213	213		
5	ALUMINUM	Leaf	--	--		
1	ANTHERAXANTHIN	Leaf	--	--		
6	ANTHRANILIC-ACID	Leaf	--	--		
14	ARGININE	Seed	1310	5450	-0.8125917351666905	USDA's Ag Handbook 8 and sequelae)
2	ARSENIC	Seed	0.001	0.211	1.5951685300488623	
112	ASCORBIC-ACID	Seed	--	85	-0.28742699640223446	
112	ASCORBIC-ACID	Silk Stigma Style	11	11		
3	ASPARTIC-ACID	Seed	2440	10150	-1.1042764584247933	USDA's Ag Handbook 8 and sequelae)
7	ASTRAGALIN	Pollen Or Spore	--	--		
24	BENZALDEHYDE	Silk Essent. Oil	1000	1000		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
24	BENZALDEHYDE	Shoot	--	--		
24	BENZALDEHYDE	Husk Essent. Oil	--	--		
1	BENZYL-FORMATE	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
9	BETA-AMYRIN	Shoot	--	--		
53	BETA-CAROTENE	Seed	0.5	2.5	-0.27303542142102893	
53	BETA-CAROTENE	Silk Stigma Style	--	--		
2	BETA-CRYPTOXANTHIN	Seed	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
13	BETA-IONONE	Silk Essent. Oil	1000	1000		
13	BETA-IONONE	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
13	BETA-IONONE	Plant	--	--		
13	BETA-IONONE	Husk Essent. Oil	12000	12000		
13	BETA-IONONE	Silk Stigma Style	--	--		
13	BETA-PINENE	Silk Essent. Oil	3000	3000		
47	BETA-SITOSTEROL	Silk Stigma Style	1300	1300		
47	BETA-SITOSTEROL	Seed	--	1200	-0.17049741772155916	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
47	BETA-SITOSTEROL	Shoot	--	--		
47	BETA-SITOSTEROL	Seed Oil	--	--		
14	BETAINE	Root	59	59	-0.3636422915694051	
14	BETAINE	Shoot	234	234	-0.18096389196058713	
14	BETAINE	Silk Stigma Style	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
4	BIOTIN	Cob	0.02	0.06		
4	BORON	Seed	--	15	-0.4322002310973592	
2	CADAVERINE	Plant	--	--		
3	CADMIUM	Seed	--	1	0.16237947527784696	
102	CAFFEIC-ACID	Shoot	0.7	0.7	-0.7034493867354843	
102	CAFFEIC-ACID	Sprout Seedling	--	--		
28	CALCIUM	Seed	10	181	-0.7282806437807207	
28	CALCIUM	Silk Stigma Style	2520	2520		
1	CALMODULIN	Pollen Or Spore	45	45		
1	CALMODULIN	Seed	--	--		
2	CAMPESTEROL	Seed	--	320	0.03885369220474866	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
2	CAMPESTEROL	Shoot	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CAMPESTEROL	Seed Oil	--	--		
37	CARVACROL	Seed	--	--		
37	CARVACROL	Silk Stigma Style	144	216		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
37	CARVACROL	Seed Essent. Oil	--	--		
31	CARYOPHYLLENE	Leaf	--	--		
31	CARYOPHYLLENE	Husk Essent. Oil	--	--		
1	CELLULOSE	Plant	--	--		
2	CHELIDONIC-ACID	Shoot	--	--		
2	CHELIDONIC-ACID	Root	--	--		
7	CHLORINE	Fruit	330	330	-0.4646995262356249	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
77	CHLOROGENIC-ACID	Leaf	--	--		
77	CHLOROGENIC-ACID	Silk Stigma Style	--	--		
1	CHOLESTEROL	Seed	--	--		
1	CHOLESTEROL	Root	--	--		
1	CHOLESTEROL	Shoot	--	--		
20	CHOLINE	Root	36	36	-0.4093082994350739	
20	CHOLINE	Seed	0.43	430	-1.1693297391425415	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
20	CHOLINE	Shoot	85	85	-0.6541437736274379	
24	CHROMIUM	Seed	--	1.65	-0.442125919797465	
24	CHROMIUM	Silk Stigma Style	13	13		
1	CINNAMIC-ACID-ETHYL-ESTER	Silk Stigma Style	--	--		
15	CITRONELLOL	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
2	COBALT	Fruit	0.01	0.8	-0.43826781025666195	
2	COBALT	Silk Stigma Style	64	64		
4	COIXOL	Plant	--	--		
12	COPPER	Fruit	--	20	0.5588968590110831	
57	COUMARIN	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
10	CROCETIN	Leaf	--	--		
2	CRYPTOXANTHIN	Plant	--	--		
7	CYANIDIN	Silk Stigma Style	--	--		
7	CYANIDIN	Leaf	--	--		
5	CYANIN	Cob	--	--		
7	CYCLOARTENOL	Shoot	--	--		
7	CYCLOARTENOL	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	CYCLOEUCALENOL	Shoot	--	--		
1	CYCLOSADOL	Seed	--	--		
1	CYCLOSADOL	Seed Oil	--	--		
2	CYSTINE	Seed	260	1082	-1.438643753064175	USDA's Ag Handbook 8 and sequelae)
5	DAUCOSTEROL	Silk Stigma Style	440	440		
1	DECAN-1-AL	Silk Essent. Oil	10000	90000		
1	DECAN-1-AL	Husk Essent. Oil	24000	24000		
9	DELTA-CADINENE	Leaf	--	--		
2	DIETHYL-AMINE	Seed	--	--		
2	DIMETHYL-AMINE	Seed	1.1	3.5	-0.32293776451998035	
5	ERGOSTEROL	Root	--	--		
5	ERGOSTEROL	Silk Stigma Style	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
8	ESTRONE	Seed Oil	--	0.04		
24	ETHANOL	Silk Stigma Style	--	--		
6	ETHYL-ACETATE	Silk Stigma Style	--	--		
6	ETHYL-ACETATE	Shoot	--	--		
1	ETHYL-PHENYLACETATE	Silk Essent. Oil	250000	740000		
76	EUGENOL	Seed	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
61	FERULIC-ACID	Leaf	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
61	FERULIC-ACID	Seed	6	27	-0.39634822822137994	
61	FERULIC-ACID	Sprout Seedling	--	--		
15	FIBER	Silk Stigma Style	81000	81000	1	
15	FOLACIN	Fruit	1	2	-0.019192793995839758	
15	FOLACIN	Seed	0.142	0.4	-0.9100137393533284	
23	FOLIC-ACID	Seed	0.142	0.4	-0.3564545774203745	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	FRIEDELIN	Shoot	--	--		
8	FRUCTOSE	Fruit	1000	4000	-0.878981825433364	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	FURFURAL	Plant	--	--		
6	FURFURAL	Shoot	--	--		
1	GALACTOSE	Plant	--	--		
62	GALLIC-ACID	Tissue Culture	--	--		
2	GAMMA-CAROTENE	Seed	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	GAMMA-NONALACTONE	Silk Stigma Style	--	--		
14	GAMMA-TOCOPHEROL	Oil	752	752	1.413007494257776	
13	GERANIAL	Hull Husk	--	--		
13	GERANIAL	Husk Essent. Oil	--	--		
35	GERANIOL	Silk Stigma Style	--	--		
2	GERANYL-ACETONE	Seed	--	--		
2	GERANYL-ACETONE	Husk Essent. Oil	--	--		
2	GERANYL-ACETONE	Seed Essent. Oil	--	--		
7	GLUCOSE	Fruit	2000	5000	-0.8420433042200329	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	GLUCOSE	Sprout Seedling	--	--		
8	GLUTAMIC-ACID	Seed	6360	26457	-0.6436731379916952	USDA's Ag Handbook 8 and sequelae)
7	GLUTATHIONE	Seed	54	169		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
7	GLUTATHIONE	Root	--	--		
7	GLUTATHIONE	Fruit	--	--		
2	GLUTEN	Seed	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	GLYCEROL	Plant	--	--		
12	GLYCINE	Seed	1270	5283	-0.8196658866632359	USDA's Ag Handbook 8 and sequelae)
4	GLYCOLIC-ACID	Silk Stigma Style	--	--		
18	GUAIACOL	Seed	--	--		
6	GUANIDINE	Plant	--	--		
7	HISTIDINE	Seed	890	3702	-0.6439051932934873	USDA's Ag Handbook 8 and sequelae)
7	HISTIDINE	Embryo	--	--		
8	HORDENINE	Silk Stigma Style	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
15	INDOLE	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
15	INDOLE	Shoot	--	--		
7	INDOLE-3-ACETIC-ACID	Seed	--	--		
7	INDOLE-3-ACETIC-ACID	Cotyledon	--	--		
7	INDOLE-3-ACETIC-ACID	Root	--	--		
7	INDOLE-3-ACETIC-ACID	Juice	--	--		
3	INDOLE-3-BUTYRIC-ACID	Seed	--	--		
3	INDOLE-3-BUTYRIC-ACID	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	INOSITOL	Plant	--	--		
12	IODINE	Seed	0.012	0.012	-0.2773081368232745	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	IRON	Seed	5	41	-0.5101323955139533	
6	IRON	Silk Stigma Style	504	504		
3	ISOLEUCINE	Seed	1290	5366	-0.654028618470496	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
22	ISOQUERCITRIN	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
22	ISOQUERCITRIN	Pollen Or Spore	--	--		
1	ISOVALERALDEHYDE	Shoot	--	--		
8	LACTIC-ACID	Plant	--	--		
1	LANOSTEROL	Plant	--	--		
2	LEUCINE	Seed	3480	14477	-0.24929490146930922	USDA's Ag Handbook 8 and sequelae)
1	LEUCOCYANIDIN	Plant	--	--		
1	LEUCOPELARGONIDIN	Plant	--	--		
13	LIGNIN	Stem	213000	245000	0.9696172791853698	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	LIGNIN	Cob	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	LIGNOCERIC-ACID	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	LIMONENE	Silk Essent. Oil	7000	7000		
60	LIMONENE	Leaf	--	--		
60	LIMONENE	Husk Essent. Oil	--	--		
60	LIMONENE	Silk Stigma Style	--	--		
60	LIMONENE	Seed Essent. Oil	--	--		
53	LINALOOL	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
53	LINALOOL	Leaf	--	--		
27	LINOLEIC-ACID	Seed	5420	22547	-0.724648681207493	USDA's Ag Handbook 8 and sequelae)
11	LITHIUM	Seed	0.048	0.22	-0.9999999999999998	
15	LUTEIN	Leaf	--	--		
1	LUTEOLINIDIN	Silk Stigma Style	--	--		
4	LYSINE	Seed	1370	5699	-0.8668614509130552	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Seed	100	1600	-0.531836823348677	
65	MAGNESIUM	Silk Stigma Style	1790	1790		
15	MALIC-ACID	Plant	--	--		
15	MALIC-ACID	Silk Stigma Style	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	MALONIC-ACID	Plant	--	--		
14	MANGANESE	Seed	0.84	63	0.11807339481595111	
14	MANGANESE	Silk Stigma Style	34	34	-1	
3	MANNOSE	Plant	1	7		
3	MAYSIN	Silk Stigma Style	--	--		
3	MAYSIN	Leaf	--	--		
23	MELATONIN	Seed	0.001	0.001		Hattori, A., et. al. 1995. Identification of Melatonin in Plants and its Effects on Plasma Melatonin Levels and Binding to Melatonin Receptors in Vertebrates. Biochem. Mol. Biol. Int., 35(3): 627-634.
63	MENTHOL	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
63	MENTHOL	Silk Stigma Style	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
1	MERCURY	Seed	--	0.072	-0.30034903182835404	
15	METHIONINE	Seed	670	2787	-0.39450659411183164	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Pollen Or Spore	--	--		
1	METHYL-AMINE	Seed	26.8	27	-0.00897230932189183	
2	METHYL-PHENYLACETATE	Silk Essent. Oil	30000	40000		
2	MOLYBDENUM	Seed	0.084	6.3	0.4479349477443534	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	MYRCENE	Seed	--	--		
22	MYRCENE	Leaf	--	--		
22	MYRCENE	Husk Essent. Oil	--	--		
22	MYRCENE	Seed Essent. Oil	--	--		
6	MYRISTIC-ACID	Seed	--	--		
1	NAPHTHALENE	Silk Essent. Oil	3000	3000		
1	NAPHTHALENE	Husk Essent. Oil	--	--		
1	NAPHTHALENE	Silk Stigma Style	--	--		
1	NAPHTHALENE	Seed Essent. Oil	--	--		
2	NEOXANTHIN	Leaf	--	--		
11	NEROLIDOL	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
39	NIACIN	Cob	4	16		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
39	NIACIN	Seed	16	71	0.8415661421509846	
39	NIACIN	Silk Stigma Style	--	25		
3	NICKEL	Seed	0.12	6.3	0.2960271506106448	
1	NICOTIANAMINE	Leaf	--	--		
64	OLEANOLIC-ACID	Silk Stigma Style	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
18	OLEIC-ACID	Seed	3470	14435	-0.8604360359565065	USDA's Ag Handbook 8 and sequelae)
4	ORIENTIN	Silk Stigma Style	--	--		
9	OXALIC-ACID	Fruit	99	99	-0.3008899412935749	Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp.
25	P-COUMARIC-ACID	Seed	4	46	-0.4061463765475915	
25	P-COUMARIC-ACID	Shoot	1	1	-0.7071067811865475	Jim Duke's personal files.
25	P-COUMARIC-ACID	Sprout Seedling	--	--		
4	P-HYDROXYBENZALDEHYDE	Cob	--	--		
13	PALMITIC-ACID	Seed	1710	7114	-0.5528161466254179	USDA's Ag Handbook 8 and sequelae)
13	PALMITIC-ACID	Silk Stigma Style	--	--		
2	PALMITOLEIC-ACID	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	PANTOTHENIC-ACID	Cob	3	7		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
11	PANTOTHENIC-ACID	Seed	4	34	1.8074305020007495	USDA's Ag Handbook 8 and sequelae)
24	PECTIN	Leaf	10000	17000	-0.9298021026280799	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	PELARGONIDIN	Silk Stigma Style	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	PHENETHYL-ALCOHOL	Silk Stigma Style	--	--		
2	PHENYL-ACETALDEHYDE	Silk Essent. Oil	1000	1000		
2	PHENYL-ACETALDEHYDE	Plant	--	--		
2	PHENYL-ACETALDEHYDE	Husk Essent. Oil	13000	13000		
2	PHENYL-ACETALDEHYDE	Seed Essent. Oil	--	--		
2	PHENYLACETIC-ACID	Pollen Or Spore	--	--		
7	PHENYLALANINE	Seed	1500	6240	-0.6329654729366279	USDA's Ag Handbook 8 and sequelae)
2	PHOSPHATIDYL-CHOLINE	Plant	--	--		
4	PHOSPHORUS	Seed	600	4066	-0.34019475720359266	
4	PHOSPHORUS	Silk Stigma Style	287	287		
5	PHYLLOQUINONE	Oil	--	0.03	-1.0603756768844963	
5	PHYLLOQUINONE	Fruit	--	0.003	-0.2325377501021479	
9	PHYTIC-ACID	Seed	7200	12900	-0.3647475557448543	
9	PHYTIC-ACID	Pollen Or Spore	2600	2600		
2	PHYTOHAEMAGGLUTININ	Silk Stigma Style	--	--		
2	PHYTOSTEROLS	Seed	600	2800	0.11866310014704903	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
14	POTASSIUM	Seed	2400	11450	-0.09850155432250932	
14	POTASSIUM	Silk Stigma Style	12200	12200		



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
43	PROTocatechuic-acid	Tissue Culture	--	--		
43	pyridoxine	Cob	1	3		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	pyrrolidine	Seed	--	--		
1	pyruvic-acid	Sprout Seedling	--	--		
176	quercetin	Plant	--	--		
176	quercetin	Pollen Or Spore	--	--		
2	quercetin-3-O-beta-D-glucoside	Pollen Or Spore	--	--		
1	quinic-acid	Plant	--	--		
1	raffinose	Fruit	1000	3000	-1	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	riboflavin	Cob	1	3		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	riboflavin	Fruit	1	4	-0.21615825716438572	
15	riboflavin	Silk Stigma Style	1.5	1.5	-1	
2	ribonuclease	Tissue Culture	--	--		
7	ricinoleic-acid	Plant	--	--		
5	sabinol	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	SALICYLATES	Fruit	1	5	-0.3224047195908981	
60	SELENIUM	Seed	--	0.5	-0.2588230372812833	
60	SELENIUM	Silk Stigma Style	--	5.7		
1	SERINE	Seed	1530	6365	-0.8067159497282409	USDA's Ag Handbook 8 and sequelae)
4	SILICON	Silk Stigma Style	237	237		
3	SILVER	Seed	0.012	0.055	-0.18268699040920042	
1	SODIUM	Seed	--	757	0.48595911191753866	
1	SODIUM	Silk Stigma Style	130	130		
1	SPERMIDINE	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	SPERMINE	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
10	SQUALENE	Seed	--	--		
10	SQUALENE	Seed Oil	--	--		
10	SQUALENE	Pollen Or Spore	--	--		
5	STARCH	Seed	--	--		
8	STEARIC-ACID	Seed	110	457	-0.5554746921056529	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Silk Stigma Style	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	STIGMASTEROL	Seed	--	210	-0.2634086805935878	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
12	STIGMASTEROL	Root	--	--		
12	STIGMASTEROL	Shoot	--	--		
12	STIGMASTEROL	Seed Oil	--	--		
12	STIGMASTEROL	Silk Stigma Style	--	--		
3	SUBAPHYLLIN	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
7	SUCCINIC-ACID	Plant	--	--		
14	SUCROSE	Fruit	9000	19000	-0.6121007856075014	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	SUCROSE	Leaf	--	--		
14	SULFUR	Fruit	6	1140	-0.19109679700613894	
4	SYRINGALDEHYDE	Seed	--	--		
4	SYRINGALDEHYDE	Cob	--	--		
6	SYRINGIC-ACID	Tissue Culture	--	--		
6	TARTARIC-ACID	Silk Stigma Style	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
31	THIAMIN	Fruit	2	8	0.3414272755878574	
31	THIAMIN	Silk Stigma Style	2.1	2.1	-0.9999999999999999	
4	THREONINE	Seed	1290	5366	-0.6199585002377315	USDA's Ag Handbook 8 and sequelae)
71	THYMOL	Seed	--	--		
71	THYMOL	Silk Stigma Style	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
71	THYMOL	Seed Essent. Oil	--	--		
4	TIN	Seed	1	1.8	-0.39709066551927835	
4	TIN	Silk Stigma Style	--	--		
2	TRANS-BETA-FARNESENE	Leaf	--	--		
2	TRANS-BETA-FARNESENE	Root	--	--		
2	TRANS-FERULIC-ACID	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
2	TRANS-FERULIC-ACID	Seed	1800	1800	1.3913139699802963	
15	TRIGONELLINE	Seed	4	4	-0.46810441555051263	
4	TRYPTAMINE	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
29	TRYPTOPHAN	Seed	230	957	-0.8075994083741	
29	TRYPTOPHAN	Cotyledon	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	TYROSINE	Seed	1230	5117	-0.6078994158411758	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Seed	1850	7696	-0.5315006159571728	USDA's Ag Handbook 8 and sequelae)
16	VANADIUM	Seed	0.05	1.35	0.6938324504308431	
24	VANILLIC-ACID	Sprout Seedling	--	--		
24	VANILLIC-ACID	Tissue Culture	--	--		
28	VANILLIN	Seed	4	31		Jim Duke's personal files.
28	VANILLIN	Shoot	--	--		
28	VANILLIN	Cob	--	--		
2	VIOLAXANTHIN	Leaf	--	--		
18	VITEXIN	Silk Stigma Style	--	--		
43	XANTHOTOXIN	Root	--	--		
3	XYLOSE	Plant	--	--		
4	ZEARALENONE	Plant	--	--		
2	ZEATIN	Plant	0.014	0.014		
5	ZEAXANTHIN	Plant	--	--		
5	ZEAXANTHIN	Seed	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
77	ZINC	Seed	4	20	-0.7135039207289134	