

**Dr. Duke's Phytochemical and Ethnobotanical Databases**  
**Chemicals found in Manihot esculenta**

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
77	ZINC	Root	4.0	19.0	-0.2267899421959609	--
3	VALINE	Root	790.0	2510.0	-0.9088128635893644	--
8	TYROSINE	Root	400.0	1270.0	-1.1948622333275358	--
29	TRYPTOPHAN	Root	430.0	1365.0	1.6996132060019429	--
4	THREONINE	Root	650.0	2065.0	-0.4924296880050165	--
31	THIAMIN	Root	0.3	7.1	0.03785430585855091	--
31	THIAMIN	Leaf	2.0	10.0	0.35331539437656273	--
14	SULFUR	Root	54.0	250.0	-0.730205109371953	--
8	STEARIC-ACID	Root	70.0	220.0	-0.3566048284620661	--
5	STARCH	Root	280000.0	828400.0	2.144576034243884	--
1	SODIUM	Root	62.0	2655.0	0.7234353373918977	--
1	SERINE	Root	760.0	2415.0	-0.5336360813914572	--
15	RIBOFLAVIN	Root	0.2	3.2	-0.19138745982624014	--
15	RIBOFLAVIN	Leaf	3.0	15.0	-0.10754923896805615	--
4	PUFA	Root	670.0	2130.0	-1.224506156372141	--
14	POTASSIUM	Root	2380.0	24260.0	0.6210237957656103	--
4	PHOSPHORUS	Leaf	560.0	2800.0	-0.39951935749949974	--
4	PHOSPHORUS	Root	310.0	2225.0	-0.2271469601655788	--
7	PHENYLALANINE	Root	600.0	1900.0	-0.8922442110821145	--
13	PALMITIC-ACID	Root	950.0	3015.0	-0.2580444031758306	--
9	OXALIC-ACID	Root		171.0	-0.5520600286774848	--
18	OLEIC-ACID	Root	1040.0	3300.0	0.42829452335384083	--
39	NIACIN	Root	6.0	44.0	-0.1808173181586928	--
39	NIACIN	Leaf	15.0	75.0	-0.273690115307964	--
13	MUFA	Root	1040.0	3300.0	0.4047733350552872	--
15	METHIONINE	Root	260.0	825.0	-0.4393546255789883	--
14	MANGANESE	Root	0.5	2.5	-0.516021041577246	--

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65	MAGNESIUM	Root	290.0	2100.0	-0.2455907206102601	--
4	LYSINE	Root	1000.0	3175.0	-0.515923339849437	--
27	LINOLEIC-ACID	Root	440.0	1400.0	-0.6415606441880831	--
2	LEUCINE	Root	900.0	2860.0	-0.8665636148505976	--
7	LAURIC-ACID	Root	10.0	32.0	-0.746655329791214	--
3	ISOLEUCINE	Root	610.0	1935.0	-0.7997657659921524	--
6	IRON	Root	2.0	114.0	-0.27603508954229083	--
6	IRON	Leaf	28.0	1500.0	2.8815281453439296	--
7	HISTIDINE	Root	450.0	1430.0	-0.3526328692766417	--
9	HCN	Leaf	180.0	1800.0	0.04552395621093529	--
12	GLYCINE	Root	640.0	2030.0	-0.5702509021896668	--
8	GLUTAMIC-ACID	Root	4700.0	14925.0	-0.025260818108292494	--
15	FIBER	Root	21000.0	88600.0	0.01083972503277636	--
2	CYSTINE	Root	650.0	2065.0	2.5756054651495246	--
12	COPPER	Root	1.0	3.8	-0.876845633699047	--
4	CALCIUM-OXALATE	Root	170.0	505.0	-0.6074533882416105	--
28	CALCIUM	Root	190.0	2890.0	-0.49423350535995814	--
28	CALCIUM	Leaf	1450.0	10000.0	-0.576492687191145	--
4	BORON	Root	0.6	7.5	-0.6119014498802402	--
53	BETA-CAROTENE	Root	14.0	150.0	0.5227136521125912	--
3	ASPARTIC-ACID	Root	1810.0	5750.0	-0.5470152033140955	--
112	ASCORBIC-ACID	Leaf	800.0	10000.0	0.4839524769176653	--
112	ASCORBIC-ACID	Root	97.0	1530.0	0.2286424828192489	--
14	ARGININE	Root	3140.0	9970.0	-0.039929332530262124	--
5	ALUMINUM	Root	10.0	77.0	-0.2711653323015013	--
3	ALANINE	Root	870.0	2765.0	-0.333263558146691	--