

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

| Activities Count | Chemical | Plant Part | Low PPM | High PPM | StdDev | Refernce Citation |
|------------------|-----------------|------------|---------|----------|-----------------------|-------------------|
| 3 | ALANINE | Root | 870.0 | 2765.0 | -0.333263558146691 | -- |
| 5 | ALUMINUM | Root | 10.0 | 77.0 | -0.2711653323015013 | -- |
| 14 | ARGININE | Root | 3140.0 | 9970.0 | -0.039929332530262124 | -- |
| 112 | ASCORBIC-ACID | Root | 97.0 | 1530.0 | 0.2286424828192489 | -- |
| 112 | ASCORBIC-ACID | Leaf | 800.0 | 10000.0 | 0.4839524769176653 | -- |
| 3 | ASPARTIC-ACID | Root | 1810.0 | 5750.0 | -0.5470152033140955 | -- |
| 53 | BETA-CAROTENE | Root | 14.0 | 150.0 | 0.5227136521125912 | -- |
| 4 | BORON | Root | 0.6 | 7.5 | -0.6119014498802402 | -- |
| 28 | CALCIUM | Root | 190.0 | 2890.0 | -0.49423350535995814 | -- |
| 28 | CALCIUM | Leaf | 1450.0 | 10000.0 | -0.576492687191145 | -- |
| 4 | CALCIUM-OXALATE | Root | 170.0 | 505.0 | -0.6074533882416105 | -- |
| 12 | COPPER | Root | 1.0 | 3.8 | -0.876845633699047 | -- |
| 2 | CYSTINE | Root | 650.0 | 2065.0 | 2.5756054651495246 | -- |
| 15 | FIBER | Root | 21000.0 | 88600.0 | 0.01083972503277636 | -- |
| 8 | GLUTAMIC-ACID | Root | 4700.0 | 14925.0 | -0.025260818108292494 | -- |
| 12 | GLYCINE | Root | 640.0 | 2030.0 | -0.5702509021896668 | -- |
| 9 | HCN | Leaf | 180.0 | 1800.0 | 0.04552395621093529 | -- |
| 7 | HISTIDINE | Root | 450.0 | 1430.0 | -0.3526328692766417 | -- |
| 6 | IRON | Root | 2.0 | 114.0 | -0.27603508954229083 | -- |
| 6 | IRON | Leaf | 28.0 | 1500.0 | 2.8815281453439296 | -- |
| 3 | ISOLEUCINE | Root | 610.0 | 1935.0 | -0.7997657659921524 | -- |
| 7 | LAURIC-ACID | Root | 10.0 | 32.0 | -0.746655329791214 | -- |
| 2 | LEUCINE | Root | 900.0 | 2860.0 | -0.8665636148505976 | -- |
| 27 | LINOLEIC-ACID | Root | 440.0 | 1400.0 | -0.6415606441880831 | -- |
| 4 | LYSINE | Root | 1000.0 | 3175.0 | -0.515923339849437 | -- |
| 65 | MAGNESIUM | Root | 290.0 | 2100.0 | -0.2455907206102601 | -- |
| 14 | MANGANESE | Root | 0.5 | 2.5 | -0.516021041577246 | -- |

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