a

**SOIL, WATER AND CROP QUALITY ASSESSMENT ON A RECLAIMED TAILINGS DAMSITES AT ABOSSO GOLDFIELDS IN THE WESTERN REGION OF GHANA**

Table 2.2: Heavy Metal in Fruits

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FRUITS | mg/kg dry weight | | | | | | | | |
| Sample | Fe | Mn | Cu | Ni | Zn | Pb | Cd | Hg | As |
| Dokyiwa | ND | 0.33 | 0.507 | ND | 7.4 | 0 | 0.044 | 0.026 | 0.022 |
| Hia No. 1 | 0.805 | 0.277 | 0.465 | ND | 19.679 | 0.072 | 0.125 | 0.021 | 5.591 |
| Adaase | 0.206 | 0.352 | 0.404 | ND | 14.817 | 0 | ND | 0.02 | 1.881 |
| Akatakyieso | 4.112 | 0.557 | 0.835 | ND | 24.298 | 0 | 0.096 | 0.025 | 12.261 |

Table 5.2 Heavy Metals in Water Bodies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | STSF | | ATSF | |
| As | Cd | As | Cd |
| Date | mg/kg | mg/kg | mg/kg | mg/kg |
| Aug-15 | 0.002 | 0.001 | 0.002 | 0.002 |
| Sep-15 | 0.002 | 0.001 | 0.001 | 0.002 |
| Oct-15 | 0.013 | 0.002 | 0.001 | 0.001 |
| Nov-15 | 0.003 | 0.001 | 0.001 | 0.001 |
| Dec-15 | 0.004 | 0.002 | 0.001 | 0.001 |

Table 5.4 Concentration of heavy metals in vegetable and crop samples from STSF

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | Sites | Zn | Limits for Zn(mg/kg) | Ni | Limits for Ni (mg/kg) | Cr | Limits for Cr(mg/kg) |
|
| CABBAGE | STSF | 58 | 24-31 | 11 | 0.6-3.3 | 1.4 | 0.05-0.21 |
| ATSF | 62 | 18 | 2.1 |
| OKRO | STSF | 54 | 24-31 | 1.9 | 0.43-0.48 | 0.2 | 0.02-0.24 |
| ATSF | 48 | 3 | 0.7 |
| GREEN PEPPER | STSF | 41 | 24-31 | 6.9 | 0.43-0.48 | 0.3 | 0.07-0.13 |
| ATSF | 53 | 3.9 | 0.9 |
| GARDEN EGGS | STSF | 25 | 24-31 | 0.8 | 0.43-0.48 | 3.1 | 0.07-0.13 |
| ATSF | 15 | 1.6 | 1.1 |
| HOT PEPPER | STSF | 4.8 | 24-31 | 0.4 | 0.43-0.48 | 0.4 | 0.07-0.13 |
| ATSF | 3.6 | 1.2 | 0.7 |
| TOMATOES | STSF | 28 | 17-22 | 0.35 | 0.43-0.48 | 3.4 | 0.07-0.13 |
| ATSF | 31 | 0.15 | 3.7 |
| ORANGE | STSF | 17 | 0.4-0.3 | 0.25 | 0.39 | 0.25 | 0.03-0.05 |
| ATSF | 22 | 0.12 | 0.6 |
| GREEN BEANS | STSF | 55 | 32-38 | 3.7 | 0.2-0.25 | 0.13 | 0.05-0.16 |
| ATSF | 42 | 4.1 | 0.45 |
| PLANTAIN | STSF | 6.9 | 2.8 | 0.2 | 97.90\* | 0.23 | - |
| ATSF | 8 | 0.42 | 0.55 |
| CASSAVA | STSF | 12 | 10 - 2 6 | 0.15 | 0.29-1.0 | 0.33 | 0.02-0.05 |
| ATSF | 15.4 | 1.05 | 0.8 |

*Limits for Zn and Cr were proposed by Kabata-Pendias(2011).*

*Limits with (-) not found*

**Appendix 1A Coordinates for Sample Location**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **COORDINATES** | | | |  |
|  | STSF 01 |  | ASTF 01 |  | CONTROL 01 |
| N | 05°29' 48.8'' | N | 05° 22' 40.4'' | N | 05° 29' 30.6'' |
| W | 001° 50' 31.8'' | W | 001° 56' 25.7'' | W | 001° 49' 44.5'' |
|  | STSF 02 |  | ASTF 02 |  | CONTROL 02 |
| N | 05° 29' 46.3'' | N | 05° 22' 41.5'' | N | 05°29' 51.2'' |
| W | 001° 50' 29.8'' | W | 001° 56' 22.6'' | W | 001°49' 53.1'' |
|  | STSF 03 |  | ASTF 03 |  | CONTROL 03 |
| N | 05° 29' 49.5'' | N | 05° 22' 34.7'' | N | 05° 29' 49.1'' |
| W | 001° 50'32.2'' | W | 001° 56' 28.9'' | W | 001° 49' 50.0'' |
|  | STSF 04 |  | ASTF 04 |  | CONTROL 04 |
| N | 05° 29' 42.1'' | N | 05° 22' 40.4'' | N | 05° 29' 49.9'' |
| W | 001° 50' 30.2'' | W | 001° 56'23.3'' | W | 001° 49'50.1'' |
|  | STSF 05 |  | ASTF 05 |  | CONTROL 05 |
| N | 05° 29'43.1'' | N | 05° 22' 30.5'' | N | 05°29' 35.5'' |
| W | 001° 50' 33.2'' | W | 001° 56' 33.0'' | W | 001° 49' 40.5'' |
|  | STSF 06 |  | ASTF 06 |  | CONTROL 06 |
| N | 05° 29' 48.2'' | N | 05° 22' 16.17'' | N | 05°29' 33.5'' |
| W | 001° 50' 36.3'' | W | 001° 56' 40.5'' | W | 001° 49' 44.5'' |
|  | STSF 07 |  | ASTF 07 |  | CONTROL 07 |
| N | 05° 29'44.1'' | N | 05° 22' 31.2'' | N | 05°29' 35.5'' |
| W | 001° 50' 30.2'' | W | 001° 56' 31.2'' | W | 001° 49' 40.5'' |
|  | STSF 08 |  | ASTF 08 |  | CONTROL 08 |
| N | 05° 29' 35.6'' | N | 05° 22' 13.12'' | N | 05°29' 33.3'' |
| W | 001° 50' 26.12'' | W | 001° 56' 40.5'' | W | 001° 49' 39.5'' |
|  | STSF 09 |  | ATSF 09 |  | CONTROL 09 |
| N | 05° 29' 28.3'' | N | 05° 22' 36.7'' | N | 05° 29' 41.9'' |
| W | 001° 50'10.2'' | W | 001° 56'23.3'' | W | 001° 49'50.1'' |