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| Title | Nickel content in soils, rice (Oryza saliva L.) and wheat (Triticum aestivum L.) grown in Damietta governorate, Egyp | | |
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| Abstract |  |
| Nickel (Ni) concentration in soils is highly depended on the parent materials and the types of pollutant sources that plays a beneficial role in plant growth however; at high concentration it may cause toxicity for plants and creating hazards to animals and human. Therefore, this study aimed to estimate the levels of Ni in soils, straw and grain of rice and wheat plants grown in the soils contaminated with Ni and evaluate its effect on human health. In the surface soil layers the total (31.4 ±8.02 mg kg-1) and available Ni concentration (3.10 ±0.91 mg kg-1) are slightly higher by 1.25 ±0.14 and 1.24 ±0.25 fold respectively, than the subsurface layers. Available Ni increased linearly with increasing Ni in soil (r = 0.91). A significant positive correlation was found between available Ni and soil OM content (r = 0.89), while a significant negative correlation was observed for soil CaCO3 percent (r = - 0.72) and soil pH (r = - 0.90). Rice Ni content of the straw (2.1 ±0.32 mg kg-1) and grains (0.44 ±0.07 mg kg-1) were significantly correlated with soil total Ni (r = 0.89 and 0.86) and available Ni (r = 0.84 and 0.74), respectively. Wheat Ni content of straw (1.68 ±0.28 mg kg-1) and grains (0.28 ±0.04 mg kg-1) were significantly correlated with soil total Ni (r = 0.87 and 0.81) and available Ni (r = 0.84 and 0.85), respectively. By increasing straw Ni content grains increased (r = 0.89 for rice and r = 0.95 for wheat). Grains of rice and wheat exhibited lower Ni concentration than that of the straw (20.9% ± 1.64 and 16.7% ± 1.04, respectively). According to FAO/WHO rice and wheat grains contain normal Ni concentration and no evidence of possible potential human health risk with grains consumption. | |

**Please specify which Sustainable Development Goal (SDG) (s) falls under your research:**

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| Goal 1 | No Poverty | Goal 2 | Zero Hunger |
| **Goal 3** | **Good Health and Well-Being** | Goal 4 | Quality Education |
| Goal 5 | Gender Equality | Goal 6 | Clean Water and Sanitation |
| Goal 7 | Affordable and Clean Energy | Goal 8 | Decent Work and Economic Growth |
| Goal 9 | Industry, Innovation and Infrastructure | Goal 10 | Reduced Inequalities |
| Goal 11 | Sustainable Cities and Communities | Goal 12 | Responsible Consumption and Production |
| Goal 13 | Climate Action | Goal 14 | Life below Water |
| Goal 15 | Life on Land | Goal 16 | Peace, Justice and Strong Institutions |
| Goal 17 | Partnerships for the Goals |  |  |