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Effect of sewage on heavy metals accumulation and nutritional value of Cotton

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Sewage has been used to produce crops in grate scales in most parts of the world. The most important problem for using sewage is its pollutant effects. In addition, we have to use sewage due to population growth and water resources reduction. So, this research was conducted to study heavy metals accumulation in cotton under irrigation with different concentrations of sewage in Talebabad (Varamin, Tehran) in 2005 on the base of a completely randomized block design with 3 replications. The factors were different concentrations of sewage including aqueduct water, equal ratio of aqueduct water and sewage and pure sewage. Plants were harvested in complete raping and were dried in oven. Then heavy metals were measured by Atomic Absorption System. According to results, heavy metals accumulation in lint due to irrigation with sewage were greater than irrigation with aqueduct water. The quantity of Pb and Cr was higher than standard limits that may change the characteristics of lint. Also, high concentration of them can damage human body by extracted oil of cotton seed. It was indicated that these quantities were less than critical and standard limits by comparison the mean of heavy metals accumulation in lint and critical limits table of domesticated animal feeding. So, cotton seed meal has no problem for ruminants.

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