Fluorosis is a disease of cattle characterized by disorders of teeth and bones due to an excessive consumption of pollutant fluoride. The aim of this study was to determine fluoride levels in a clinical case of cows evidencing signs of dental fluorosis. These signs were: wear of teeth, erosions of the dental enamel and mottling, with lesions classified as 4 or 5 in a scale of 5. Blood and urine samples were collected of 30 cows, and also were sampled water, fertilizer, mineral supplements and soil. Blood from a normal herd was taken as a control. The concentration of fluoride was determined with an ion selective electrode (Orion, Model 90-01) according to international standards. Results for fluoride were: blood serum: 0.12±0.03 mg/L with a range: 0.06 to 0.21 mg/L; urine: 0.25 mg/L; water: 0.12-0.45 mg/L, fertilizer: 222 mg/L, mineral salt: 0.2 mg/L and soil: 0.09 mg/L. Fluoride in serum of control animals was significant lower (P< 0.02): 0.09±0.04 mg/L. Serum and urine values can be considered within the normality but in the upper range. Values for water and mineral supplement were in acceptable ranges, but fertilizer levels can be considered dangerous if consumed by animals. As a conclusion, laboratory results are compatible with clinical diagnosis of chronic fluorosis.