The main purpose of this study was to measure the amount of acid deposition in Thungkru district, specifically near its urban and industrial areas. The samples of acid deposition composed of rainwater were known as wet deposition, and the samples collected from the atmosphere as dry deposition. The wet deposition samples were collected on a daily basis from April till September of 2001, using the wet bulk collector. The dry deposition samples were collected from April 2001 till February 2002, using three different types of filters, namely teflon, nylon and cellulose. The filters were placed on a flat plate and the samples were collected continuously for a week.

The results of the wet deposition study show that the average values of pH and conductivity of rainwater were 5.8 and 1.73 millisiemens per meter, respectively. The average concentration of cations were in the sequence of Ca²⁺>NH₄⁺>Na⁺>Mg²⁺>K⁺, at the amounts of 41.23, 36.52, 22.94, 16.40 and 15.56 micrograms per liter. Those of anions were C₁⁻>SO₄²⁻>NO₃⁻, at the amounts of 32.0, 30.94 and 24.08 micrograms per liter, respectively. The mole average ratio of NO₃⁻/SO₄²⁻ was 0.76 indicating that sulfate in the atmosphere was higher than nitrate. This shows that the acid precursor in this study was from the industrial sources.

The result of the dry deposition study reveals that the amount of dust deposition on the cellulose filter gave the highest values, at 77.3 grams per square meter per month. In the cases of sulfate and nitrate deposition, it was found that the cellulose filter impregnated with 6% K₂CO₃ and 2% glycerine had the highest collection efficiency. The amounts of sulfate and nitrate deposition on the cellulose filter were 816 and 220 milligrams per square meter per month, respectively.