The chemistry of atmospheric precipitation has been changed during the last decades. Soils form the biogeochemical link between plants and an atmospheric deposition. Plants are influenced by direct precipitation and by changed root environment. Also human activities, such as fertilization and harvesting have an impact on plants and soil.

In long-term studies it is important that samples are collected exactly from the same sampling points in different years and the methods of analysis are comparable.

In this study, the soil profiles down to 60 cm in mineral soil were sampled and analyzed in 1970 and 1989. The pH, Ca+Mg, Al, amount of organic material, and total N and NH₄-N were measured. Tree stand characteristics were measured in both years. In 1990, percentage cover of ground vegetation was determined and analyzed with CANOCO.

During the 19 years, soil pH slightly decreased, as did the amount of Ca+Mg. The amount of Al increased in some sample plots but the increment was not clear throughout the study area. The amount of total nitrogen increased in all plots but the amount of NH₄-N decreased.

The major change in vegetation was the development of unequal aged forest stands into equal-aged forest by harvesting and fertilization treatments. The present ground vegetation shows no contradiction with Cajander’s forest site type classification.

The change in soil chemistry can partly be due to aging of the forest stand and partly by atmospheric precipitation.