

ABSTRACT

The soil resource is a vital component of our environment and the monitoring of soil properties is essential to achieving sustainable land use. The AESA Soil Quality Benchmark Program measures soil parameters on a yearly basis to identify changes in soil quality due to management influences and in the process gathers important data to use in model validation. This literature review provides a basis of comparison for the AESA Soil Quality Benchmark Program to other soil monitoring systems, in order to evaluate the state and effectiveness of the AESA program.

This review is a compilation of 52 environmental/soil monitoring programs from around the world. An emphasis was placed on finding programs currently operating or those operational within the last two decades, which repeatedly monitor the soil resource in some capacity, without imposing agronomic treatments. Programs were researched using computerized database searches, bibliographic references and through use of the Internet. The soil related information is summarized into tables, which contain extensive information describing each monitoring program, including management, program lifespan, ecosystem monitored, variables monitored, sampling sites, soil sampling interval, data uses and trends and parameters measured. The discussion includes analysis of the information tables and serves as a summary of the various approaches to repeated monitoring of environmental and soil components. A comparison of the AESA Soil Quality Benchmark Program to the other programs was carried out.