SOLID WASTE COMPOSITION STUDIES AS A TOOL FOR PLANNING AND EVALUATION OF SOURCE SORTING SYSTEM. EXPERIENCES FROM LAST TWENTY YEARS IN SWEDEN

Sanita Vukicevic
Envir AB, Sweden

Abstract

Household waste recycling programs have been introduced and different waste-sorting and collection systems have been developed in Sweden during recent decades. Evolution and comparison of the different systems was made difficult by the lack of comparable data. A number of different methods for solid waste composition studies were used in parallel for twenty years ago in Sweden. Nordtest (Nordic Innovations Centre) provides a standard method for sampling and characterization of municipal solid waste (Nordtest, 1995). Based on the Nordtest standard, a waste management company in Sweden (NSR AB) has implemented a procedure for characterization of solid waste, regularly used in their waste treatment lines since 1997. The NSR-method has been developed with regard to practical experiences. Loads of ordinary waste transport vehicles are used for sampling, and sorting is done manually into 20 components. In a joint project between Luleå University of Technology, NSR AB, The Swedish Sustainability Foundation and RVF, a manual for household waste composition analysis was suggested, designed for Swedish conditions in 2005.

This manual has been revised in 2013 and is now used by Envir AB as a standard method that enables evaluation of different collection systems by determining error ratio in source sorted fractions. A step-by-step manual goes through the procedure: 1; preinvestigation and analysis design. 2; Collection of samples using ordinary collection vehicles. 3; Sample splitting. 4; Sorting and classification into 9 primary and 22 secondary categories. 5; Evaluation of data and presentation of results. The method has been developed over the last 10 years and are used more and more to evaluate a collection system or to compare different collection systems such as curbside collection or drop-off systems in different municipalities in Sweden.

Keywords

Waste composition studies, Household waste, Curbside collection, Drop-off, Error ratio, Recycling, Source separation, Waste management