

Abstract

The ecologic diversity of our country, as well as a shift in the forms of property in the last period have led to confusion and tremendous technologic inabilities and implicitly to obtaining agricultural and horticultural productions under the soil's biologic potential, as well as their production capacity, a situation inconceivable 22 years after the change in agricultural systems. The aim of the research resides in the study of the effect of a differentiated fertilization system, in the fruit-tree basin of Reghin, on the agrochemical evolution of the reaction of the typical preluvosoil cultivated with apple towards the optimum economic measures to be undertaken for fertilization, ecologic protection and an increase of both a quantitative and qualitative nature of fruit production, as well as maintaining it to the optimum parameters of the soil reaction and agriecosystem balance. The research relies on rigorous experiments on a typical preluvosoil in the Reghin area, with differentiated fertilization systems employing complex mineral, organic and organomineral fertilization, applied to the soil and foliarly for the *Golden Delicious* and *Starkrimson* apple varieties, widely spread in the area and on high consumer demand. In this context, the paper aims at approaching an area that nature and man have endowed with priceless gifts, that can only be referred to in the superlative. Despite the country's policy of destruction following the Revolution that was perceivable in all sectors of economy, including agriculture, farmers in the fruit tree basin of Reghin have risked enormously and fought by all means to save their fruit farms and keep this acknowledged fruit treebasin from beinf destroyes. The research materials and methods employed are those in agrochemical methodology and pecific to the crop techology of apple cultivated on fruit-tree plantations. The importance, originality and degree of novelty of these agrochemical expeirments are due to yest unsolved issues with regard to fertilizing combinations, by implementing a differentiated complex mineral fertilization system, both organic and organo-mineral, applied to the soil and foliarly to the *Golden Delicious* and *Starkrimson* varieties, in order to maintain and enhance the organic matter content in the soil and forming humus according to the climate specificity of the Reghin area and the specific and global consumption requirements of the apple varieties in the area. This fertilization system accompanied by a rigorous agrochemical control must provide a diversity of practical solutions in achieving the agrochemical optimum soil-plant-fertilizer and prevent soil and agriecosystem degradation and obtaining productions that are qualitatively superior and have met the parameters for food safety and security.

Key words: soil, fertilization, agrochemical modifictions, apple