This thesis deals with the analysis of algebraic flux correction (AFC) schemes. This class of methods was developed for the discretization of elliptic boundary value problems (problems with convection-diffusion-reaction equations). The thesis provides a derivation of these methods for a model problem. Furthermore, results related to a priori error estimates are presented, and an error estimate in the L^2-norm is derived based on these results. The core of the thesis lies in the extension of the analysis of the BBK limiter to the case with weights, and in the construction of a novel limiter based on integral smoothness indicators. We focus on the so-called linearity preservation property of this new limiter, which may lead to improved convergence behavior. Finally, the results of numerical experiments with this limiter are presented.