A mathematical model of controlling the growth of tissue in pigs


Abstract. A mathematical model of controlling the growth of tissues in pigs is described in this paper. In that sense, a method is given by which it is possible to periodically and very accurately estimate live pig weight of backfat based upon measurements done by ultrasound. These estimations will be used for the purpose of predicting growth of backfat in live pigs. Backfat weight is estimated on the basis of measurements done by using the Moving Total Least Squares Method, whereas estimation of live pig backfat growth is done by using a generalized logistic function, whose parameters are estimated by means of the Least Squares Method. Since thereby the Hessian of the corresponding minimizing function is very close to a singular matrix, an additional problem analysis was necessary.