

INFLUENCE OF LEVEL OF MECHANIZATION AND ROBOTIZATION ON ENERGY CONSUMPTION AND COSTS OF PREPARATION AND DISCHARGE OF FEED FOR THE CATTLE

Summary

Mechanization and automatization of feeding treatment of cattle with bulky and concentrated feeds is a result of the demand of physiology as well as minimization of inputs. It is very significant factor in view of rising production costs and very more slow increase of incomes from agricultural production or even their stagnation. The most popular feeding system of cattle having high production potential, in which all bulky, concentrated, mineral feeds as well as other additives are discharged as full portion feeds is TMR. Based on literature analysis and own studies research problem was formulated, which is a result of the need of feeding robotization, correlated with rational cattle feeding system. In effect, the aim of the dissertation was to determine the influence of robotization on inputs and costs of preparation and discharge of feeds in modern livestock buildings. Using the multiplicity theory, a model of assessment of most profitable solution was elaborated, taking into account market criteria determined by a potential investor. From point of view of the lowest labour inputs in robotized cattle barn, proposed was a cattle barn with the herd size 320 LU, where the unitary labour input is at the level 0,3 working – minutes·day⁻¹·LU⁻¹ and unitary exploitation costs equaled 427,71 PLN·year⁻¹·LU⁻¹.