

SYSTEM APPROACH TO ANIMAL PRODUCTION RESEARCH

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During the last few decades, the science of systems analysis has added much to our understanding of the criteria for evaluating the productivity of a specific activity.

In the systems analysis approach all influences and constraints are identified and evaluated in terms of their impact on the various "decision points" of the system.

The commonly accepted definitions of the agricultural and farming systems are given in the paper with special emphasis on animal production.

The system approach to livestock research includes evaluation of resources, identification and characterization of the interrelating components in order to determine the type of the production system, modelling of the production system to simulate the complex system.

The improvement of a production system involves the development of a hypothesis about objectives and constraints, the introduction of proposed changes on the system design, and measuring the system response to the proposed changes. The means of increasing the efficiency of a system are outlined, and criteria for measuring the potential increase of profitability of the system as a response to the new innovation are discussed.

At the end of the paper a summary of the results of a case study made on the most prevailing agricultural system in Egypt (the crop/livestock system) is given.