

Objective

To acquaint and equip with the procedure of testing & performance evaluation of farm power & machinery as per test standards and interpretation of results.

Theory

UNIT I

Types of tests; test procedure, national and international codes.

UNIT II

Test equipment; usage and limitations. Power losses in dynamometers and hydraulic test equipment.

UNIT III

Prototype feasibility testing and field evaluation. Laboratory and field testing of selected farm equipment. Non-destructive testing techniques.

UNIT IV

Tractor performance testing, evaluation and interpretation of results.

UNIT V

Review and interpretation of test reports. Case studies.

Practical

Laboratory and field testing of selected farm equipment. Interpretation and reporting of test results. Material testing and its chemical composition. Accelerated testing of fast wearing components. Non-destructive testing techniques.

Suggested Readings

Anonymous. 1983. *RNAM Test Code & Procedures for Farm Machinery*.
Technical Series 12.

Barger EL, Liljedahl JB & McKibben EC. 1967. *Tractors and their Power Units*.
Wiley Eastern.

Indian Standard Codes for Agril. Implements. Published by ISI, New Delhi.

Inns FM. 1986. *Selection, Testing and Evaluation of Agricultural Machines and
Equipment*. FAO Service Bull. No. 115.

Lal R & Dutta PC. 1979. *Agricultural Engineering* (through solve examples).
Saroj Parkashan,

Metha ML, Verma SR, Mishra SK & Sharma VK. 1995. *Testing and Evaluation
of Agricultural Machinery*. National Agricultural Technology Information
Centre, Ludhiana.

Nebraska Tractor Test Code for Testing Tractor, Nebraska, USA.

Smith DW, Sims BG & O'Neill D H. 2001. *Testing and Evaluation of
Agricultural Machinery and Equipment - Principle and Practice*. FAO
Agricultural Services Bull. 110.