

Estimating Mechanisation Costs



In a bid to assist farmers establish the total costs associated with mechanisation, SASRI provides relevant information in the form of 'Mechanisation Reports'. There are two separate reports, both of which are updated annually.

The first report deals with calculating costs for various individual pieces of equipment and for complete mechanisation systems. The second report uses a 200 ha farm as an example, and shows how these costs come together for the various farming operations.

MECHANISATION REPORT 1:

Costing machinery systems

The equipment described in this report include agricultural and haulage tractors, cane trailers of various capacities, cane loaders, implements, attachments, various road haulage truck-trailer combinations and transloading cranes. The latest report includes an extended range of

agricultural tractors to account for categories of higher power. A range of slew loaders is now also included in the report.

COST GRAPHS

The set of graphs in the report show how the costs (per hour or per kilometre) decrease as vehicle utilisation increases. Tables showing field efficiencies, operating speeds and performance standards for typical cane handling operations are also included.

When using the report, the first step would be to determine the annual usage of the equipment. This may be gathered from past records or by a reasonable estimate of future work. Examples are included on how to determine these estimates for certain pieces of equipment. Costs for the utilisation of a particular category of equipment can be read off the graphs.

COST TABLES

The cost tables include ownership and operating costs. At current rates, these includes provision for:

- interest at a rate of 7.25%;
- depreciation over the economic life of the vehicle;
- operator costs;
- provision for licence and insurance;
- fuel at R8.67 per litre (includes a rebate of about R1.98 per litre of fuel);
- repairs and maintenance; and
- tyres and operator costs.



Such costs are useful as a guide particularly when comparing equipment alternatives. Only basic costs of the equipment are provided and not any additional business related costs such as management, office, administration costs or any ancillary operations that may be linked to the particular equipment. Tax and cash flow issues that are not considered in this general cost guide need specific attention. When making a purchasing decision, specialist economic and financial advice should be sought to take such implications into consideration. Further considerations such as product reliability, servicing and backup support should also be taken into account.

PRODUCTS AND SUPPLIERS

This report now also includes a table of products commonly found in the industry including tractors, harvesters, cane handling equipment and implements. Website addresses for products and suppliers are included in the table for ease of access. Specific technical information regarding a product's pricing and availability can be sourced directly from the local suppliers. Backup service and product support must be considered when comparing similar products from various suppliers.

MECHANISATION REPORT 2:

Systems and costs of land preparation, planting and ratoon management

The costs given in this report are based on a 200 hectare farm with a replanting programme of 20 hectares per

year, using new equipment with 60 kW 2WD tractor costs based on an annual usage of 1 000 hours. It should be noted that implements in such a scenario are typically under-utilised and generally result in high implement costs (particularly for expensive implements). It may therefore be more cost effective to outsource operations or, alternatively, to contract out operations in order to improve vehicle utilisation.

Also, consideration must be given to finding the best tractor-implement matches for the highest productivity, least cost operations. The examples in this report serve as a guide and growers should carefully compare the operations included and adjust these to suit their own farming systems.



MECHANISATION WEBPAGE

Updated copies of SASRI's Mechanisation Reports and other mechanisation information and resources can all be found on the Mechanisation webpage on the SASRI website at www.sugar.org.za/sasri.

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