Guide to machinery costs

2012/13

agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

KWAZULU-NATAL AGRICULTURE, ENVIRONMENTAL AFFAIRS AND RURAL DEVELOPMENT

Guide to machinery costs

2012/13

January 2013

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES

2013

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Design, layout and publishing by
Directorate Communication Services
Department of Agriculture, Forestry and Fisheries
Private Bag X144, Pretoria, 0001 South Africa

Obtainable from
Resource Centre
Directorate Knowledge and Information Management
Private Bag X388, Pretoria 0001

Also available on the web at
www.daff.gov.za/publications

ISBN 978-1-86871-368-4

PLEASE NOTE: The prices of the machines were determined in May 2012

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1. INTRODUCTION

The *Guide to Machinery Costs* is compiled to assist farmers, extension personnel, and others involved in costing farm operations, and machinery decision making. These costs are updated annually and are based on available technical and financial data, in particular prices published in "*Agfacts".* Prices of agricultural machinery vary between firms and regions.

The performance of machines also varies under different working conditions. It is therefore important that the user interprets these costs intelligently for a particular region or set of circumstances.

It is important to note that many machines are no longer available on the market, while new machines have entered the market. Equipment marked with an asterisk (*) represents an alternative/higher price for the implement in question, while equipment which is no longer available is marked with a double asterisk (**). The price of this equipment is increased by an appropriate percentage based on the previous year's price, and this equipment will not be listed in the following years. An adjustment to the expected life of the equipment is made from time to time, based on information received from researchers, manufacturers and users of equipment. Any information of this nature is welcome, together with any constructive criticism which can assist in improving this publication.

Compilation of the *Guide to Machinery Costs* would not have been possible without the valuable assistance of the manufacturers and suppliers of agricultural machinery, who have kindly provided the necessary technical and financial information.

The initial computer programs were developed by Messrs K.P. Archibald and G.F. Ortmann, formally of the Division of Agricultural Production Economics – Natal region. These programs were converted to IBM compatible micro-computer by Mr R.J. Gordijn and adapted by Mr P.A. Gordijn and Mr J.C. Mentz. The current version of this system was converted into Excel by Ms P.C. Pennefather. The guide has been updated (annually) by Mr P.A Lubbe (National Department of Agriculture, Forestry and Fisheries); E.N.C. Whitehead and Ms C.G. Archer (Agricultural Development Support Services Directorate, KwaZulu-Natal Department of Agriculture) and Mr P.J. Burger (Production Economics, Western Cape Department of Agriculture).

1.1 Notes on machinery costs

The costs of owning and operating machinery can be divided into two categories – namely fixed costs and variable costs.

Fixed costs relate to machinery ownership and occur regardless of whether the machinery is used or not. Fixed costs per hour of usage are inversely proportional to the extent of annual usage. Variable costs relate directly to the degree of utilisation of the machine and include factors such as repairs and maintenance costs, fuel and lubricants.

The division into fixed and variable costs is not always an absolute one. There is a valid argument for considering depreciation charges as being made up of two main components, one of which is determined by obsolescence and is a fixed cost, and the other relates to "wear and tear", and is considerably influenced by the use of the machine. In this case, depreciation could be considered to be a variable cost.

The cost figures in this *Guide to Machinery Costs* are AVERAGE figures excluding the current Value Added Tax, at the month of updating. They are based on the assumed life expectancies and annual usage, obtained from studies done in South Africa, Great Britain and the U.S. According to Culpin (1959), it is injudicious

to assume a life expectancy beyond 15 years for any implement or machine. These figures are therefore suggested, and serve as a guideline where specific information is unavailable.

1.1.1 Depreciation

Depreciation is the reduction in value of a machine with the passage of time. There are various methods of calculating depreciation costs. The straight-line method gives a constant annual charge for depreciation throughout the lifespan of the machine, and this is the method used in the *Guide to Machinery Costs* to calculate the depreciation costs.

1.1.2 Interest

A charge for interest is included as a fixed cost because the money which is invested in machinery could have been invested in other productive enterprises or investments. The interest rate that is used in the *Guide to Machinery Costs* is the interest rate that can be obtained on a medium-term (5 year) investment.

The value of the machine decreases over time as reflected by annual depreciation charges. Consequently, the amount of money invested in the machine decreases, from the initial purchase price to the scrap value at the end of the machine's useful life. The interest charge takes this into account as it is based on the average investment during the lifespan of the machine.

1.1.3 Insurance and licence

These costs are based on current charges imposed by various insurance companies and the government. In some instances, insurance and licence charges are assumed to be a percentage of the average investment of the machine.

1.1.4 Repairs and maintenance

These costs are difficult to estimate as they vary greatly, depending on operating conditions, management, maintenance programmes, local costs, etc. It is generally agreed that repair costs will increase with age but are unlikely to increase proportionally. Repair costs per hour of use will increase with age but will tend to level off as the machine becomes older (Kepner *et.al.,* 1978, p. 36).

Accurate estimates of repair costs are not easily obtainable. However, work done by the Directorate of Agricultural Engineering has been used where appropriate (see Reference 4). Repair costs are quoted as a percentage of the purchase price of the machinery, divided by the annual use. The percentages are kept constant over the lifespan of the machine, thereby obtaining an average cost during the machine's useful life. There are disadvantages to this method, however, for general reference purposes it is the most practical method.

For further information on repairs and maintenance cost formulas consult the reference list, with particular attention to references 1 and 6.

1.1.5 Fuel

Fuel consumption is also a contentious issue and can vary greatly for different areas, machinesand even operators. Here again, these figures are based on the results of surveys done in South Africa and the U.S.. For further information consult references 1, 5 and 6.

There are three levels of power demand for tractors—light, medium and heavy—depending on the type of work being done. The fuel consumption is in litres per kW-hour and varies for each level of power demand. There is also a variation in the percentage of available kW that is used at each level. (See notes at the foot of each page.)

A single level of power demand is used for self-propelled combine harvesters. The fuel consumption is in litres per kW-hour and varies with the engine power (kW).

In the case of LDVs and trucks the fuel usages per 100 km are the average figures supplied by the dealerships and manufacturers' standards. Clearly these consumption figures will vary for different vehicles, drivers and circumstances in general. The listed fuel usage figures are for information purposes only, and users of the guide have to adjust the fuel costs if their consumption figures are noticeably different.

The prices of diesel, petrol and oil were those prevailing on the highveld at the time of updating the guide. Users may have to adjust the fuel costs if current prices are significantly different from those used in the guide.

(See notes at the foot of each page.)

1.2 The cost per hectare

The following remarks have to be kept in mind concerning the costs of using tractors and implements.

(1) The driver/operator and labour costs are not included in the listed costs

(2) The costs of materials (e.g. baling twine, wire, seed, fertiliser) are not included in the listed costs.

1.2.1 Cost per unit of measure

Machinery costs included in this guide are listed below, together with the unit of measure.

Tractors	R/hour	(R/h)	The cost per hour is based on clock hours and not tractor hours.
Implements	R/hour	(R/h)	
Self-propelled combine harvesters	R/hour	(R/h)	
Trailers	R/hour	(R/h)	
LDVs	Cents/kilometre	(c/km)	
Trucks	Cents/kilometre	(c/km)	
Electric motors	R/hour	(R/h)	

If the necessary conversion factors are available, these costs can be translated into the cost per hectare, per ton, etc.

1.2.2 Duration time per hectare and per kilometre

The duration time per hectare depends upon the working width of an implement, the work speed, and the effectiveness of the machinery being used to carry out an activity. The following formula can be used to calculate the duration time per hectare:

$$\text{Duration per hectare } \left(\frac{\text{Hr}}{\text{Ha}}\right) = \frac{10\,000}{[\text{work width (m)} \times \left[\text{work speed } \left(\frac{\text{Km}}{\text{Hr}}\right) \times 1\,000\right] \times \text{effectiveness (\%)}]}$$

To calculate a Rand per hectare value, information is required on the time requirement of the machine per hectare. Some rough guidelines to these figures are reported in the “Field Capacities” section at the end of this publication. Take note that this figure will largely depend on the shape of the field, speed of the machine, area, etc.

In the case of vehicles, and cane and timber equipment, the duration time is given by the following formula:

$$\text{Duration per kilometer } \left(\frac{\text{Hr}}{\text{Km}}\right) = \frac{1}{\left[\text{average speed } \left(\frac{\text{Km}}{\text{Hr}}\right)\right]}$$

In other words, the duration time per kilometre is the inverse of the average speed.

1.2.3 Cost per hectare

To determine costs per hectare from the data in the *Guide to machinery costs*, the following formula can be used:

Costs per hectare (R/ha) = **Cost per hour** (R/h) x **Duration time per hectare** (h/ha)

In other words, the duration time of the activity (e.g. ploughing, spraying, fertilising) is multiplied by the cost per hour.

The cost per hour will be that of the tractor plus the cost of any implement used with the tractor to perform the activity (e.g. tractor and plough, tractor and boom sprayer, tractor plus trailed combine harvester). The cost of a self-propelled combine harvester will replace the cost of the tractor when appropriate.

The costs per ton (unit of yield) can be determined by using the following formula:

Costs per ton (R/t) = **Cost per hectare** (R/ha) ÷ **Tons per hectare** (t/ha)
Costs per ton (R/t) = **Cost per hectare** (R/ha) x **Hectare per ton** (ha/t)

The following tables give some indication of how the information in the guide can be used to determine the costs of using equipment to perform a range of farming activities.

The costs in the following tables are taken from the *Guide to Machinery Costs 2012/13*.

TABLE 1: Tractor and implement

(a) Activity duration times

Activity	Tractor			Implement				Duration
	Power (kW)	Drive (2W/4W)	Power demand (L/M/H)	Description	Working width (m) (A)	Working speed (km/h) (B)	Effectiveness (%) (C)	(h/ha) (= 10 000 ÷ (A x Bx 1 000 x C/100))
Plough	98	4W	H	3-furrow disc plough	2,6	2,6	85	1,74
Plant	63	4W	M	3-row (1,5 m) maize planter	1,5	3,0	85	2,61
Fertilise	63	4W	M	4 000 ℓ double-disc fertiliser spreader	3,2	3,2	85	1,15
Spray	63	4W	L	12 m boom sprayer	12	6,0	85	0,16

(b) Activity costs per hour and per hectare

Activity	Duration time	Tractor		Tractor Costs			Implement	Implement Costs			Total Costs	
	(h/ha) (A)	kW 2/4 W	Power demand (L/M/H)	Fixed (R/h)	Variable (R/h)	Total (R/h) (B)	Description	Fixed (R/h)	Variable (R/h)	Total (R/h) (C)	Per hour (D = B + C)	Per ha (D x A)
Plough	1,74	98 4W	H	78,97	252,92	331,89	3-furrow disc plough	13,98	10,41	24,38	356,27	619,91
Plant	2,61	63 4W	M	52,02	147,93	199,95	3-row (1,5 m) mounted maize planter	46,44	25,15	71,59	271,54	708,72
Fertilise	1,15	63 4W	M	52,02	147,93	199,95	4 000 ℓ double-disc fertiliser spreader	427,54	282,52	710,06	910,01	1 046,51
Spray	0,16	63 4W	L	52,02	135,80	187,82	12 m mounted boom sprayer	38,46	13,02	51,48	239,30	38,29

This information indicates that it costs R356,27 per hour to plough, using a 98 kW (4-wheel) drive tractor which is pulling a 3-furrow disc plough, assuming that ploughing is a **heavy operation**. It indicates that it costs R708,72 to plant one hectare using a 63 kW (4-wheel) drive tractor which is pulling a 3-row (1,5 m) mounted planter, assuming that planting is a **medium operation,** and it takes 2,61 hours to plant one hectare. No costs are included for labour, or seed and other materials.

TABLE 2: Self-propelled combine harvester—wheat

(a) Activity duration time

Activity	Combine details					Duration
	Power (kW)	Description	Working width (m) (A)	Working speed (km/h) (B)	Effectiveness (%) (C)	(h/ha) (= 10 000 ÷ (A x B x 1 000 x C/100))
Harvest	216	9,1 m self-propelled wheat combine	9,1	5,0	90	0,244

(b) Activity costs per hour and per hectare

Activity	Duration time (h/ha) (A)	9,1m S-P wheat combine	Combine Costs			Total Costs	
			Fixed (R/h)	Variable (R/h)	Total (R/h) (B)	Per hour (B)	Per ha (B x A)
Harvest	0,244	216 kW	968,73	657,19	1 625,92	1 625,92	396,72

TABLE 3: Truck

(a) Activity duration time

Activity	Truck details		Average speed		Duration	
	Description	Capacity (t) (A)	Km/h (B)	h/km (C = 1 ÷ B)	Km/h.ton (D = B ÷ A)	H/km.ton (E = C ÷ A)
Transport 8 t grain	8,0 t single-differential truck	8,0	80,0	0,0125	10,00	0,0016

(b) Activity costs per kilometre, per hour and per ton

Activity	Truck description	Truck costs		Total costs			
		Fixed (R/km)	Variable (R/km)	R/Km (F)	R/h (= F x B)	R/km.ton (= F ÷ A)	R/h.ton (= F x D)
Transport 8 t grain	8,0 t single-differential truck	2,58	5,53	8,11	648,80	1,01	81,10

Example: Assume that a maize farmer achieved a yield of 8 t/ha on 2 ha. He needs to transport 16 t of grain. He is using an 8,0 t single-differential truck with an average speed of 80 km/h. This means that two trips will have to be done. The total distance to be travelled for both return trips is 50 km. Using the tables above, as a guideline, the following costs can be derived.

(c) Example: Truck activity costs

Activity	Tonnage transported (tons) (A)	Total distance travelled 2 loads (km) (B)	Truck description	Truck cost (fixed + variable)	Average speed		Duration		Total costs			
			8,0 ton (C = 8)	(R/km) (D)	Km/h (E)	H/km (F = 1 ÷ E)	Km/h.ton (G = E ÷ C)	Hr/km.ton (H = F ÷ C)	R/km (D)	R/h (I = D x E)	R/km.ton (J = D ÷ C)	R/h.ton (K = I ÷ C)
Transport 8 t grain	16,0	50,0	Single-diff.	8,11	80,0	0,0125	10,00	0,00156	8,11	648,80	1,01	81,1

The total distance travelled	=	50 km	(B)
The total cost per kilometre (R/Km)	=	R8,11	(D)
The total cost of the return trip	=	R405,50	(L= B x D)
Tonnage transported	=	16 tons	(A)
Cost per ton	=	R25,34	(M = L ÷ A)
The 16 t maize grain yield was from		2 ha	
	=	8 t/ha	(N)
Cost per hectare	=	R202,72	(M x N)

TABLE 4: Tractor and trailer

(a) Activity duration time

Activity	Tractor			Trailer		Average speed		Duration	
	Power (kW)	Drive (2W/4W)	Power demand (L/M/H)	Description	Capacity (ton) (A)	Km/h (B)	H/km (C = 1 ÷ B)	Km/h.ton (D = B ÷ A)	H/km.ton (E = C ÷ A)
Transport grain	98	4W	H	10 t 4-wheel trailer with dropsides	10,0	10,00	0,10	1,00	0,01

(b) Activity costs per hour, per kilometre, and per ton

Activity	Tractor	Tractor costs			Trailer	Trailer costs			Total costs			
	kW; 2/4 W; L/M/H	Fixed (R/h)	Vari. (R/h)	Total (R/h) (F)	Description	Fixed (R/h)	Vari. (R/h)	Total (R/h) (G)	R/h (H = F + G)	R/km (I = H x C)	R/h.ton (J = H ÷ A)	R/km.ton (K = I ÷ A)
Transport	98 4W; H	78,97	252,92	331,89	10 t 4-wheel trailer with dropsides	22,94	13,03	35,97	367,86	36,79	36,79	0,37

Example: Assume that a maize farmer has to transport 10 tons of maize from the field to the silo. He is using a 98 kW (4-wheel) drive tractor and a 10 t 4-wheel trailer (with dropsides), with an average speed of 20 km/h. This means that 1 trip will have to be undertaken. The total distance to be travelled from the field to the silo is 10 km. Using the tables above, as a guideline, the following costs can be derived.

(c) Example: Tractor and trailer activity costs

Activity	Tonnage transported (tons) (A)	Total distance travelled (km) (B)	Tractor 98 4W; h	4 W Trailer 10 ton (D = 10)	Average speed		Duration		Total costs			
			Total cost R/h (C)	Total cost R/h (E)	km/h (F)	h/km (G = 1 ÷ F)	km/h.ton (H = F ÷ D)	h/km.ton (I = G ÷ D)	R/h (J = C + E)	R/km (K = J x G)	R/h.ton (L = J ÷ D)	R/km.ton (M = K ÷ D)
Transport 10 t grain	10,0	10,0	331,89	35,97	20,0	0,05	2,00	0,005	367,86	18,39	36,79	1,84

The total distance travelled	=	10 km	(B)
The total cost per kilometre (R/km)	=	R18,39	(K)
The total cost of the trip	=	R183,90	(N = B x K)
Tonnage transported (yield)	=	10 tons	(A)
Cost per ton (R/t)	=	R18,39	(O = N ÷ A)
The 10 t maize grain yield was from 2 ha	=	5 t/ha	(P)
Cost per hectare	=	R91,95	(O x P)

Other combinations of tractors, vehicles and equipment can be determined, using the illustrations above.

1.3 General remarks

(a) Cost per hour is based on clock hours and not tractor meter hours.
(b) The driver/operator cost is not included in the costs.
(c) The baling costs do not include twine or wire costs.

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2. TWO-WHEEL DRIVE TRACTORS

2.1 Low-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
18	61 967	12 000	1 000	6 197	34 082	4,65	0,60	3,07	8,31	5,24	6,20	27,72	33,92	42,23	39,16	2,52
22	185 000	12 000	1 000	18 500	101 750	13,88	1,78	9,16	24,81	15,66	18,50	33,88	52,38	77,19	68,04	3,08
28	112 200	12 000	1 000	11 220	61 710	8,42	1,08	5,55	15,05	9,49	11,22	43,12	54,34	69,39	63,83	3,92
30	110 450	12 000	1 000	11 045	60 748	8,28	1,06	5,47	14,81	9,35	11,05	46,20	57,25	72,06	66,59	4,20
33	131 500	12 000	1 000	13 150	72 325	9,86	1,27	6,51	17,64	11,13	13,15	50,82	63,97	81,61	75,10	4,62
35	141 750	12 000	1 000	14 175	77 963	10,63	1,36	7,02	19,01	12,00	14,18	53,90	68,08	87,09	80,07	4,90
41	208 000	12 000	1 000	20 800	114 400	15,60	2,00	10,30	27,90	17,60	20,80	63,14	83,94	111,84	101,54	5,74
44	163 656	12 000	1 000	16 366	90 011	12,27	1,58	8,10	21,95	13,85	16,37	67,76	84,13	106,08	97,98	6,16
45	206 453	12 000	1 000	20 645	113 549	15,48	1,99	10,22	27,69	17,47	20,65	69,30	89,95	117,64	107,42	6,30
50	249 600	12 000	1 000	24 960	137 280	18,72	2,40	12,36	33,48	21,12	24,96	77,00	101,96	135,44	123,08	7,00
54	209 550	12 000	1 000	20 955	115 253	15,72	2,02	10,37	28,11	17,73	20,96	83,16	104,12	132,22	121,85	7,56
55	261 259	12 000	1 000	26 126	143 692	19,59	2,51	12,93	35,04	22,11	26,13	84,70	110,83	145,87	132,93	7,70
57	312 500	12 000	1 000	31 250	171 875	23,44	3,01	15,47	41,91	26,45	31,25	87,78	119,03	160,94	145,48	7,98
60	275 416	12 000	1 000	27 542	151 479	20,66	2,65	13,63	36,94	23,31	27,54	92,40	119,94	156,88	143,25	8,40
63	275 700	12 000	1 000	27 570	151 635	20,68	2,65	13,65	36,98	23,33	27,57	97,02	124,59	161,57	147,92	8,82
66	270 065	12 000	1 000	27 007	148 536	20,25	2,60	13,37	36,22	22,85	27,01	101,64	128,65	164,87	151,50	9,24
67	427 521	12 000	1 000	42 752	235 137	32,06	4,11	21,16	57,34	36,18	42,75	103,18	145,93	203,27	182,11	9,38
74	474 859	12 000	1 000	47 486	261 172	35,61	4,57	23,51	63,69	40,18	47,49	113,96	161,45	225,14	201,63	10,36
82	539 122	12 000	1 000	53 912	296 517	40,43	5,19	26,69	72,31	45,62	53,91	126,28	180,19	252,50	225,82	11,48
82	659 492	12 000	1 000	65 949	362 721	49,46	6,35	32,64	88,45	55,81	65,95	126,28	192,23	280,68	248,04	11,48

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R 11,00 of purchase price/life period in hours
8) Fuel consumption 35% of purchase price/life period in hours
9) Litres used per kilowatt hour 0,40 of purchase price/life period in hours
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

2.2 Medium-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
18	61 967	12 000	1 000	6 197	34 082	4,65	0,60	3,07	8,31	5,24	6,20	31,19	37,38	45,69	42,63	2,84
22	185 000	12 000	1 000	18 500	101 750	13,88	1,78	9,16	24,81	15,66	18,50	38,12	56,62	81,43	72,27	3,47
28	112 200	12 000	1 000	11 220	61 710	8,42	1,08	5,55	15,05	9,49	11,22	48,51	59,73	74,78	69,22	4,41
30	110 450	12 000	1 000	11 045	60 748	8,28	1,06	5,47	14,81	9,35	11,05	51,98	63,02	77,83	72,37	4,73
33	131 500	12 000	1 000	13 150	72 325	9,86	1,27	6,51	17,64	11,13	13,15	57,17	70,32	87,96	81,45	5,20
35	141 750	12 000	1 000	14 175	77 963	10,63	1,36	7,02	19,01	12,00	14,18	60,64	74,81	93,82	86,81	5,51
41	208 000	12 000	1 000	20 800	114 400	15,60	2,00	10,30	27,90	17,60	20,80	71,03	91,83	119,73	109,43	6,46
44	163 656	12 000	1 000	16 366	90 011	12,27	1,58	8,10	21,95	13,85	16,37	76,23	92,60	114,55	106,45	6,93
45	206 453	12 000	1 000	20 645	113 549	15,48	1,99	10,22	27,69	17,47	20,65	77,96	98,61	126,30	116,08	7,09
50	249 600	12 000	1 000	24 960	137 280	18,72	2,40	12,36	33,48	21,12	24,96	86,63	111,59	145,06	132,71	7,88
54	209 550	12 000	1 000	20 955	115 253	15,72	2,02	10,37	28,11	17,73	20,96	93,56	114,51	142,62	132,24	8,51
55	261 259	12 000	1 000	26 126	143 692	19,59	2,51	12,93	35,04	22,11	26,13	95,29	121,41	156,45	143,52	8,66
57	312 500	12 000	1 000	31 250	171 875	23,44	3,01	15,47	41,91	26,45	31,25	98,75	130,00	171,92	156,45	8,98
60	275 416	12 000	1 000	27 542	151 479	20,66	2,65	13,63	36,94	23,31	27,54	103,95	131,49	168,43	154,80	9,45
63	275 700	12 000	1 000	27 570	151 635	20,68	2,65	13,65	36,98	23,33	27,57	109,15	136,72	173,70	160,05	9,92
66	270 065	12 000	1 000	27 007	148 536	20,25	2,60	13,37	36,22	22,85	27,01	114,35	141,35	177,57	164,21	10,40
67	427 521	12 000	1 000	42 752	235 137	32,06	4,11	21,16	57,34	36,18	42,75	116,08	158,83	216,17	195,01	10,55
74	474 859	12 000	1 000	47 486	261 172	35,61	4,57	23,51	63,69	40,18	47,49	128,21	175,69	239,38	215,88	11,66
82	539 122	12 000	1 000	53 912	296 517	40,43	5,19	26,69	72,31	45,62	53,91	142,07	195,98	268,29	241,60	12,92
82	659 492	12 000	1 000	65 949	362 721	49,46	6,35	32,64	88,45	55,81	65,95	142,07	208,01	296,47	263,82	12,92

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 45% of kilowatts used
9) Litres used per kilowatt hour 0,35 litre/kW hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

2.3 High-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
18	61 967	12 000	1 000	6 197	34 082	4,65	0,60	3,07	8,31	5,24	6,20	35,64	41,84	50,15	47,08	3,24
22	185 000	12 000	1 000	18 500	101 750	13,88	1,78	9,16	24,81	15,66	18,50	43,56	62,06	86,87	77,72	3,96
28	112 200	12 000	1 000	11 220	61 710	8,42	1,08	5,55	15,05	9,49	11,22	55,44	66,66	81,71	76,15	5,04
30	110 450	12 000	1 000	11 045	60 748	8,28	1,06	5,47	14,81	9,35	11,05	59,40	70,45	85,26	79,79	5,40
33	131 500	12 000	1 000	13 150	72 325	9,86	1,27	6,51	17,64	11,13	13,15	65,34	78,49	96,13	89,62	5,94
35	141 750	12 000	1 000	14 175	77 963	10,63	1,36	7,02	19,01	12,00	14,18	69,30	83,48	102,49	95,47	6,30
41	208 000	12 000	1 000	20 800	114 400	15,60	2,00	10,30	27,90	17,60	20,80	81,18	101,98	129,88	119,58	7,38
44	163 656	12 000	1 000	16 366	90 011	12,27	1,58	8,10	21,95	13,85	16,37	87,12	103,49	125,44	117,34	7,92
45	206 453	12 000	1 000	20 645	113 549	15,48	1,99	10,22	27,69	17,47	20,65	89,10	109,75	137,44	127,22	8,10
50	249 600	12 000	1 000	24 960	137 280	18,72	2,40	12,36	33,48	21,12	24,96	99,00	123,96	157,44	145,08	9,00
54	209 550	12 000	1 000	20 955	115 253	15,72	2,02	10,37	28,11	17,73	20,96	106,92	127,88	155,98	145,61	9,72
55	261 259	12 000	1 000	26 126	143 692	19,59	2,51	12,93	35,04	22,11	26,13	108,90	135,03	170,07	157,13	9,90
57	312 500	12 000	1 000	31 250	171 875	23,44	3,01	15,47	41,91	26,45	31,25	112,86	144,11	186,02	170,56	10,26
60	275 416	12 000	1 000	27 542	151 479	20,66	2,65	13,63	36,94	23,31	27,54	118,80	146,34	183,28	169,65	10,80
63	275 700	12 000	1 000	27 570	151 635	20,68	2,65	13,65	36,98	23,33	27,57	124,74	152,31	189,29	175,64	11,34
66	270 065	12 000	1 000	27 007	148 536	20,25	2,60	13,37	36,22	22,85	27,01	130,68	157,69	193,91	180,54	11,88
67	427 521	12 000	1 000	42 752	235 137	32,06	4,11	21,16	57,34	36,18	42,75	132,66	175,41	232,75	211,59	12,06
74	474 859	12 000	1 000	47 486	261 172	35,61	4,57	23,51	63,69	40,18	47,49	146,52	194,01	257,70	234,19	13,32
82	539 122	12 000	1 000	53 912	296 517	40,43	5,19	26,69	72,31	45,62	53,91	162,36	216,27	288,58	261,90	14,76
82	659 492	12 000	1 000	65 949	362 721	49,46	6,35	32,64	88,45	55,81	65,95	162,36	228,31	316,76	284,12	14,76

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 60% of kilowatts used
9) Litres used per kilowatt hour 0,30 litre/kW hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

3. FOUR-WHEEL DRIVE TRACTORS

3.1 Low-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
12	108 125	12 000	1 000	10 813	59 469	8,11	1,04	5,35	14,50	9,15	10,81	18,48	29,29	43,79	38,44	1,68
16	195 833	12 000	1 000	19 583	107 708	14,69	1,88	9,69	26,27	16,57	19,58	24,64	44,22	70,49	60,80	2,24
18	83 833	12 000	1 000	8 383	46 108	6,29	0,81	4,15	11,24	7,09	8,38	27,72	36,10	47,35	43,20	2,52
21	171 456	12 000	1 000	17 146	94 301	12,86	1,65	8,49	23,00	14,51	17,15	32,34	49,49	72,48	64,00	2,94
23	207 555	12 000	1 000	20 755	114 155	15,57	2,00	10,27	27,84	17,56	20,76	35,42	56,18	84,01	73,74	3,22
29	228 000	12 000	1 000	22 800	125 400	17,10	2,19	11,29	30,58	19,29	22,80	44,66	67,46	98,04	86,75	4,06
31	264 142	12 000	1 000	26 414	145 278	19,81	2,54	13,08	35,43	22,35	26,41	47,74	74,15	109,58	96,51	4,34
35	183 000	12 000	1 000	18 300	100 650	13,73	1,76	9,06	24,54	15,49	18,30	53,90	72,20	96,74	87,69	4,90
41	222 500	12 000	1 000	22 250	122 375	16,69	2,14	11,01	29,84	18,83	22,25	63,14	85,39	115,23	104,22	5,74
44	203 774	12 000	1 000	20 377	112 076	15,28	1,96	10,09	27,33	17,24	20,38	67,76	88,14	115,47	105,38	6,16
50	275 200	12 000	1 000	27 520	151 360	20,64	2,65	13,62	36,91	23,29	27,52	77,00	104,52	141,43	127,81	7,00
52	261 591	12 000	1 000	26 159	143 875	19,62	2,52	12,95	35,09	22,14	26,16	80,08	106,24	141,32	128,38	7,28
55	317 833	12 000	1 000	31 783	174 808	23,84	3,06	15,73	42,63	26,90	31,78	84,70	116,48	159,11	143,38	7,70
57	358 750	12 000	1 000	35 875	197 313	26,91	3,45	17,76	48,12	30,36	35,88	87,78	123,66	171,77	154,01	7,98
58	270 000	12 000	1 000	27 000	148 500	20,25	2,60	13,37	36,21	22,85	27,00	89,32	116,32	152,53	139,17	8,12
60	336 960	12 000	1 000	33 696	185 328	25,27	3,24	16,68	45,19	28,52	33,70	92,40	126,10	171,29	154,61	8,40
61	379 202	12 000	1 000	37 920	208 561	28,44	3,65	18,77	50,86	32,09	37,92	93,94	131,86	182,72	163,95	8,54
63	387 833	12 000	1 000	38 783	213 308	29,09	3,73	19,20	52,02	32,82	38,78	97,02	135,80	187,82	168,62	8,82
67	467 884	12 000	1 000	46 788	257 336	35,09	4,50	23,16	62,75	39,59	46,79	103,18	149,97	212,72	189,56	9,38
73	450 357	12 000	1 000	45 036	247 696	33,78	4,33	22,29	60,40	38,11	45,04	112,42	157,46	217,86	195,57	10,22
78	789 376	12 000	1 000	78 938	434 157	59,20	7,60	39,07	105,88	66,80	78,94	120,12	199,06	304,93	265,86	10,92
82	624 614	12 000	1 000	62 461	343 538	46,85	6,01	30,92	83,78	52,86	62,46	126,28	188,74	272,52	241,60	11,48
83	578 330	12 000	1 000	57 833	318 082	43,37	5,57	28,63	77,57	48,94	57,83	127,82	185,65	263,22	234,59	11,62
93	666 500	12 000	1 000	66 650	366 575	49,99	6,42	32,99	89,39	56,40	66,65	143,22	209,87	299,26	266,27	13,02
98	588 800	12 000	1 000	58 880	323 840	44,16	5,67	29,15	78,97	49,83	58,88	150,92	209,80	288,77	259,63	13,72

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Insurance and licence cost per hour 9,0% of average investment/hours per annum
6) Insurance and licence cost per hour 120% of purchase price/life period in hours
7) Insurance and licence cost per hour R11,00 per litre
8) Insurance and licence cost per hour 35% of kilowatts used
9) Insurance and licence cost per hour 0,40 litre/kW hour
10) Insurance and licence cost per hour

3.1 Low-power demand (*cont.*)

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
103	963 456	12 000	1 000	96 346	529 901	72,26	9,27	47,69	129,22	81,53	96,35	158,62	254,97	384,19	336,50	14,42
109	820 386	12 000	1 000	82 039	451 212	61,53	7,90	40,61	110,03	69,43	82,04	167,86	249,90	359,93	319,32	15,26
116	771 200	12 000	1 000	77 120	424 160	57,84	7,42	38,17	103,44	65,26	77,12	178,64	255,76	359,20	321,02	16,24
123	1 017 084	12 000	1 000	101 708	559 396	76,28	9,79	50,35	136,42	86,07	101,71	189,42	291,13	427,54	377,20	17,22
136	1 146 166	12 000	1 000	114 617	630 391	85,96	11,03	56,74	153,73	96,99	114,62	209,44	324,06	477,79	421,05	19,04
145	1 266 300	12 000	1 000	126 630	696 465	94,97	12,19	62,68	169,84	107,16	126,63	223,30	349,93	519,77	457,09	20,30
157	1 357 388	12 000	1 000	135 739	746 563	101,80	13,06	67,19	182,06	114,87	135,74	241,78	377,52	559,58	492,39	21,98
162	1 602 756	12 000	1 000	160 276	881 516	120,21	15,43	79,34	214,97	135,63	160,28	249,48	409,76	624,73	545,39	22,68
175	1 725 000	12 000	1 000	172 500	948 750	129,38	16,60	85,39	231,37	145,98	172,50	269,50	442,00	673,37	587,98	24,50
184	1 788 274	12 000	1 000	178 827	983 551	134,12	17,21	88,52	239,85	151,33	178,83	283,36	462,19	702,04	613,52	25,76
194	1 850 400	12 000	1 000	185 040	1 017 720	138,78	17,81	91,59	248,18	156,59	185,04	298,76	483,80	731,98	640,39	27,16
209	2 123 750	12 000	1 000	212 375	1 168 063	159,28	20,44	105,13	284,85	179,72	212,38	321,86	534,24	819,08	713,96	29,26
219	2 311 788	12 000	1 000	231 179	1 271 483	173,38	22,25	114,43	310,07	195,64	231,18	337,26	568,44	878,51	764,07	30,66
229	2 218 750	12 000	1 000	221 875	1 220 313	166,41	21,36	109,83	297,59	187,76	221,88	352,66	574,54	872,12	762,30	32,06
235	2 274 300	12 000	1 000	227 430	1 250 865	170,57	21,89	112,58	305,04	192,46	227,43	361,90	589,33	894,37	781,79	32,90
250	2 209 417	12 000	1 000	220 942	1 215 179	165,71	21,27	109,37	296,34	186,97	220,94	385,00	605,94	902,28	792,91	35,00
298	3 097 500	12 000	1 000	309 750	1 703 625	232,31	29,81	153,33	415,45	262,13	309,75	458,92	768,67	1 184,12	1 030,80	41,72
317	1 620 000	12 000	1 000	162 000	891 000	121,50	15,59	80,19	217,28	137,09	162,00	488,18	650,18	867,46	787,27	44,38
327	3 279 515	12 000	1 000	327 952	1 803 733	245,96	31,57	162,34	439,86	277,53	327,95	503,58	831,53	1 271,40	1 109,06	45,78
363	4 003 045	12 000	1 000	400 304	2 201 674	300,23	38,53	198,15	536,91	338,76	400,30	559,02	959,32	1 496,23	1 298,08	50,82
380	3 570 733	12 000	1 000	357 073	1 963 903	267,80	34,37	176,75	478,92	302,17	357,07	585,20	942,27	1 421,20	1 244,45	53,20
399	3 661 227	12 000	1 000	366 123	2 013 675	274,59	35,24	181,23	491,06	309,83	366,12	614,46	980,58	1 471,64	1 290,41	55,86
411	3 814 200	12 000	1 000	381 420	2 097 810	286,07	36,71	188,80	511,58	322,78	381,42	632,94	1 014,36	1 525,94	1 337,14	57,54
448	4 025 950	12 000	1 000	402 595	2 214 273	301,95	38,75	199,28	539,98	340,70	402,60	689,92	1 092,52	1 632,50	1 433,21	62,72

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 35% of kilowatts used
9) Litres used per kilowatt hour 0,40 litre/kW hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

3.2 Medium-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
12	108 125	12 000	1 000	10 813	59 469	8,11	1,04	5,35	14,50	9,15	10,81	20,79	31,60	46,10	40,75	1,89
16	195 833	12 000	1 000	19 583	107 708	14,69	1,88	9,69	26,27	16,57	19,58	27,72	47,30	73,57	63,88	2,52
18	83 833	12 000	1 000	8 383	46 108	6,29	0,81	4,15	11,24	7,09	8,38	31,19	39,57	50,81	46,66	2,84
21	171 456	12 000	1 000	17 146	94 301	12,86	1,65	8,49	23,00	14,51	17,15	36,38	53,53	76,52	68,04	3,31
23	207 555	12 000	1 000	20 755	114 155	15,57	2,00	10,27	27,84	17,56	20,76	39,85	60,60	88,44	78,17	3,62
29	228 000	12 000	1 000	22 800	125 400	17,10	2,19	11,29	30,58	19,29	22,80	50,24	73,04	103,62	92,34	4,57
31	264 142	12 000	1 000	26 414	145 278	19,81	2,54	13,08	35,43	22,35	26,41	53,71	80,12	115,55	102,47	4,88
35	183 000	12 000	1 000	18 300	100 650	13,73	1,76	9,06	24,54	15,49	18,30	60,64	78,94	103,48	94,42	5,51
41	222 500	12 000	1 000	22 250	122 375	16,69	2,14	11,01	29,84	18,83	22,25	71,03	93,28	123,13	112,11	6,46
44	203 774	12 000	1 000	20 377	112 076	15,28	1,96	10,09	27,33	17,24	20,38	76,23	96,61	123,94	113,85	6,93
50	275 200	12 000	1 000	27 520	151 360	20,64	2,65	13,62	36,91	23,29	27,52	86,63	114,15	151,06	137,43	7,88
52	261 591	12 000	1 000	26 159	143 875	19,62	2,52	12,95	35,09	22,14	26,16	90,09	116,25	151,33	138,39	8,19
55	317 833	12 000	1 000	31 783	174 808	23,84	3,06	15,73	42,63	26,90	31,78	95,29	127,07	169,70	153,97	8,66
57	358 750	12 000	1 000	35 875	197 313	26,91	3,45	17,76	48,12	30,36	35,88	98,75	134,63	182,74	164,99	8,98
58	270 000	12 000	1 000	27 000	148 500	20,25	2,60	13,37	36,21	22,85	27,00	100,49	127,49	163,70	150,33	9,14
60	336 960	12 000	1 000	33 696	185 328	25,27	3,24	16,68	45,19	28,52	33,70	103,95	137,65	182,84	166,16	9,45
61	379 202	12 000	1 000	37 920	208 561	28,44	3,65	18,77	50,86	32,09	37,92	105,68	143,60	194,46	175,69	9,61
63	387 833	12 000	1 000	38 783	213 308	29,09	3,73	19,20	52,02	32,82	38,78	109,15	147,93	199,95	180,75	9,92
67	467 884	12 000	1 000	46 788	257 336	35,09	4,50	23,16	62,75	39,59	46,79	116,08	162,87	225,62	202,46	10,55
73	450 357	12 000	1 000	45 036	247 696	33,78	4,33	22,29	60,40	38,11	45,04	126,47	171,51	231,91	209,62	11,50
78	789 376	12 000	1 000	78 938	434 157	59,20	7,60	39,07	105,88	66,80	78,94	135,14	214,07	319,95	280,87	12,29
82	624 614	12 000	1 000	62 461	343 538	46,85	6,01	30,92	83,78	52,86	62,46	142,07	204,53	288,30	257,38	12,92
83	578 330	12 000	1 000	57 833	318 082	43,37	5,57	28,63	77,57	48,94	57,83	143,80	201,63	279,20	250,57	13,07
93	666 500	12 000	1 000	66 650	366 575	49,99	6,42	32,99	89,39	56,40	66,65	161,12	227,77	317,17	284,18	14,65
98	588 800	12 000	1 000	58 880	323 840	44,16	5,67	29,15	78,97	49,83	58,88	169,79	228,67	307,64	278,49	15,44

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/lours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 45% of kilowatts used
9) Litres used per kilowatt hour 0,35 litre/kW hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

3.2 Medium-power demand (*cont.*)

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
103	963 456	12 000	1 000	96 346	529 901	72,26	9,27	47,69	129,22	81,53	96,35	178,45	274,79	404,02	356,33	16,22
109	820 386	12 000	1 000	82 039	451 212	61,53	7,90	40,61	110,03	69,43	82,04	188,84	270,88	380,92	340,31	17,17
116	771 200	12 000	1 000	77 120	424 160	57,84	7,42	38,17	103,44	65,26	77,12	200,97	278,09	381,53	343,35	18,27
123	1 017 084	12 000	1 000	101 708	559 396	76,28	9,79	50,35	136,42	86,07	101,71	213,10	314,81	451,22	400,88	19,37
136	1 146 166	12 000	1 000	114 617	630 391	85,96	11,03	56,74	153,73	96,99	114,62	235,62	350,24	503,97	447,23	21,42
145	1 266 300	12 000	1 000	126 630	696 465	94,97	12,19	62,68	169,84	107,16	126,63	251,21	377,84	547,68	485,00	22,84
157	1 357 388	12 000	1 000	135 739	746 563	101,80	13,06	67,19	182,06	114,87	135,74	272,00	407,74	589,80	522,61	24,73
162	1 602 756	12 000	1 000	160 276	881 516	120,21	15,43	79,34	214,97	135,63	160,28	280,67	440,94	655,91	576,57	25,52
175	1 725 000	12 000	1 000	172 500	948 750	129,38	16,60	85,39	231,37	145,98	172,50	303,19	475,69	707,05	621,67	27,56
184	1 788 274	12 000	1 000	178 827	983 551	134,12	17,21	88,52	239,85	151,33	178,83	318,78	497,61	737,46	648,94	28,98
194	1 850 400	12 000	1 000	185 040	1 017 720	138,78	17,81	91,59	248,18	156,59	185,04	336,11	521,15	769,33	677,74	30,56
209	2 123 750	12 000	1 000	212 375	1 168 063	159,28	20,44	105,13	284,85	179,72	212,38	362,09	574,47	859,32	754,19	32,92
219	2 311 788	12 000	1 000	231 179	1 271 483	173,38	22,25	114,43	310,07	195,64	231,18	379,42	610,60	920,66	806,23	34,49
229	2 218 750	12 000	1 000	221 875	1 220 313	166,41	21,36	109,83	297,59	187,76	221,88	396,74	618,62	916,21	806,38	36,07
235	2 274 300	12 000	1 000	227 430	1 250 865	170,57	21,89	112,58	305,04	192,46	227,43	407,14	634,57	939,61	827,03	37,01
250	2 209 417	12 000	1 000	220 942	1 215 179	165,71	21,27	109,37	296,34	186,97	220,94	433,13	654,07	950,40	841,04	39,38
298	3 097 500	12 000	1 000	309 750	1 703 625	232,31	29,81	153,33	415,45	262,13	309,75	516,29	826,04	1 241,49	1 088,16	46,94
317	1 620 000	12 000	1 000	162 000	891 000	121,50	15,59	80,19	217,28	137,09	162,00	549,20	711,20	928,49	848,30	49,93
327	3 279 515	12 000	1 000	327 952	1 803 733	245,96	31,57	162,34	439,86	277,53	327,95	566,53	894,48	1 334,34	1 172,01	51,50
363	4 003 045	12 000	1 000	400 304	2 201 674	300,23	38,53	198,15	536,91	338,76	400,30	628,90	1 029,20	1 566,11	1 367,96	57,17
380	3 570 733	12 000	1 000	357 073	1 963 903	267,80	34,37	176,75	478,92	302,17	357,07	658,35	1 015,42	1 494,35	1 317,60	59,85
399	3 661 227	12 000	1 000	366 123	2 013 675	274,59	35,24	181,23	491,06	309,83	366,12	691,27	1 057,39	1 548,45	1 367,22	62,84
411	3 814 200	12 000	1 000	381 420	2 097 810	286,07	36,71	188,80	511,58	322,78	381,42	712,06	1 093,48	1 605,06	1 416,25	64,73
448	4 025 950	12 000	1 000	402 595	2 214 273	301,95	38,75	199,28	539,98	340,70	402,60	776,16	1 178,76	1 718,74	1 519,45	70,56

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 45% of kilowatts used
9) Litres used per kilowatt hour 0,35 litre/kW hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

3.3 High-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
12	108 125	12 000	1 000	10 813	59 469	8,11	1,04	5,35	14,50	9,15	10,81	23,76	34,57	49,07	43,72	2,16
16	195 833	12 000	1 000	19 583	107 708	14,69	1,88	9,69	26,27	16,57	19,58	31,68	51,26	77,53	67,84	2,88
18	83 833	12 000	1 000	8 383	46 108	6,29	0,81	4,15	11,24	7,09	8,38	35,64	44,02	55,27	51,12	3,24
21	171 456	12 000	1 000	17 146	94 301	12,86	1,65	8,49	23,00	14,51	17,15	41,58	58,73	81,72	73,24	3,78
23	207 555	12 000	1 000	20 755	114 155	15,57	2,00	10,27	27,84	17,56	20,76	45,54	66,30	94,13	83,86	4,14
29	228 000	12 000	1 000	22 800	125 400	17,10	2,19	11,29	30,58	19,29	22,80	57,42	80,22	110,80	99,51	5,22
31	264 142	12 000	1 000	26 414	145 278	19,81	2,54	13,08	35,43	22,35	26,41	61,38	87,79	123,22	110,15	5,58
35	183 000	12 000	1 000	18 300	100 650	13,73	1,76	9,06	24,54	15,49	18,30	69,30	87,60	112,14	103,09	6,30
41	222 500	12 000	1 000	22 250	122 375	16,69	2,14	11,01	29,84	18,83	22,25	81,18	103,43	133,27	122,26	7,38
44	203 774	12 000	1 000	20 377	112 076	15,28	1,96	10,09	27,33	17,24	20,38	87,12	107,50	134,83	124,74	7,92
50	275 200	12 000	1 000	27 520	151 360	20,64	2,65	13,62	36,91	23,29	27,52	99,00	126,52	163,43	149,81	9,00
52	261 591	12 000	1 000	26 159	143 875	19,62	2,52	12,95	35,09	22,14	26,16	102,96	129,12	164,20	151,26	9,36
55	317 833	12 000	1 000	31 783	174 808	23,84	3,06	15,73	42,63	26,90	31,78	108,90	140,68	183,31	167,58	9,90
57	358 750	12 000	1 000	35 875	197 313	26,91	3,45	17,76	48,12	30,36	35,88	112,86	148,74	196,85	179,09	10,26
58	270 000	12 000	1 000	27 000	148 500	20,25	2,60	13,37	36,21	22,85	27,00	114,84	141,84	178,05	164,69	10,44
60	336 960	12 000	1 000	33 696	185 328	25,27	3,24	16,68	45,19	28,52	33,70	118,80	152,50	197,69	181,01	10,80
61	379 202	12 000	1 000	37 920	208 561	28,44	3,65	18,77	50,86	32,09	37,92	120,78	158,70	209,56	190,79	10,98
63	387 833	12 000	1 000	38 783	213 308	29,09	3,73	19,20	52,02	32,82	38,78	124,74	163,52	215,54	196,34	11,34
67	467 884	12 000	1 000	46 788	257 336	35,09	4,50	23,16	62,75	39,59	46,79	132,66	179,45	242,20	219,04	12,06
73	450 357	12 000	1 000	45 036	247 696	33,78	4,33	22,29	60,40	38,11	45,04	144,54	189,58	249,98	227,69	13,14
78	789 376	12 000	1 000	78 938	434 157	59,20	7,60	39,07	105,88	66,80	78,94	154,44	233,38	339,25	300,18	14,04
82	624 614	12 000	1 000	62 461	343 538	46,85	6,01	30,92	83,78	52,86	62,46	162,36	224,82	308,60	277,68	14,76
83	578 330	12 000	1 000	57 833	318 082	43,37	5,57	28,63	77,57	48,94	57,83	164,34	222,17	299,74	271,11	14,94
93	666 500	12 000	1 000	66 650	366 575	49,99	6,42	32,99	89,39	56,40	66,65	184,14	250,79	340,18	307,19	16,74
98	588 800	12 000	1 000	58 880	323 840	44,16	5,67	29,15	78,97	49,83	58,88	194,04	252,92	331,89	302,75	17,64

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 60% of kilowatts used
9) Litres used per kilowatt hour 0,30 litre/kW hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

3.3 High-power demand (*cont.*)

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
103	963 456	12 000	1 000	96 346	529 901	72,26	9,27	47,69	129,22	81,53	96,35	203,94	300,29	429,51	381,82	18,54
109	820 386	12 000	1 000	82 039	451 212	61,53	7,90	40,61	110,03	69,43	82,04	215,82	297,86	407,89	367,28	19,62
116	771 200	12 000	1 000	77 120	424 160	57,84	7,42	38,17	103,44	65,26	77,12	229,68	306,80	410,24	372,06	20,88
123	1 017 084	12 000	1 000	101 708	559 396	76,28	9,79	50,35	136,42	86,07	101,71	243,54	345,25	481,66	431,32	22,14
136	1 146 166	12 000	1 000	114 617	630 391	85,96	11,03	56,74	153,73	96,99	114,62	269,28	383,90	537,63	480,89	24,48
145	1 266 300	12 000	1 000	126 630	696 465	94,97	12,19	62,68	169,84	107,16	126,63	287,10	413,73	583,57	520,89	26,10
157	1 357 388	12 000	1 000	135 739	746 563	101,80	13,06	67,19	182,06	114,87	135,74	310,86	446,60	628,66	561,47	28,26
162	1 602 756	12 000	1 000	160 276	881 516	120,21	15,43	79,34	214,97	135,63	160,28	320,76	481,04	696,01	616,67	29,16
175	1 725 000	12 000	1 000	172 500	948 750	129,38	16,60	85,39	231,37	145,98	172,50	346,50	519,00	750,37	664,98	31,50
184	1 788 274	12 000	1 000	178 827	983 551	134,12	17,21	88,52	239,85	151,33	178,83	364,32	543,15	783,00	694,48	33,12
194	1 850 400	12 000	1 000	185 040	1 017 720	138,78	17,81	91,59	248,18	156,59	185,04	384,12	569,16	817,34	725,75	34,92
209	2 123 750	12 000	1 000	212 375	1 168 063	159,28	20,44	105,13	284,85	179,72	212,38	413,82	626,20	911,04	805,92	37,62
219	2 311 788	12 000	1 000	231 179	1 271 483	173,38	22,25	114,43	310,07	195,64	231,18	433,62	664,80	974,87	860,43	39,42
229	2 218 750	12 000	1 000	221 875	1 220 313	166,41	21,36	109,83	297,59	187,76	221,88	453,42	675,30	972,88	863,06	41,22
235	2 274 300	12 000	1 000	227 430	1 250 865	170,57	21,89	112,58	305,04	192,46	227,43	465,30	692,73	997,77	885,19	42,30
250	2 209 417	12 000	1 000	220 942	1 215 179	165,71	21,27	109,37	296,34	186,97	220,94	495,00	715,94	1 012,28	902,91	45,00
298	3 097 500	12 000	1 000	309 750	1 703 625	232,31	29,81	153,33	415,45	262,13	309,75	590,04	899,79	1 315,24	1 161,92	53,64
317	1 620 000	12 000	1 000	162 000	891 000	121,50	15,59	80,19	217,28	137,09	162,00	627,66	789,66	1 006,94	926,75	57,06
327	3 279 515	12 000	1 000	327 952	1 803 733	245,96	31,57	162,34	439,86	277,53	327,95	647,46	975,41	1 415,28	1 252,94	58,86
363	4 003 045	12 000	1 000	400 304	2 201 674	300,23	38,53	198,15	536,91	338,76	400,30	718,74	1 119,04	1 655,95	1 457,80	65,34
380	3 570 733	12 000	1 000	357 073	1 963 903	267,80	34,37	176,75	478,92	302,17	357,07	752,40	1 109,47	1 588,40	1 411,65	68,40
399	3 661 227	12 000	1 000	366 123	2 013 675	274,59	35,24	181,23	491,06	309,83	366,12	790,02	1 156,14	1 647,20	1 465,97	71,82
411	3 814 200	12 000	1 000	381 420	2 097 810	286,07	36,71	188,80	511,58	322,78	381,42	813,78	1 195,20	1 706,78	1 517,98	73,98
448	4 025 950	12 000	1 000	402 595	2 214 273	301,95	38,75	199,28	539,98	340,70	402,60	887,04	1 289,64	1 829,62	1 630,33	80,64

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 60% of kilowatts used
9) Litres used per kilowatt hour 0,30 litre/Kw hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

4. TWO-WHEEL DRIVE TRACTORS: ORCHARDS

4.1 Low-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
43	275 200	12 000	1 000	27 520	151 360	20,64	2,65	13,62	36,91	23,29	27,52	66,22	93,74	130,65	117,03	6,02
48	311 680	12 000	1 000	31 168	171 424	23,38	3,00	15,43	41,80	26,38	31,17	73,92	105,09	146,89	131,46	6,72
60	320 400	12 000	1 000	32 040	176 220	24,03	3,08	15,86	42,97	27,11	32,04	92,40	124,44	167,41	151,55	8,40

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 35% of kilowatts used
9) Litres used per kilowatt hour 0,40 litre/Kw hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

4.2 Medium-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
43	275 200	12 000	1 000	27 520	151 360	20,64	2,65	13,62	36,91	23,29	27,52	74,50	102,02	138,93	125,31	6,77
48	311 680	12 000	1 000	31 168	171 424	23,38	3,00	15,43	41,80	26,38	31,17	83,16	114,33	156,13	140,70	7,56
60	320 400	12 000	1 000	32 040	176 220	24,03	3,08	15,86	42,97	27,11	32,04	103,95	135,99	178,96	163,10	9,45

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 45% of kilowatts used
9) Litres used per kilowatt hour 0,35 litre/Kw hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

4.3 High-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
43	275 200	12 000	1 000	27 520	151 360	20,64	2,65	13,62	36,91	23,29	27,52	85,14	112,66	149,57	135,95	7,74
48	311 680	12 000	1 000	31 168	171 424	23,38	3,00	15,43	41,80	26,38	31,17	95,04	126,21	168,01	152,58	8,64
60	320 400	12 000	1 000	32 040	176 220	24,03	3,08	15,86	42,97	27,11	32,04	118,80	150,84	193,81	177,95	10,80

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 60% of kilowatts used
9) Litres used per kilowatt hour 0,30 litre/Kw hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

5. FOUR-WHEEL DRIVE TRACTORS: ORCHARDS

5.1 Low-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
43	313 600	12 000	1 000	31 360	172 480	23,52	3,02	15,52	42,06	26,54	31,36	66,22	97,58	139,64	124,12	6,02
46	310 500	12 000	1 000	31 050	170 775	23,29	2,99	15,37	41,65	26,28	31,05	70,84	101,89	143,54	128,17	6,44
51	333 870	12 000	1 000	33 387	183 629	25,04	3,21	16,53	44,78	28,25	33,39	78,54	111,93	156,71	140,18	7,14
51	377 600	12 000	1 000	37 760	207 680	28,32	3,63	18,69	50,65	31,95	37,76	78,54	116,30	166,95	148,25	7,14
53	337 250	12 000	1 000	33 725	185 488	25,29	3,25	16,69	45,23	28,54	33,73	81,62	115,35	160,58	143,88	7,42
56	355 000	12 000	1 000	35 500	195 250	26,63	3,42	17,57	47,61	30,04	35,50	86,24	121,74	169,35	151,78	7,84
57	401 500	12 000	1 000	40 150	220 825	30,11	3,86	19,87	53,85	33,98	40,15	87,78	127,93	181,78	161,91	7,98
60	447 050	12 000	1 000	44 705	245 877	33,53	4,30	22,13	59,96	37,83	44,70	92,40	137,10	197,07	174,94	8,40
65	492 500	12 000	1 000	49 250	270 875	36,94	4,74	24,38	66,06	41,68	49,25	100,10	149,35	215,41	191,03	9,10

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 35% of kilowatts used
9) Litres used per kilowatt hour 0,40 litre/Kw hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

5.2 Medium-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
43	313 600	12 000	1 000	31 360	172 480	23,52	3,02	15,52	42,06	26,54	31,36	74,50	105,86	147,92	132,40	6,77
46	310 500	12 000	1 000	31 050	170 775	23,29	2,99	15,37	41,65	26,28	31,05	79,70	110,75	152,39	137,02	7,25
51	333 870	12 000	1 000	33 387	183 629	25,04	3,21	16,53	44,78	28,25	33,39	88,36	121,74	166,52	150,00	8,03
51	377 600	12 000	1 000	37 760	207 680	28,32	3,63	18,69	50,65	31,95	37,76	88,36	126,12	176,76	158,07	8,03
53	337 250	12 000	1 000	33 725	185 488	25,29	3,25	16,69	45,23	28,54	33,73	91,82	125,55	170,78	154,09	8,35
56	355 000	12 000	1 000	35 500	195 250	26,63	3,42	17,57	47,61	30,04	35,50	97,02	132,52	180,13	162,56	8,82
57	401 500	12 000	1 000	40 150	220 825	30,11	3,86	19,87	53,85	33,98	40,15	98,75	138,90	192,75	172,88	8,98
60	447 050	12 000	1 000	44 705	245 877	33,53	4,30	22,13	59,96	37,83	44,70	103,95	148,65	208,62	186,49	9,45
65	492 500	12 000	1 000	49 250	270 875	36,94	4,74	24,38	66,06	41,68	49,25	112,61	161,86	227,92	203,54	10,24

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 45% of kilowatts used
9) Litres used per kilowatt hour 0,35 litre/Kw hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

5.3 High-power demand

Tractor power (kW)	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
43	313 600	12 000	1 000	31 360	172 480	23,52	3,02	15,52	42,06	26,54	31,36	85,14	116,50	158,56	143,04	7,74
46	310 500	12 000	1 000	31 050	170 775	23,29	2,99	15,37	41,65	26,28	31,05	91,08	122,13	163,78	148,41	8,28
51	333 870	12 000	1 000	33 387	183 629	25,04	3,21	16,53	44,78	28,25	33,39	100,98	134,37	179,15	162,62	9,18
51	377 600	12 000	1 000	37 760	207 680	28,32	3,63	18,69	50,65	31,95	37,76	100,98	138,74	189,39	170,69	9,18
53	337 250	12 000	1 000	33 725	185 488	25,29	3,25	16,69	45,23	28,54	33,73	104,94	138,67	183,90	167,20	9,54
56	355 000	12 000	1 000	35 500	195 250	26,63	3,42	17,57	47,61	30,04	35,50	110,88	146,38	193,99	176,42	10,08
57	401 500	12 000	1 000	40 150	220 825	30,11	3,86	19,87	53,85	33,98	40,15	112,86	153,01	206,86	186,99	10,26
60	447 050	12 000	1 000	44 705	245 877	33,53	4,30	22,13	59,96	37,83	44,70	118,80	163,50	223,47	201,34	10,80
65	492 500	12 000	1 000	49 250	270 875	36,94	4,74	24,38	66,06	41,68	49,25	128,70	177,95	244,01	219,63	11,70

Notes

1) Salvage value 10% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
4) Insurance and licence cost per hour 1,75% of average investment/hours per annum
5) Interest cost per hour 9,0% of average investment/hours per annum
6) Repairs and maintenance cost per hour 120% of purchase price/life period in hours
7) Fuel price R11,00 per litre
8) Fuel consumption 60% of kilowatts used
9) Litres used per kilowatt hour 0,30 litre/kW hour
10) Where two prices are listed for tractors with the same kW rating, the higher price is for a tractor with a cab

6. TILLAGE EQUIPMENT

6.1 Rippers

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
6.1.1 Medium duty															
1-shank – straight shank	6 350	3 000	300	635	3 493	1,91	0,17	1,05	3,13	2,08	40,00	0,85	0,85	3,97	2,93
3-shank – straight shank	14 200	3 000	300	1 420	7 810	4,26	0,39	2,34	6,99	4,65	40,00	1,89	1,89	8,89	6,54
5-shank – straight shank	20 900	3 000	300	2 090	11 495	6,27	0,57	3,45	10,29	6,84	40,00	2,79	2,79	13,08	9,63
7-shank – straight shank	27 700	3 000	300	2 770	15 235	8,31	0,76	4,57	13,64	9,07	40,00	3,69	3,69	17,34	12,77
1-shank – curved shank	8 400	3 000	300	840	4 620	2,52	0,23	1,39	4,14	2,75	40,00	1,12	1,12	5,26	3,87
3-shank – curved shank	17 400	3 000	300	1 740	9 570	5,22	0,48	2,87	8,57	5,70	40,00	2,32	2,32	10,89	8,02
5-shank – curved shank	25 200	3 000	300	2 520	13 860	7,56	0,69	4,16	12,41	8,25	40,00	3,36	3,36	15,77	11,61
7-shank – curved shank	30 300	3 000	300	3 030	16 665	9,09	0,83	5,00	14,92	9,92	40,00	4,04	4,04	18,96	13,96
6.1.2 Heavy duty															
3-shank	38 390	3 000	300	3 839	21 115	11,52	1,06	6,33	18,91	12,57	40,00	5,12	5,12	24,03	17,69
5-shank	58 410	3 000	300	5 841	32 126	17,52	1,61	9,64	28,77	19,13	40,00	7,79	7,79	36,55	26,92
7-shank	75 790	3 000	300	7 579	41 685	22,74	2,08	12,51	37,33	24,82	40,00	10,11	10,11	47,43	34,93
9-shank	118 030	3 000	300	11 803	64 917	35,41	3,25	19,47	58,13	38,65	40,00	15,74	15,74	73,87	54,39
11-shank	123 167	3 000	300	12 317	67 742	36,95	3,39	20,32	60,66	40,34	40,00	16,42	16,42	77,08	56,76

6.2 Mouldboard ploughs with shear-bolt protection

6.2.1 Mounted															
2-furrow	10 700	2 500	250	1 070	5 885	3,85	0,35	2,12	6,32	4,21	110,00	4,71	4,71	11,03	8,91
3-furrow – 14"	15 300	2 500	250	1 530	8 415	5,51	0,50	3,03	9,04	6,01	110,00	6,73	6,73	15,77	12,74
3-furrow – 16"	22 150	2 500	250	2 215	12 183	7,97	0,73	4,39	13,09	8,70	110,00	9,75	9,75	22,84	18,45
6.2.2 Mounted reversible															
2-furrow	62 700	2 500	250	6 270	34 485	22,57	2,07	12,41	37,06	24,64	110,00	27,59	27,59	64,64	52,23
3-furrow	80 550	2 500	250	8 055	44 303	29,00	2,66	15,95	47,61	31,66	110,00	35,44	35,44	83,05	67,10

6.3 Mouldboard ploughs with hydraulic, spring or other plough protection

6.3.1 Mounted, semi-mounted or trailed															
3-furrow	26 950	2 500	250	2 695	14 823	9,70	0,89	5,34	15,93	10,59	110,00	11,86	11,86	27,79	22,45
4-furrow	34 800	2 500	250	3 480	19 140	12,53	1,15	6,89	20,57	13,68	110,00	15,31	15,31	35,88	28,99
5-furrow	43 600	2 500	250	4 360	23 980	15,70	1,44	8,63	25,77	17,13	110,00	19,18	19,18	44,95	36,32
6-furrow	76 550	2 500	250	7 655	42 103	27,56	2,53	15,16	45,24	30,08	110,00	33,68	33,68	78,92	63,77
7-furrow	92 300	2 500	250	9 230	50 765	33,23	3,05	18,28	54,55	36,27	110,00	40,61	40,61	95,16	76,89
8-furrow	101 250	2 500	250	10 125	55 688	36,45	3,34	20,05	59,84	39,79	110,00	44,55	44,55	104,39	84,34

6.4 Disc ploughs

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
2-furrow	18 750	2 500	250	1 875	10 313	6,75	0,62	3,71	11,08	7,37	110,00	8,25	8,25	19,33	15,62
3-furrow	23 650	2 500	250	2 365	13 008	8,51	0,78	4,68	13,98	9,29	110,00	10,41	10,41	24,38	19,70
4-furrow	29 980	2 500	250	2 998	16 489	10,79	0,99	5,94	17,72	11,78	110,00	13,19	13,19	30,91	24,97
5-furrow	37 550	2 500	250	3 755	20 653	13,52	1,24	7,43	22,19	14,76	110,00	16,52	16,52	38,71	31,28

6.5 Spring-tine chisel ploughs

5-shank	80 840	2 500	250	8 084	44 462	29,10	2,67	16,01	47,78	31,77	50,00	16,17	16,17	63,94	47,94
7-shank	105 780	2 500	250	10 578	58 179	38,08	3,49	20,94	62,52	41,57	50,00	21,16	21,16	83,67	62,73
9-shank	71 910	2 500	250	7 191	39 551	25,89	2,37	14,24	42,50	28,26	50,00	14,38	14,38	56,88	42,64
11-shank	83 689	2 500	250	8 369	46 029	30,13	2,76	16,57	49,46	32,89	50,00	16,74	16,74	66,20	49,63
13-shank	95 575	2 500	250	9 558	52 566	34,41	3,15	18,92	56,48	37,56	50,00	19,12	19,12	75,60	56,68
15-shank	112 694	2 500	250	11 269	61 982	40,57	3,72	22,31	66,60	44,29	50,00	22,54	22,54	89,14	66,83
17-shank	169 042	2 500	250	16 904	92 973	60,86	5,58	33,47	99,90	66,43	50,00	33,81	33,81	133,71	100,24

6.6 Disc harrows

6.6.1 Offset disc light															
1,1 m	11 200	2 500	250	1 120	6 160	4,03	0,37	2,22	6,62	4,40	60,00	2,69	2,69	9,31	7,09
1,35 m	12 900	2 500	250	1 290	7 095	4,64	0,43	2,55	7,62	5,07	60,00	3,10	3,10	10,72	8,17
1,6 m	15 550	2 500	250	1 555	8 553	5,60	0,51	3,08	9,19	6,11	60,00	3,73	3,73	12,92	9,84
1,85 m	18 250	2 500	250	1 825	10 038	6,57	0,60	3,61	10,79	7,17	60,00	4,38	4,38	15,17	11,55
6.6.2 Trailed offset with wheels															
1,8 m width	87 100	2 500	250	8 710	47 905	31,36	2,87	17,25	51,48	34,23	60,00	20,90	20,90	72,38	55,13
2,3 m width	125 700	2 500	250	12 570	69 135	45,25	4,15	24,89	74,29	49,40	60,00	30,17	30,17	104,46	79,57
2,75 m width	135 600	2 500	250	13 560	74 580	48,82	4,47	26,85	80,14	53,29	60,00	32,54	32,54	112,68	85,83
3,05 m width	162 000	2 500	250	16 200	89 100	58,32	5,35	32,08	95,74	63,67	60,00	38,88	38,88	134,62	102,55
3,67 m width	265 100	2 500	250	26 510	145 805	95,44	8,75	52,49	156,67	104,18	60,00	63,62	63,62	220,30	167,81
4,27 m width	184 000	2 500	250	18 400	101 200	66,24	6,07	36,43	108,74	72,31	60,00	44,16	44,16	152,90	116,47
4,88 m width	148 800	2 500	250	14 880	81 840	53,57	4,91	29,46	87,94	58,48	60,00	35,71	35,71	123,65	94,19
5,49 m width	156 500	2 500	250	15 650	86 075	56,34	5,16	30,99	92,49	61,50	60,00	37,56	37,56	130,05	99,06
6,08 m width	160 900	2 500	250	16 090	88 495	57,92	5,31	31,86	95,09	63,23	60,00	38,62	38,62	133,71	101,85
6.6.3 Trailed offset with wheels: oil bath															
2,75 m width	330 600	2 500	250	33 060	181 830	119,02	10,91	65,46	195,38	129,93	60,00	79,34	79,34	274,73	209,27
3,05 m width	358 200	2 500	250	35 820	197 010	128,95	11,82	70,92	211,70	140,77	60,00	85,97	85,97	297,66	226,74
3,67 m width	212 600	2 500	250	21 260	116 930	76,54	7,02	42,09	125,65	83,55	60,00	51,02	51,02	176,67	134,58
4,27 m width	244 800	2 500	250	24 480	134 640	88,13	8,08	48,47	144,68	96,21	60,00	58,75	58,75	203,43	154,96
4,88 m width	578 600	2 500	250	57 860	318 230	208,30	19,09	114,56	341,95	227,39	60,00	138,86	138,86	480,82	366,25
5,49 m width	339 427	2 500	250	33 943	186 685	122,19	11,20	67,21	200,60	133,39	60,00	81,46	81,46	282,06	214,86
6,08 m width	655 700	2 500	250	65 570	360 635	236,05	21,64	129,83	387,52	257,69	60,00	157,37	157,37	544,89	415,06

6.6 Disc harrows (*cont*.)

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
6.6.4 Tandem discs															
2,1 m 16 discs	21 900	2 500	250	2 190	12 045	7,88	0,72	4,34	12,94	8,61	60,00	5,26	5,26	18,20	13,86
2,4 m 20 discs	25 500	2 500	250	2 550	14 025	9,18	0,84	5,05	15,07	10,02	60,00	6,12	6,12	21,19	16,14
2,7 m 24 discs	28 100	2 500	250	2 810	15 455	10,12	0,93	5,56	16,61	11,04	60,00	6,74	6,74	23,35	17,79
3,3 m 28 discs	31 550	2 500	250	3 155	17 353	11,36	1,04	6,25	18,65	12,40	60,00	7,57	7,57	26,22	19,97
6.6.5 Semi-mounted and trailed one-way															
2,3 m 10 discs	33 200	2 500	250	3 320	18 260	11,95	1,10	6,57	19,62	13,05	60,00	7,97	7,97	27,59	21,02
2,7 m 12 discs	35 900	2 500	250	3 590	19 745	12,92	1,18	7,11	21,22	14,11	60,00	8,62	8,62	29,83	22,72
3,2 m 14 discs	37 500	2 500	250	3 750	20 625	13,50	1,24	7,43	22,16	14,74	60,00	9,00	9,00	31,16	23,74

6.7 Rotary harrows

6.7.1 Medium duty															
0,97 m	53 603	2 500	250	5 360	29 482	19,30	1,77	10,61	31,68	21,07	100,00	21,44	21,44	53,12	42,51
1,27 m	56 507	2 500	250	5 651	31 079	20,34	1,86	11,19	33,40	22,21	100,00	22,60	22,60	56,00	44,81
1,52 m	62 678	2 500	250	6 268	34 473	22,56	2,07	12,41	37,04	24,63	100,00	25,07	25,07	62,11	49,70
1,88 m	64 009	2 500	250	6 401	35 205	23,04	2,11	12,67	37,83	25,16	100,00	25,60	25,60	63,43	50,76
6.7.2 Heavy duty															
1,52 m	89 419	2 500	250	8 942	49180	32,19	2,95	17,70	52,85	35,14	100,00	35,77	35,77	88,61	70,91
1,80 m	104 544	2 500	250	10 454	57499	37,64	3,45	20,70	61,79	41,09	100,00	41,82	41,82	103,60	82,90
2,05 m	110 110	2 500	250	11 011	60561	39,64	3,63	21,80	65,08	43,27	100,00	44,04	44,04	109,12	87,32
2,30 m	113 498	2 500	250	11 350	62424	40,86	3,75	22,47	67,08	44,60	100,00	45,40	45,40	112,48	90,00

6.8 Power harrows

1,2 m	93 654	2 500	250	9 365	51 510	33,72	3,09	18,54	55,35	36,81	40,00	14,98	14,98	70,33	51,79
1,5 m	104 423	2 500	250	10 442	57 433	37,59	3,45	20,68	61,71	41,04	40,00	16,71	16,71	78,42	57,75

6.9 Ridgers

6.9.1 Disc ridgers															
1-row	11 500	2 000	150	1 150	6 325	5,18	0,63	3,80	9,60	5,81	75,00	4,31	4,31	13,92	10,12
2-row	22 000	2 000	150	2 200	12 100	9,90	1,21	7,26	18,37	11,11	75,00	8,25	8,25	26,62	19,36
3-row	30 400	2 000	150	3 040	16 720	13,68	1,67	10,03	25,38	15,35	75,00	11,40	11,40	36,78	26,75
6.9.2 Shear ridgers															
1-row	9 500	2 000	150	950	5 225	4,28	0,52	3,14	7,93	4,80	75,00	3,56	3,56	11,50	8,36
2-row	12 600	2 000	150	1 260	6 930	5,67	0,69	4,16	10,52	6,36	75,00	4,73	4,73	15,25	11,09
3-row	14 200	2 000	150	1 420	7 810	6,39	0,78	4,69	11,86	7,17	75,00	5,33	5,33	17,18	12,50

6.10 Rotovators

1,3 m	59 300	2 500	250	5 930	32 615	21,35	1,96	11,74	35,05	23,30	100,00	23,72	23,72	58,77	47,02
1,5 m	61 500	2 500	250	6 150	33 825	22,14	2,03	12,18	36,35	24,17	100,00	24,60	24,60	60,95	48,77
18 m	63 700	2 500	250	6 370	35 035	22,93	2,10	12,61	37,65	25,03	100,00	25,48	25,48	63,13	50,51
2,0 m	66 200	2 500	250	6 620	36 410	23,83	2,18	13,11	39,12	26,02	100,00	26,48	26,48	65,60	52,50

7.0 TINE IMPLEMENTS

7.1 Cultivators

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
7.1.1 Row crop															
2-row (0,9 m)	25 245	2 500	250	2 525	13 885	9,09	0,83	5,00	14,92	9,92	100,00	10,10	10,10	25,02	20,02
4-row (0,9 m)	40 095	2 500	250	4 010	22 052	14,43	1,32	7,94	23,70	15,76	100,00	16,04	16,04	39,73	31,80
6-row (0,9 m)	63 250	2 500	250	6 325	34 788	22,77	2,09	12,52	37,38	24,86	100,00	25,30	25,30	62,68	50,16
8-row (0,9 m)	78 595	2 500	250	7 860	43 227	28,29	2,59	15,56	46,45	30,89	100,00	31,44	31,44	77,89	62,33
8-row folding unit	124 179	2 500	250	12 418	68 298	44,70	4,10	24,59	73,39	48,80	100,00	49,67	49,67	123,06	98,47
7.1.2 Field cultivators: Shank tillers															
1,7 m – 5 tines (C shank)	13 530	2 500	250	1 353	7 442	4,87	0,45	2,68	8,00	5,32	100,00	5,41	5,41	13,41	10,73
2,0 m – 7 tines (C shank)	18 550	2 500	250	1 855	10 203	6,68	0,61	3,67	10,96	7,29	100,00	7,42	7,42	18,38	14,71
2,5 m – 9 tines (C shank)	21 600	2 500	250	2 160	11 880	7,78	0,71	4,28	12,77	8,49	100,00	8,64	8,64	21,41	17,13
3,0 m – 31 tines (C shank)	23 350	2 500	250	2 335	12 843	8,41	0,77	4,62	13,80	9,18	100,00	9,34	9,34	23,14	18,52
3,4 m – 34 tines (C shank)	31 000	2 500	250	3 100	17 050	11,16	1,02	6,14	18,32	12,18	100,00	12,40	12,40	30,72	24,58
4,0 m – 41 tines (C shank)	33 550	2 500	250	3 355	18 453	12,08	1,11	6,64	19,83	13,19	100,00	13,42	13,42	33,25	26,61
7.1.3 Field cultivators: Vibro tillers															
5 tines (double beam)	15 000	2 500	250	1 500	8 250	5,40	0,50	2,97	8,87	5,90	60,00	3,60	3,60	12,47	9,50
2,0 m – 7 tines (double beam)	18 150	2 500	250	1 815	9 983	6,53	0,60	3,59	10,73	7,13	60,00	4,36	4,36	15,08	11,49
2,5 m – 9 tines (double beam)	27 700	2 500	250	2 770	15 235	9,97	0,91	5,48	16,37	10,89	60,00	6,65	6,65	23,02	17,53
2,5 m – 9 tines (triple beam)	28 650	2 500	250	2 865	15 758	10,31	0,95	5,67	16,93	11,26	60,00	6,88	6,88	23,81	18,14
3,5 m – 13 tines (triple beam)	40 950	2 500	250	4 095	22 523	14,74	1,35	8,11	24,20	16,09	60,00	9,83	9,83	34,03	25,92
3,5 m – 15 tines (triple beam)	44 100	2 500	250	4 410	24 255	15,88	1,46	8,73	26,06	17,33	60,00	10,58	10,58	36,65	27,92
6,0 m – 25 tines (triple beam)	121 715	2 500	250	12 172	66 943	43,82	4,02	24,10	71,93	47,83	60,00	29,21	29,21	101,15	77,05

8.0 PLANTING EQUIPMENT

8.1 Single-kernel planters

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
8.1.1 Mounted															
2-row (0,9 m) mech	45 890	1 500	150	4 589	25 239	27,53	2,52	15,14	45,20	30,06	80,00	24,47	24,47	69,68	54,53
2-row (0,75/0,90 m) mech/hydro	112 460	1 500	150	11 246	61 853	67,48	6,19	37,11	110,77	73,66	80,00	59,98	59,98	170,75	133,64
2-row (0,9 m) air/mech	100 792	1 500	150	10 079	55 436	60,48	5,54	33,26	99,28	66,02	80,00	53,76	53,76	153,04	119,77
3-row vegetable (0,2 m) air	121 390	1 500	150	12 139	66 765	72,83	6,68	40,06	119,57	79,51	80,00	64,74	64,74	184,31	144,25
3-row (0,9 m) mech	72 787	1 500	150	7 279	40 033	43,67	4,00	24,02	71,69	47,68	80,00	38,82	38,82	110,51	86,49
3-row (1,50 m) mech	47 150	1 500	150	4 715	25 933	28,29	2,59	15,56	46,44	30,88	80,00	25,15	25,15	71,59	56,03
3-row (1,5 m) air/hydro	154 600	1 500	150	15 460	85 030	92,76	8,50	51,02	152,28	101,26	80,00	82,45	82,45	234,73	183,72
3-row (2,30 m) mech/mech	125 000	1 500	150	12 500	68 750	75,00	6,88	41,25	123,13	81,88	80,00	66,67	66,67	189,79	148,54
4-row vegetable (0,2 m) air	134 860	1 500	150	13 486	74 173	80,92	7,42	44,50	132,84	88,33	80,00	71,93	71,93	204,76	160,26
4-row (0,9 m) mech	101 640	1 500	150	10 164	55 902	60,98	5,59	33,54	100,12	66,57	80,00	54,21	54,21	154,32	120,78
4-row (0,9 m) air/hydro	162 674	1 500	150	16 267	89 471	97,60	8,95	53,68	160,23	106,55	80,00	86,76	86,76	246,99	193,31
4-row (0,9 m) air/mech	135 146	1 500	150	13 515	74 330	81,09	7,43	44,60	133,12	88,52	80,00	72,08	72,08	205,20	160,60
4-row no-till (0,9 m) air/hydro	171 813	1 500	150	17 181	94 497	103,09	9,45	56,70	169,24	112,54	80,00	91,63	91,63	260,87	204,17
6-row vegetable (0,2 m) air	158 515	1 500	150	15 852	87 183	95,11	8,72	52,31	156,14	103,83	80,00	84,54	84,54	240,68	188,37
6-row (0,7 m) mech	178 238	1 500	150	17 824	98 031	106,94	9,80	58,82	175,56	116,75	80,00	95,06	95,06	270,62	211,81
6-row (0,7 m) air/mech	223 312	1 500	150	22 331	122 822	133,99	12,28	73,69	219,96	146,27	80,00	119,10	119,10	339,06	265,37
6-row (0,9 m) air/hydro	213 068	1 500	150	21 307	117 187	127,84	11,72	70,31	209,87	139,56	80,00	113,64	113,64	323,51	253,20
6-row no-Till (0,9 m) air/hydro	224 465	1 500	150	22 447	123 456	134,68	12,35	74,07	221,10	147,02	80,00	119,71	119,71	340,81	266,74
8-row (0,20 m) air	225 575	1 500	150	22 558	124 066	135,35	12,41	74,44	222,19	147,75	80,00	120,31	120,31	342,50	268,06
8-row (0,9 m) air/hydro	324 501	1 500	150	32 450	178 475	194,70	17,85	107,09	319,63	212,55	80,00	173,07	173,07	492,70	385,61
8-row no-till (0,9 m)	316 872	1 500	150	31 687	174 280	190,12	17,43	104,57	312,12	207,55	80,00	169,00	169,00	481,12	376,55
8.1.2 Trailed															
3-row (1,5 m) mech	168 850	1 500	150	16 885	92 868	101,31	9,29	55,72	166,32	110,60	80,00	90,05	90,05	256,37	200,65
3-row (1,5 m) mech/hydro	178 009	1 500	150	17 801	97 905	106,81	9,79	58,74	175,34	116,60	80,00	94,94	94,94	270,28	211,53
3-row (1,5 m) air/hydro	202 093	1 500	150	20 209	111 151	121,26	11,12	66,69	199,06	132,37	80,00	107,78	107,78	306,85	240,15
3-row no-till (1,5 m) air/hydro	190 530	1 500	150	19 053	104 792	114,32	10,48	62,87	187,67	124,80	80,00	101,62	101,62	289,29	226,41
3-row (2,3 m) mech	174 700	1 500	150	17 470	96 085	104,82	9,61	57,65	172,08	114,43	80,00	93,17	93,17	265,25	207,60
3-row (2,3 m) mech/hydro	220 071	1 500	150	22 007	121 039	132,04	12,10	72,62	216,77	144,15	80,00	117,37	117,37	334,14	261,52
3-row (2,3 m) air/hydro	260 243	1 500	150	26 024	143 133	156,15	14,31	85,88	256,34	170,46	80,00	138,80	138,80	395,13	309,25
3-row no-till (2,3 m) air/hydro	190 530	1 500	150	19 053	104 792	114,32	10,48	62,87	187,67	124,80	80,00	101,62	101,62	289,29	226,41
4-row (0,9 m) mech	205 020	1 500	150	20 502	112 761	123,01	11,28	67,66	201,94	134,29	80,00	109,34	109,34	311,29	243,63
4-row (0,9 m) mech/hydro	162 959	1 500	150	16 296	89 627	97,78	8,96	53,78	160,51	106,74	80,00	86,91	86,91	247,43	193,65
4-row (0,9 m) air/hydro	289 408	1 500	150	28 941	159 175	173,65	15,92	95,50	285,07	189,56	80,00	154,35	154,35	439,42	343,91
4-row no-till (0,9 m) air/hydro	216 895	1 500	150	21 690	119 292	130,14	11,93	71,58	213,64	142,07	80,00	115,68	115,68	329,32	257,74
4-row (tram) air/hydr	216 895	1 500	150	21 690	119 292	130,14	11,93	71,58	213,64	142,07	80,00	115,68	115,68	329,32	257,74
5-row (1,5 m) mech/hydro	324 114	1 500	150	32 411	178 263	194,47	17,83	106,96	319,25	212,29	80,00	172,86	172,86	492,11	385,16
5-row (1,5 m) air/hydro	345 223	1 500	150	34 522	189 873	207,13	18,99	113,92	340,04	226,12	80,00	184,12	184,12	524,16	410,24
5-row no-till (1,5 m) air/hydro	254 655	1 500	150	25 466	140 060	152,79	14,01	84,04	250,84	166,80	80,00	135,82	135,82	386,65	302,62
5-row (1,50 m) air/mech	298 579	1 500	150	29 858	164 218	179,15	16,42	98,53	294,10	195,57	80,00	159,24	159,24	453,34	354,81

8.1 Single-kernel planters (*cont*.)

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
8.1.2 Trailed (cont.)															
6-row (0,75 m) air/yydro	506 778	1 500	150	50 678	278 728	304,07	27,87	167,24	499,18	331,94	80,00	270,28	270,28	769,46	602,22
6-row (0,75 m) air/mech	292 971	1 500	150	29 297	161 134	175,78	16,11	96,68	288,58	191,90	80,00	156,25	156,25	444,83	348,15
6-row (0,9 m) mech/hydro	298 924	1 500	150	29 892	164 408	179,35	16,44	98,64	294,44	195,79	80,00	159,43	159,43	453,87	355,22
6-row (0,9 m) air/hydro	435 437	1 500	150	43 544	239 490	261,26	23,95	143,69	428,91	285,21	80,00	232,23	232,23	661,14	517,44
6-row no-till (0,9 m) air/hydro	446 858	1 500	150	44 686	245 772	268,11	24,58	147,46	440,15	292,69	80,00	238,32	238,32	678,48	531,02
6-row (0,90 m) air/mech	305 693	1 500	150	30 569	168 131	183,42	16,81	100,88	301,11	200,23	80,00	163,04	163,04	464,14	363,27
8-row (0,75 m) mech/hydro	367 295	1 500	150	36 730	202 012	220,38	20,20	121,21	361,79	240,58	80,00	195,89	195,89	557,68	436,47
8-row (0,75 m) air/hydro	434 420	1 500	150	43 442	238 931	260,65	23,89	143,36	427,90	284,55	80,00	231,69	231,69	659,59	516,24
8-row (0,75 m) air/mech	361 382	1 500	150	36 138	198 760	216,83	19,88	119,26	355,96	236,71	80,00	192,74	192,74	548,70	429,44
8-row (0,9 m) mech/hydro	447 616	1 500	150	44 762	246 189	268,57	24,62	147,71	440,90	293,19	80,00	238,73	238,73	679,63	531,92
8-row (0,9 m) air/hydro	512 737	1 500	150	51 274	282 005	307,64	28,20	169,20	505,05	335,84	80,00	273,46	273,46	778,51	609,30
8-row no-till (0,9 m) air/hydro	873 000	1 500	150	87 300	480 150	523,80	48,02	288,09	859,91	571,82	80,00	465,60	465,60	1 325,51	1 037,42
12-row (0,75 m) air/hydro	835 700	1 500	150	83 570	459 635	501,42	45,96	275,78	823,16	547,38	80,00	445,71	445,71	1 268,87	993,09

8.2 Seed drills

8.2.1 Mounted															
7 rows x 370 mm	137 400	1 500	150	13 740	75 570	82,44	7,56	45,34	135,34	90,00	80,00	73,28	73,28	208,62	163,28
9 rows x 370 mm	128 150	1 500	150	12 815	70 483	76,89	7,05	42,29	126,23	83,94	80,00	68,35	68,35	194,57	152,28
12 rows x 370 mm	228 450	1 500	150	22 845	125 648	137,07	12,56	75,39	225,02	149,63	80,00	121,84	121,84	346,86	271,47
21 rows x 140 mm	85 603	1 500	150	8 560	47 082	51,36	4,71	28,25	84,32	56,07	80,00	45,65	45,65	129,97	101,72
8.2.2 Trailed: Conventional															
4 rows x 900 mm	182 874	1 500	150	18 287	100 581	109,72	10,06	60,35	180,13	119,78	80,00	97,53	97,53	277,66	217,32
6 rows x 900 mm	382 311	1 500	150	38 231	210 271	229,39	21,03	126,16	376,58	250,41	80,00	203,90	203,90	580,48	454,31
8 rows x 450 mm	359 767	1 500	150	35 977	197 872	215,86	19,79	118,72	354,37	235,65	80,00	191,88	191,88	546,25	427,52
9 rows x 450 mm	373 665	1 500	150	37 367	205 516	224,20	20,55	123,31	368,06	244,75	80,00	199,29	199,29	567,35	444,04
12 rows x 450 mm	462 896	1 500	150	46 290	254 593	277,74	25,46	152,76	455,95	303,20	80,00	246,88	246,88	702,83	550,07
13 rows x 170 mm	312 010	1 500	150	31 201	171 606	187,21	17,16	102,96	307,33	204,37	80,00	166,41	166,41	473,74	370,77
14 rows x 300 mm	303 394	1 500	150	30 339	166 867	182,04	16,69	100,12	298,84	198,72	80,00	161,81	161,81	460,65	360,53
17 rows x 170 mm	418 346	1 500	150	41 835	230 090	251,01	23,01	138,05	412,07	274,02	80,00	223,12	223,12	635,19	497,13
19 rows x 170 mm	574 690	1 500	150	57 469	316 080	344,81	31,61	189,65	566,07	376,42	80,00	306,50	306,50	872,57	682,92
21 rows x 200 mm	337 412	1 500	150	33 741	185 577	202,45	18,56	111,35	332,35	221,00	80,00	179,95	179,95	512,30	400,96
22 rows x 180 mm	378 840	1 500	150	37 884	208 362	227,30	20,84	125,02	373,16	248,14	80,00	202,05	202,05	575,21	450,19
23 rows x 170 mm	673 420	1 500	150	67 342	370 381	404,05	37,04	222,23	663,32	441,09	80,00	359,16	359,16	1 022,48	800,25
24 rows x 170 mm	355 430	1 500	150	35 543	195 487	213,26	19,55	117,29	350,10	232,81	80,00	189,56	189,56	539,66	422,37
27 rows x 170 mm	762 090	1 500	150	76 209	419 150	457,25	41,91	251,49	750,66	499,17	80,00	406,45	406,45	1 157,11	905,62

8.2 Seed drills (*cont*.)

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
8.2.3 Trailed: no-till															
4 rows x 900 mm	277 998	1 500	150	27 800	152 899	166,80	15,29	91,74	273,83	182,09	80,00	148,27	148,27	422,09	330,35
6 rows x 800 mm	405 882	1 500	150	40 588	223 235	243,53	22,32	133,94	399,79	265,85	80,00	216,47	216,47	616,26	482,32
6 rows x 900 mm	423 928	1 500	150	42 393	233 160	254,36	23,32	139,90	417,57	277,67	80,00	226,09	226,09	643,66	503,77
7 rows x 500 mm	406 463	1 500	150	40 646	223 555	243,88	22,36	134,13	400,37	266,23	80,00	216,78	216,78	617,15	483,01
8 rows x 700 mm	517 760	1 500	150	51 776	284 768	310,66	28,48	170,86	509,99	339,13	80,00	276,14	276,14	786,13	615,27
9 rows x 450 mm	473 907	1 500	150	47 391	260 649	284,34	26,06	156,39	466,80	310,41	80,00	252,75	252,75	719,55	563,16
10 rows x 500 mm	525 754	1 500	150	52 575	289 165	315,45	28,92	173,50	517,87	344,37	80,00	280,40	280,40	798,27	624,77
10 rows x 700 mm	578 134	1 500	150	57 813	317 974	346,88	31,80	190,78	569,46	378,68	80,00	308,34	308,34	877,80	687,02
10 rows x 400–900 mm	583 327	1 500	150	58 333	320 830	350,00	32,08	192,50	574,58	382,08	80,00	311,11	311,11	885,68	693,19
11 rows x 450 mm	556 925	1 500	150	55 693	306 309	334,16	30,63	183,79	548,57	364,79	80,00	297,03	297,03	845,60	661,81
12 rows x 900 mm	846 489	1 500	150	84 649	465 569	507,89	46,56	279,34	833,79	554,45	80,00	451,46	451,46	1 285,25	1 005,91
13 rows x 175 mm	644 326	1 500	150	64 433	354 379	386,60	35,44	212,63	634,66	422,03	80,00	343,64	343,64	978,30	765,67
15 rows x 175 mm	451 701	1 500	150	45 170	248 436	271,02	24,84	149,06	444,93	295,86	80,00	240,91	240,91	685,83	536,77
16 rows x 190 mm	348 047	1 500	150	34 805	191 426	208,83	19,14	114,86	342,83	227,97	80,00	185,63	185,63	528,45	413,60
22 rows x 400 mm	1 143 470	1 500	150	114 347	628 909	686,08	62,89	377,35	1 126,32	748,97	80,00	609,85	609,85	1 736,17	1 358,82
24 rows x 190 mm	419 280	1 500	150	41 928	230 604	251,57	23,06	138,36	412,99	274,63	80,00	223,62	223,62	636,61	498,24
26 rows x 400 mm	1 384 285	1 500	150	138 429	761 357	830,57	76,14	456,81	1 363,52	906,71	80,00	738,29	738,29	2 101,81	1 644,99
32 rows x 190 mm	624 661	1 500	150	62 466	343 564	374,80	34,36	206,14	615,29	409,15	80,00	333,15	333,15	948,44	742,31

8.3 Wheat planters

4-row	88 550	1 500	150	8 855	48 703	53,13	4,87	29,22	87,22	58,00	80,00	47,23	47,23	134,45	105,23
7-row	137 400	1 500	150	13 740	75 570	82,44	7,56	45,34	135,34	90,00	80,00	73,28	73,28	208,62	163,28
9-row	171 300	1 500	150	17 130	94 215	102,78	9,42	56,53	168,73	112,20	80,00	91,36	91,36	260,09	203,56
12-row	228 450	1 500	150	22 845	125 648	137,07	12,56	75,39	225,02	149,63	80,00	121,84	121,84	346,86	271,47

8.4 Potato planters

2-row	107 338	1 500	150	10 734	59 036	64,40	5,90	35,42	105,73	70,31	80,00	57,25	57,25	162,97	127,55

8.5 Vegetable transplanters

2-row	130 898	1 500	150	13 090	71 994	78,54	7,20	43,20	128,93	85,74	80,00	69,81	69,81	198,75	155,55
3-row	183 509	1 500	150	18 351	100 930	110,11	10,09	60,56	180,76	120,20	80,00	97,87	97,87	278,63	218,07
4-row	236 119	1 500	150	23 612	129 865	141,67	12,99	77,92	232,58	154,66	80,00	125,93	125,93	358,51	280,59

8.6 Fine-seed seeders

3 m	103 580	1 500	150	10 358	56 969	62,15	5,70	34,18	102,03	67,84	80,00	55,24	55,24	157,27	123,09
4 m	458 396	1 500	150	45 840	252 118	275,04	25,21	151,27	451,52	300,25	80,00	244,48	244,48	696,00	544,73

8.7 Land rollers

2 m	18 850	1 500	150	1 885	10 368	11,31	1,04	6,22	18,57	12,35	80,00	10,05	10,05	28,62	22,40

9. PLANT NUTRITION AND PEST CONTROL EQUIPMENT

9.1 Fertiliser spreaders

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
9.1.1 Mounted															
Single disc (250 ℓ)	4 980	1 200	150	498	2 739	3,74	0,27	1,64	5,65	4,01	90,00	3,74	3,74	9,39	7,74
Single disc (300 ℓ)	5 082	1 200	150	508	2 795	3,81	0,28	1,68	5,77	4,09	90,00	3,81	3,81	9,58	7,90
Single disc (350 ℓ)	6 203	1 200	150	620	3 411	4,65	0,34	2,05	7,04	4,99	90,00	4,65	4,65	11,69	9,64
Single disc (400 ℓ)	14 759	1 200	150	1 476	8 117	11,07	0,81	4,87	16,75	11,88	90,00	11,07	11,07	27,82	22,95
Pendulum (400 ℓ)	26 012	1 200	150	2 601	14 307	19,51	1,43	8,58	29,52	20,94	90,00	19,51	19,51	49,03	40,45
Single disc (500 ℓ)	6 760	1 200	150	676	3 718	5,07	0,37	2,23	7,67	5,44	90,00	5,07	5,07	12,74	10,51
Single disc (600 ℓ)	11 519	1 200	150	1 152	6 335	8,64	0,63	3,80	13,07	9,27	90,00	8,64	8,64	21,71	17,91
Double disc (500 ℓ)	54 750	1 200	150	5 475	30 113	41,06	3,01	18,07	62,14	44,07	90,00	41,06	41,06	103,20	85,14
Pendulum (500 ℓ)	28 391	1 200	150	2 839	15 615	21,29	1,56	9,37	32,22	22,85	90,00	21,29	21,29	53,52	44,15
Double disc (600 ℓ)	38 470	1 200	150	3 847	21 158	28,85	2,12	12,69	43,66	30,97	90,00	28,85	28,85	72,52	59,82
Pendulum (600 ℓ)	29 151	1 200	150	2 915	16 033	21,86	1,60	9,62	33,09	23,47	90,00	21,86	21,86	54,95	45,33
Double disc (700 ℓ)	45 616	1 200	150	4 562	25 089	34,21	2,51	15,05	51,77	36,72	90,00	34,21	34,21	85,99	70,93
Double disc (800 ℓ)	33 298	1 200	150	3 330	18 314	24,97	1,83	10,99	37,79	26,80	90,00	24,97	24,97	62,77	51,78
Pendulum (800 ℓ)	31 841	1 200	150	3 184	17 513	23,88	1,75	10,51	36,14	25,63	90,00	23,88	23,88	60,02	49,51
Double disc (850 ℓ)	57 900	1 200	150	5 790	31 845	43,43	3,18	19,11	65,72	46,61	90,00	43,43	43,43	109,14	90,03
Double disc (900 ℓ)	55 500	1 200	150	5 550	30 525	41,63	3,05	18,32	62,99	44,68	90,00	41,63	41,63	104,62	86,30
Double disc (1 000 ℓ)	44 441	1 200	150	4 444	24 443	33,33	2,44	14,67	50,44	35,78	90,00	33,33	33,33	83,77	69,11
Pendulum (1 000 ℓ)	35 223	1 200	150	3 522	19 373	26,42	1,94	11,62	39,98	28,35	90,00	26,42	26,42	66,40	54,77
Double disc (1 050 ℓ)	49 878	1 200	150	4 988	27 433	37,41	2,74	16,46	56,61	40,15	90,00	37,41	37,41	94,02	77,56
Double disc (1 100 ℓ)	64 400	1 200	150	6 440	35 420	48,30	3,54	21,25	73,09	51,84	90,00	48,30	48,30	121,39	100,14
Double disc (1 200 ℓ)	52 502	1 200	150	5 250	28 876	39,38	2,89	17,33	59,59	42,26	90,00	39,38	39,38	98,97	81,64
Double disc (1 300 ℓ)	65 000	1 200	150	6 500	35 750	48,75	3,58	21,45	73,78	52,33	90,00	48,75	48,75	122,53	101,08
Double disc (1 400 ℓ)	50 025	1 200	150	5 002	27 513	37,52	2,75	16,51	56,78	40,27	90,00	37,52	37,52	94,30	77,79
Double disc (1 500 ℓ)	113 250	1 200	150	11 325	62 288	84,94	6,23	37,37	128,54	91,17	90,00	84,94	84,94	213,48	176,10
Double disc (1 600 ℓ)	55 438	1 200	150	5 544	30 491	41,58	3,05	18,29	62,92	44,63	90,00	41,58	41,58	104,50	86,21
Double disc (1 650 ℓ)	83 994	1 200	150	8 399	46 197	63,00	4,62	27,72	95,33	67,62	90,00	63,00	63,00	158,33	130,61
Double disc (1 700 ℓ)	58 979	1 200	150	5 898	32 438	44,23	3,24	19,46	66,94	47,48	90,00	44,23	44,23	111,18	91,71
Double disc (2 000 ℓ)	76 100	1 200	150	7 610	41 855	57,08	4,19	25,11	86,37	61,26	90,00	57,08	57,08	143,45	118,34
Double disc (2 500 ℓ)	93 686	1 200	150	9 369	51 527	70,26	5,15	30,92	106,33	75,42	90,00	70,26	70,26	176,60	145,68
Double disc (3 000 ℓ)	199 455	1 200	150	19 946	109 700	149,59	10,97	65,82	226,38	160,56	90,00	149,59	149,59	375,97	310,15
Double disc (4 000 ℓ)	376 690	1 200	150	37 669	207 180	282,52	20,72	124,31	427,54	303,24	90,00	282,52	282,52	710,06	585,75
Double disc (5 000 ℓ)	345 000	1 200	150	34 500	189 750	258,75	18,98	113,85	391,58	277,73	90,00	258,75	258,75	650,33	536,48

9.1 Fertiliser spreaders (*cont.*)

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
9.1.2 Trailed															
Double disc (1 600 ℓ)	95 475	1 200	150	9 548	52 511	71,61	5,25	31,51	108,36	76,86	90,00	71,61	71,61	179,97	148,46
Double disc (1 900 ℓ)	130 240	1 200	150	13 024	71 632	97,68	7,16	42,98	147,82	104,84	90,00	97,68	97,68	245,50	202,52
Double disc (2 450 ℓ)	140 500	1 200	150	14 050	77 275	105,38	7,73	46,37	159,47	113,10	90,00	105,38	105,38	264,84	218,48
Double disc (2 900 ℓ)	132 000	1 200	150	13 200	72 600	99,00	7,26	43,56	149,82	106,26	90,00	99,00	99,00	248,82	205,26
Double disc (3 050 ℓ)	164 000	1 200	150	16 400	90 200	123,00	9,02	54,12	186,14	132,02	90,00	123,00	123,00	309,14	255,02
Double disc (4 100 ℓ)	147 302	1 200	150	14 730	81 016	110,48	8,10	48,61	167,19	118,58	90,00	110,48	110,48	277,66	229,05
Double disc (4 500 ℓ)	187 060	1 200	150	18 706	102 883	140,30	10,29	61,73	212,31	150,58	90,00	140,30	140,30	352,61	290,88
Double disc (4 550 ℓ)	187 600	1 200	150	18 760	103 180	140,70	10,32	61,91	212,93	151,02	90,00	140,70	140,70	353,63	291,72
Double disc (5 700 ℓ)	196 800	1 200	150	19 680	108 240	147,60	10,82	64,94	223,37	158,42	90,00	147,60	147,60	370,97	306,02
Double disc (6 400 ℓ)	236 800	1 200	150	23 680	130 240	177,60	13,02	78,14	268,77	190,62	90,00	177,60	177,60	446,37	368,22
Double disc (7 500 ℓ)	173 572	1 200	150	17 357	95 465	130,18	9,55	57,28	197,00	139,73	90,00	130,18	130,18	327,18	269,90
Double disc (8 950 ℓ)	241 900	1 200	150	24 190	133 045	181,43	13,30	79,83	274,56	194,73	90,00	181,43	181,43	455,98	376,15
Double disc (11 550 ℓ)	380 300	1 200	150	38 030	209 165	285,23	20,92	125,50	431,64	306,14	90,00	285,23	285,23	716,87	591,37
Double disc (17 400 ℓ)	495 100	1 200	150	49 510	272 305	371,33	27,23	163,38	561,94	398,56	90,00	371,33	371,33	933,26	769,88
Double disc (21 600 ℓ)	511 500	1 200	150	51 150	281 325	383,63	28,13	168,80	580,55	411,76	90,00	383,63	383,63	964,18	795,38

9.2 Manure spreaders

3,0 cubic m	70 700	1 200	150	7 070	38 885	53,03	3,89	23,33	80,24	56,91	30,00	17,68	17,68	97,92	74,59
4,2 cubic m	86 400	1 200	150	8 640	47 520	64,80	4,75	28,51	98,06	69,55	30,00	21,60	21,60	119,66	91,15

9.3 Lime spreaders

Trailed 2 ton	133 870	1 200	150	13 387	73 629	100,40	7,36	44,18	151,94	107,77	90,00	100,40	100,40	252,34	208,17
Trailed 3 ton	127 204	1 200	150	12 720	69 962	95,40	7,00	41,98	144,38	102,40	90,00	95,40	95,40	239,78	197,80
Trailed 5 ton	129 360	1 200	150	12 936	71 148	97,02	7,11	42,69	146,82	104,13	90,00	97,02	97,02	243,84	201,15

9.4 Mist blowers

9.4.1 Mounted with PTO drive															
300 ℓ general	79 330	1 500	150	7 933	43 632	47,60	4,36	26,18	78,14	51,96	50,00	26,44	26,44	104,58	78,40
400 ℓ general	53 360	1 500	150	5 336	29 348	32,02	2,93	17,61	52,56	34,95	50,00	17,79	17,79	70,35	52,74
600 ℓ general	75 790	1 500	150	7 579	41 685	45,47	4,17	25,01	74,65	49,64	50,00	25,26	25,26	99,92	74,91
800 ℓ	48 000	1 500	150	4 800	26 400	28,80	2,64	15,84	47,28	31,44	50,00	16,00	16,00	63,28	47,44
1000 ℓ	90 300	1 500	150	9 030	49 665	54,18	4,97	29,80	88,95	59,15	50,00	30,10	30,10	119,05	89,25
1600 ℓ	100 500	1 500	150	10 050	55 275	60,30	5,53	33,17	98,99	65,83	50,00	33,50	33,50	132,49	99,33
2000 ℓ	110 000	1 500	150	11 000	60 500	66,00	6,05	36,30	108,35	72,05	50,00	36,67	36,67	145,02	108,72
9.4.2 Trailed with PTO drive															
1 000 ℓ general	106 294	1 500	150	10 629	58 461	63,78	5,85	35,08	104,70	69,62	50,00	35,43	35,43	140,13	105,05
1 500 ℓ general	128 686	1 500	150	12 869	70 777	77,21	7,08	42,47	126,76	84,29	50,00	42,90	42,90	169,65	127,18
2 000 ℓ general	151 714	1 500	150	15 171	83 443	91,03	8,34	50,07	149,44	99,37	50,00	50,57	50,57	200,01	149,94
4 000 ℓ general	335 000	1 500	150	33 500	184 250	201,00	18,43	110,55	329,98	219,43	50,00	111,67	111,67	441,64	331,09

9.5 Boom sprayers

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
9.5.1 Mounted															
9.5.1.1 MAX 400 ℓ TANK CAPACITY															
6–10 m boom	26 240	1 500	150	2 624	14 432	15,74	1,44	8,66	25,85	17,19	50,00	8,75	8,75	34,59	25,93
9.5.1.2 MAX 600 ℓ TANK CAPACITY															
8–12 m boom	37 286	1 500	150	3 729	20 507	22,37	2,05	12,30	36,73	24,42	50,00	12,43	12,43	49,16	36,85
9.5.1.3 MAX 800 ℓ TANK CAPACITY															
10 m boom	23 515	1 500	150	2 352	12 933	14,11	1,29	7,76	23,16	15,40	50,00	7,84	7,84	31,00	23,24
12 m boom	55 862	1 500	150	5 586	30 724	33,52	3,07	18,43	55,02	36,59	50,00	18,62	18,62	73,64	55,21
9.5.1.4 MAX 1 000 ℓ TANK CAPACITY															
10 m boom	25 675	1 500	150	2 568	14 121	15,41	1,41	8,47	25,29	16,82	50,00	8,56	8,56	33,85	25,38
12 m boom	39 050	1 500	150	3 905	21 478	23,43	2,15	12,89	38,46	25,58	50,00	13,02	13,02	51,48	38,59
15 m boom	168 655	1 500	150	16 866	92 760	101,19	9,28	55,66	166,13	110,47	50,00	56,22	56,22	222,34	166,69
18 m boom	309 776	1 500	150	30 978	170 377	185,87	17,04	102,23	305,13	202,90	50,00	103,26	103,26	408,39	306,16
9.5.2 Trailed															
9.5.2.1 MAX 2 000 ℓ TANK CAPACITY															
12 m boom	48 815	1 500	150	4 882	26 848	29,29	2,68	16,11	48,08	31,97	50,00	16,27	16,27	64,35	48,25
14 m boom	112 615	1 500	150	11 262	61 938	67,57	6,19	37,16	110,93	73,76	50,00	37,54	37,54	148,46	111,30
18 m boom	294 500	1 500	150	29 450	161 975	176,70	16,20	97,19	290,08	192,90	50,00	98,17	98,17	388,25	291,06
9.5.2.2 MAX 2 400 ℓ TANK CAPACITY															
18 m boom	450 891	1 500	150	45 089	247 990	270,53	24,80	148,79	444,13	295,33	50,00	150,30	150,30	594,42	445,63
9.5.2.3 MAX 2 800 ℓ TANK CAPACITY															
24 m boom	321 249	1 500	150	32 125	176 687	192,75	17,67	106,01	316,43	210,42	50,00	107,08	107,08	423,51	317,50
9.5.2.4 MAX 3 000 ℓ TANK CAPACITY															
24 m boom	545 000	1 500	150	54 500	299 750	327,00	29,98	179,85	536,83	356,98	50,00	181,67	181,67	718,49	538,64
9.5.2.5 MAX 3 200 ℓ TANK CAPACITY															
18 m boom	609 956	1 500	150	60 996	335 476	365,97	33,55	201,29	600,81	399,52	50,00	203,32	203,32	804,13	602,84
9.5.2.6 MAX 4 000 ℓ TANK CAPACITY															
18 m boom	635 150	1 500	150	63 515	349 333	381,09	34,93	209,60	625,62	416,02	50,00	211,72	211,72	837,34	627,74
9.5.2.7 MAX 4 400 ℓ TANK CAPACITY															
30 m boom	1 030 650	1 500	150	103 065	566 858	618,39	56,69	340,11	1 015,19	675,08	50,00	343,55	343,55	1 358,74	1 018,63
9.5.2.8 MAX 5 000 ℓ TANK CAPACITY															
36 m boom	1 024 300	1 500	150	102 430	563 365	614,58	56,34	338,02	1 008,94	670,92	50,00	341,43	341,43	1 350,37	1 012,35
38 m boom	1 039 300	1 500	150	103 930	571 615	623,58	57,16	342,97	1 023,71	680,74	50,00	346,43	346,43	1 370,14	1 027,17

10. HAY AND SILAGE MACHINERY

10.1 Mowers

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
10.1.1 Cutterbar															
1,75 m	31 960	2 000	150	3 196	17 578	14,38	1,76	10,55	26,69	16,14	120,00	19,18	19,18	45,86	35,32
10.1.2 Disc and drum															
10.1.2.1 MOUNTED															
1,5 m drum	49 000	2 000	150	4 900	26 950	22,05	2,70	16,17	40,92	24,75	80,00	19,60	19,60	60,52	44,35
1,6 m disc	61 223	2 000	150	6 122	33 673	27,55	3,37	20,20	51,12	30,92	80,00	24,49	24,49	75,61	55,41
1,85 m drum	54 349	2 000	150	5 435	29 892	24,46	2,99	17,94	45,38	27,45	80,00	21,74	21,74	67,12	49,19
2,0 m disc	71 747	2 000	150	7 175	39 461	32,29	3,95	23,68	59,91	36,23	80,00	28,70	28,70	88,61	64,93
2,05 m disc	61 500	2 000	150	6 150	33 825	27,68	3,38	20,30	51,35	31,06	80,00	24,60	24,60	75,95	55,66
2,10 m disc	94 289	2 000	150	9 429	51 859	42,43	5,19	31,12	78,73	47,62	80,00	37,72	37,72	116,45	85,33
2,15 m disc	58 400	2 000	150	5 840	32 120	26,28	3,21	19,27	48,76	29,49	80,00	23,36	23,36	72,12	52,85
2,2 m drum	66 000	2 000	150	6 600	36 300	29,70	3,63	21,78	55,11	33,33	80,00	26,40	26,40	81,51	59,73
2,4 m disc	123 340	2 000	150	12 334	67 837	55,50	6,78	40,70	102,99	62,29	80,00	49,34	49,34	152,33	111,62
2,6 m disc	87 053	2 000	150	8 705	47 879	39,17	4,79	28,73	72,69	43,96	80,00	34,82	34,82	107,51	78,78
2,65 m drum	113 000	2 000	150	11 300	62 150	50,85	6,22	37,29	94,36	57,07	80,00	45,20	45,20	139,56	102,27
2,8 m disc	106 234	2 000	150	10 623	58 429	47,81	5,84	35,06	88,71	53,65	80,00	42,49	42,49	131,20	96,14
3,0 m drum	110 000	2 000	150	11 000	60 500	49,50	6,05	36,30	91,85	55,55	80,00	44,00	44,00	135,85	99,55
3,0 m disc	129 960	2 000	150	12 996	71 478	58,48	7,15	42,89	108,52	65,63	80,00	51,98	51,98	160,50	117,61
3,1 m disc	186 230	2 000	150	18 623	102 427	83,80	10,24	61,46	155,50	94,05	80,00	74,49	74,49	229,99	168,54
3,2 m disc	120 410	2 000	150	12 041	66 226	54,18	6,62	39,74	100,54	60,81	80,00	48,16	48,16	148,71	108,97
3,4 m disc	175 788	2 000	150	17 579	96 683	79,10	9,67	58,01	146,78	88,77	80,00	70,32	70,32	217,10	159,09
3,5 m disc	207 360	2 000	150	20 736	114 048	93,31	11,40	68,43	173,15	104,72	80,00	82,94	82,94	256,09	187,66
3,8 m disc	212 409	2 000	150	21 241	116 825	95,58	11,68	70,09	177,36	107,27	80,00	84,96	84,96	262,33	192,23
4,0 m disc	216 657	2 000	150	21 666	119 161	97,50	11,92	71,50	180,91	109,41	80,00	86,66	86,66	267,57	196,07
8,1 m disc	425 123	2 000	150	42 512	233 818	191,31	23,38	140,29	354,98	214,69	80,00	170,05	170,05	525,03	384,74
8,9 m disc	472 645	2 000	150	47 265	259 955	212,69	26,00	155,97	394,66	238,69	80,00	189,06	189,06	583,72	427,74
10.1.2.2 TRAILED															
2,4 m disc/roll	244 485	2 000	150	24 449	134 467	110,02	13,45	80,68	204,14	123,46	80,00	97,79	97,79	301,94	221,26
2,5 m disc/roll	301 400	2 000	150	30 140	165 770	135,63	16,58	99,46	251,67	152,21	80,00	120,56	120,56	372,23	272,77
2,8 m disc/roll	294 000	2 000	150	29 400	161 700	132,30	16,17	97,02	245,49	148,47	80,00	117,60	117,60	363,09	266,07
3,0 m disc/roll	364 659	2 000	150	36 466	200 562	164,10	20,06	120,34	304,49	184,15	80,00	145,86	145,86	450,35	330,02
3,2 m disc/roll	302 810	2 000	150	30 281	166 546	136,26	16,65	99,93	252,85	152,92	80,00	121,12	121,12	373,97	274,04
3,5 m disc/roll	385 946	2 000	150	38 595	212 270	173,68	21,23	127,36	322,26	194,90	80,00	154,38	154,38	476,64	349,28
3,6 m disc/roll	295 303	2 000	150	29 530	162 416	132,89	16,24	97,45	246,58	149,13	80,00	118,12	118,12	364,70	267,25
3,8 m disc/roll	457 565	2 000	150	45 757	251 661	205,90	25,17	151,00	382,07	231,07	80,00	183,03	183,03	565,09	414,10
4,0 m disc/roll	408 452	2 000	150	40 845	224 648	183,80	22,46	134,79	341,06	206,27	80,00	163,38	163,38	504,44	369,65
4,5 m disc/roll	454 231	2 000	150	45 423	249 827	204,40	24,98	149,90	379,28	229,39	80,00	181,69	181,69	560,98	411,08
4,8 m disc/roll	463 075	2 000	150	46 308	254 691	208,38	25,47	152,81	386,67	233,85	80,00	185,23	185,23	571,90	419,08
8,1 m disc/roll	599 266	2 000	150	59 927	329 596	269,67	32,96	197,76	500,39	302,63	80,00	239,71	239,71	740,09	542,34
8,9 m disc/roll	634 400	2 000	150	63 440	348 920	285,48	34,89	209,35	529,72	320,37	80,00	253,76	253,76	783,48	574,13

10.2 Mower conditioners

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
10.2.1 Mounted															
2,0–2,4 m	181 510	2 000	200	18 151	99 831	81,68	7,49	44,92	134,09	89,17	60,00	54,45	54,45	188,54	143,62
2,6–2,8 m	196 777	2 000	200	19 678	108 227	88,55	8,12	48,70	145,37	96,67	60,00	59,03	59,03	204,40	155,70
10.2.2 Trailed															
3,0 m	349 945	2 000	200	34 995	192 470	157,48	14,44	86,61	258,52	171,91	60,00	104,98	104,98	363,51	276,89
3,2 m	324 486	2 000	200	32 449	178 467	146,02	13,39	80,31	239,71	159,40	60,00	97,35	97,35	337,06	256,75
3,5 m	395 263	2 000	200	39 526	217 395	177,87	16,30	97,83	292,00	194,17	60,00	118,58	118,58	410,58	312,75
4,0 m	440 805	2 000	200	44 081	242 443	198,36	18,18	109,10	325,64	216,55	60,00	132,24	132,24	457,89	348,79
4,5 m	499 654	2 000	200	49 965	274 810	224,84	20,61	123,66	369,12	245,46	60,00	149,90	149,90	519,02	395,35
8,0 m	581 183	2 000	200	58 118	319 651	261,53	23,97	143,84	429,35	285,51	60,00	174,35	174,35	603,70	459,86

10.3 Slashers

10.3.1 Heavy duty															
1,2 m 4 blades	24 700	2 000	150	2 470	13 585	11,12	1,36	8,15	20,62	12,47	80,00	9,88	9,88	30,50	22,35
1,5 m 2 blades	27 800	2 000	150	2 780	15 290	12,51	1,53	9,17	23,21	14,04	80,00	11,12	11,12	34,33	25,16
1,5 m 4 blades	28 800	2 000	150	2 880	15 840	12,96	1,58	9,50	24,05	14,54	80,00	11,52	11,52	35,57	26,06
1,8 m 2 blades	30 200	2 000	150	3 020	16 610	13,59	1,66	9,97	25,22	15,25	80,00	12,08	12,08	37,30	27,33
1,8 m 4 blades	32 200	2 000	150	3 220	17 710	14,49	1,77	10,63	26,89	16,26	80,00	12,88	12,88	39,77	29,14
10.3.2 Extra heavy duty															
1,5 m 2 blades	33 600	2 000	150	3 360	18 480	15,12	1,85	11,09	28,06	16,97	80,00	13,44	13,44	41,50	30,41
1,5 m 4 blades	35 100	2 000	150	3 510	19 305	15,80	1,93	11,58	29,31	17,73	80,00	14,04	14,04	43,35	31,77
1,8 m 2 blades	34 500	2 000	150	3 450	18 975	15,53	1,90	11,39	28,81	17,42	80,00	13,80	13,80	42,61	31,22
1,8 m 4 blades	35 900	2 000	150	3 590	19 745	16,16	1,97	11,85	29,98	18,13	80,00	14,36	14,36	44,34	32,49
2,0 m 2 blades	36 300	2 000	150	3 630	19 965	16,34	2,00	11,98	30,31	18,33	80,00	14,52	14,52	44,83	32,85
2,0 m 4 blades	37 700	2 000	150	3 770	20 735	16,97	2,07	12,44	31,48	19,04	80,00	15,08	15,08	46,56	34,12

10.4 Haymakers

1,2 m 4 blades 345 kg	21 600	2 000	150	2 160	11 880	9,72	1,19	7,13	18,04	10,91	80,00	8,64	8,64	26,68	19,55
1,5 m 2 blades 513 kg	35 000	2 000	150	3 500	19 250	15,75	1,93	11,55	29,23	17,68	80,00	14,00	14,00	43,23	31,68
1,5 m 2 blades 557 kg	35 600	2 000	150	3 560	19 580	16,02	1,96	11,75	29,73	17,98	80,00	14,24	14,24	43,97	32,22
1,8 m 2 blades 553 kg	36 400	2 000	150	3 640	20 020	16,38	2,00	12,01	30,39	18,38	80,00	14,56	14,56	44,95	32,94
1,8 m 2 blades 610 kg	37 500	2 000	150	3 750	20 625	16,88	2,06	12,38	31,31	18,94	80,00	15,00	15,00	46,31	33,94
2,0 m 2 blades 656 kg	38 400	2 000	150	3 840	21 120	17,28	2,11	12,67	32,06	19,39	80,00	15,36	15,36	47,42	34,75
3,5 m 4 blades 1298 kg	116 800	2 000	150	11 680	64 240	52,56	6,42	38,54	97,53	58,98	80,00	46,72	46,72	144,25	105,70

10.5 Hay rakes and tedders

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
10.5.1 Finger-wheel rakes															
4-wheel – 2,3 m	9 124	2 000	200	912	5 018	4,11	0,38	2,26	6,74	4,48	120,00	5,47	5,47	12,21	9,96
4-wheel – 2,6 m	10 325	2 000	200	1 033	5 679	4,65	0,43	2,56	7,63	5,07	120,00	6,20	6,20	13,82	11,27
5-wheel – 2,8 m	12 234	2 000	200	1 223	6 729	5,51	0,50	3,03	9,04	6,01	120,00	7,34	7,34	16,38	13,35
5-wheel – 3,5 m	11 875	2 000	200	1 188	6 531	5,34	0,49	2,94	8,77	5,83	120,00	7,13	7,13	15,90	12,96
6-wheel – 3,5 m	12 461	2 000	200	1 246	6 854	5,61	0,51	3,08	9,21	6,12	120,00	7,48	7,48	16,68	13,60
8-wheel – 5,4 m	33 871	2 000	200	3 387	18 629	15,24	1,40	8,38	25,02	16,64	120,00	20,32	20,32	45,34	36,96
9-wheel – 5,4 m	29 220	2 000	200	2 922	16 071	13,15	1,21	7,23	21,59	14,35	120,00	17,53	17,53	39,12	31,89
9-wheel – 5,5 m	56 250	2 000	200	5 625	30 938	25,31	2,32	13,92	41,55	27,63	120,00	33,75	33,75	75,30	61,38
10-wheel – 5,4 m	33 617	2 000	200	3 362	18 489	15,13	1,39	8,32	24,83	16,51	120,00	20,17	20,17	45,00	36,68
10-wheel – 6,5 m	47 220	2 000	200	4 722	25 971	21,25	1,95	11,69	34,88	23,20	120,00	28,33	28,33	63,22	51,53
10-wheel – 8,3 m	30 890	2 000	200	3 089	16 990	13,90	1,27	7,65	22,82	15,17	120,00	18,53	18,53	41,35	33,71
11-wheel – 8,3 m	33 720	2 000	200	3 372	18 546	15,17	1,39	8,35	24,91	16,56	120,00	20,23	20,23	45,14	36,80
12-wheel – 7,6 m	53 679	2 000	200	5 368	29 523	24,16	2,21	13,29	39,65	26,37	120,00	32,21	32,21	71,86	58,58
12-wheel – 7,8 m	69 000	2 000	200	6 900	37 950	31,05	2,85	17,08	50,97	33,90	120,00	41,40	41,40	92,37	75,30
10.5.2 PTO–powered rakes															
10.5.2.1 RAKE TYPE															
4-wheel – 2,3 m	45 482	2 000	200	5 757	31 664	25,91	2,37	14,25	42,53	28,28	120,00	34,54	34,54	77,07	62,82
4-wheel – 2,6 m	87 741	2 000	200	9 496	52 228	42,73	3,92	23,50	70,15	46,65	120,00	56,98	56,98	127,13	103,63
5-wheel – 2,8 m	87 405	2 000	200	7 900	43 450	35,55	3,26	19,55	58,36	38,81	120,00	47,40	47,40	105,76	86,21
5-wheel – 3,5 m	83 849	2 000	200	8 793	48 362	39,57	3,63	21,76	64,96	43,20	120,00	52,76	52,76	117,72	95,95
6-wheel – 3,5 m	123 044	2 000	200	9 800	53 900	44,10	4,04	24,26	72,40	48,14	120,00	58,80	58,80	131,20	106,94
8-wheel – 5,4 m	119 090	2 000	200	10 133	55 734	45,60	4,18	25,08	74,86	49,78	120,00	60,80	60,80	135,66	110,58
9-wheel – 5,4 m	79 620	2 000	200	13 033	71 682	58,65	5,38	32,26	96,28	64,03	120,00	78,20	78,20	174,48	142,22
9-wheel – 5,5 m	269 140	2 000	200	13 590	74 742	61,15	5,61	33,63	100,39	66,76	120,00	81,54	81,54	181,93	148,30
10-wheel – 5,4 m	317 441	2 000	200	14 289	78 590	64,30	5,89	35,37	105,56	70,20	120,00	85,73	85,73	191,30	155,93
10-wheel – 6,5 m	365 026	2 000	200	19 353	106 439	87,09	7,98	47,90	142,97	95,07	120,00	116,12	116,12	259,08	211,18
10-wheel – 8,3 m	388 514	2 000	200	12 418	68 300	55,88	5,12	30,73	91,74	61,00	120,00	74,51	74,51	166,25	135,51
11-wheel – 8,3 m	351 025	2 000	200	31 411	172 761	141,35	12,96	77,74	232,05	154,31	120,00	188,47	188,47	420,51	342,77
12-wheel – 7,6 m	703 979	2 000	200	17 265	94 958	77,69	7,12	42,73	127,55	84,82	120,00	103,59	103,59	231,14	188,41
12-wheel – 7,8 m	1 017 845	2 000	200	23 005	126 525	103,52	9,49	56,94	169,95	113,01	120,00	138,03	138,03	307,97	251,04
10.5.2.2 UNIVERSAL TYPE															
3,0 m	43 739	2 000	200	4 374	24 056	19,68	1,80	10,83	32,31	21,49	120,00	26,24	26,24	58,56	47,73
3,2 m	57 570	2 000	200	5 757	31 664	25,91	2,37	14,25	42,53	28,28	120,00	34,54	34,54	77,07	62,82
4,1 m	94 960	2 000	200	9 496	52 228	42,73	3,92	23,50	70,15	46,65	120,00	56,98	56,98	127,13	103,63
4,2 m	79 000	2 000	200	7 900	43 450	35,55	3,26	19,55	58,36	38,81	120,00	47,40	47,40	105,76	86,21
4,5 m	87 931	2 000	200	8 793	48 362	39,57	3,63	21,76	64,96	43,20	120,00	52,76	52,76	117,72	95,95
4,8 m	98 000	2 000	200	9 800	53 900	44,10	4,04	24,26	72,40	48,14	120,00	58,80	58,80	131,20	106,94
5,2 m	101 334	2 000	200	10 133	55 734	45,60	4,18	25,08	74,86	49,78	120,00	60,80	60,80	135,66	110,58
5,8 m	130 331	2 000	200	13 033	71 682	58,65	5,38	32,26	96,28	64,03	120,00	78,20	78,20	174,48	142,22

10.5 Hay rakes and tedders (*cont*.)

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
10.5.2 PTO–powered rakes (cont.)															
10.5.2.2 UNIVERSAL TYPE (*cont.*)															
6,4 m	135 895	2 000	200	13 590	74 742	61,15	5,61	33,63	100,39	66,76	120,00	81,54	81,54	181,93	148,30
6,7 m	142 891	2 000	200	14 289	78 590	64,30	5,89	35,37	105,56	70,20	120,00	85,73	85,73	191,30	155,93
7,1 m	193 525	2 000	200	19 353	106 439	87,09	7,98	47,90	142,97	95,07	120,00	116,12	116,12	259,08	211,18
7,5 m	124 181	2 000	200	12 418	68 300	55,88	5,12	30,73	91,74	61,00	120,00	74,51	74,51	166,25	135,51
7,6 m	314 110	2 000	200	31 411	172 761	141,35	12,96	77,74	232,05	154,31	120,00	188,47	188,47	420,51	342,77
7,7 m	172 652	2 000	200	17 265	94 958	77,69	7,12	42,73	127,55	84,82	120,00	103,59	103,59	231,14	188,41
8,7 m	230 046	2 000	200	23 005	126 525	103,52	9,49	56,94	169,95	113,01	120,00	138,03	138,03	307,97	251,04
10,0 m	264 311	2 000	200	26 431	145 371	118,94	10,90	65,42	195,26	129,84	120,00	158,59	158,59	353,85	288,43
10,0 m	371 402	2 000	200	37 140	204 271	167,13	15,32	91,92	274,37	182,45	120,00	222,84	222,84	497,21	405,29

10.6 Hay balers

10.6.1 Square balers															
10.6.1.1 SMALL SQUARE BALERS															
Class 3 (360 x 460 cm)	220 494	2 000	200	22 049	121 272	99,22	9,10	54,57	162,89	108,32	60,00	66,15	66,15	229,04	174,47
Class 3 (360 x 480 cm)	235 000	2 000	200	23 500	129 250	105,75	9,69	58,16	173,61	115,44	60,00	70,50	70,50	244,11	185,94
Class 4 (360 x 460 cm)	229 051	2 000	200	22 905	125 978	103,07	9,45	56,69	169,21	112,52	120,00	137,43	137,43	306,64	249,95
Class 4 (360 x 490 cm)	279 000	2 000	200	27 900	153 450	125,55	11,51	69,05	206,11	137,06	120,00	167,40	167,40	373,51	304,46
10.6.1.2 BIG SQUARE BALERS															
(1200 x 700 cm)	1 512 028	2 000	200	151 203	831 615	680,41	62,37	374,23	1 117,01	742,78	120,00	907,22	907,22	2 024,23	1 650,00
(1200 x 1000 cm)	1 676 546	2 000	200	167 655	922 100	754,45	69,16	414,95	1 238,55	823,60	120,00	1 005,93	1 005,93	2 244,48	1 829,53
(1200 x 1000 cm)	2 270 499	2 000	200	227 050	1 248 774	1 021,72	93,66	561,95	1 677,33	1 115,38	120,00	1 362,30	1 362,30	3 039,63	2 477,68
10.6.2 Round balers															
Compact (0,7 m)	71 000	2 000	200	7 100	39 050	31,95	2,93	17,57	52,45	34,88	60,00	21,30	21,30	73,75	56,18
Small (1,2 m)	330 677	2 000	200	33 068	181 872	148,80	13,64	81,84	244,29	162,44	60,00	99,20	99,20	343,49	261,65
Small (wide intake)	325 586	2 000	200	32 559	179 072	146,51	13,43	80,58	240,53	159,94	60,00	97,68	97,68	338,20	257,62
Medium (1,5 m)	349 883	2 000	200	34 988	192 436	157,45	14,43	86,60	258,48	171,88	60,00	104,97	104,97	363,44	276,85
Medium (wide intake)	319 890	2 000	200	31 989	175 939	143,95	13,20	79,17	236,32	157,15	60,00	95,97	95,97	332,29	253,11
Medium (1,6 m)	385 000	2 000	200	38 500	211 750	173,25	15,88	95,29	284,42	189,13	60,00	115,50	115,50	399,92	304,63

10.7 Bale handling equipment

10.7.1 Round bales															
Bale fork loader 2,2 m lift – 500 kg	4 500	2 500	250	450	2 475	1,62	0,15	0,89	2,66	1,77	40,00	0,72	0,72	3,38	2,49
Bale fork loader 2,7 m lift – 500 kg	10 400	2 500	250	1 040	5 720	3,74	0,34	2,06	6,15	4,09	40,00	1,66	1,66	7,81	5,75
Uniloader with spike – 750 kg	33 000	2 500	250	3 300	18 150	11,88	1,09	6,53	19,50	12,97	40,00	5,28	5,28	24,78	18,25
Uniloader with spike – 1 000 kg	48 200	2 500	250	4 820	26 510	17,35	1,59	9,54	28,49	18,94	40,00	7,71	7,71	36,20	26,65
Uniloader spike, swivel hook, cruciform – 1 000 kg	44 200	2 500	250	4 420	24 310	15,91	1,46	8,75	26,12	17,37	40,00	7,07	7,07	33,19	24,44
10.7.2 Bale wrappers															
Trailed round bale wrapper	165 894	2 500	250	16 589	91 242	59,72	5,47	32,85	98,04	65,20	40,00	26,54	26,54	124,59	91,74
10.7.3 Bale shredder															
Round bales	34 485	2 500	250	3 449	18 967	12,41	1,14	6,83	20,38	13,55	40,00	5,52	5,52	25,90	19,07

11. HARVESTING EQUIPMENT

11.1 Trailed combines

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
One-row auger	170 607	3 000	300	17 061	93 834	51,18	4,69	28,15	84,02	55,87	45,00	25,59	25,59	109,61	81,46
Two-row auger type (0,9 m)	367 294	3 000	300	36 729	202 012	110,19	10,10	60,60	180,89	120,29	45,00	55,09	55,09	235,99	175,38
Two-row auger type (1,5 m)	454 550	3 000	300	45 455	250 003	136,37	12,50	75,00	223,87	148,87	45,00	68,18	68,18	292,05	217,05
Two-row auger type (2,3 m)	458 100	3 000	300	45 810	251 955	137,43	12,60	75,59	225,61	150,03	45,00	68,72	68,72	294,33	218,74
Three-row auger type (0,9 m)	475 800	3 000	300	47 580	261 690	142,74	13,08	78,51	234,33	155,82	45,00	71,37	71,37	305,70	227,19
Three-row auger type (1,5 m)	491 950	3 000	300	49 195	270 573	147,59	13,53	81,17	242,29	161,11	45,00	73,79	73,79	316,08	234,91
Four-row auger type (0,9 m)	503 400	3 000	300	50 340	276 870	151,02	13,84	83,06	247,92	164,86	45,00	75,51	75,51	323,43	240,37

11.2 Forage harvesters

11.2.1 Precision chop															
11.2.1.1 MOUNTED															
1-row	92 790	2 000	200	9 279	51 035	41,76	3,83	22,97	68,55	45,58	80,00	37,12	37,12	105,67	82,70
2-row	180 000	2 000	200	18 000	99 000	81,00	7,43	44,55	132,98	88,43	80,00	72,00	72,00	204,98	160,43
4-row	402 500	2 000	200	40 250	221 375	181,13	16,60	99,62	297,35	197,73	80,00	161,00	161,00	458,35	358,73
1,1 m	129 029	2 000	200	12 903	70 966	58,06	5,32	31,93	95,32	63,39	80,00	51,61	51,61	146,93	115,00
1,6 m	165 729	2 000	200	16 573	91 151	74,58	6,84	41,02	122,43	81,41	80,00	66,29	66,29	188,72	147,71
11.2.1.2 TRAILED															
2-row	442 996	2 000	200	44 300	243 648	199,35	18,27	109,64	327,26	217,62	80,00	177,20	177,20	504,46	394,82
3-row	560 325	2 000	200	56 033	308 179	252,15	23,11	138,68	413,94	275,26	80,00	224,13	224,13	638,07	499,39
1,7 m	446 546	2 000	200	44 655	245 600	200,95	18,42	110,52	329,89	219,37	80,00	178,62	178,62	508,50	397,98
1,8 m	342 120	2 000	200	34 212	188 166	153,95	14,11	84,67	252,74	168,07	80,00	136,85	136,85	389,59	304,91
2,1 m	457 500	2 000	200	45 750	251 625	205,88	18,87	113,23	337,98	224,75	80,00	183,00	183,00	520,98	407,75
2,2 m	469 291	2 000	200	46 929	258 110	211,18	19,36	116,15	346,69	230,54	80,00	187,72	187,72	534,41	418,26
2,7 m	581 250	2 000	200	58 125	319 688	261,56	23,98	143,86	429,40	285,54	80,00	232,50	232,50	661,90	518,04
11.2.2 Flail type															
Single chop (1,3 m)	65 402	2 000	200	6 540	35 971	29,43	2,70	16,19	48,32	32,13	80,00	26,16	26,16	74,48	58,29
Double chop (1,6 m)	116 680	2 000	200	11 668	64 174	52,51	4,81	28,88	86,20	57,32	80,00	46,67	46,67	132,87	103,99
Double chop (1,8 m)	142 306	2 000	200	14 231	78 268	64,04	5,87	35,22	105,13	69,91	80,00	56,92	56,92	162,05	126,83

11.3 Threshers

Thresher	46 585	2 000	200	4 659	25 622	20,96	1,92	11,53	34,41	22,88	50,00	11,65	11,65	46,06	34,53
With petrol motor	70 059	2 000	200	7 006	38 532	31,53	2,89	17,34	51,76	34,42	50,00	17,51	17,51	69,27	51,93

11.4 Potato lifters

1,5 m	102 170	2 000	200	10 217	56 194	45,98	4,21	25,29	75,48	50,19	60,00	30,65	30,65	106,13	80,84
1,8 m	107 121	2 000	200	10 712	58 917	48,20	4,42	26,51	79,14	52,62	60,00	32,14	32,14	111,27	84,76

12. FEED PROCESSING EQUIPMENT

12.1 Hammermills

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
12.1.1 Electric and PTO-driven (electric motor excluded)															
Small (PTO)	36 058	3 000	300	3 278	18 029	9,83	0,90	5,41	16,14	10,74	50,00	5,46	5,46	21,61	16,20
Medium (PTO)	44 165	3 000	300	4 015	22 083	12,05	1,10	6,62	19,77	13,15	50,00	6,69	6,69	26,47	19,84
Large (PTO)	58 806	3 000	300	5 346	29 403	16,04	1,47	8,82	26,33	17,51	50,00	8,91	8,91	35,24	26,42
12.1.2 Trailed with intake mechanisms															
Trailed	46 500	3 000	300	4 650	25 575	13,95	1,28	7,67	22,90	15,23	50,00	7,75	7,75	30,65	22,98
Trailed with intake mechanisms	118 885	3 000	300	11 889	65 387	35,67	3,27	19,62	58,55	38,93	50,00	19,81	19,81	78,37	58,75

12.2 Feed mixers

12.2.1 Wagon mixers															
7 cubic m (incl. scale)	375 330	6 000	600	37 533	206 432	56,30	5,16	30,96	92,43	61,46	60,00	37,53	37,53	129,96	98,99
13 cubic m (incl. scale)	565 106	6 000	600	56 511	310 808	84,77	7,77	46,62	139,16	92,54	60,00	56,51	56,51	195,67	149,05
15 cubic m (incl. scale)	618 564	6 000	600	61 856	340 210	92,78	8,51	51,03	152,32	101,29	60,00	61,86	61,86	214,18	163,15
17 cubic m (incl. scale)	707 741	6 000	600	70 774	389 258	106,16	9,73	58,39	174,28	115,89	60,00	70,77	70,77	245,06	186,67
20 cubic m (incl. scale)	889 930	6 000	600	88 993	489 462	133,49	12,24	73,42	219,15	145,73	60,00	88,99	88,99	308,14	234,72
12.2.2 Vertical mixers															
8 cubic m	419 749	6 000	600	41 975	230 862	62,96	5,77	34,63	103,36	68,73	60,00	41,97	41,97	145,34	110,71
10 cubic m	445 933	6 000	600	44 593	245 263	66,89	6,13	36,79	109,81	73,02	60,00	44,59	44,59	154,40	117,61
12 cubic m	469 988	6 000	600	46 999	258 493	70,50	6,46	38,77	115,73	76,96	60,00	47,00	47,00	162,73	123,96

12.3 Rollermills (motor included)

Single set of rollers (3 000 kg maize meal/hour)	132 374	8 000	800	13 237	72 806	14,89	1,37	8,19	24,45	16,26	50,00	8,27	8,27	32,72	24,53
Double set of rollers (500 kg maize meal/hour)	195 294	8 000	800	19 529	107 412	21,97	2,01	12,08	36,07	23,98	50,00	12,21	12,21	48,27	36,19
Double set of rollers (wheat and maize mill) (400 kg maize meal/hour, 3 machines)	897 971	8 000	800	89 797	493 884	101,02	9,26	55,56	165,84	110,28	50,00	56,12	56,12	221,97	166,41

13. EARTH-MOVING EQUIPMENT

13.1 Front-end loaders

Implement description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs & maintain as a % of purchase price (%)	Repairs and maintain costs (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
Front-end loader	64 307	2 500	250	6 431	35 369	23,15	2,12	12,73	38,01	25,27	30,00	7,72	7,72	45,72	32,99
Extra-heavy duty	78 896	2 500	250	7 890	43 393	28,40	2,60	15,62	46,63	31,01	30,00	9,47	9,47	56,10	40,47

13.2 Rear-mounted graders

2,0 m	28 429	2 500	250	2 843	15 636	10,23	0,94	5,63	16,80	11,17	30,00	3,41	3,41	20,21	14,58
2,5 m	32 101	2 500	250	3 210	17 656	11,56	1,06	6,36	18,97	12,62	30,00	3,85	3,85	22,82	16,47

13.3 Dam scoops

0,75 cubic metres	17 800	2 500	250	1 780	9 790	6,41	0,59	3,52	10,52	7,00	30,00	2,14	2,14	12,66	9,13
1,5 cubic metres	24 100	2 500	250	2 410	13 255	8,68	0,80	4,77	14,24	9,47	30,00	2,89	2,89	17,14	12,36
1,8 cubic metres	74 355	2 500	250	7 436	40 895	26,77	2,45	14,72	43,94	29,22	30,00	8,92	8,92	52,87	38,14
2,5 cubic metres	82 679	2 500	250	8 268	45 473	29,76	2,73	16,37	48,86	32,49	30,00	9,92	9,92	58,78	42,41
3,0 cubic metres	71 500	2 500	250	7 150	39 325	25,74	2,36	14,16	42,26	28,10	30,00	8,58	8,58	50,84	36,68
4,0 cubic metres	106 450	2 500	250	10 645	58 548	38,32	3,51	21,08	62,91	41,83	30,00	12,77	12,77	75,69	54,61
6,0 cubic metres	148 830	2 500	250	14 883	81 857	53,58	4,91	29,47	87,96	58,49	30,00	17,86	17,86	105,82	76,35
9,0 cubic metres	273 460	2 500	250	27 346	150 403	98,45	9,02	54,15	161,61	107,47	30,00	32,82	32,82	194,43	140,28
12,0 cubic metres	383 328	2 500	250	38 333	210 830	138,00	12,65	75,90	226,55	150,65	30,00	46,00	46,00	272,55	196,65

13.4 Rear-mounted post digger

Unit with 230 mm auger	16 426	2 500	250	1 643	9 034	5,91	0,54	3,25	9,71	6,46	30,00	1,97	1,97	11,68	8,43
Unit with 300 mm auger	17 320	2 500	250	1 732	9 526	6,24	0,57	3,43	10,24	6,81	30,00	2,08	2,08	12,31	8,89
Unit with 450 mm auger	17 621	2 500	250	1 762	9 692	6,34	0,58	3,49	10,41	6,93	30,00	2,11	2,11	12,53	9,04

Notes

1)	Life	Hours – as per table
2)	Average use per annum	Hours/annum – as per table
3)	Salvage value	10% of purchase price
4)	Average investment	= (Purchase price + salvage value)/2
5)	Depreciation cost per hour	= (Purchase price – salvage value)/life period in hours
6)	Insurance cost per hour	1,5% of average investment/hours per annum
7)	Interest cost per hour	9,0% of average investment/hours per annum
8)	Repairs and maintanance cost per hour	= % of purchase price/life period in hours See tables for %

14. SELF-PROPELLED COMBINE HARVESTERS

14.1 Maize self-propelled combine harvesters

Engine power (kW)	Head size and rows	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
92	3-row 1,5 m snapper	1 671 525	4 000	300	167 153	919 339	376,09	53,63	275,80	705,52	429,72	167,15	182,16	349,31	1 054,84	779,03	16,56
92	4-row 0,9 m snapper	1 718 101	4 000	300	171 810	944 955	386,57	55,12	283,49	725,18	441,70	171,81	182,16	353,97	1 079,15	795,67	16,56
124	4-row 0,9 m auger	1 797 062	4 000	300	179 706	988 384	404,34	57,66	296,52	758,51	461,99	179,71	245,52	425,23	1 183,74	887,22	22,32
124	4-row 0,9 m snapper	1 599 763	4 000	300	159 976	879 869	359,95	51,33	263,96	675,23	411,27	159,98	245,52	405,50	1 080,73	816,77	22,32
146	4-row 0,9 m snapper	1 506 101	4 000	300	150 610	828 355	338,87	48,32	248,51	635,70	387,19	150,61	289,08	439,69	1 075,39	826,88	26,28
146	6-row 0,9 m snapper	1 579 408	4 000	300	157 941	868 674	355,37	50,67	260,60	666,64	406,04	157,94	289,08	447,02	1 113,66	853,06	26,28
146	8-row 0,9 m snapper	1 705 265	4 000	300	170 526	937 896	383,68	54,71	281,37	719,76	438,40	170,53	289,08	459,61	1 179,37	898,00	26,28
175	6-row 0,9 m snapper	1 729 408	4 000	300	172 941	951 174	389,12	55,49	285,35	729,95	444,60	172,94	346,50	519,44	1 249,40	964,04	31,50
175	8-row 0,9 m snapper	1 855 265	4 000	300	185 526	1 020 396	417,43	59,52	306,12	783,08	476,96	185,53	346,50	532,03	1 315,10	1 008,98	31,50
177	6-row 0,75 m snapper	2 483 546	4 000	300	248 355	1 365 950	558,80	79,68	409,79	1 048,26	638,48	248,35	350,46	598,81	1 647,08	1 237,29	31,86
177	6-row 0,9 m snapper	2 444 408	4 000	300	244 441	1 344 424	549,99	78,42	403,33	1 031,74	628,42	244,44	350,46	594,90	1 626,64	1 223,32	31,86
177	8-row 0,9 m snapper	2 570 265	4 000	300	257 026	1 413 646	578,31	82,46	424,09	1 084,87	660,77	257,03	350,46	607,49	1 692,35	1 268,26	31,86
191	8-row 0,9 m snapper	2 665 404	4 000	300	266 540	1 465 972	599,72	85,52	439,79	1 125,02	685,23	266,54	378,18	644,72	1 769,74	1 329,95	34,38
191	8-row 0,9 m snapper	2 665 404	4 000	300	266 540	1 465 972	599,72	85,52	439,79	1 125,02	685,23	266,54	378,18	644,72	1 769,74	1 329,95	34,38
201	8-row 0,75 m snapper	2 052 275	4 000	300	205 228	1 128 751	461,76	65,84	338,63	866,23	527,61	205,23	397,98	603,21	1 469,44	1 130,81	36,18
201	8-row 0,9 m snapper	2 005 265	4 000	300	200 526	1 102 896	451,18	64,34	330,87	846,39	515,52	200,53	397,98	598,51	1 444,90	1 114,03	36,18
207	6-row 0,9 m snapper	2 100 658	4 000	300	210 066	1 155 362	472,65	67,40	346,61	886,65	540,04	210,07	409,86	619,93	1 506,58	1 159,97	37,26
207	8-row 0,9 m snapper	2 226 515	4 000	300	222 651	1 224 583	500,97	71,43	367,37	939,77	572,40	222,65	409,86	632,51	1 572,29	1 204,91	37,26
207	8-row 0,9 m snapper	2 226 515	4 000	300	222 651	1 224 583	500,97	71,43	367,37	939,77	572,40	222,65	409,86	632,51	1 572,29	1 204,91	37,26
212	6-row 0,9 m snapper	2 444 260	4 000	300	244 426	1 344 343	549,96	78,42	403,30	1 031,68	628,38	244,43	419,76	664,19	1 695,87	1 292,56	38,16
212	8-row 0,9 m snapper	2 570 117	4 000	300	257 012	1 413 564	578,28	82,46	424,07	1 084,80	660,73	257,01	419,76	676,77	1 761,58	1 337,51	38,16
216	8-row 0,9 m snapper	2 348 865	4 000	300	234 886	1 291 876	528,49	75,36	387,56	991,42	603,85	234,89	427,68	662,57	1 653,98	1 266,42	38,88
227	8-row 0,9 m snapper	2 688 765	4 000	300	268 876	1 478 821	604,97	86,26	443,65	1 134,88	691,24	268,88	449,46	718,34	1 853,22	1 409,57	40,86

Notes 1) Life 4000 hours
2) Average use per annum 300 hours/annum
3) Salvage value 10,0% of purchase price
4) Average investment = (Purchase price + salvage value)/2
5) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
6) Licence and insurance cost per hour 1,75% of average investment/hours per annum
7) Interest cost per hour 9,0% of average investment/hours per annum
8) Repairs and maintenance cost per hour 40,0% of purchase price/life period in hours
9) Fuel price R11,00 per litre
10) Fuel consumption 60,0% of kilowatts used
11) Litres used per kilowatt hour 0,30 litre/kW hour

14.1 Maize self-propelled combine harvesters (*cont.*)

Engine power (kW)	Head size and rows	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
268	8-row 0,9 m snapper	3 621 065	4 000	300	362 106	1 991 586	814,74	116,18	597,48	1 528,39	930,92	362,11	530,64	892,75	2 421,14	1 823,66	48,24
278	8-row 0,9 m snapper	3 172 015	4 000	300	317 201	1 744 608	713,70	101,77	523,38	1 338,85	815,47	317,20	550,44	867,64	2 206,50	1 683,11	50,04
313	8-row 0,9 m snapper	3 792 465	4 000	300	379 246	2 085 856	853,30	121,67	625,76	1 600,74	974,98	379,25	619,74	998,99	2 599,72	1 973,97	56,34
317	8-row 0,9 m snapper	3 627 996	4 000	300	362 800	1 995 398	816,30	116,40	598,62	1 531,32	932,70	362,80	627,66	990,46	2 521,78	1 923,16	57,06
350	8-row 0,9 m snapper	3 530 274	4 000	300	353 027	1 941 650	794,31	113,26	582,50	1 490,07	907,57	353,03	693,00	1 046,03	2 536,10	1 953,60	63,00
353	8-row 0,9 m snapper	4 109 285	4 000	300	410 928	2 260 107	924,59	131,84	678,03	1 734,46	1 056,43	410,93	698,94	1 109,87	2 844,33	2 166,30	63,54
360	12-row 0,9 m snapper	4 143 850	4 000	300	414 385	2 279 118	932,37	132,95	683,74	1 749,05	1 065,31	414,39	712,80	1 127,19	2 876,24	2 192,50	64,80
390	12-row 0,9 m snapper	4 298 461	4 000	300	429 846	2 364 154	967,15	137,91	709,25	1 814,31	1 105,06	429,85	772,20	1 202,05	3 016,35	2 307,11	70,20
405	12-row 0,9 m snapper	4 691 595	4 000	300	469 160	2 580 377	1 055,61	150,52	774,11	1 980,24	1 206,13	469,16	801,90	1 271,06	3 251,30	2 477,19	72,90

Notes 1) Life 4000 hours
2) Average use per annum 300 hours/annum
3) Salvage value 10,00% of purchase price
4) Average investment = (Purchase price + salvage value)/2
5) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
6) Licence and insurance cost per hour 1,75% of average investment/hours per annum
7) Interest cost per hour 9,0% of average investment/hours per annum
8) Repairs and maintenance cost per hour 40,0% of purchase price/life period in hours
9) Fuel price R11,00 per litre
10) Fuel consumption 60,0% of kilowatts used
11) Litres used per kilowatt hour 0,30 litre/kW hour

14.2 Wheat self-propelled combine harvesters

Engine power (kW)	Head size and rows	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
124	4,2 m	1 574 912	4 000	300	157 491	866 202	354,36	50,53	259,86	664,74	404,88	157,49	245,52	403,01	1 067,76	807,89	22,32
124	4,9 m	1 535 601	4 000	300	153 560	844 581	345,51	49,27	253,37	648,15	394,78	153,56	245,52	399,08	1 047,23	793,86	22,32
124	5,8 m	1 428 756	4 000	300	142 876	785 816	321,47	45,84	235,74	603,05	367,31	142,88	245,52	388,40	991,45	755,70	22,32
146	4,2 m	1 481 250	4 000	300	148 125	814 688	333,28	47,52	244,41	625,21	380,80	148,13	289,08	437,21	1 062,42	818,01	26,28
146	4,9 m	1 441 939	4 000	300	144 194	793 066	324,44	46,26	237,92	608,62	370,70	144,19	289,08	433,27	1 041,89	803,97	26,28
146	6,0 m	1 582 398	4 000	300	158 240	870 319	356,04	50,77	261,10	667,90	406,81	158,24	289,08	447,32	1 115,22	854,13	26,28
175	6,0 m	1 732 398	4 000	300	173 240	952 819	389,79	55,58	285,85	731,22	445,37	173,24	346,50	519,74	1 250,96	965,11	31,50
177	6,0 m	2 447 398	4 000	300	244 740	1 346 069	550,66	78,52	403,82	1 033,01	629,19	244,74	350,46	595,20	1 628,21	1 224,38	31,86
177	6,6 m	2 420 233	4 000	300	242 023	1 331 128	544,55	77,65	399,34	1 021,54	622,20	242,02	350,46	592,48	1 614,02	1 214,68	31,86
191	6,0 m	2 542 537	4 000	300	254 254	1 398 395	572,07	81,57	419,52	1 073,16	653,64	254,25	378,18	632,43	1 705,60	1 286,08	34,38
191	7,5 m	2 584 753	4 000	300	258 475	1 421 614	581,57	82,93	426,48	1 090,98	664,50	258,48	378,18	636,66	1 727,64	1 301,15	34,38
207	6,0 m	2 103 648	4 000	300	210 365	1 157 006	473,32	67,49	347,10	887,91	540,81	210,36	409,86	620,22	1 508,14	1 161,04	37,26
207	7,5 m	2 145 864	4 000	300	214 586	1 180 225	482,82	68,85	354,07	905,73	551,67	214,59	409,86	624,45	1 530,18	1 176,11	37,26
212	7,5 m	2 489 466	4 000	300	248 947	1 369 206	560,13	79,87	410,76	1 050,76	640,00	248,95	419,76	668,71	1 719,47	1 308,71	38,16
212	9,0 m	2 549 991	4 000	300	254 999	1 402 495	573,75	81,81	420,75	1 076,31	655,56	255,00	419,76	674,76	1 751,07	1 330,32	38,16
216	6,1 m	2 180 100	4 000	300	218 010	1 199 055	490,52	69,94	359,72	920,18	560,47	218,01	427,68	645,69	1 565,87	1 206,16	38,88
216	7,6 m	2 226 968	4 000	300	222 697	1 224 832	501,07	71,45	367,45	939,97	572,52	222,70	427,68	650,38	1 590,34	1 222,89	38,88
216	9,1 m	2 295 108	4 000	300	229 511	1 262 309	516,40	73,63	378,69	968,73	590,03	229,51	427,68	657,19	1 625,92	1 247,22	38,88
227	6,7 m	2 474 193	4 000	300	247 419	1 360 806	556,69	79,38	408,24	1 044,32	636,07	247,42	449,46	696,88	1 741,19	1 332,95	40,86
227	7,6 m	2 566 868	4 000	300	256 687	1 411 777	577,55	82,35	423,53	1 083,43	659,90	256,69	449,46	706,15	1 789,58	1 366,05	40,86
268	7,6 m	3 499 168	4 000	300	349 917	1 924 542	787,31	112,26	577,36	1 476,94	899,58	349,92	530,64	880,56	2 357,50	1 780,13	48,24
278	9,1 m	3 118 258	4 000	300	311 826	1 715 042	701,61	100,04	514,51	1 316,16	801,65	311,83	550,44	862,27	2 178,43	1 663,92	50,04

Notes 1) Life 4000 hours
2) Average use per annum 300 hours/annum
3) Salvage value 10,00% of purchase price
4) Average investment = (Purchase price + salvage value)/2
5) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
6) Licence and insurance cost per hour 1,75% of average investment/hours per annum
7) Interest cost per hour 9,0% of average investment/hours per annum
8) Repairs and maintenance cost per hour 40,0% of purchase price/life period in hours
9) Fuel price R11,00 per litre
10) Fuel consumption 60,0% of kilowatts used
11) Litres used per kilowatt hour 0,30 litre/kW hour

14.2 Wheat self-propelled combine harvesters (*cont*.)

Engine power (kW)	Head size and rows	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance and licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Fuel cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)	Fuel usage (ℓ/h)
313	9,1 m	3 738 708	4 000	300	373 871	2 056 289	841,21	119,95	616,89	1 578,05	961,16	373,87	619,74	993,61	2 571,66	1 954,77	56,34
317	9,1 m	3 574 239	4 000	300	357 424	1 965 831	804,20	114,67	589,75	1 508,63	918,88	357,42	627,66	985,08	2 493,71	1 903,96	57,06
350	9,1 m	3 476 517	4 000	300	347 652	1 912 084	782,22	111,54	573,63	1 467,38	893,75	347,65	693,00	1 040,65	2 508,03	1 934,41	63,00
353	9,1 m	4 055 528	4 000	300	405 553	2 230 540	912,49	130,11	669,16	1 711,77	1 042,61	405,55	698,94	1 104,49	2 816,26	2 147,10	63,54
360	9,1 m	3 663 508	4 000	300	366 351	2 014 929	824,29	117,54	604,48	1 546,31	941,83	366,35	712,80	1 079,15	2 625,46	2 020,98	64,80
390	9,1 m	3 818 119	4 000	300	381 812	2 099 965	859,08	122,50	629,99	1 611,56	981,57	381,81	772,20	1 154,01	2 765,58	2 135,59	70,20
405	9,1 m	4 211 253	4 000	300	421 125	2 316 189	947,53	135,11	694,86	1 777,50	1 082,64	421,13	801,90	1 223,03	3 000,52	2 305,67	72,90

Notes 1) Life 4000 hours
2) Average use per annum 300 hours/annum
3) Salvage value 10,0% of purchase price
4) Average investment = (Purchase price + salvage value)/2
5) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours
6) Licence and insurance cost per hour 1,75% of average investment/hours per annum
7) Interest cost per hour 9,0% of average investment/hours per annum
8) Repairs and maintenance cost per hour 40,0% of purchase price/life period in hours
9) Fuel price R11,00 per litre
10) Fuel consumption 60,0% of kilowatts used
11) Litres used per kilowatt hour 0,30 litre/kW hour

15. CANE AND TIMBER EQUIPMENT

15.1 Truck trailers

Description	Purchase price (R)	Average life period (km)	Average use per annum (km)	Salvage value (R)	Average investment (R)	Depre-ciation (c/km)	Insurance (c/km)	Licence (c/km)	Interest (c/km)	Total fixed costs (c/km)	Tot. fixed costs excl. interest (c/km)	Repairs and maintain (c/km)	Tyre cost (c/km)	Total variable costs (c/km)	Total costs (c/km)	Total costs excl. interest (c/km)
15.1.1 Cane trailers																
18 ton tandem axle	278 438	560 000	70 000	69 610	174 024	37,29	0,38	3,73	22,37	63,77	41,40	14,92	86,00	100,92	164,69	142,31
24 ton tri-axle	410 000	560 000	70 000	102 500	256 250	54,91	0,38	5,49	32,95	93,73	60,78	21,96	124,22	146,19	239,91	206,97
38 ton interlink	510 450	560 000	70 000	127 613	319 031	68,36	0,38	6,84	41,02	116,60	75,58	27,35	172,00	199,35	315,94	274,92
40 ton rigid four-axle	478 913	560 000	70 000	119 728	299 321	64,14	0,38	6,41	38,48	109,42	70,93	25,66	162,44	188,10	297,52	259,03
15.1.2 Timber trailers																
18 ton tandem axle	317 419	560 000	70 000	79 355	198 387	42,51	0,38	4,25	25,51	72,65	47,14	17,00	86,00	103,00	175,65	150,14
24 ton tri-axle	302 375	560 000	70 000	75 594	188 984	40,50	0,38	4,05	24,30	69,22	44,92	16,20	124,22	140,42	209,64	185,34
38 ton interlink	451 000	560 000	70 000	112 750	281 875	60,40	0,38	6,04	36,24	103,06	66,82	24,16	172,00	196,16	299,22	262,98
40 ton rigid four-axle	461 250	560 000	70 000	115 313	288 281	61,77	0,38	6,18	37,06	105,39	68,33	24,71	162,44	187,15	292,55	255,48

15.2 Tractor trailers (with brakes)

15.2.1 Cane trailers																
6 ton single box	103 084	12 000	1 000	25 771	64 428	6,44	0,26	0,97	5,80	12,51	6,71	2,58	18,89	21,47	33,97	28,17
10 ton double box	218 109	12 000	1 000	54 527	136 318	13,63	0,26	2,04	12,27	26,16	13,90	5,45	37,78	43,23	69,39	57,13
15 ton spiller bar	327 938	12 000	1 000	81 985	204 961	20,50	0,26	3,07	18,45	39,21	20,76	8,20	74,67	82,87	122,07	103,63
Single stack side loading	90 461	12 000	1 000	22 615	56 538	5,65	0,26	0,85	5,09	11,01	5,92	2,26	18,89	21,15	32,16	27,07
Single stack rear loading	94 545	12 000	1 000	23 636	59 091	5,91	0,26	0,89	5,32	11,49	6,17	2,36	18,89	21,25	32,74	27,43
Double stack rear loading	185 625	12 000	1 000	46 406	116 016	11,60	0,26	1,74	10,44	22,31	11,87	4,64	37,78	42,42	64,73	54,28
15.2.2 Timber trailers																
15.2.2.1 TIP DECK																
15 ton flat deck	334 125	12 000	1 000	83 531	208 828	20,88	0,26	3,13	18,79	39,94	21,15	8,35	40,00	48,35	67,15	88,29
15 ton pulpwood	321 750	12 000	1 000	80 438	201 094	20,11	0,26	3,02	18,10	38,47	20,37	8,04	40,00	48,04	66,14	86,52
15.2.2.2 NON-TIP																
15 ton flat deck	420 750	12 000	1 000	105 188	262 969	26,30	0,26	3,94	23,67	50,23	26,56	10,52	89,78	100,30	123,96	150,52
15 ton sawlog bank-type	433 125	12 000	1 000	108 281	270 703	27,07	0,26	4,06	24,36	51,70	27,33	10,83	89,78	100,61	124,97	152,30

Notes

1)	Salvage value	25,0%	of purchase price
2)	Average investment	= (Purchase price + salvage value)/2	
3)	Depreciation cost per kilometre	= (Purchase price – salvage value)/life period in kilometres	
4)	Insurance cost per kilometre	1,5%	of average investment/kilometres per annum
5)	Actual licence cost per kilometre	R264	/kilometres per annum
6)	Interest cost per kilometre	9,0%	of average investment/kilometres per annum
7)	Repairs and maintenance cost per kilometre	30,0%	of purchase price/life period in kilometers
8)	Tyre cost per kilometre	= (Purchase price of new tyre * no. tyres)/tyre life in lilometres [no. tyres = no. wheels]	
9)	Tyre life: Assumed that a set of tyres lasts	45 000	kilometres
10)	It is assumed that 4 sets of tyres are needed.		

15.3 Cane and timber loaders

Description	Purchase price (R)	Average life period (km)	Average use per annum (km)	Salvage value (R)	Average investment (R)	Depre-ciation (c/km)	Insurance (c/km)	Licence (c/km)	Interest (c/km)	Total fixed costs (c/km)	Tot. fixed costs excl. interest (c/km)	Repairs and maintain (c/km)	Tyre cost (c/km)	Total variable costs (c/km)	Total costs (c/km)	Total costs excl. interest (c/km)
15.3.1 Cane loaders																
46 Kw	586 750	12 000	2 000	146 688	366 719	36,67	16,50	16,50	69,68	53,17	29,34	79,01	38,39	146,73	216,41	199,91
15.3.2 Timber loaders																
46 kW	598 980	12 000	2 000	149 745	374 363	37,44	16,85	16,85	71,13	54,28	29,95	79,01	38,39	147,35	218,48	201,63

Notes

1)	Salvage value	25,0%	of Purchase price
2)	Average investment	= (Purchase price + salvage value)/2	
3)	Depreciation cost per hour	= (Purchase price – salvage value)/life period in hours	
4)	Insurance and licence cost per hour	1,5%	of average investment/hours per annum
5)	Interest cost per hour	9,0%	of average investment/hours per annum
6)	Repairs and maintenance cost per hour	60,0%	of purchase price/life period in hours
7)	Fuel price =	R11,00	per litre
8)	Fuel consumption: 46 kW	7,00	litres/kilowat hour
9)	Oil price =	R28,66	per litre
10)	Oil consumption =	1,0%	of fuel consumption
11)	Tyre cost per hour	= (Purchase price of new tyre set * no. tyre sets)/hours per annum	
12)	It is assumed that 6 sets of tyres are needed.		

16. TRAILERS

16.1 Two-wheeled trailers

Description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Tyre cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
16.1.1 Flatbed																
3 ton	40 000	10 000	500	2 000	21 000	3,80	0,36	0,63	3,78	8,57	4,79	1,60	0,95	2,55	11,12	7,34
5 ton	42 000	10 000	500	2 100	22 050	3,99	0,36	0,66	3,97	8,98	5,01	1,68	1,74	3,42	12,40	8,43
16.1.2 Dropsides																
3 ton	42 500	10 000	500	2 125	22 313	4,04	0,36	0,67	4,02	9,08	5,07	1,70	0,95	2,65	11,73	7,71
5 ton	44 500	10 000	500	2 225	23 363	4,23	0,36	0,70	4,21	9,49	5,29	1,78	1,74	3,52	13,01	8,81

16.2 Tip-trailers low speed

3 ton – two-wheel	44 650	10 000	500	2 233	23 441	4,24	0,36	0,70	4,22	9,52	5,30	1,79	0,95	2,73	12,26	8,04
5 ton – two-wheel	48 600	10 000	500	2 430	25 515	4,62	0,36	0,77	4,59	10,34	5,74	1,94	1,74	3,68	14,02	9,42
8 ton – four-wheel	89 200	10 000	500	4 460	46 830	8,47	0,36	1,40	8,43	18,67	10,24	3,57	3,47	7,04	25,71	17,28

Notes

1) Salvage value — 5% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price - salvage value)/life period in hours
4) Insurance cost per hour — 1,5% of average investment/hours per annum
5) Actual licence cost per hour = Actual cost/hours per annum
   R180,0 /hours per annum
6) Interest cost per hour — 9,0% of average investment/hours per annum
7) Repairs and maintenance cost per hour — 40% of purchase price/life period in hours
8) Tyre cost per hour = (Purchase price of new tyre set * no. tyre sets)/life period in hours
9) It is assumed that three sets of tyres are needed.

16.3 Four-wheeled trailers

Description	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (R/h)	Insurance (R/h)	Licence (R/h)	Interest (R/h)	Total fixed costs (R/h)	Tot. fixed costs excl. interest (R/h)	Repairs and maintain (R/h)	Tyre cost (R/h)	Total variable costs (R/h)	Total costs (R/h)	Total costs excl. interest (R/h)
2 ton	35 000	10 000	500	1 750	18 375	3,33	0,36	0,55	3,31	7,54	4,24	1,40	1,98	3,38	10,92	7,62
3 ton	46 000	10 000	500	2 300	24 150	4,37	0,36	0,72	4,35	9,80	5,45	1,84	1,98	3,82	13,62	9,27
6 ton – flatbed	82 900	10 000	500	4 145	43 523	7,88	0,36	1,31	7,83	17,38	9,54	3,32	1,89	5,21	22,58	14,75
6 ton – dropsides	92 100	10 000	500	4 605	48 353	8,75	0,36	1,45	8,70	19,26	10,56	3,68	1,89	5,58	24,84	16,14
8 ton – flatbed	89 200	10 000	500	4 460	46 830	8,47	0,36	1,40	8,43	18,67	10,24	3,57	3,47	7,04	25,71	17,28
8 ton – dropsides	94 150	10 000	500	4 708	49 429	8,94	0,36	1,48	8,90	19,68	10,79	3,77	6,95	10,71	30,40	21,50
10 ton – flatbed	104 150	10 000	500	5 208	54 679	9,89	0,36	1,64	9,84	21,74	11,89	4,17	8,63	12,80	34,53	24,69
10 ton – dropsides	110 000	10 000	500	5 500	57 750	10,45	0,36	1,73	10,40	22,94	12,54	4,40	8,63	13,03	35,97	25,57
15 ton – dropsides	193 600	10 000	500	9 680	101 640	18,39	0,36	3,05	18,30	40,10	21,80	7,74	8,63	16,37	56,47	38,18
Silage feedout wagon –18 cubic m	210 000	10 000	500	10 500	110 250	19,95	0,36	3,31	19,85	43,46	23,62	8,40	8,63	17,03	60,49	40,65
Silage feedout wagon – 30 cubic m	235 000	10 000	500	11 750	123 375	22,33	0,36	3,70	22,21	48,59	26,39	9,40	8,63	18,03	66,62	44,42

16.4 Drawn fire-fighting water carts without pumps and plumbing

1 000 ℓ	49 020	10 000	500	2 451	25 736	4,66	0,36	0,77	4,63	10,42	5,79	1,96	0,91	2,87	13,29	8,66
2 000 ℓ	71 820	10 000	500	3 591	37 706	6,82	0,36	1,13	6,79	15,10	8,31	2,87	0,99	3,86	18,96	12,18
3 000 ℓ	96 900	10 000	500	4 845	50 873	9,21	0,36	1,53	9,16	20,25	11,09	3,88	3,47	7,35	27,60	18,44
5 000 ℓ	131 100	10 000	500	6 555	68 828	12,45	0,36	2,06	12,39	27,27	14,88	5,24	4,32	9,56	36,83	24,44

Notes

1) Salvage value — 5% of purchase price
2) Average investment — = (Purchase price + salvage value)/2
3) Depreciation cost per hour — = (Purchase price - salvage value)/life period in hours
4) Insurance cost per hour — 1,5% of average investment/hours per annum
5) Actual licence cost per hour — = Actual cost/hours per annum
   R180,0 /hours per annum
6) Interest cost per hour — 9,0% of average investment/hours per annum
7) Repairs and maintenance cost per hour — 40% of purchase price/life period in hours
8) Tyre cost per hour — = (Purchase price of new tyre set * no. tyre sets)/life period in hours
9) It is assumed that three sets of tyres are needed.

17. LDVs

17.1 Two-wheel drive

LDV size (t)	Engine capacity (cc)	Purchase price (R)	Average life period (km)	Average use per annum (km)	Depre-ciation (c/km)	Insurance (c/km)	Licence (c/km)	Total fixed costs (c/km)	Tot. fixed costs excl. interest (c/km)	Repairs and maintain (c/km)	Fuel cost (c/km)	Oil cost (c/km)	Tyre cost (c/km)	Contin-gency factor (c/km)	Total variable costs (c/km)	Total costs (c/km)	Total costs excl. interest (c/km)	Fuel usage (ℓ per 100 km)
17.1.1 Petrol																		
0.5 T	<1400	111 456	160 000	20 000	62,69	21,15	2,94	114,37	86,78	34,83	80,82	2,26	6,58	12,45	136,94	251,31	223,72	7,90
0.5 T	<=1800	103 070	160 000	20 000	57,98	19,56	2,94	105,98	80,47	32,21	80,82	2,26	6,58	12,19	134,06	240,04	214,53	7,90
1 T	2000 swb	122 105	160 000	20 000	68,68	23,17	2,94	125,01	94,79	38,16	102,30	2,87	7,45	15,08	165,85	290,87	260,64	10,00
1 T	2000 lwb	151 431	160 000	20 000	85,18	28,73	2,94	154,33	116,85	47,32	108,44	3,04	7,45	16,62	182,87	337,21	299,73	10,60
1 T	<= 2500 lwb	161 873	160 000	20 000	91,05	30,72	2,94	164,77	124,71	50,59	112,53	3,15	7,45	17,37	191,09	355,86	315,80	11,00
1 T	<= 3000 lwb	224 386	160 000	20 000	126,22	42,58	2,94	227,27	171,73	70,12	143,22	4,01	7,45	22,48	247,28	474,55	419,02	14,00
17.1.2 Diesel																		
1 T	<= 2500 swb	204 651	160 000	20 000	115,12	38,83	2,94	207,54	156,89	63,95	88,00	2,29	7,45	16,17	177,87	385,41	334,75	8,00
1 T	<= 2500 lwb	171 463	160 000	20 000	96,45	32,54	2,94	174,36	131,92	53,58	88,00	2,29	7,45	15,13	166,46	340,82	298,38	8,00
1 T	<= 3000 lwb	251 883	160 000	20 000	141,68	47,79	2,94	254,76	192,42	78,71	88,00	2,29	7,45	17,65	194,10	448,86	386,52	8,00
17.1.3 Club cab																		
P: 1 T	<= 2500	205 053	160 000	20 000	115,34	38,91	2,94	207,94	157,19	64,08	143,22	4,01	10,96	22,23	244,50	452,44	401,69	14,00
D: 1 T	<= 2500	232 104	160 000	20 000	130,56	44,04	2,94	234,99	177,54	72,53	88,00	2,29	10,96	17,38	191,16	426,15	368,70	8,00
D: 1 T	<= 3000	270 796	160 000	20 000	152,32	51,38	2,94	273,67	206,65	84,62	104,50	2,72	10,96	20,28	223,09	496,75	429,73	9,50
17.1.4 Double cab																		
P: 1 T	<= 2500	236 750	160 000	20 000	133,17	44,92	2,94	239,63	181,04	73,98	143,22	4,01	10,96	23,22	255,39	495,03	436,43	14,00
P: 1 T	<= 3000	295 737	160 000	20 000	166,35	56,12	2,94	298,60	225,41	92,42	143,22	4,01	10,96	25,06	275,67	574,27	501,08	14,00
P: 1 T	<= 4000	339 386	160 000	20 000	190,90	64,40	2,94	342,24	258,24	106,06	148,34	4,16	10,96	26,95	296,46	638,70	554,70	14,50
D: 1 T	<= 2400	261 611	160 000	20 000	147,16	49,64	2,94	264,49	199,74	81,75	154,00	4,01	10,96	25,07	275,80	540,28	475,54	14,00
D: 1 T	<= 3000	318 111	160 000	20 000	178,94	60,36	2,94	320,97	242,24	99,41	154,00	4,01	10,96	26,84	295,22	616,19	537,46	14,00
D: 1 T	>= 3000	343 241	160 000	20 000	193,07	65,13	2,94	346,10	261,14	107,26	154,00	4,01	10,96	27,62	303,86	649,95	565,00	14,00

Notes

1) Salvage value 10%
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in kilometres
4) Insurance cost per hour 6,9%
5) Actual licence cost per hour = Actual cost/kilometres per annum
   R588,00
6) Interest cost per hour 9,0%
7) Repairs and maintenance cost per hour 50%
8) The price of petrol (P: Petrol) = R10,23
9) The price of diesel (D: Diesel) = R11,00
10) Price of oil = R28,66
11) Oil consumption = 1% of fuel consumption for all 1 t LDVs
12) Tyre cost per kilometre = (Purchase price of new tyre * no. tyres)/tyre life in kilometres [no. tyres = no. wheels]
    = (Total price of new tyres)/tyre life in kilometres

Tyre size	Tyre price	
165 R 13	658,00	0,5 t models
195 R 14	745,00	1,0 t 2-wheel-drive single-cab models
215 R 15	1 096	1,0 t 2-wheel-drive club-cab and double-cab models

13) Assumption: A set of tyres lasts 50000 km
14) Contingency factor = 10%
15) SWB = short-wheel base; LWB = long-wheel base

17.2 Four-wheel drive

LDV size (t)	Engine capacity (cc)	Purchase price (R)	Average life period (km)	Average use per annum (km)	Depre-ciation (c/km)	Insurance (c/km)	Licence (c/km)	Total fixed costs (c/km)	Tot. fixed costs excl. interest (c/km)	Repairs and maintain (c/km)	Fuel cost (c/km)	Oil cost (c/km)	Tyre cost (c/km)	Contin-gency factor (c/km)	Total variable costs (c/km)	Total costs (c/km)	Total costs excl. interest (c/km)	Fuel usage (ℓ per 100 km)
17.2.1 Single cab																		
P: 1 T	<= 2500	211 719	160 000	20 000	119,09	52,40	2,94	214,61	162,21	66,16	104,35	2,92	10,96	18,44	202,83	417,44	365,04	10,20
D: 1 T	<= 2500	239 273	160 000	20 000	134,59	59,22	2,94	242,15	182,93	74,77	88,00	2,29	10,96	17,60	193,63	435,78	376,56	8,00
D: 1 T	<= 3000	259 211	160 000	20 000	145,81	64,15	2,94	262,09	197,93	81,00	112,20	2,92	10,96	20,71	227,80	489,88	425,73	10,20
17.2.2 Club cab																		
D: 1 T	<= 2500	285 907	160 000	20 000	160,82	70,76	2,94	288,78	218,01	89,35	88,00	2,29	10,96	19,06	209,66	498,43	427,67	8,00
D: 1 T	<= 3000	320 877	160 000	20 000	180,49	79,42	2,94	323,74	244,32	100,27	104,50	2,72	13,59	22,11	243,20	566,93	487,52	9,50
D: 1 T	>= 3000	341 912	160 000	20 000	192,33	84,62	2,94	344,77	260,14	106,85	121,00	3,15	13,59	24,46	269,05	613,82	529,19	11,00
17.2.3 Double cab																		
P: 1 T	<= 2500	231 565	160 000	20 000	130,26	57,31	2,94	234,45	177,13	72,36	143,22	4,01	13,59	23,32	256,51	490,95	433,64	14,00
P: 1 T	<= 3000	256 409	160 000	20 000	144,23	63,46	2,94	259,28	195,82	80,13	143,22	4,01	13,59	24,10	265,05	524,33	460,87	14,00
P: 1 T	<= 4000	417 544	160 000	20 000	234,87	103,34	2,94	420,38	317,04	130,48	148,34	4,16	13,59	29,66	326,22	746,60	643,26	14,50
D: 1 T	<= 2500	296 528	160 000	20 000	166,80	73,39	2,94	299,39	226,00	92,67	88,00	2,29	13,59	19,65	216,20	515,60	442,21	8,00
D: 1 T	>= 3000	364 027	160 000	20 000	204,77	90,10	2,94	366,88	276,78	113,76	104,50	2,72	13,59	23,46	258,03	624,90	534,81	9,50

Notes:

1) Salvage value 10%
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in kilometres
4) Insurance cost per hour 6,9%
5) Actual Licence cost per hour = Actual cost/kilometres per annum
   R588,00
6) Interest cost per hour 9,0%
7) Repairs and maintenance cost per hour 50%
8) The price of petrol (P: Petrol) = R10,23
9) The price of diesel (D: Diesel) = R11,00
10) Price of oil = R28,66
11) Oil consumption = 1% of fuel consumption for all 1 t LDVs
12) Tyre cost per kilometre = (Purchase price of new tyre * no. tyres)/tyre life in kilometres [no. tyres = no. wheels]
    = (Total price of new tyres)/tyre life in kilometres
13)

Tyre size	Tyre price
215 R 15	1096,00
245/75 R 15	1359,00

14) Assumption: A set of tyres lasts 50000 km
15) Contingency factor = 10%
16) SWB = short wheel base; LWB = long wheel base

18. TRUCKS

18.1 Single differential (with dropsides)

Truck size	Purchase Price (R)	Average life period (km)	Average use per annum (km)	Depre-ciation	Insurance (c/km)	Licence (c/km)	Interest (c/km)	Total fixed costs (c/km)	Tot. fixed costs excl. interest (c/km)	Repairs and maintain (c/km)	Fuel cost (c/km)	Oil cost (c/km)	Tyre cost (c/km)	Contin-gency factor (c/km)	Total variable costs (c/km)	Total costs (c/km)	Total costs excl. interest (c/km)	Fuel usage (ℓ per 100 km)
3-ton	237 260	300 000	35 000	71,18	29,57	2,69	33,56	136,99	103,43	39,54	165,00	6,45	50,52	26,15	287,67	424,65	391,10	15,00
4-ton	280 000	300 000	35 000	84,00	34,89	5,74	39,60	164,23	124,63	46,67	165,00	6,45	50,52	26,86	295,50	459,74	420,14	15,00
6-ton (Atego)	455 000	300 000	40 000	136,50	49,61	5,50	56,31	247,92	191,61	91,00	275,00	14,33	50,52	43,09	473,94	721,86	665,55	25,00
7-ton	495 000	300 000	60 000	148,50	35,98	5,37	40,84	230,69	189,85	99,00	308,00	16,05	75,04	49,81	547,90	778,59	737,75	28,00
8-ton	550 000	300 000	60 000	165,00	39,98	7,80	45,38	258,16	212,78	110,00	330,00	17,20	74,60	53,18	584,98	843,14	797,76	30,00

18.2 Double differential (with dropsides)

14-ton (Axor)	885 000	300 000	70 000	265,50	55,14	7,69	62,58	390,91	328,33	177,00	440,00	22,93	89,33	72,93	802,19	1 193,10	1 130,52	40,00

18.3 Dual axle (horse only)

22-ton (Axor)	980 000	700 000	70 000	126,00	61,06	10,31	69,30	266,68	197,38	67,20	506,00	26,37	79,80	67,94	747,30	1 013,98	944,68	46,00
25-ton (Axor)	980 000	700 000	70 000	126,00	61,06	15,66	69,30	272,02	202,72	67,20	528,00	27,51	115,27	73,80	811,78	1 083,80	1 014,50	48,00
29-ton (Axor)	1 080 000	700 000	70 000	138,86	67,29	13,69	76,37	296,21	219,83	74,06	550,00	28,66	159,60	81,23	893,55	1 189,75	1 113,38	50,00

18.4 Single differential (with semi-trailer)

18-ton (Axor)	472 500	700 000	70 000	60,75	29,44	23,00	33,41	146,60	113,19	32,40	495,00	25,79	87,01	64,02	704,23	850,83	817,42	45,00

18.5 6 x 4 Truck tractor with timber trailer

18-ton semi-trailer	1 470 000	700 000	70 000	189,00	91,59	14,13	103,95	398,67	294,72	100,80	495,00	25,79	79,80	70,14	771,53	1 170,20	1 066,25	45,00
24-ton semi-trailer	1 470 000	700 000	70 000	189,00	91,59	15,77	103,95	400,31	296,36	100,80	517,00	26,94	115,27	76,00	836,01	1 236,32	1 132,37	47,00
38-ton interlink (Actos)	1 763 000	700 000	70 000	226,67	109,85	18,99	124,67	480,17	355,50	120,89	572,00	29,81	159,60	88,23	970,53	1 450,70	1 326,03	52,00

18.6 6 x 4 Truck tractor with sugar cane single-spiller trailer

18-ton semi-trailer	1 615 000	700 000	70 000	207,64	100,63	18,43	114,20	440,90	326,70	110,74	517,00	26,94	79,80	73,45	807,93	1 248,83	1 134,63	47,00
24-ton semi-trailer	1 615 000	700 000	70 000	207,64	100,63	10,83	114,20	433,30	319,10	110,74	517,00	26,94	79,80	73,45	807,93	1 241,23	1 127,03	47,00
38-ton interlink	1 763 000	700 000	70 000	226,67	109,85	18,89	124,67	480,08	355,41	120,89	572,00	29,81	79,80	80,25	882,75	1 362,83	1 238,16	52,00

Notes

1) Salvage value 10,0% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in kilometres
4) Insurance cost per hour 7,93% of average investment/kilometres per annum
5) Actual licence cost per hour = Actual cost/kilometres per annum
6) Interest cost per hour 9,0% of average investment/kilometres per annum
7) Repairs and maintenance cost per hour
   50,0% of purchase price/life period in kilometres for 3 to 5 ton trucks
   60,0% of purchase price/life period in kilometres for 6 to 12,5 ton trucks
   48,0% of purchase price/life period in kilometres for mechanical horses with interlinks
8) The price of diesel = 1100,00 cents per litre.
9) Fuel cost per km = fuel consumption * fuel price
10) Price of oil = 2866,00 cents per litre.
11) Oil consumption = 1,5% of fuel consumption for the 3 to 5 ton trucks
    2,0% of fuel consumption for all the other trucks
12) Tyre cost per kilometre = (Purchase price of new tyre * no. tyres)/tyre life in kilometres [no. tyres = no. wheels]
    = (Total price of new tyres)/tyre life in kilometres
13) Assumption: A set of tyres lasts 45000 kilometres
14) A contingency factor of 10,0% of the variable costs is used

19. ELECTRIC MOTORS

19.1 Electric motors: 1,1–4,0 kW: 1 000 rpm 6-pole high efficiency

Size (kW)	KVA required	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (c/h)	Interest (c/h)	Total fixed costs (c/h)	Tot. fixed costs excl. interest (c/h)	Repairs and maintain (c/h)	Average electricty cost (c/h)	Total variable costs (c/h)	WTD AVG total cost (R/h)	WTD AVG total cost excl. interest (R/h)
1,1	1,29	4 306	20 000	250	431	2 368	19,38	85,26	104,64	19,38	2,15	61,71	63,86	1,68	0,83
1,1	1,29	4 306	20 000	500	431	2 368	19,38	42,63	62,01	19,38	2,15	61,71	63,86	1,26	0,83
1,1	1,29	4 306	20 000	1 500	431	2 368	19,38	14,21	33,59	19,38	2,15	61,71	63,86	0,97	0,83
1,1	1,29	4 306	20 000	2 500	431	2 368	19,38	8,53	27,90	19,38	2,15	61,71	63,86	0,92	0,83
1,5	1,76	4 659	20 000	250	466	2 562	20,97	92,25	113,21	20,97	2,33	84,15	86,48	2,00	1,07
1,5	1,76	4 659	20 000	500	466	2 562	20,97	46,12	67,09	20,97	2,33	84,15	86,48	1,54	1,07
1,5	1,76	4 659	20 000	1 500	466	2 562	20,97	15,37	36,34	20,97	2,33	84,15	86,48	1,23	1,07
1,5	1,76	4 659	20 000	2 500	466	2 562	20,97	9,22	30,19	20,97	2,33	84,15	86,48	1,17	1,07
2,2	2,59	5 592	20 000	250	559	3 076	25,16	110,72	135,89	25,16	2,80	123,42	126,22	2,62	1,51
2,2	2,59	5 592	20 000	500	559	3 076	25,16	55,36	80,52	25,16	2,80	123,42	126,22	2,07	1,51
2,2	2,59	5 592	20 000	1 500	559	3 076	25,16	18,45	43,62	25,16	2,80	123,42	126,22	1,70	1,51
2,2	2,59	5 592	20 000	2 500	559	3 076	25,16	11,07	36,24	25,16	2,80	123,42	126,22	1,62	1,51
3,0	3,53	7 074	20 000	250	707	3 891	31,83	140,07	171,90	31,83	3,54	168,30	171,84	3,44	2,04
3,0	3,53	7 074	20 000	500	707	3 891	31,83	70,03	101,87	31,83	3,54	168,30	171,84	2,74	2,04
3,0	3,53	7 074	20 000	1 500	707	3 891	31,83	23,34	55,18	31,83	3,54	168,30	171,84	2,27	2,04
3,0	3,53	7 074	20 000	2 500	707	3 891	31,83	14,01	45,84	31,83	3,54	168,30	171,84	2,18	2,04
4,0	4,71	8 396	20 000	250	840	4 618	37,78	166,24	204,02	37,78	4,20	224,40	228,60	4,33	2,66
4,0	4,71	8 396	20 000	500	840	4 618	37,78	83,12	120,90	37,78	4,20	224,40	228,60	3,50	2,66
4,0	4,71	8 396	20 000	1 500	840	4 618	37,78	27,71	65,49	37,78	4,20	224,40	228,60	2,94	2,66
4,0	4,71	8 396	20 000	2 500	840	4 618	37,78	16,62	54,41	37,78	4,20	224,40	228,60	2,83	2,66

Notes

1) Salvage value 10,0% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours (in cents/hour)
4) Interest cost per hour 9,0% of average investment/hours per annum (in cents/hour)
5) Repairs and maintenance cost per hour 10,0% of purchase price/life period in hours (in cents/hour)
6) KVA needed (power factor) 85,00% of kW size
7) Weighted average for land rates 0,66 R/kW h
8) Cost = Size (kW) x KVA needed x weighted average (in cents/hour)
9) Transformer size for landrate 1 25 KVA
   Transformer size for landrate 2 50 KVA
   Transformer size for landrate 3 100 KVA
10) As the required KVA approaches the allotted landrate transformer size, the user is compelled to use a higher-capacity transformer.
11) Note, these costs are only guidelines and each new electrical installation will need its own evaluation.
12) Each new connection must be evaluated against the current use of the transformer to be used.

19.2 Electric motors: 5,5–18,5 kW: 1 000 rpm 6-pole high efficiency

Size (kW)	KVA required	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (c/h)	Interest (c/h)	Total fixed costs (c/h)	Tot. fixed costs excl. interest (c/h)	Repairs and maintain (c/h)	Average electricty cost (c/h)	Total variable costs (c/h)	WTD AVG total cost (R/h)	WTD AVG total cost excl. interest (R/h)
5,5	6,47	9 714	20 000	250	971	5 343	43,71	192,34	236,05	43,71	4,86	3,09	3,13	5,49	3,57
5,5	6,47	9 714	20 000	500	971	5 343	43,71	96,17	139,88	43,71	4,86	3,09	3,13	4,53	3,57
5,5	6,47	9 714	20 000	1 500	971	5 343	43,71	32,06	75,77	43,71	4,86	3,09	3,13	3,89	3,57
5,5	6,47	9 714	20 000	2 500	971	5 343	43,71	19,23	62,95	43,71	4,86	3,09	3,13	3,76	3,57
7,5	8,82	13 498	20 000	250	1 350	7 424	60,74	267,26	328,00	60,74	6,75	4,21	4,27	7,56	4,88
7,5	8,82	13 498	20 000	500	1 350	7 424	60,74	133,63	194,37	60,74	6,75	4,21	4,27	6,22	4,88
7,5	8,82	13 498	20 000	1 500	1 350	7 424	60,74	44,54	105,28	60,74	6,75	4,21	4,27	5,33	4,88
7,5	8,82	13 498	20 000	2 500	1 350	7 424	60,74	26,73	87,47	60,74	6,75	4,2	4,3	5,15	4,88
11,0	12,94	20 190	20 000	250	2 019	11 105	90,86	399,76	490,62	90,86	10,10	6,2	6,3	11,18	7,18
11,0	12,94	20 190	20 000	500	2 019	11 105	90,86	199,88	290,74	90,86	10,10	6,17	6,27	9,18	7,18
11,0	12,94	20 190	20 000	1 500	2 019	11 105	90,86	66,63	157,48	90,86	10,10	6,17	6,27	7,85	7,18
11,0	12,94	20 190	20 000	2 500	2 019	11 105	90,86	39,98	130,83	90,86	10,10	6,17	6,27	7,58	7,18
15,0	17,65	26 327	20 000	250	2 633	14 480	118,47	521,27	639,75	118,47	13,16	8,42	8,55	14,94	9,73
15,0	17,65	26 327	20 000	500	2 633	14 480	118,47	260,64	379,11	118,47	13,16	8,42	8,55	12,34	9,73
15,0	17,65	26 327	20 000	1 500	2 633	14 480	118,47	86,88	205,35	118,47	13,16	8,42	8,55	10,60	9,73
15,0	17,65	26 327	20 000	2 500	2 633	14 480	118,47	52,13	170,60	118,47	13,16	8,42	8,55	10,25	9,73
18,5	21,76	29 110	20 000	250	2 911	16 011	131,00	576,38	707,37	131,00	14,56	10,38	10,52	17,60	11,83
18,5	21,76	29 110	20 000	500	2 911	16 011	131,00	288,19	419,18	131,00	14,56	10,38	10,52	14,72	11,83
18,5	21,76	29 110	20 000	1 500	2 911	16 011	131,00	96,06	227,06	131,00	14,56	10,38	10,52	12,79	11,83
18,5	21,76	29 110	20 000	2 500	2 911	16 011	131,00	57,74	131,57	131,00	14,56	10,38	10,52	11,84	11,83

Notes

1) Salvage value 10,0% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours (in cents/hour)
4) Interest cost per hour 9,0% of average investment/hours per annum (in cents/hour)
5) Repairs and maintenance cost per hour 10,0% of purchase price/life period in hours (in cents/hour)
6) KVA needed (power factor) 85,0% of kW size
7) Weighted average for land rates 0,66 R/kW h
8) Cost = Size (kW) x KVA needed x weighted average (in cents/hour)
9) Transformer size for landrate 1 25 KVA
   Transformer size for landrate 2 50 KVA
   Transformer size for landrate 3 100 KVA
10) As the required KVA approaches the allotted landrate transformer size, the user is compelled to use a higher-capacity transformer.
11) Note, these costs are only guidelines and each new electrical installation will need its own evaluation.
12) Each new connection must be evaluated against the current use of the transformer to be used.

19.3 Electric motors: 22,0–75,0 kW: 1 000 rpm 6-pole high efficiency

Size (kW)	KVA required	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (c/h)	Interest (c/h)	Total fixed costs (c/h)	Tot. fixed costs excl. interest (c/h)	Repairs and maintain (c/h)	Average electricty cost (c/h)	Total variable costs (c/h)	WTD AVG total cost (R/h)	WTD AVG total cost excl. interest (R/h)
22,0	25,88	33 676	20 000	250	3 368	18 522	1,52	6,67	8,18	1,52	16,84	12,34	12,51	20,69	14,03
22,0	25,88	33 676	20 000	500	3 368	18 522	1,52	3,33	4,85	1,52	16,84	12,34	12,51	17,36	14,03
22,0	25,88	33 676	20 000	1 500	3 368	18 522	1,52	1,11	2,63	1,52	16,84	12,34	12,51	15,14	14,03
22,0	25,88	33 676	20 000	2 500	3 368	18 522	1,52	0,67	2,18	1,52	16,84	12,34	12,51	14,69	14,03
30,0	35,29	47 847	20 000	250	4 785	26 316	2,15	9,47	11,63	2,15	23,92	16,83	17,07	28,70	19,22
30,0	35,29	47 847	20 000	500	4 785	26 316	2,15	4,74	6,89	2,15	23,92	16,83	17,07	23,96	19,22
30,0	35,29	47 847	20 000	1 500	4 785	26 316	2,15	1,58	3,73	2,15	23,92	16,83	17,07	20,80	19,22
30,0	35,29	47 847	20 000	2 500	4 785	26 316	2,15	0,95	3,10	2,15	23,92	16,83	17,07	20,17	19,22
37,0	43,53	59 860	20 000	250	5 986	32 923	2,69	11,85	14,55	2,69	29,93	20,76	21,06	35,60	23,75
37,0	43,53	59 860	20 000	500	5 986	32 923	2,69	5,93	8,62	2,69	29,93	20,76	21,06	29,68	23,75
37,0	43,53	59 860	20 000	1 500	5 986	32 923	2,69	1,98	4,67	2,69	29,93	20,76	21,06	25,73	23,75
37,0	43,53	59 860	20 000	2 500	5 986	32 923	2,69	1,19	3,88	2,69	29,93	20,76	21,06	24,94	23,75
45,0	52,94	73 032	20 000	250	7 303	40 168	3,29	14,46	17,75	3,29	36,52	25,25	25,61	43,36	28,90
45,0	52,94	73 032	20 000	500	7 303	40 168	3,29	7,23	10,52	3,29	36,52	25,25	25,61	36,13	28,90
45,0	52,94	73 032	20 000	1 500	7 303	40 168	3,29	2,41	5,70	3,29	36,52	25,25	25,61	31,31	28,90
45,0	52,94	73 032	20 000	2 500	7 303	40 168	3,29	1,45	4,73	3,29	36,52	25,25	25,61	30,34	28,90
55,0	64,71	78 022	20 000	250	7 802	42 912	3,51	15,45	18,96	3,51	39,01	30,86	31,25	50,20	34,76
55,0	64,71	78 022	20 000	500	7 802	42 912	3,51	7,72	11,24	3,51	39,01	30,86	31,25	42,48	34,76
55,0	64,71	78 022	20 000	1 500	7 802	42 912	3,51	2,57	6,09	3,51	39,01	30,86	31,25	37,33	34,76
55,0	64,71	78 022	20 000	2 500	7 802	42 912	3,51	1,54	5,06	3,51	39,01	30,86	31,25	36,30	34,76
75,0	88,24	92 615	20 000	250	9 262	50 938	4,17	18,34	22,51	4,17	46,31	42,08	42,54	65,04	46,71
75,0	88,24	92 615	20 000	500	9 262	50 938	4,17	9,17	13,34	4,17	46,31	42,08	42,54	55,87	46,71
75,0	88,24	92 615	20 000	1 500	9 262	50 938	4,17	3,06	7,22	4,17	46,31	42,08	42,54	49,76	46,71
75,0	88,24	92 615	20 000	2 500	9 262	50 938	4,17	1,83	6,00	4,17	46,31	42,08	42,54	48,54	46,71

Notes

1) Salvage value 10,0% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price – salvage value)/life period in hours (in cents/hour)
4) Interest cost per hour 9,0% of average investment/hours per annum (in cents/hour)
5) Repairs and maintenance cost per hour 10,0% of purchase price/life period in hours (in cents/hour)
6) KVA needed (power factor) 85,0% of kW size
7) Weighted average for land rates 0,66 R / kW h
8) Cost = Size (kW) x KVA needed x weighted average (in cents/hour)
9) Transformer size for landrate 1 25 KVA
   Transformer size for landrate 2 50 KVA
   Transformer size for landrate 3 100 KVA
10) As the required KVA approaches the allotted landrate transformer size, the user is compelled to use a higher-capacity transformer.
11) Note, these costs are only guidelines and each new electrical installation will need its own evaluation.
12) Each new connection must be evaluated against the current use of the transformer to be used.

19.4 Electric motors: 90,0–200,0 kW: 1 000 rpm 6-pole high efficiency

Size (kW)	KVA required	Purchase price (R)	Average life period (h)	Average use per annum (h)	Salvage value (R)	Average investment (R)	Depre-ciation (c/h)	Interest (c/h)	Total fixed costs (c/h)	Tot. fixed costs excl. interest (c/h)	Repairs and maintain (c/h)	Average electricty cost (c/h)	Total variable costs (c/h)	WTD AVG total cost (R/h)	WTD AVG total cost excl. interest (R/h)
90,0	105,88	115 251	20 000	250	11 525	63 388	5,19	22,82	28,01	5,19	57,63	50,49	51,07	79,07	56,25
90,0	105,88	115 251	20 000	500	11 525	63 388	5,19	11,41	16,60	5,19	57,63	50,49	51,07	67,66	56,25
90,0	105,88	115 251	20 000	1 500	11 525	63 388	5,19	3,80	8,99	5,19	57,63	50,49	51,07	60,06	56,25
90,0	105,88	115 251	20 000	2 500	11 525	63 388	5,19	2,28	7,47	5,19	57,63	50,49	51,07	58,53	56,25
110,0	129,41	138 401	20 000	250	13 840	76 121	6,23	27,40	33,63	6,23	69,20	61,71	62,40	96,03	68,63
110,0	129,41	138 401	20 000	500	13 840	76 121	6,23	13,70	19,93	6,23	69,20	61,71	62,40	82,33	68,63
110,0	129,41	138 401	20 000	1 500	13 840	76 121	6,23	4,57	10,80	6,23	69,20	61,71	62,40	73,20	68,63
110,0	129,41	138 401	20 000	2 500	13 840	76 121	6,23	2,74	8,97	6,23	69,20	61,71	62,40	71,37	68,63
132,0	155,29	165 370	20 000	250	16 537	90 954	7,44	32,74	40,18	7,44	82,69	74,05	74,88	115,06	82,32
132,0	155,29	165 370	20 000	500	16 537	90 954	7,44	16,37	23,81	7,44	82,69	74,05	74,88	98,69	82,32
132,0	155,29	165 370	20 000	1 500	16 537	90 954	7,44	5,46	12,90	7,44	82,69	74,05	74,88	87,78	82,32
132,0	155,29	165 370	20 000	2 500	16 537	90 954	7,44	3,27	10,72	7,44	82,69	74,05	74,88	85,59	82,32
160,0	188,24	177 405	20 000	250	17 741	97 573	7,98	35,13	43,11	7,98	88,70	89,76	90,65	133,76	98,63
160,0	188,24	177 405	20 000	500	17 741	97 573	7,98	17,56	25,55	7,98	88,70	89,76	90,65	116,19	98,63
160,0	188,24	177 405	20 000	1 500	17 741	97 573	7,98	5,85	13,84	7,98	88,70	89,76	90,65	104,48	98,63
160,0	188,24	177 405	20 000	2 500	17 741	97 573	7,98	3,51	11,50	7,98	88,70	89,76	90,65	102,14	98,63
185,0	217,65	185 823	20 000	250	18 582	102 203	8,36	36,79	45,15	8,36	92,91	103,79	104,71	149,87	113,08
185,0	217,65	185 823	20 000	500	18 582	102 203	8,36	18,40	26,76	8,36	92,91	103,79	104,71	131,47	113,08
185,0	217,65	185 823	20 000	1 500	18 582	102 203	8,36	6,13	14,49	8,36	92,91	103,79	104,71	119,21	113,08
185,0	217,65	185 823	20 000	2 500	18 582	102 203	8,36	3,68	12,04	8,36	92,91	103,79	104,71	116,76	113,08
200,0	235,29	201 430	20 000	250	20 143	110 787	9,06	39,88	48,95	9,06	100,72	112,20	113,21	162,15	122,27
200,0	235,29	201 430	20 000	500	20 143	110 787	9,06	19,94	29,01	9,06	100,72	112,20	113,21	142,21	122,27
200,0	235,29	201 430	20 000	1 500	20 143	110 787	9,06	6,65	15,71	9,06	100,72	112,20	113,21	128,92	122,27
200,0	235,29	201 430	20 000	2 500	20 143	110 787	9,06	3,99	13,05	9,06	100,72	112,20	113,21	126,26	122,27

Notes

1) Salvage value 10,0% of purchase price
2) Average investment = (Purchase price + salvage value)/2
3) Depreciation cost per hour = (Purchase price - salvage value)/life period in hours (in cents/hour)
4) Interest cost per hour 9,0% of average investment/hours per annum (in cents/hour)
5) Repairs and maintenance cost per hour 10,0% of purchase price/life period in hours (in cents/hour)
6) KVA needed (power factor) 85,0% of kW size
7) Weighted average for land rates 0,66 R/kW h
8) Cost = Size (kW) x KVA needed x weighted average (in cents/hour)
9) Transformer size for landrate 1 25 KVA
   Transformer size for landrate 2 50 KVA
   Transformer size for landrate 3 100 KVA
10) As the required KVA approaches the allotted landrate transformer size, the user is compelled to use a higher-capacity transformer.
11) Note, these costs are only guidelines and each new electrical installation will need its own evaluation.
12) Each new connection must be evaluated against the current use of the transformer to be used.

FIELD CAPACITIES OF AGRICULTURAL MACHINES—AN INTRODUCTION

The field capacity in ha/10-hour day = Speed in km/h x working width in m x N

where N = Field efficiency, which is measured as a decimal. The field efficiency factor allows for time spent to turn the tractor on on the headlands, refuelling, filling seed and fertiliser bins on a planter, etc. In the tables which follow, average field efficiencies for the different operations are given. In practice, this figure might differ from the actual values, depending on how efficiently the operations are carried out.

Example 1

A single-tine subsoiler is used at a speed of 5 km/h and at a spacing of 2 m. From field observations it is determined that 17% of the time is spent on turning at the headlands and refuelling the tractor. Determine the field capacity.

Working speed	=	5 km/h
Working width	=	2 m
Field efficiency	=	100 – 17 = 83% i.e. 0.83 as a decimal
Field capacity	=	5 x 2 x 0,83
	=	8,3 ha/10-hour day.

In the following tables, the column “kW REQUIRED”, gives an indication of the actual power required to carry out the operation at specified field capacity. It should be kept in mind that a naturally aspirated engine working under Highveld conditions can only deliver approximately 80% of its rated power as measured at sea level. A turbo charged engine is assumed not to lose any power with an increase in altitude. Therefore, if the table indicates that 40 kW is required, a tractor with an advertised rated power of 40/0,8 = 50 kW has to be used. If the tractor is fitted with a turbo charger, a 40 kW turbo-charged tractor would suffice.

In some areas of the tables a recommended tractor size is specified. This is for certain operations where the physical size of the tractor, and not the power of the tractor, determines the field capacity for the operation. An example of such an operation is the use of a high-speed planter where a smaller tractor is unstable at high speeds although sufficient power is available. The lifting capacity of a three-point hitch may also be a limiting factor in certain operations.

The field capacities listed in Table 1 can be adjusted to suit the specific requirements by interpolation between the work rates for the machines. If, for instance, a 55 kW tractor is available and the work rate for ploughing in a sandy soil has to be determined, it can be done a s follows:

Available kW at Highveld altitude	=	0,8 x 55
	=	44 kW

From Table 1 it can be seen that 48 kW is required to plough 10 ha per day. The field capacity with 44 kW available will then be:

Field capacity (ha/10-hour day)	=	(10 ha/day x 44 kW) ÷ 48 kW
	=	9,2 ha/day

Table 1 usually provides for three soil types, namely sandy, sandy-loam and clay-loam. This classification is very wide and the work rates have to be modified for ploughing in the specific soil and comparing it with the field capacities in Table 1. The tabulated figures can then be adjusted for the specific soil type.

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1. FIELD CULTIVATOR

Implement		kW required		Speed (km/h)	ha/day	Tractor size (kW)
75 mm depth and N = 83%		*Firm soil*	*Loose soil*			
Width 1,6 m		24	28	8,0	10,0	30–35
3,0 m		36	43	8,0	20,0	45–54
3,0 m		45	54	9,2	23,0	56–68
3,7 m		48	57	9,0	28,0	60–71
4,5 m		55	64	10,0	38,0	68–80
6,0 m		70	80	10,0	50,0	88–100
7,5 m		90	100	10,0	62,0	113–125
9,0 m		117	120	10,0	75,0	146–150

2. LIGHT DISC HARROW

65 mm depth and N = 83%		*Firm soil*	*Loose soil*			
Width 1,6 m		24	28	8,0	10,0	30–35
3,0 m		36	43	8,0	20,0	45–54
3,0 m		45	54	9,2	23,0	56–68
3,7 m		48	57	9,0	28,0	60–71
4,5 m		55	64	10,0	38,0	68–80
6,0 m		70	80	10,0	50,0	88–100
7,5 m		90	100	10,0	62,0	113–125
9,0 m		117	120	10,0	75,0	146–150

3. HEAVY DISC (OFFSET OR ONE-WAY)

150 mm depth and N = 83%		*Firm soil*	*Loose soil*			
Width 3,0 m		70	85	8,0	20,0	88–106
3,8 m		85	110	8,0	25,0	106–138
4,6 m		105	130	8,0	31,0	131–163
5,5 m		120	160	9,3	36,0	150–200
6,5 m		150	–	11,3	43,0	188–250

4. CHISEL PLOUGH

Implement	kW required			Speed (km/h)	ha/day	Tractor size (kW)
200 mm depth, 300 mm spacing and N = 83%	*Sand*	*Sandy loam*	*Clay loam*			
Width 2,2 m	38	48	60	5,5	10,0	48–75
3,0 m	47	60	74	5,5	14,0	59–92
3,4 m	60	71	108	7,0	20,0	75–135
4,0 m	70	82	125	7,0	23,0	88–156
4,5 m	86	105	150	7,6	29,0	108–188
4,9 m	93	120	170	7,6	31,0	116–212
5,4 m	108	140	198	8,0	36,0	135–248
6,1 m	150	194	274	9,8	50,0	188–343

5. RIPPER PLOUGH

380 mm depth, 500 mm spacing and N = 83%	*Sand*	*Sandy loam*	*Clay loam*			
2 - t = 1,0 m	40	45	60	6,5	5,5	50–75
3 - t = 1,5 m	48	60	78	7,0	9,0	60–98
5 - t = 2,5 m	60	75	100	6,8	14,0	75–125
7 - t = 3,5 m	70	100	120	6,8	20,0	88–150
9 - t = 4,5 m	100	130	170	7,2	28,0	125–212
11 - t = 5,5 m	120	150	195	4,0	33,0	150–244

6. MOULDBOARD PLOUGH

250 mm depth and N = 83%						
2 x 508 mm = 1,02 m	24	–	–	5,0	4,5	30
3 x 508 mm = 1,52 m	40	–	–	5,8	7,5	50
4 x 508 mm = 2,03 m	48	–	–	5,9	10,0	60
5 x 508 mm = 2,54 m	60	–	–	6,1	13,0	75
5 x 508 mm = 2,54 m	72	–	–	7,3	15,5	90
6 x 508 mm = 3,05 m	100	–	–	8,1	21,0	125
8 x 406 mm = 3,25 m	113	–	–	8,2	22,5	141
8 x 457 mm = 3,66 m	138	–	–	8,8	27,0	173
3 x 406 mm = 1,22 m	–	40	–	5,0	5,0	50

6. MOULDBOARD PLOUGH (*cont.*)

Implement	kW required			Speed (km/h)	ha/day	Tractor size (kW)
250 mm depth and N = 83%						
4 x 406 mm = 1,63 m	–	48	–	5,0	7,0	60
5 x 406 mm = 2,03 m	–	60	–	5,5	9,0	90
5 x 406 mm = 2,03 m	–	72	–	7,0	12,0	125
6 x 406 mm = 2,44 m	–	100	–	7,9	16,0	150
7 x 406 mm = 2,85 m	–	120	–	8,0	19,0	175
8 x 406 mm = 3,25 m	–	140	–	8,2	22,0	200
8 x 457 mm = 3,66 m	–	160	–	8,2	25,0	50
3 x 406 mm = 1,22 m	–	–	40	3,3	3,5	60
4 x 406 mm = 1,63 m	–	–	48	3,6	5,0	90
5 x 406 mm = 2,03 m	–	–	63	4,2	7,0	79
5 x 406 mm = 2,03 m	–	–	73	5,6	9,5	91
6 x 406 mm = 2,44 m	–	–	100	6,6	13,5	125
7 x 406 mm = 2,85 m	–	–	143	7,8	18,5	179
8 x 406 mm = 3,25 m	–	–	163	7,9	21,0	204
8 x 457 mm = 3,66 B114m	–	–	200	6,6	26,0	250

7. HEAVY SPIKE-TOOTH HARROW

150 mm depth and N = 83%	*Sandy loam*			
5-section = 5,5 m	30	8,7	40,0	38
8-section = 7,3 m	45	9,0	55,0	56
12-section = 11,0 m	65	9,3	85,0	81
16-section = 14,6 m	95	9,9	120,0	120

8. SPREADER (LIME OR FERTILISER)

N = 60%	*Sandy loam*			
Width 3 m	15	8,0	14,0	30
4 m	18	8,0	19,0	30
6 m	24	8,0	29,0	40
8 m	27	8,0	38,0	50
10 m	34	8,0	48,0	75

8. SPREADER (LIME OR FERTILISER) (*cont.*)

Implement	kW required	Speed (km/h)	ha/day	Tractor size (kW)
N = 60%				
12 m	42	8,0	58,0	75
14 m	47	8,0	67,0	90
16 m	54	8,0	77,0	110
18 m	60	8,0	86,0	130

9. MAIZE PLANTER

Full fertiliser and N = 60%	*Sand*	*Sandy loam*	*Clay loam*			
2 x 0,91 m = 1,82 m (*M)	21	20	19	8,0	9,0	35
2 x 0,91 m = 1,82 m (*M)	25	23	22	12,0	13,0	35
4 x 0,91 m = 3,64 m (*M)	25	23	22	6,0	13,0	40
4 x 0,91 m = 3,64 m (*M)	33	40	29	8,0	18,0	40
4 x 0,91 m = 3,64 m (*M)	43	39	37	10,0	22,0	50
4 x 0,91 m = 3,64 m (*T)	50	46	44	12,0	26,0	55
6 x 0,91 m = 5,46 m (*T)	38	34	33	6,0	20,0	50
6 x 0,91 m = 5,46 m (*T)	50	46	44	8,0	26,0	60
6 x 0,91 m = 5,46 m (*T)	60	56	54	10,0	33,0	70
6 x 0,91 m = 5,46 m (*T)	74	68	65	12,0	39,0	75
8 x 0,91 m = 7,28 m (*T)	49	45	43	6,0	26,0	70
8 x 0,91 m = 7,28 m (*T)	66	60	58	8,0	35,0	80
8 x 0,91 m = 7,28 m (*T)	83	76	73	10,0	44,0	90
8 x 0,91 m = 7,28 m (*T)	98	90	86	12,0	52,0	100
12 x 0,91 m = 10,92 m (*T)	75	68	65	6,0	39,0	90
12 x 0,91 m = 10,92 m (*T)	98	90	86	8,0	52,0	100
12 x 0,91 m = 10,92 m (*T)	120	110	105	10,0	65,0	120
12 x 0,91 m = 10,92 m (*T)	142	130	125	12,0	78,0	150
2 x 2,29 m = 4,58 m (*M)	18	17	16	6,0	16,5	40
2 x 2,29 m = 4,58 m (*M)	24	22	21	8,0	22,0	50
2 x 2,29 m = 4,58 m (*M)	29	27	26	10,0	27,0	55
2 x 2,29 m = 4,58 m (*M)	36	33	32	12,0	33,0	55

Note: (*M) = Mounted; (*T) = Trailed

9. MAIZE PLANTER (*cont*.)

Implement	kW required			Speed (km/h)	ha/day	Tractor size (kW)
Full fertiliser and N = 60% (*cont.*)	*Sand*	*Sandy loam*	*Clay loam*			
3 x 2,29 m = 5,87 m (*M)	27	25	24	6,0	25,0	55
3 x 2,29 m = 5,87 m (*T)	36	33	32	8,0	33,0	60
3 x 2,29 m = 5,87 m (*T)	46	42	40	10,0	41,0	70
3 x 2,29 m = 5,87 m (*T)	55	50	48	12,0	49,0	75
4 x 2,29 m = 9,16 m (*T)	36	33	32	6,0	33,0	90
4 x 2,29 m = 9,16 m (*T)	49	45	43	8,0	44,0	90
4 x 2,29 m = 9,16 m (*T)	60	55	53	10,0	55,0	100
4 x 2,29 m = 9,16 m (*T)	74	68	65	12,0	66,0	110
Starter fertiliser and N = 70%						
2 x 0,91 m = 1,82 m (*M)	21	20	19	6,0	8,0	35
2 x 0,91 m = 1,82 m (*M)	25	23	22	12,0	15,0	35
4 x 0,91 m = 3,64 m (*M	22	21	20	6,0	15,0	35
4 x 0,91 m = 3,64 m (*M)	25	24	23	8,0	20,0	35
4 x 0,91 m = 3,64 m (*M)	27	26	25	10,0	25,0	45
4 x 0,91 m = 3,64 m (*T)	33	31	30	12,0	30,0	50
6 x 0,91 m = 5,46 m (*M)	26	25	24	6,0	23,0	45
6 x 0,91 m = 5,46 m (*T)	33	31	30	8,0	30,0	55
6 x 0,91 m = 5,46 m (*T)	42	40	38	10,0	38,0	60
6 x 0,91 m = 5,46 m (*T)	50	48	46	12,0	46,0	70
8 x 0,91 m = 7,28 m (*T)	35	34	32	6,0	31,0	65
8 x 0,91 m = 7,28 m (*T)	44	42	40	8,0	41,0	70
8 x 0,91 m = 7,28 m (*T)	55	53	50	10,0	51,0	80
8 x 0,91 m = 7,28 m (*T)	66	64	60	12,0	61,0	90
12 x 0,91 m = 10,92 m (*T)	51	48	46	6,0	46,0	80
12 x 0,91 m = 10,92 m (*T)	68	65	62	8,0	61,0	90
12 x 0,91 m = 10,92 m (*T)	83	80	76	10,0	76,0	100
12 x 0,91 m = 10,92 m (*T)	100	98	92	12,0	92,0	110
2 x 2,29 m = 4,58 m (*M)	15	15	14	6,0	19,0	35
2 x 2,29 m = 4,58 m (*M)	21	20	19	8,0	25,0	45
2 x 2,29 m = 4,58 m (*M)	25	24	23	10,0	32,0	55
2 x 2,29 m = 4,58 m (*M)	30	28	27	12,0	38,0	55

Note: (*M) = Mounted; (*T) = Trailed

9. MAIZE PLANTER (*cont.*)

Implement	kW required			Speed (km/h)	ha/day	Tractor size (kW)
Starter fertiliser and N = 70%						
3 x 2,29 m = 5,87 m (*M)	24	23	22	6,0	29,0	50
3 x 2,29 m = 5,87 m (*T)	30	28	27	8,0	38,0	55
3 x 2,29 m = 5,87 m (*T)	37	36	34	10,0	48,0	60
3 x 2,29 m = 5,87 m (*T)	44	42	40	12,0	58,0	70
4 x 2,29 m = 9,16 m (*T)	30	28	27	6,0	38,0	80
4 x 2,29 m = 9,16 m (*T)	40	38	36	8,0	51,0	80
4 x 2,29 m = 9,16 m (*T)	50	48	45	10,0	64,0	90
4 x 2,29 m = 9,16 m (*T)	59	58	54	12,0	77,0	100

10. WHEAT DRILL

350mm rows and N = 60%	*Firm soil*			
7-row = 2,45 m	15	7,0	10,0	40
9-row = 3,15 m	20	7,0	13,0	45
14-row = 4,90 m	39	9,0	26,0	70
18-row = 6,30 m	51	9,0	34,0	80
21-row = 7,35 m	60	9,0	40,0	90
27-row = 9,45 m	76	9,0	51,0	100

11. CULTIVATOR

N = 83%		*Firm soil*				
4 x 0,91 m = 3,64 m		17		4,0	12,0	25
4 x 0,91 m = 3,64 m		26		6,0	18,0	35
4 x 0,91 m = 3,64 m		34		8,0	24,0	50
4 x 0,91 m = 3,64 m		43		10,0	30,0	55
6 x 0,91 m = 5,45 m		26		4,0	18,0	40
6 x 0,91 m = 5,45 m		39		6,0	27,0	50
6 x 0,91 m = 5,45 m		52		8,0	36,0	65
6 x 0,91 m = 5,45 m		65		10,0	45,0	80
8 x 0,91 m = 7,28 m		34		4,0	24,0	60

Note: (*M) = Mounted; (*T) = Trailed

11. CULTIVATOR

Implement	kW required		Speed (km/h)	ha/day	Tractor size (kW)
N = 83%	*Firm soil*				
8 x 0,91 m = 7,28 m	52		6,0	36,0	70
8 x 0,91 m = 7,28 m	69		8,0	48,0	85
8 x 0,91 m = 7,28 m	86		10,0	60,0	100
2 x 2,29 m = 4,58 m	22		4,0	15,0	35
2 x 2,29 m = 4,58 m	33		6,0	23,0	50
2 x 2,29 m = 4,58 m	43		8,0	30,0	60
2 x 2,29 m = 4,58 m	54		10,0	38,0	70
3 x 2,29 m = 6,87 m	33		4,0	23,0	50
3 x 2,29 m = 6,87 m	49		6,0	34,0	60
3 x 2,29 m = 6,87 m	65		8,0	45,0	80
3 x 2,29 m = 6,87 m	82		10,0	57,0	100
4 x 2,29 m = 9,16 m	43		4,0	30,0	80
4 x 2,29 m = 9,16 m	65		6,0	45,0	100
4 x 2,29 m = 9,16 m	88		8,0	61,0	110
4 x 2,29 m = 9,16 m	109		10,0	76,0	120

12. TRAILED COMBINE FOR MAIZE

Implement	kW required	ha/day at a yield of				
		2 t/ha	3 t/ha	4 t/ha	5 t/ha	6 t/ha
With unloading wagon and N = 80%						
1-row	38	12	8	6	5	4
2 x 0,91 m	42	14	10	7	6	5
Without unloading wagon and N = 65%						
1-row	38	10	7	5	4	3
2 x 0,91 m	42	12	8	6	5	4

13. SELF-PROPELLED COMBINE FOR MAIZE

Implement	kW required	ha/day at a yield of				
		2 t/ha	3 t/ha	4 t/ha	5 t/ha	6 t/ha
With unloading wagon and N = 80%						
4 x 0,91 m = 3,64 m	38	24	16	12	10	8
4 x 0,91 m = 3,64 m	48	38	26	19	15	13
6 x 0,91 m = 5,46 m	68	58	38	29	23	19
6 x 0,91 m = 5,46 m	95	80	54	40	32	26
2 x 2,29 m = 4,58 m	38	24	16	12	–	–
2 x 2,29 m = 4,58 m	48	38	26	19	–	–
3 x 2,29 m = 6,87 m	68	58	38	29	–	–
3 x 2,29 m = 6,87 m	95	80	54	40	–	–
Without unloading wagon and N = 65%						
4 x 0,91 m = 3,64 m	38	20	13	10	8	7
4 x 0,91 m = 3,64 m	48	31	21	16	12	10
6 x 0,91 m = 5,46 m	68	47	31	23	19	16
6 x 0,91 m = 5,46 m	95	65	44	33	26	21
2 x 2,29 m = 4,58 m	38	20	13	10	–	–
2 x 2,29 m = 4,58 m	48	31	21	16	–	–
3 x 2,29 m = 6,87 m	68	47	31	23	–	–
3 x 2,29 m = 6,87 m	95	65	44	33	–	–

14. SELF-PROPELLED COMBINE FOR WHEAT

With unloading wagon and N = 80%						
2,70 m	38		34	17	11	9
3,66 m	48		48	24	16	12
4,57 m	68		77	38	26	19
6,71 m	95		115	58	38	29
Without unloading wagon and N = 65%						
2,70 m	38		27	14	9	7
3,66 m	48		39	20	13	10
4,57 m	68		62	31	21	16
6,71 m	95		94	47	31	25

15. BOOM SPRAYER

Implement	kW required	Speed (km/h)	ha/day	Tractor size (kW)
N = 60%				
Band 4 x 0,91 m	15	6,0	13,0	30
6 x 0,91 m	15	6,0	30,0	30
8 x 0,91 m	15	6,0	26,0	30
2 x 2,29 m	15	6,0	16,5	30
3 x 2,29 m	15	6,0	25,0	30
4 x 2,29 m	20	6,0	33,0	40
Boom 6 m	20	6,0	22,0	40
Boom 8 m	25	6,0	29,0	50
Boom 12 m	25	6,0	43,0	50

16. CUTTER-BAR MOWER

N = 80%				
1,8 m knife	10		9,0	35

17. DISC MOWER

N = 80%				
1,6 m	30		10,0	38
1,8 m	30		12,0	38
2,0 m	35		13,0	44
2,4 m	46		15,0	58
2,8 m	46		18,0	58

18. PICK-UP BALER

Implement	kW required	ha/day at a yield of					
		1 t/ha	1,5 t/ha	2 t/ha	2,5 t/ha	3 t/ha	3 t/ha
Hay and N = 50%	35	25	17	13	10	8	7

19. ROUND BALER

Hay and N = 50%							
Small	45	30	20	15	12	10	8
Medium	48	40	27	20	16	13	11
Large	52	45	30	23	18	15	13

20. HAY RAKE

N = 80%		*Brittle crops (ha/day)*	*Other crops (ha/day)*
2,0 m	16	11	15
2,4 m	18	13	18
3,0 m	20	17	23
6,0 m	26	33	46

21. TRANSPORT

No measurements have been made of the required power,
For a tractor and trailer the following can be used to calculate approximate fuel consumption

Terrain	Fuel consumption/litre per ton/km
Flat	0,05
Undulating	0,10
Hilly	0,15

NOTES