| Yearly farm work area (ha) | Cost per ha ($/ha) | | | | | | | | | | | |
	Head feeding combine					Combine					sickle	Contract
	Riding 2 row	Riding 3 row	Riding 4 row	Riding 5 row	Riding 6 row	1.5m	2.4m	3.0m	3.6m	4.8m		
CA(ha)	10.2	15.4	20.5	25.6	30.7	18.2	28.0	39.4	43.7	65.0	0.9	0.0
0.5	9,638	14,958	22,593	25,761	27,723	17,150	47,387	51,530	55,768	77,603	2,315	1,385
1	5,008	7,606	11,393	12,959	13,906	8,644	23,744	25,801	27,918	38,826	2,311	1,385
2	2,692	3,931	5,794	6,559	6,997	4,391	11,923	12,937	13,992	19,438	2,310	1,385
3	1,920	2,705	3,927	4,425	4,694	2,973	7,982	8,648	9,351	12,975	2,309	1,385
4	1,535	2,093	2,994	3,358	3,543	2,264	6,012	6,504	7,030	9,744	2,309	1,385
5	1,303	1,725	2,434	2,718	2,852	1,839	4,830	5,218	5,637	7,805	2,308	1,385
6	1,149	1,480	2,060	2,291	2,392	1,555	4,042	4,360	4,709	6,512	2,308	1,385
7	1,038	1,305	1,794	1,986	2,063	1,353	3,479	3,748	4,046	5,589	2,308	1,385
8	956	1,174	1,594	1,758	1,816	1,201	3,057	3,288	3,549	4,897	2,308	1,385
9	891	1,072	1,438	1,580	1,624	1,083	2,728	2,931	3,162	4,358	2,308	1,385
10	840	990	1,314	1,438	1,470	988	2,466	2,645	2,852	3,927	2,308	1,385
15	686	745	940	1,011	1,010	705	1,677	1,787	1,924	2,635	2,308	1,385
20	608	622	754	798	780	563	1,283	1,358	1,460	1,988	2,308	1,385
25	562	549	642	670	641	478	1,047	1,101	1,181	1,601	2,308	1,385
30	531	500	567	584	549	421	889	930	996	1,342	2,308	1,385
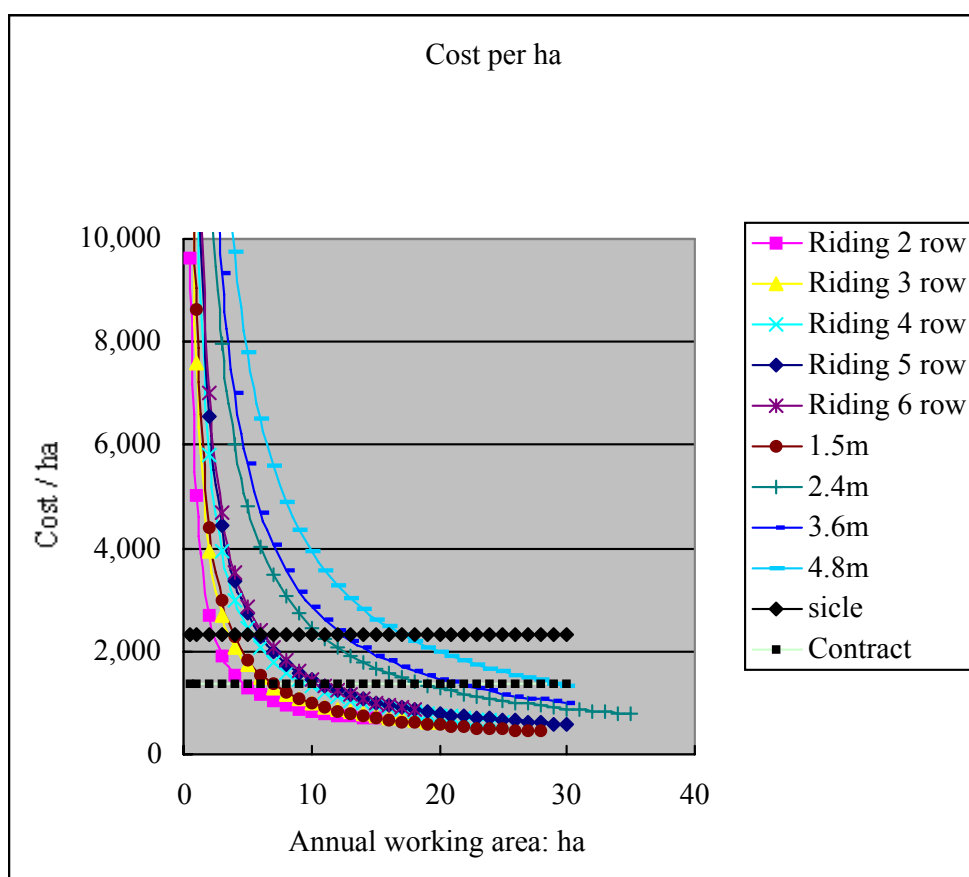
Fig. A-523. Cost per ha of harvest vs. farm scale

See DB-FW.xls: Cost harvest

6. Technical term

Table A-600. Technical term and its abbreviation   fm-termE.xls

6-1. Technical term Part 1

Abb.	Term	unit
A	Farm scale	ha
A	Field area	ha
Aa	Annual operation area	ha/(year)
Abp	Break-even point of area	ha
AD	Annual depreciation	$/(year)
AEG	Total annual energy consumed	MJ
AG	Annual garage cost	$/(year)
AGt	Total garage cost per year	$/(year)
Ah	Annual operation hour	h/(year)
AI	Annual interest	$/(year)
AIm	Yearly mean interest	$/(year)
ANWH	Available net working hour	h
Ao	Land area owned	ha
AP	Annual insurance fee	$/(year)
Ar	Land area rent	ha
AR	Annual repair (repairing) cost	$/(year)
AT	Annual taxes	$/(year)
AWD	Available work days	d
B	Benefit, Profit	$
Bp	Break even point	$
BYP	Value of by-product	$/ha
CA	Coverage (Covered area)	ha
CA	Coverage (by actual sets for one time)	ha
CA_S	Coverage (Covered area) of system	ha
CA_W	Coverage (Covered area) of work	ha
CA_W	Coverage of actual set for N times	ha
CA_Wp	Coverage (Covered area) of combined work	ha
CAP	Capital	$
CAS	Coverage of one set for N times	ha
CAS1	Coverage of one set for 1 times	ha
CC	Custom charge	$/ha
CC	Customary service charge	$/ha
CFC	Calculated Field Capacity	ha/h
CI	Farm work cost index	in decimal
CIS	Crop insurance	$/ha
CP	Cost per product	$/t
Crate	Currency exchange rate	Currency/$
Cv	Variable cost per ha	$/ha

6-2. Technical term Part 2

Abb.	Term	unit
D	Annual depreciation	$/(year)
Da	Adjustment time	h: min: s
Db	Short brake time or time for non operation or lunch time	h: min: s
DC	Daily Capacity	ha/d
Dc	Time for cleaning of farm machines	h: min: s
DCa	Daily Capacity per ha	d/ha
DCF	Diesel light oil Conversion factor	MJ/ L
Df	Time for feeding	h: min: s
Di	Depreciation charge for i year	$
Dm	Moving or traveling time	h: min: s
Dn	Net Work hours per day	h/d
Dn	Net working hours	h
Dp	Preparation time of work	h: min: s
Dr	Repairing time	h: min: s
Ds	Time for setting	h: min: s
Dt	Total daily working hours	h/d
Dt	Working hours per day	h/d
DWP	Days of work period	d
ECF	Electric power Conversion factor	MJ / kWh
ECU	Energy conversion unit for manufacturing the machinery by using input-output table of inter-industry	kJ / Yen
EFC	Effective field capacity	ha/h
EFCg	Effective field capacity of group or sets	ha/h
EFCp	Effective Field Capacity of plural works	ha/h
EFC-P	Effective field capacity planned	ha/h
er	Overall repair cost coefficient	in decimal
ER	Overall repair cost in percentage	%
erh	repair cost coefficient per hour	/h
FC	Annual (total) fixed cost	$/(year)
FC	Annual fixed cost	$/(year)
FC	Fixed cost	$/(year)
FC_S	Annual fixed cost of system	$/(year)
FC_W	Annual fixed cost of work	$/(year)
FC1	Fixed cost of 1 set	$/(year)
FCa	Annual fixed cost per ha	$/ha
FCa	Fixed cost per ha	$/ha
FCa_S	Fixed cost per ha of system	$/ha
FCa_W	Fixed cost per ha of work	$/ha
FCh	Fixed cost per hour	$/h
fe	Field Efficiency in decimal	in decimal
FE	Field Efficiency in percentage	%
fe_c	Calculated Field Efficiency in decimal nearly	in decimal
FE_C	Calculated Field Efficiency	%
FRa	Fuel consumption rate per ha	L/ha
FRh	Fuel consumption rate per hour	L/h
fwr	Final worth factor or compound amount factor	-

Abb.	Term	unit
GCF	Gasoline Conversion factor	MJ/ L
Htp	Code how to plan EFC (for EFC) E: Obtain EFC from A and T T: Obtain EFC from W,V,and EF C: For stationary work, then use T, P and Y	-
Htu	Htu=Code of how to use machinery S: Share % of this in total system C: Contract work P: Post-harvest work etc.	-
i	Annual interest	in decimal
INT	Function of getting integer	-
KCF	Kerosene Conversion factor	MJ/ L
L	Economic life	year
LBP	Labor productivity (SH)	$/h
LDP	Land productivity	$/ha
LIC	Land improvement, or consolidation	$/ha
LR	Land rent	$/ha
LT	Land tax	$/ha
M	Number of machine set	in decimal
M(n)	Adjusted annual payments of worth after n year usage	$/(year)
MA No.	Machinery ID Number	-
MC	Management cost	$/ha
MH	Man-hours	man*h
MHa	Man-hours per ha	man*h/ha
Mi	Number of machine set of farm work(i)	-
MRa	Material usage rate per ha	kg/ha
MSh	Mean service hour per year	h/(year)
Msys	Number of machinery set of system	-
n	Number of stroke (or row)	-
N	Number of operation times	-
Nc	Number of cropping	-
NI	Net income	$
NOA	Number of attachments	-
Ns	Number of machine set	-
Nw	Number of workers	-
NWR	Daily net working rate	%
P	Initial price	$
P	Purchase price	$
P	Weight of production, grain etc.	t
P(n)	Annual present worth after n year	$ / (year)
P1	Purchase price of 1 set	$
pc	Crop price per kg	$/kg
pd	Diesel oil price per litter	$/L
pe	Electric price per kWh	$/kWh
Pf	Fuel price per litter	$/L
pg	Gasoline price per litter	$/L
Pi	Initial price	$
Pm	Material price per kg	$/kg
PP	Pay-back period	(year)
PR	Profit	$
PS	Total Sales	$
PSa	Sales per ha	$/ha
pwf	Present worth factor	-
Q(n)	Annual timeliness cost after n year	$ / (year)
Qj	Timely cost etc. in j year	$

6-4. Technical term Part 4

Abb.	Term	unit
r	Constant depreciation rate	in decimal
R	Remaining value	$
R(n)	Annual repairing cost after n year	$ / (year)
RAD	Rate of available work days	%
RAF	Annual fixed cost rate	%
raf	Annual fixed cost rate	in decimal
RCF	Rice grain Conversion factor	MJ/ kg
RCh	Repair cost per hour	$/h
RD	Annual depreciation rate	%
RF	Fixed cost rate	%
rf	Fixed cost rate	in decimal
rfr	Ratio of fixed to total of repairing cost	in decimal
RG	Annual garage cost rate	%
rg	Garage cost rate	in decimal
RI	Annual interest rate	%
Ri	Remained value of i year	$
ri	Yearly interest rate	in decimal
Rj	Repairing cost in j year	$
RP	Annual insurance rate	%
rp	Premium rate	in decimal
RR	Annual repairing cost rate	%
RRh	Repair cost rate per hour	%/h
RT	Annual taxes rate	%
rtax	Tax rate (0.5%)	in decimal
rv	Ratio of actual to theoretical speed	-
rw	Ratio of actual to theoretical width	-
S	Sale amount, Gross income	$
S(n)	Annual remaining value after n year	$ / (year)
Sbp	Break-even point of sales	$
Sg	Garage space of machine	m**2
SH	Sales per working hour	$/h
Sn	Remaining value after n years	$
Sp	Share of work	%
St	Total garage space of house	m**2
T	Total time required a work	h
T	Time required	h
t1	U type turning time	s
t2	Δ type turning time	s
ta	Actual operating time	h: min: s
Ta	Actual operating time	h
tb	Turning time	h: min: s
TC	Annual (total) cost	$/(year)
tc	Ajusting or regulating time	h: min: s
TC_S	Annual (total) cost of system	$/(year)
TC_W	Annual (total) cost of work	$/(year)
TCa	Annual total cost per hectare	$/ha
TCa	Annual (total) cost per ha	$/ha
TCh	Annual total cost per hour	$/h
td	Rest time	h: min: s
tf	Loading or unloading time	h: min: s
TFC	Theoretical Field Capacity	ha/h
TFW	Total number of farm works	-
TL	Total working time	h
TM	Total number of kind of machine	-
TOW	Type of work: M= Machine, C= Contract, L= Manual, A= Animal	-
TRC	Total repair cost	$

6-5. Technical term Part 5

Abb.	Term	unit
TSh	Total service hour	h
Tt	Theoretical operating time	h
Ur	Use ratio	in decimal
v	Operating speed	m/s
V	Operating speed	km/h
Va	Actual operating speed	km/h
VC	Annual (total) variable cost	$/(year)
VC	Total variable cost	$/(year)
VC_S	Total variable cost of system	$/(year)
VC_W	Total variable cost of work	$/(year)
VCa	Annual variable cost per ha	$/ha
VCa	Total variable cost per ha	$/ha
VCa_S	Total variable cost per ha	$/ha
VCa_W	Total variable cost per ha	$/ha
VCF	Variable cost per hour originated from fixed cost	$/h
VCh	Annual variable cost per hour	%
VCh_W	Total variable cost per hour of a work	$/h
VF	Fuel cost	$
VF_W	Fuel cost of a work	$
VFh	Fuel cost per hour	$/h
VFh_W	Fuel cost per hour of a work	$/h
VL	Labor cost	$
VL_W	Labor cost of a work	$
VLa	Labor cost per ha	$/ha
VLh	Variable cost per hour: labor	$/h
VLh_W	Labor cost per hour of a work	$/h
VLU	Lubricant cost	$
VLU_W	Lubricant cost of a work	$
VLUh	Lubricant cost per hour	$/h
VLUh_W	Lubricant cost per hour of a work	$/h
VMh	Variable cost per hour: machine	$/h
VMT	Material cost	$
VMT_W	Material cost of a work	$
VMTa	Material cost per ha	$/ha
VMTa_W	Material cost per ha of a work	$/ha
VMTh	Variable cost per hour: material	$/h
VMTh_W	Material cost per hour of a work	$/h
VR	Repairing cost	$
VR_W	Repairing cost of a work	$
VRh	Repairing cost per hour	$/h
VRh_W	Repairing cost per hour of a work	$/h
Vs	Standard operation speed	km/h
Vt	Theoretical operation speed	km/h
w, W	Operating width	m
Wa	Actual operating width	m
WC	Work Capacity	h/ha
WCg	Work Capacity of group or sets	h/ha
WCi	Work Capacity of farm work(i)	h/ha
WCp	Work Capacity of plural works	h/ha
Wop	Wage of operator	$/h
WP	Cultivation (operation) period	-
Wt	Theoretical operation width	m
WUR	Water utilization, or rate	$/ha
Wwo	Wage of worker	$/h
x	Width of field	m
y	Length of field	m
Y	Yield or amount per hectare	t/ha
Yrate	Yen exchange rate	Yen/$