Table A-232 Relationships between Field Efficiency and Field Size

Shape and Size of field			Direct Mounted Type	Direct Mounted Type	Direct Mounted Type	Feeding Needed	Feeding Needed	
width	Length	Area	Bottom Plow	Rotary Tiller	Tooth Harrow Type	Grain Drill Direct Mounted Type	Power Sprayer Swarth nozzle	Combine
m	m	ha	%	%	%	%	%	%
20	50	0.10	47	50	62	20	24	26
20	75	0.15	58	60	71	26	29	35
20	100	0.20	65	67	77	30	33	41
20	200	0.40	82	80	87	42	40	59
25	40	0.10	45	50	61	19	24	26
25	80	0.20	63	66	76	30	33	41
25	100	0.25	69	71	80	33	36	45
25	200	0.50	84	83	89	45	43	64
30	50	0.15	53	59	70	24	30	34
30	80	0.24	66	69	79	32	36	45
30	**100**	**0.30**	**71**	**74**	**82**	**36**	**38**	**51**
30	200	0.60	85	85	90	47	44	67
40	50	0.20	56	64	74	28	34	40
40	75	0.30	67	73	81	34	38	50
40	100	0.40	73	78	85	39	41	57
40	200	0.80	86	88	92	50	47	73
50	50	0.25	58	67	77	30	36	45
50	80	0.40	69	77	85	38	41	56
50	100	0.50	74	81	83	42	44	62
50	200	1.00	86	89	93	52	48	76
60	83	0.50	70	79	87	40	44	61
60	100	0.60	74	82	89	43	45	65
60	200	1.20	86	90	94	53	49	79
*	Wa (m)		0.84	1.55	3	2.45	5.5	2.3
	Va (km/h)		4.7	1.4	7.9	3.2	2.5	0.9
	CFC (ha/h)		0.39	0.21	2.38	0.76	1.39	0.21

* Conditions for Examination

See fm-23-field-size-FE.xls

Table A-243b. Example of calculation for Net Work Rate

Equipment	Period of Operation (month)	Work hours per day	The Contents of working hours a day									Net work rate
			Net work	Outside of the field and others								
		Dt	Dn	Dm	Dp	Ds	Dc	Da	Df	Dr	Db	Dn/Dt
unit		min	min	min	min	min	min	min	min	min	min	%
Rotary	April. B.E	606	452	12	10	5	15	10	20	42	40	75
Tooth harrow	May .B	648	501	12	10	5	10	5	20	45	40	77
Grain drill	May .B	648	416	12	5	5	10	60	20	45	40	64
Paddy harrow	May .M.	666	512	12	10	5	15	5	20	47	70	77
Rice transplanting	May .M.	666	484	20	10	–	15	15	5	47	40	73
Power sprayer (Swath-Nozzle)	June. M.	5	525	12	10	5	15	10	–	49	70	75
Knapsack type power duster	June. M.	696	546	20	10	–	10	5	–	25	110	78
Power binder	October .B.	528	396	20	10	–	10	15	10	37	30	75
Combine	October .B.	528	361	20	10	–	15	15	5	37	55	68

B: Beginning of month E: End of month M: Middle of month

Table A-426. Economic life and Repair cost coefficient of Farm Machinery

Name of machine	Economic life	Total repair cost coefficient	Yearly mean repair cost coefficient	Total service hour	Mean service hour per year	Repair cost rate per hour
Symbol	L	ER	RR	TSh	MSh	RRh
Unit	year	%	%	h	h/year	%/h
Walking type tractor	10	50	5.0	1,200	120	0.042
Riding type tractor	12	70	5.8	5,000	417	0.014
Plow for tiller	8	40	5.0	1,500	188	0.027
Japanese plow for tractor	10	40	4.0	1,500	150	0.027
Bottom plow	10	40	4.0	1,500	150	0.027
Rotary	8	50	6.3	2,000	250	0.025
Disk harrow	10	40	4.0	1,500	150	0.027
Teeth harrow	15	30	2.0	1,500	100	0.020
Sub-soiler	10	20	2.0	1,000	100	0.020
Trencher	8	50	6.3	2,000	250	0.025
Roller	15	50	3.3	2,000	133	0.025
Culti-packer	15	50	3.3	2,000	133	0.025
Puddling machine	6	10	1.7	1,200	200	0.008
Puddling harrow	8	40	5.0	1,200	150	0.033
Manure-spreader	10	30	3.0	1,500	150	0.020
Lime-sower	10	20	2.0	1,000	100	0.020
Broad-caster	10	20	2.0	1,000	100	0.020
Drill-seeder	10	40	4.0	1,000	100	0.040
Rice Transplanter	7	50	7.1	1,200	171	0.042
Power sprayer	8	32	4.0	800	100	0.040
Power duster	8	32	4.0	800	100	0.040
Speed sprayer	8	32	4.0	800	100	0.040
Reaper	8	40	5.0	2,000	250	0.020
Head-feeding type Combine	7	50	7.1	2,000	286	0.025
Standard-type Combine	10	50	5.0	2,000	200	0.025
Power thresher	8	30	3.8	2,000	250	0.015
Power husker	10	30	3.0	2,000	200	0.015
Grain dryer	9	30	3.3	2,000	222	0.015
Forage-harvester	10	50	5.0	2,000	200	0.025
Self-propelled type forage harvester	10	50	5.0	2,000	200	0.025
Potato harvester	10	50	5.0	2,000	200	0.025
Self-propelled type potato harvester	10	50	5.0	2,000	200	0.025
Beat harvester	10	50	5.0	2,000	200	0.025
Self-propelled type beat harvester	10	50	5.0	2,000	200	0.025
Trailer	12	20	1.7	2,000	167	0.010
Trailer for tiller	8	20	2.5	2,000	250	0.010
Truck	8	25	3.1	2,000	250	0.013
Rice nursery plant	8	20	2.5	1,000	125	0.020

See fm-4repa.xls

Table A-431. Estimate Fuel Consumption

Name of machine	Type and Model	Fuel	
		Kinds	Consumption [FRh] L/h
Tractor	I. 30 PS	D	7.0
	II. 40-50. PS	D	11.0
	III. 60-80 PS	D	17.0
	IV. more than 90 PS	D	22.0
Trencher	I. Self propelled (riding) type (-20 PS)	D	3.0
	II. Tractor-attach-type	D	8.0
	III. Self-propelled (riding) type 30 (PS-)	D	4.0
Rice transplanter	I. 4-5 rows type	G	1.0
	II. more than 6 rows walking type	G	1.0
	riding type	D	2.5
Power sprayer	I. 30-55 L/min	D	7.0
	II. more than 55 L/min	D	11.0
Power duster	I. 5-8 kg/min	D	7.0
	II. more than 8 kg/min	D	11.0
Speed sprayer	I. 20-50 L/min	D	4.0
	II. 50-70 L/min	D	7.0
	III. more than 70 L/min Tractor attach pull-type	D	7.0
	Self -propelled t yp e	D	12.0
Combine	I. Head-feeding type (0.8-1.2 m)	D	4.0
	II. Head-feeding type (more than 1.2 m)	D	7.0
	III. Standard type (2.5-3.5 m)	D	19.0
	IV. Standard type (more than 3.5 m)	D	27.0
Forage harvester	I. 0.8-1.0 m	D	3.0
	II. 1.0-1.2 m	D	7.0
	III. 1.2-1.5 m	D	11.0
	IV. more than 1.5 m	D	17.0
	V. more than 2.2 m	D	56.0
Potato harvester	I. Tank capacity (less than 1,000 kg)	D	7.0
	II. Tank capacity (more than 1,000 kg)	D	11.0
	III. more than 2,000 kg	D	19.0
	more than 5,000 kg	D	39.0
Beat harvester	I. Tank capacity (less than 1,000 kg)	D	7.0
	Il. Tank capacity (more than 1,000 kg)	D	11.0
	III. (more than 2,000 kg)	D	13.0
Bean harvester	I. All-purpose type	G	2.1
	Single-purpose (bean)	G	0.8
	II. Tractor attach type	D	5.6
	Self-propelled type	G	2.7

Remarks: D: Diesel (Light oil) G: Gasoline