

**ATTAINMENTS OF
COMPOSITE FISH CULTURE
DEMONSTRATION CENTRES
IN WEST BENGAL DURING
1976-77**



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CENTRAL INLAND FISHERIES RESEARCH INSTITUTE

(INDIAN COUNCIL OF AGRICULTURAL RESEARCH)

**BARRACKPORE - 743101 • WEST BENGAL
INDIA**

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A.K. Ghorai¹, K.M. Mondal², A. Sengupta³, D. Chakraborty⁴,
M. Ranadhir⁵, P. Das⁶ & V.G. Jhingran⁷

ABSTRACT

The second phase of fish culture demonstration programme in West Bengal during 1976-77 by 157 fish farmers proved the consistency in regard to the attainment of high yield rates and economics of operations. An average gross profit of about Rs.16000 per hectare have been reaped by a large number of fish farmers at a farmgate price of about Rs.6.70/Kg. Gross return on cash variable expenses is presented for each of the 157 fish farmers who operated the technology. Cost of fish production based on material input expenditure and gross profitability for each of 157 fish ponds are also presented.

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1.0 Introduction

The initial success of 98 freshwater fish culture demonstration centres spread over 15 districts of West Bengal during 1975-76 enabled the State Fisheries Directorate to extend coverage of its operations to 200 demonstration centres in 1976-77 and further extension of the scheme to 285 during 1977-78. The freshwater aquaculture demonstration scheme prepared by the West Bengal Fisheries Directorate in 1975-76 provided a sum of about Rs.9000/- as subsidy per one hectare of pond area. In addition to cash subsidy, the Fisheries Department of the West Bengal Government also provided technical guidance and help for procurement of material inputs like fish seed, mahua oilcake, mustard oilcake, rice-bran etc. The objective behind the subsidised scheme was that once the farmer was shown the technology and its profitability, he would take up the future operations on own with the profits already reaped by him, thereby making the new fish culture technology self-sustaining. In pursuance of this objective, the subsidy was withdrawn from the first set of demonstration centres and an altogether new set of demonstration centres were taken up during the second year of the scheme (1976-77). This practice is proposed to continue for a few more

years until its impact is decisively felt leading to visible transformation in fish culture sector in the State. The district-wise expansion of the scheme during 1976-77 is presented in table I.

Table I
District-wise expansion of the scheme in West Bengal

Sl. No.	Name of the District	No. of demonstration centres during		Number of units expanded
		1975-76	1976-77	
1	2	3	4	5
1	Coochbehar	3	4	1
2	Jalpaiguri	2	3	1
3	Darjeeling	1	2	1
4	West Dinajpur	4	12	8
5	M a l d a	10	10	-
6	Murshidabad	5	13	8
7	N a d i a	11	16	5
8	Birbhum	5	15	10
9	24-Parganas	16	21	5
10	Hooghly	5	8	4
11	Burdwan	12	15	3
12	Purulia	4	8	4
13	Bankura	4	20	16
14	Midnapur	15	48	33
15	Howrah	1	4	3
T o t a l -		98	200	102

Yield, income and expenditure statements from 157 out of a total of 200 cases are so far available pertaining to the second phase of the scheme (1976-77) and analysed in this bulletin. Steady results have been achieved by the fish farmers in the second phase also which strengthens the belief of the State Government about the inherent soundness of the technology of composite fish culture.

2.0 Yield:

The production results of 157 demonstration centres during 1976-77 are presented in Annexure I. In some of these demonstration centres, high production levels were attained under field conditions, narrowing down the gap to the extent of about 3000 Kg/ha/annum between scientific levels of attainability and its feasibility in field conditions. Yield rates of 7124 Kg/ha/annum in Chanchal block of Malda District, 7222 Kg/ha/annum in Raina block of Burdwan District and 8150 Kg/ha/annum in Mohishadal block of Midnapur District are some of the examples of successful field application of the technology. The fish production in the farmers ponds of the demonstration centres is very impressive in as much as 83% of the ponds, a production of more than 3000 Kg/ha/annum was obtained. This is by all standards an achievement of the technology in the farmers field situations.

Table II

Frequency of the number of ponds obtaining various production levels

Production range in Kg	No. of ponds obtaining the level	%
1	2	3
Below 2000	6	3.83
2001-3000	20	12.73
3001-4000	54	34.39
4001-5000	52	33.12
5001-6000	15	9.56
6001-7000	6	3.83
7001-8000	3	1.91
8001-9000	1	0.63
Total :	<u>157</u>	<u>100.00</u>

About 67% of fish ponds are in the production range of 3000-5000Kg. Besides these, 16% of fish ponds achieved a production of more than 5000 Kg/ha. Only in about 4% of cases, a production below 2000 Kg/ha was registered. If this production level is considered poor, the chance of getting such a failure is insignificant. Considering these high yield rates of fish production and impressive profit margins, it can be well expected that the new freshwater aquaculture technology is poised for wider adoption in West Bengal in the incoming years.

The district-wise average fish yields from the demonstration centres were presented in table III.

Table III
District-wise average production levels

SL NO.	District	No of cases	Total water area in ha	Total actual yield in Kg	Yield/ha
1	2	3	4	5	6
1	Coochbehar	1	0.50	2200	4400
2	Darjeeling	2	1.00	3538	3538
3	Jalpaiguri	2	0.90	2508	2787
4	West Dinajpur	11	5.44	19673	3616
5	Malda	8	3.71	19414	5233
6	Murshidabad	12	5.76	28167	4890
7	N a d i a	12	6.52	28849	4425
8	Birbhum	9	4.21	17435	4141
9	24 Parganas	18	9.28	42046	4531
10	Hooghly	9	4.47	19734	4415
11	Burdwan	13	5.91	25227	4268
12	Bankura	11	5.45	18307	3359
13	Midnapur	38	20.71	79504	3839
14	Hgwhah	4	2.00	7281	3640
15	Purulia	7	3.50	11400	3257
Total :		157	79.36	325283	

Average yield for the State : 4099 Kg/ha/yr.

The State average fish production on the basis of 157 demonstration demonstration centres during 1976-77 was 4099 Kg/ha. In all the districts except Jalpaiguri, an average production of more than 3000 Kg/ha was achieved during 1976-77. The average fish yields of 4372 Kg/ha during 1975-76 and 4099 Kg/ha during 1976-77 have clearly demonstrated that the new technology of composite fish culture is capable of giving a

production range of 4000-4500 Kg/ha for an input expenditure of about Rs.10000 to 12000.

With no change in the amount of cash subsidy and average input expenditures remaining at the same level during 1975-76 and 1976-77 at Rs.11,445 and Rs.11,683 respectively, the rise in the price of oilcakes from Rs.100 to Rs.150 per quintal might have resulted in low input application. The slight variations in the average yields between 1975-76 and 1976-77 might to some extent be attributable to this factor. Despite physical and natural variations, the attainment of production level of 4000-4500 Kg/ha during 1975-76 and 1976-77 showed the consistency of new fish culture technology in the state.

3.0 Input and productivity:

In order to assess the impact of the new technology and of demonstration programmes, it is necessary to determine the productivity of various inputs over time. As elaborate details regarding input application at various demonstration centres are not readily available, an attempt is made here only to measure the average productivity of fish ponds and average net return on working capital. It is revealed during 1976-77 that the average productivity of fish ponds converted in terms of value is Rs.15891 per ha while that of working capital is Rs.1.36 per rupee of floating investment.

Table IV

Average productivity of fish ponds and of working capital of fish culture demonstration centres in West Bengal

I t e m	Y e a r	
	1975-76	1976-77
Average net return on pond per ha	Rs. 16,528	Rs. 15,891
Average net return on per rupee working capital	Rs. 1.44	Rs. 1.36

The marginal short fall in fish pond productivity in terms of value and that of average net return per rupee of working capital during 1976-77 as compared to 1975-76 is explainable in terms of built-in uncertainties involved in biological process of production.

4.0 Profitability:

The detailed economics of composite fish culture in respect of 157 demonstration centres laid out in farmers' ponds during 1976-77 are presented in Annexure - II. The profits reaped in case of 8% fish farmers amounted to more than Rs.10000/ha.

Table V

Number of fish farmers obtaining different gross profit levels

Levels of gross profitability in	Number of farmers obtaining the level	%
1	2	3
L o s s	4	2.54
Below 5000	8	5.09
5001-10000	20	12.74
10001-15000	36	22.93
15001-20000	42	26.75
20001-25000	26	16.56
25001-30000	11	7.00
30001-35000	6	3.83
35001-40000	3	1.92
Above 40000	1	0.64
Total :	<u>157</u>	<u>100.00</u>

Only in 4 out of 157 cases, nominal losses were registered.

4.1 Return on cash variable expenses:

By incurring one rupee expenditure on inputs, about 70% of pond owners obtained a profit ranging between Rs.1.51 to Rs.3.00 while 30% obtained between Rs.0.50 to Rs.1.00. The number of fish farmers attaining different levels of return on cash variable expenses is given in table VI.

Table VI

The number of fish farmers attaining different levels of return on cash variable expenses

Return on cash variable expenses in percent	Number of farmers obtaining the level	%
1	2	3
Below 50	13	8.28
51-100	34	21.66
101-150	46	29.30
151-200	29	18.47
201-250	20	12.74
251-300	10	6.37
More than 300	5	3.18
	Total - 157	100.00

4.2 Cost of production:

The cost of production based on input expenditure is worked out for each of the 157 demonstration centres and presented in Annexure - II.

Table VII

Classification of number of fish ponds according to production cost per Kg

Cost of production	Number of fish farmers	%
1	2	3
Below Rs.2.00	12	7.64
Rs.2.00 - 2.99	71	45.23
Rs.3.00 - 3.99	53	33.75
More than Rs.4.00	21	13.38
	Total : 157	100.00

The frequency table shown above reveals that about 53% of demonstration centres produced fish at less than Rs.3.00 per kg

5.0 District-wise analysis:

Table VIII shows districtwise averages in respect of yield and gross profitability.

District-wise average of expenses, sale proceeds, gross profitability, sale price and return on cash variable expenses

Sl. No.	District	Total area in ha	Expenses per ha in Rs	Sale proceeds per ha in	Gross profitability per ha in Rs	Sale price per Kg	Return on cash variable expenses (%)
1	2	3	4	5	6	7	8
1	Coochbehar	0.50	11800	30800	19000	7.00	161.0
2	Darjeeling	1.00	11800	24300	12500	6.87	105.9
3	Jalpaiguri	0.90	10796	23740	12944	8.52	119.9
4	West Dinajpur	5.44	11535	21855	10320	6.04	89.5
5	M a l d a	3.71	11860	28888	17028	5.52	143.6
6	Murshidabad	5.76	12355	32237	19882	6.59	160.9
7	N a d i a	6.52	10976	29399	18423	6.64	167.8
8	Birbhum	4.21	11619	25736	14117	6.21	121.5
9	24 Parganas	9.28	12013	30548	18535	6.74	154.3
10	Hooghly	4.47	11971	32102	20131	7.27	168.2
11	Burdwan	5.91	11774	29272	17498	6.86	148.6
12	Bankura	5.45	11424	20230	8806	6.02	77.1
13	Midnapur	20.71	11569	27216	15647	7.09	135.2
14	Howrah	2.00	11800	25164	13364	6.91	113.3
15	Purulia	3.50	11800	26057	14257	8.00	120.8
State Average -			11683	27574	15891	6.73	136.0

The investment in aquaculture is quite rewarding in all the districts, touching a high level of profitability of Rs.20,131/ha in Hooghly District. It may be worthwhile to point out in this connection that the other commercial ventures may not afford opportunities for similar attractive returns due to frequent changes in output prices.

6.0 Conclusion:

On the basis of foregoing analysis it can be contended that investments in aquaculture operations are financially rewarding. The only uncertainty affecting farmers' income relates to normal variation in yield rates due to environmental factors but steadiness in output price assures remunerative returns to the fish farmers. Unlike his counterparts in agricultural crops, fish farmers are not to worry about price factor at least in near future. In fact, this is a very potent incentive for taking up fish culture in all its package of practices.

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ANNEXURE - I

Actual yield achieved in the second set of 157 demonstration centres laidout in farmers' ponds during 1976-77.

(Source : West Bengal State Fisheries Directorate)

Sl. No.	District	Block	Water area in ha	Actual yield in kg.	Yield/ha in kg.
1	2	3	4	5	6
1	Cooch Behar	Cooch Behar	0.50	2200	4400
2	Darjeeling	Karibari	0.50	1538	3076
3	"	Siliguri-Naxalbari	0.50	2000	4000
4	Jalpaiguri	Jalpaiguri	0.40	1581	3952
5	"	Raigunj	0.50	927	1854
6	West Dinajpur	Kumargunj	0.50	2388	4776
7	"	Balurghat	0.54	1828	3385
8	"	Gangarampur	0.50	1972	3944
9	"	Tapan	0.40	1130	2825
10	"	Itahar - I	0.50	1950	3900
11	"	Itahar - II	0.50	1220	2440
12	"	Kaliagunj - I	0.50	1510	3020
13	"	Kaliagunj - II	0.50	1675	3350
14	"	Bangihari - I	0.50	2400	4800
15	"	Bangihari - II	0.50	2200	4400
16	"	Raigunj	0.50	1400	2800
17	Malda	English Bazar	0.50	2912	5825
18	"	Old Malda	0.50	2300	4600
19	"	Gazole	0.50	2225	4450
20	"	Kaliachak	0.26	1500	5769
21	"	Harischandrapur-I	0.50	2000	4000
22	"	Chanchal - I	0.50	3562	7124
23	"	Chanchal - II	0.45	2155	4789
24	"	Harishchandrapur-II	0.50	2760	5520

1	2	3	4	5	6
25	Murshidabad	Burwan	0.26	1284	4958
26	"	Khargram	0.50	2263	4526
27	"	Kandi	0.50	2161	4322
28	"	Lalgola - I	0.50	2005	4010
29	"	Lalgola - II	0.50	2210	4420
30	"	Beldanga - I	0.50	2001	4002
31	"	Beldanga - II	0.50	2100	4200
32	"	Sagardighi - I	0.50	2451	4902
33	"	Sagardighi - II	0.50	2500	5000
34	Murshidabad	Bharatpur - I	0.50	2100	4200
35	"	Kandi	0.50	3944	7888
36	"	Nabagram	0.50	3148	6296
37	Nadia	Krishnagar - II	0.47	3243	6900
38	"	Karimpur - I	0.50	2738	5476
39	"	Karimpur - II	0.70	3355	4793
40	"	Ranaghat - I	0.85	4358	5127
41	"	Hanshkali	0.60	2000	3333
42	"	Tehatta - II	0.50	2440	4880
43	"	Chakda	0.45	1700	3777
44	"	Ranaghat	0.30	1335	4450
45	"	Nabadwip	0.50	3299	6598
46	"	Kaligunj	0.50	801	1602
47	"	Nakashipara	0.30	1250	4167
48	"	Haringhata	0.85	2330	2741
49	Birbhum	Lalpur	0.50	2488	4976
50	"	Suri	0.50	1988	3976
51	"	Mararai	0.41	1631	3978
52	"	Mambazat	0.50	1700	3400
53	"	Balowsrinkeli	0.50	2282	4564
54	"	Balowsrinkeli	0.50	2178	4356
55	"	Murarai - I	0.50	2452	4904

56	Bhirbhum	Saithia	0.30	894	2981
57	"	Mayuraswar - I	0.50	1822	3644
58	24-Parganas	Canning	0.50	2647	5294
59	"	Bishnupur	0.33	700	2121
60	"	Jadavpur	0.50	2908	5816
61	"	Rajarhat	0.85	4358	5127
62	"	Barasat	0.50	2361	4722
63	"	Habra - II	0.50	1949	3898
64	"	Gaighata	0.50	2850	5700
65	"	Mitirbrij Mahishtola	0.50	1756	3512
66	"	Joynagar	0.50	1700	3400
67	"	Budge - Budge	0.50	2519	5038
68	"	Canning	0.50	2647	5294
69	"	Deyganga	0.50	1561	3122
70	"	Budge	0.60	3100	5160
71	"	Amdanga	0.50	2500	5000
72	"	Baruipur	0.50	3426	6852
73	"	Canning - I	0.50	1500	3000
74	"	"	0.50	1400	2800
75	"	Jaynagar - I	0.50	2164	4328
76	Hooghly	Chanditola	0.44	1823	4143
77	"	Tarakeshwar	0.50	2000	4000
78	"	Magra	0.59	3361	5696
79	"	Haripal	0.50	1830	3660
80	"	Arambagh	0.50	2455	4910
81	"	Jangipara	0.44	1826	4150
82	"	Khanakul - I	0.50	2869	5738
83	"	"	0.50	2220	4440
84	"	Pandua	0.50	1350	2700

1	2	3	4	5	6
85	Burdwan	Raina - I	0.40	1850	4021
86	"	Ausgram	0.50	1775	3500
87	"	Burdwan	0.40	1463	3600
88	"	Jamalpur	0.42	2576	6133
89	"	Galshi - I	0.47	2130	4530
90	"	Raina - II	0.36	2600	7222
91	"	Memari - II	0.41	1631	4000
92	"	Galshi - II	0.35	1635	4671
93	"	Ausgram	0.50	1857	3714
94	"	Katwa - I	0.50	1983	3966
95	"	Katwa - II	0.50	2207	4414
96	"	Pubasthali - I	0.65	1720	2646
97	"	Bhatar	0.45	1800	4000
98	Bankura	Kotalpur - I	0.50	2149	4298
99	"	Kotalpur - II	0.50	1992	3984
100	"	Simlapal	0.50	750	1500
101	"	Patrasayer	0.45	1500	3371
102	"	"	0.50	1800	3600
103	"	Onda	0.50	2348	4696
104	"	Taldangra	0.50	300	600
105	"	Bishnupur	0.60	2293	3821
106	"	Indus	0.48	1890	3937
107	"	"	0.52	1694	3257
108	"	Jaypur	0.40	1591	3978
109	Midnapur	Cantai - III	0.51	2053	4106
110	"	Narayangarh	0.45	2970	6600
111	"	Garbeta	0.35	1000	2857
112	"	Chandrakona	0.67	3000	4478
113	"	Pashkura	0.50	126	252
114	"	Mohishdet	0.50	4075	8150

1	2	3	4	5	6
115	Midnapur	Sabong	0.30	1050	3500
116	"	Sabong	0.50	1800	3600
117	"	Sabong	0.40	1400	3500
118	"	Sabong	0.40	1400	3500
119	"	Sabong	0.50	1700	3400
120	"	Delema	0.35	1350	3857
121	"	Kishpur	0.60	2700	4500
122	"	Gashila - I	0.53	2598	4890
123	"	Ghatal	0.50	2449	4898
124	"	Ghatal	1.20	5446	4538
125	"	Gorbeta - II	0.50	2100	4200
126	"	Salbani	0.36	1322	3672
127	"	Daspar - I	0.50	1648	3296
128	"	Daspar - I	0.42	2155	5130
129	"	Mahisdal - II	0.50	2175	4350
130	"	Mahisdal - II	0.50	2410	4820
131	"	Patashpur	0.50	1542	3084
132	"	Bhangar - I	0.50	2300	4600
133	"	Contai - I	0.46	2112	4591
134	"	Khejuri	0.50	1069	2138
135	"	"	0.50	595	1190
136	"	Tamluk - II	0.50	1775	3550
137	"	Panchkura - II	0.50	2141	4282
138	"	Nandigram - I	0.50	1222	2444
139	"	"	0.50	1088	2176
140	"	Keshiari	0.35	1180	3371
141	"	"	0.60	2400	4000
142	"	Datan - I	0.45	1800	4000

1	2	3	4	5	6
143	Midnapur	Narayangarh	1.35	4580	3393
144	"	Debra	0.41	1590	3878
145	"	Jhargram	1.31	5087	3883
146	"	Binpur - II	0.74	2096	2832
147	Howrah	Shyampur	0.50	1455	2910
148	"	Amta - I	0.60	2850	4750
149	"	Amta - II	0.40	1610	4023
150	"	Domjur	0.50	1366	2732
151	Purulia	Raghunathapur	0.50	1600	3200
152	"	Jhalda	0.50	1500	3000
153	"	Balarampur	0.50	2000	4000
154	"	Mankaran	0.50	1500	3000
155	"	Barabazar	0.50	1800	3600
156	"	Purulia - I	0.50	1600	3200
157	"	Purulia - II	0.50	1400	2800

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ANNEXURE - I.I.

ECONOMICS OF COMPOSITE FISH CULTURE DEMONSTRATION CENTRES
LAI D OUT IN FARMERS' PONDS IN WEST BENGAL DURING 1976-77
(FOR POND IDENTIFICATION ANNEDURE - I MAY BE SEEN)

(ROUNDED OFF TO RUPEES)

SL. NO.	Actual expndt.	Expndt. per ha	Actual sale proceeds	Sale proceeds per ha	Actual profit	Profit per ha	cost of production	Return on cash valuable expenses %
1	2	3	4	5	6	7	8	9
1	5900	11800	15400	30800	9500	19000	2.68	161
2	5900	11800	12300	24600	6400	12800	3.84	109
3	5900	11800	12000	24000	6100	12200	2.95	103
4	4828	12070	15804	39510	10976	27440	3.05	227
5	4885	970	5562	11124	677	1354	5.26	14
6	5803	11606	16804	33607	11001	22001	2.44	190
7	6400	11851	10968	20311	4568	8460	3.50	71
8	6000	12000	11529	23058	5529	11058	3.04	92
9	4500	11250	6780	16950	2280	5700	3.98	51
10	5900	11800	11000	22000	5100	10200	3.03	87
11	5900	11800	6700	13400	800	1600	4.84	14
12	5785	11570	9060	18120	3275	6550	3.83	57
13	5771	11542	10050	20100	4279	8558	3.45	74
14	5900	11800	14400	28800	8500	17000	2.46	144
15	5900	11800	13200	26400	7300	14600	2.68	124
16	4891	9782	8400	16800	3509	7018	3.49	71
17	5900	11800	14563	29126	8663	17326	2.03	147
18	5900	11800	11500	23000	5600	11200	2.57	95
19	5400	10800	11125	22250	5725	11450	2.43	106
20	3500	13462	7500	28846	4000	15384	2.33	114
21	5900	11800	10000	20000	4100	8200	2.95	70
22	5900	11800	17630	35260	11730	23460	1.66	199
23	5500	12222	12775	28389	7275	16167	2.55	132
24	6000	12000	22080	44160	16080	32160	2.17	268
25	3281	12667	8433	32560	5152	19893	2.55	156
26	6549	13098	15278	30556	8729	17458	2.89	133
27	5900	11800	15128	30256	9228	18456	2.73	156
28	6804	13608	14035	28070	7231	14462	3.39	106
29	7028	14057	15470	30940	8442	16883	3.18	120
30	6000	12000	14003	28006	8003	16006	3.00	130
31	6000	12000	14702	29404	8702	17404	2.85	145
32	5900	11800	14354	28707	8454	16907	2.40	143
33	5900	11800	16250	32505	10350	20705	2.36	175
34	5900	11800	14700	29400	8800	17600	2.81	149
35	5900	11800	27593	55186	21693	43386	1.50	368
36	6000	12000	15741	31481	9741	19481	1.91	162

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37	6000	12000	15741	31481	9247	19481	1.91	162
38	5730	12191	22701	48300	16971	36109	1.77	296
39	8400	12000	19590	27986	11190	15986	2.50	133
40	5900	6941	26160	30775	20260	23834	1.35	343
41	5800	9666	16000	26666	10200	17000	2.90	176
42	5769	11537	19520	39040	13751	27503	2.36	238
43	5113	11362	10200	22666	5087	11304	3.00	99
44	3627	12089	7294	24313	3667	12224	2.72	101
45	5900	11800	23094	46189	17194	34389	1.78	291
46	5886	11772	8555	17110	2669	5338	7.35	45
47	3510	11700	8350	27833	4840	16133	2.81	138
48	10030	11800	14000	16471	3970	4671	4.30	40
49	5900	11800	17416	34832	11516	23032	2.37	195
50	5900	11800	11928	23856	6028	12056	2.97	102
51	4894	11937	9786	23868	4892	11931	2.97	102
52	5900	11800	10000	20000	4100	8200	3.47	69
53	5900	11800	13689	27379	7789	15579	2.58	132
54	5900	11800	13066	26132	7166	14332	2.70	121
55	5600	11200	14712	29424	9112	18224	2.28	163
56	3022	10075	6036	20120	3014	10045	3.38	100
57	5900	11800	11715	23431	5815	11631	3.24	99
58	5900	11800	16513	33026	10613	21226	2.23	180
59	4069	12330	5000	15152	931	2822	5.81	23
60	5913	11826	19149	38298	13236	26472	2.03	224
61	10030	11800	26160	30716	16130	18916	2.30	261
62	6600	12000	23110	46220	16510	32220	2.54	269
63	5900	11800	13024	26048	7124	14248	3.03	121
64	5900	11800	20250	40500	14350	28700	2.07	243
65	5900	11800	12633	25265	6733	13465	3.36	114
66	5948	11886	11900	23800	5957	11914	3.50	100
67	5847	11693	16260	32519	10413	20826	2.32	178
68	5900	11800	16513	33026	10613	21226	2.22	180
69	5900	11800	9300	18600	3400	6800	3.77	58
70	7230	12050	19170	31950	11940	19900	2.33	165
71	5952	11904	17500	35000	11548	23096	2.38	194
72	5900	11800	20556	41112	14656	29312	1.72	248
73	5900	11800	10500	21000	4600	9200	3.93	78
74	5900	11800	9800	19600	3900	7800	4.21	66
75	6800	13600	16146	32292	9346	18692	3.14	137
76	5192	11800	12761	29000	7569	17200	2.83	246
77	5900	11800	16000	31000	10100	19200	2.95	171
78	7185	12178	29129	49373	21944	37195	2.14	305
79	6443	12886	10980	21960	4537	9074	3.52	70
80	5900	11800	17903	35806	12003	24006	2.40	203
81	5192	11800	12782	29050	7590	17250	2.84	146
82	5900	11800	17213	34425	11313	22625	2.06	192

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83	5900	11800	15845	31690	9945	19890	2.66	169
84	5900	11800	10884	21769	4984	9969	4.37	84
85	4820	12050	12950	32375	8130	20325	3.00	269
86	5900	11800	10650	21300	4750	5800	3.32	80
87	4790	11975	9384	23460	4594	11485	3.32	96
88	4956	11800	16391	39026	11435	27226	1.92	231
89	5546	11800	19410	41288	13864	29497	2.60	250
90	4248	11800	18200	50555	13952	38755	1.63	328
91	4840	11804	9786	23868	4946	12064	2.95	102
92	4130	11800	9808	28022	5678	16222	2.52	137
93	5900	11800	11142	22284	5242	10484	3.17	89
94	5477	10954	18178	26356	12701	15402	2.76	232
95	5900	11800	21253	42506	15353	30706	2.67	260
96	7650	11769	5200	38000	- 2450	- 3769	4.44	- 32
97	5430	12066	10650	23666	5220	11600	3.01	96
98	4900	9800	17194	34388	12294	24588	2.28	251
99	4900	9800	15976	31952	11076	22152	2.45	226
100	5900	11800	6000	12000	100	200	7.87	2
101	5246	11789	12000	26966	6754	15177	3.50	129
102	5900	11800	3600	14400	- 2300	2600	3.28	144
103	5900	11800	4696	14088	1204	2288	2.51	139
104	5500	11000	2400	4800	- 3100	- 6200	18.33	- 56
105	7052	11754	13755	22925	6703	11171	3.08	95
106	5900	12292	13230	27562	7330	15270	3.12	124
107	5900	11346	11856	22800	5956	11454	3.48	101
108	5163	12908	9546	23865	4383	10957	3.25	85
109	6297	12543	13664	26792	7267	14249	3.12	114
110	5410	12022	20762	46138	15352	34116	1.82	284
111	4147	11849	77000	20000	2853	8151	4.15	69
112	7904	11797	21000	31343	13096	19546	2.63	166
113	5900	11800	756	1512	- 5144	- 10288	46.82	-
114	6000	12000	22463	44926	16463	32926	1.31	137
115	3540	11800	6300	21000	2760	9200	3.37	148
116	5900	11800	10800	21600	4900	9800	3.27	133
117	4720	11800	8400	21000	3680	9200	3.37	138
118	4720	11800	8400	21000	3680	9200	3.37	138
119	5900	11800	20200	40400	14300	28600	6.70	292
120	4130	11800	9150	27000	5320	15200	3.05	194
121	7080	11800	18950	31600	11880	19800	2.62	208
122	7500	14150	19172	36173	11672	22023	2.89	156
123	6000	12000	17143	34286	11143	22286	2.44	186
124	7846	6538	38122	31768	30276	25230	1.44	359
125	5900	11800	14700	29400	8800	17600	2.80	149
126	4240	11777	9800	19600	5560	7823	3.20	66
127	6000	12000	11536	23072	5536	11072	3.64	92
128	5655	11310	15085	35916	9430	24606	2.20	218

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129	5900	11800	17400	34800	11500	23000	2.71	195
130	5900	11800	19280	38560	13380	26760	2.44	227
131	6293	12586	9249	18498	2956	5912	5.08	47
132	6004	12008	16100	32200	10096	20192	2.61	168
133	5375	11686	14784	32139	9409	20453	2.55	175
134	4575	9150	7028	14056	2453	4906	4.28	54
135	3278	6556	4170	8339	892	1783	5.51	27
136	5900	11800	10650	21300	4750	9500	3.32	81
137	5900	11800	16074	32148	10174	20348	2.76	172
138	6000	12000	9776	19552	3776	7552	4.91	63
139	6100	12200	8704	17408	2604	5208	5.61	43
140	4130	11800	8260	23600	4130	11800	3.50	100
141	7100	11833	16800	28000	9700	16167	2.96	137
142	5310	11800	12600	28000	7290	16200	2.95	137
143	15900	11778	32060	23748	16160	11970	3.47	102
144	4855	11841	11130	27146	6275	15305	3.05	129
145	17836	13615	38117	29097	20281	15482	3.51	114
146	7552	10205	17749	23986	10197	13781	3.60	135
147	5900	11800	8080	16160	2180	4360	4.05	137
148	7080	11800	20125	40250	13045	28450	2.48	241
149	4720	11800	11200	28000	6480	16200	2.93	137
150	5900	11800	10924	21848	5024	10048	4.32	85
151	5900	11800	12800	25600	6900	13800	3.63	217
152	5900	11800	12000	24000	6100	12200	3.93	203
153	5900	11800	16000	32000	10100	20200	2.95	271
154	5900	11800	12000	24000	6100	12200	3.93	203
155	5900	11800	14400	28800	8500	17000	3.28	244
156	5900	11800	12800	25600	6900	13800	3.69	217
157	5900	11800	11200	22400	5300	10600	4.21	190