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Table 1 Brand names of Rice, Price, and Packaging in China

Location	Name of Store	Brand of Rice	Type of Rice	Origin of Rice	Size of Package (kg)	Price (yuan/kg)
Beijing	Sanli Supermarket	Dongbeimiwang	Japonica	Heilongjiang	5	3.90
		"	"	"	2.5	3.84
		Xiaozhan	Japonica	Tianjin	5	5.56
		Qiheyuan	Japonica	Liaoning	5	3.30
		Huatengshifan	Japonica	Beijing	5	6.50
	Beichen Supermarket	Jinfu	Jasmine	Thailand	5	8.50
		Jinyuan	Jasmine	Thailand	5	10.40
		Jinfu	Jasmine	Thailand	5	9.20
		Xianongzhan	Japonica	Tianjin	5	5.6 to 6.2
		"	Japonica	Tangshan	5	3.4 to 5.4
	Yikelong Supermarket	Huatengshifan	Japonica	Beijing	5	4.6 to 6.2
		Jinxiang	Jasmine	Thailand	5	9.92
		"	Jasmine	Thailand	bulk	9.00
		China	Jasmine	China	bulk	5.40
		Xianongzhan--				
Shanghai	Hualian	Risi	Japonica	Tianjin	5	6.96
		Beiba	Japonica	Northeast	10	2.55
		Xinkaihu	Japonica	Heilongjiang	10	2.76
		Qiheyuan	Japonica	Liaoning	10	2.4 to 3.4
		Xingkaihu	Japonica	Heilongjiang	10	2.50
		Lyou	Japonica	Jilin	10	3.20
		Subei	Japonica	Jiangsu		
		Shanlong	Jasmine	Thailand	10	7.60
Dalian	Walmart	Xiangshui	Japonica	Heilongjiang	2.5	3.20
		Mituwang	Japonica	Liaoning	5	2.40
		Jindiwang	Japonica	Liaoning	10	2.50
		Hongguo	Japonica	Liaoning	10	2.70

Table 2 Material Inputs Indices for Rice, Wheat, and Maize in Sample Provinces in China, 1979 to 1995

Year	Rice	Wheat	Maize
1979	100	100	100
1980	103	98	103
1981	101	100	103
1982	108	105	105
1983	111	110	110
1984	113	113	110
1985	116	117	106
1986	119	115	107
1987	124	117	115
1988	136	119	114
1989	141	131	126
1990	143	142	134
1991	144	137	131
1992	144	145	140
1993	142	139	136
1994	167	139	155
1995	170	138	175
Annual Growth Rate ^a	0.33	0.26	0.20

Note: The numbers are the sown area weighted average of sampled provinces. See endnote for complete list of sample provinces for rice, wheat and maize.

^a Annual growth rates are calculated by running a regression of natural log of various yields on time.

Table 3 Total Factor Productivity of Rice in China, 1979 to 1995

Year	Hebei	Liaoning	Heilongjiang	Jiangsu	Zhejiang	Anhui	Fujian	Jiangxi	Hunan	Guangdong	Guangxi	Sichuan
1979	100 ^a	110	118	102	125	101	98	96	101	91	93	86
1980	103	113	126	95	120	95	111	96	98	99	91	97
1985	152	143	137	190	151	169	146	127	139	121	107	159
1990	134	163	159	192	149	172	144	132	151	144	116	178
1995	121	145	152	198	165	170	141	124	153	142	117	179

^a The TFP index for Hebei in 1979 is set at 100, all the other TFP indices are normalized based on this number.

Table 4 Total and Provincial Average of the Number of Major Varieties Planted by Farmers in China's Rice, Wheat and Maize Growing Provinces, 1982-95.

Year	Rice		Wheat		Maize	
	Total	Average per province	Total	Average Per province	Total	Average Per province
1982	379	24	211	15	130	10
1983	333	21	274	20	130	10
1984	380	24	277	20	130	10
1985	424	27	313	22	156	12
1986	419	26	303	22	156	12
1987	373	23	313	22	156	12
1988	381	24	301	22	130	10
1989	365	23	337	24	143	11
1990	412	26	333	24	156	12
1991	395	25	350	25	156	12
1992	403	25	338	24	156	12
1993	392	25	341	24	182	14
1994	416	26	330	24	182	14
1995	391	24	311	22	208	16

Notes: These are totals for the 16 rice growing provinces, 14 wheat-growing provinces and 15 maize growing provinces in our sample. See endnote 1 for list of provinces.

Source: Authors' data gathered from the Ministry of Agriculture.

Table 5 Experiment Station Yields (Yield Frontiers and Adopted Yield Potential), Actual Yields, and Yield Gaps in Sample Provinces in China, 1980 to 1995.

	1980 (Tons / Hectare)	1995 (Tons / Hectare)	Annual Growth Rate (Percent) ^c
Rice			
Yield Frontier ^a	6.6	9.1	2.3
Adopted Yield Potential ^b	6.1	7.2	1.4
Actual Yield	4.2	6.2	2.1
Percent Gap between Adopted Yield Potential and Actual Yields	31%	14%	
Wheat ^c			
Yield Frontier ^a	6.3	7.5	1.3
Adopted Yield Potential ^b	4.6	5.2	1.0
Actual Yield	1.9	3.6	3.2
Percent Gap between Adopted Yield Potential and Actual Yields	58%	31%	
Maize			
Yield Frontier ^a	7.6	11.0	2.5
Adopted Yield Potential ^b	6.1	7.9	1.8
Actual Yield	3.0	4.9	3.2
Percent Gap between Adopted Yield Potential and Actual Yields	51%	38%	

Source: Yield Frontier and Average Experiment Station Yields from authors' data. Actual yield from State Statistical Bureau—ZGTJNJ, 1981, 1983, and 1996.

^a Yield Frontier is the *highest* experiment station yield of a variety that has been extended to the field. The variable is non-decreasing in the sense that if in some subsequent year the highest yielding variety has a lower yield, the previous periods yield is maintained. In this table, the figure is the average of sample provinces. See Appendix Table 8 for a complete national series for each crop.

^b Adopted Yield Potential is the *average* experiment station yields of *all* varieties being adopted by farmers. In this table, the figure is the average of sample provinces.

^c Annual growth rates are calculated by running a regression of natural log of various yields on a time trend.

Table 6 Annual per Capita Grain and Rice Consumption (in kilograms) in Rural Zhejiang Province, 1992

Region/Income group	Rice					Other
	Grain	Total	Indica	Japonica	Hybrid	
Xiaoshan County						
Average	202	195	11	184	0	0
Less than 500	185	182	11	171	0	0
500-1000	195	189	11	178	0	0
1000-2000	205	194	10	184	0	0
Greater than 2000	268	263	14	249	0	0

Source: Household expenditure survey, China State Statistical Bureau.

Table 7 Imports of Paddy Rice, 1999

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Total	762,205	369,831			
Thailand	762,205	369,831	100%	1	0.485

Table 8 Imports of Paddy Rice, 2000

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Total	41261	16504			
Thailand	41261	16504	100%	1	0.400

Table 9 Imports of Milled Rice, 1999

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Total	166,924,463	77,651,446	100.0%		0.47
Thailand	166,261,618	77,239,860	99.6%	1	0.46
USA	600,630	372,304	0.4%	2	0.62
Hong Kong	43,000	21,930	0.0%	3	0.51
Japan	18,035	14,392	0.0%	4	0.80
South Korea	400	654	0.0%	5	1.64
India	350	1,144	0.0%	6	3.27
Italy	330	800	0.0%	7	2.42
Pakistan	100	362	0.0%	8	3.62

Table 10 Imports of Milled Rice, 2000

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Total	238,377,538	112,586,647	100.0%		0.47
Thailand	237,957,425	112,330,057	99.8%	1	0.47
USA	264,264	187,657	0.1%	2	0.71
Taiwan	150,000	60,000	0.1%	3	0.40
Nepal	4,070	1,475	0.0%	4	0.36
India	1,175	4,528	0.0%	5	3.85
Italy	532	2,493	0.0%	6	4.69
Pakistan	60	370	0.0%	7	6.17
Japan	12	67	0.0%	8	5.58

Table 11 Exports of Milled Rice, 1999

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Total	2,543,847,855	597,005,842	100.0%		0.23
Indonesia	734,076,321	141,584,884	28.9%	1	0.19
Cote d'Ivoire	421,053,650	85,394,288	16.6%	2	0.20
Cuba	226,932,900	51,742,970	8.9%	3	0.23
Philippines	179,101,750	41,508,378	7.0%	4	0.23
Russia	161,142,115	56,120,214	6.3%	5	0.35
Malaysia	125,797,500	29,989,499	4.9%	6	0.24
Iraq	102,880,250	30,367,500	4.0%	7	0.30
Guinea	99,495,300	17,695,178	3.9%	8	0.18
North Korea	86,247,200	24,096,180	3.4%	9	0.28
Libya	84,000,000	24,584,060	3.3%	10	0.29
Japan	57,496,832	28,524,480	2.3%	11	0.50
Puerto Rico	36,718,000	8,983,700	1.4%	12	0.24
Mauritius	35,703,350	8,479,032	1.4%	13	0.24
Romania	35,000,000	7,493,000	1.4%	14	0.21
Poland	24,150,000	5,981,500	0.9%	15	0.25
Turkey	21,050,000	4,951,200	0.8%	16	0.24
Egypt	15,100,000	3,460,800	0.6%	17	0.23
Tanzania	14,668,110	3,449,373	0.6%	18	0.24
Kuwait	13,732,004	3,185,375	0.5%	19	0.23
Hong Kong	10,261,700	4,529,874	0.4%	20	0.44
Guinea Bissau	8,200,000	1,656,400	0.3%	21	0.20
Hungary	6,447,000	1,477,913	0.3%	22	0.23
Gambia	6,091,650	1,356,600	0.2%	23	0.22
Sierrelenone	5,428,000	1,376,029	0.2%	24	0.25
Syria	5,300,000	1,271,000	0.2%	25	0.24
Bulgaria	4,000,000	812,000	0.2%	26	0.20
Mongolia	3,378,000	989,453	0.1%	27	0.29
Belgium	3,319,000	727,950	0.1%	28	0.22

Table 11 (Continued) Exports of Milled Rice, 1999

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Kazakhstan	2,659,801	882,295	0.1%	29	0.33
Slovenia	2,550,000	563,250	0.1%	30	0.22
Kyrgyzstan	2,190,782	849,950	0.1%	31	0.39
Macao	1,432,850	341,499	0.1%	32	0.24
Yemen	1,299,825	517,930	0.1%	33	0.40
Singapore	1,236,338	410,411	0.0%	34	0.33
Burma	1,200,000	306,832	0.0%	35	0.26
Congo	984,700	167,399	0.0%	36	0.17
U.A.E	884,627	272,564	0.0%	37	0.31
Jordan	499,000	141,217	0.0%	38	0.28
Fiji	450,000	180,295	0.0%	39	0.40
South Africa	417,224	140,992	0.0%	40	0.34
Netherlands	300,002	76,302	0.0%	41	0.25
Canada	252,000	112,050	0.0%	42	0.44
Ukraine	180,000	75,600	0.0%	43	0.42
Angola	154,000	66,287	0.0%	44	0.43
Vietnam	100,000	16,870	0.0%	45	0.17
Mexico	60,000	17,520	0.0%	46	0.29
USA	58,300	20,135	0.0%	47	0.35
Oman	40,000	8,924	0.0%	48	0.22
France	39,974	16,290	0.0%	49	0.41
Lebanon	21,000	5,310	0.0%	50	0.25
United Kingdom	21,000	12,400	0.0%	51	0.59
Czech Republic	19,200	5,837	0.0%	52	0.30
Antigua & Barbuda	13,000	5,167	0.0%	53	0.40
Sudan	8,000	1,928	0.0%	54	0.24
Chile	5,000	1,650	0.0%	55	0.33
Lithuania	600	108	0.0%	56	0.18

Table 12 Exports of Milled Rice, 2000

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Total	2,764,496,346	512,161,927	100.0000%		0.1852641
Cote d'Ivoire	869,629,520	130,429,150	31.4571%	1	0.14998243
Indonesia	541,903,380	92,687,205	19.6022%	2	0.17104009
Cuba	225,510,100	38,808,791	8.1574%	3	0.17209336
Russia	214,010,501	56,987,745	7.7414%	4	0.26628481
Iraq	169,473,100	38,260,260	6.1303%	5	0.22576008
Malaysia	119,106,980	22,359,457	4.3085%	6	0.18772583
Libya	84,000,000	21,282,925	3.0385%	7	0.25336815
Philippines	64,189,000	10,369,755	2.3219%	8	0.16155034
Japan	56,311,007	21,302,799	2.0369%	9	0.37830613
Tanzania	54,993,600	8,339,726	1.9893%	10	0.15164903
North Korea	51,569,000	13,257,857	1.8654%	11	0.25708967
Madagascar	42,925,000	6,009,500	1.5527%	12	0.14
Turkey	42,484,950	7,163,236	1.5368%	13	0.16860644
Mauritius	37,700,000	7,388,500	1.3637%	14	0.19598143
Romania	28,840,000	4,978,900	1.0432%	15	0.1726387
Mozambique	24,700,000	3,623,000	0.8935%	16	0.14668016
Syria	23,962,850	4,403,985	0.8668%	17	0.18378386
Kenya	13,357,000	1,876,368	0.4832%	18	0.14047825
South Africa	13,319,170	2,242,110	0.4818%	19	0.16833707
Hong Kong	10,289,346	4,065,193	0.3722%	20	0.3950876
Bulgaria	8,500,000	1,525,000	0.3075%	21	0.17941176
Kazakhstan	8,091,050	2,387,353	0.2927%	22	0.29506096
Congo	8,050,000	1,381,372	0.2912%	23	0.17159901
Mozambique	7,350,000	1,196,000	0.2659%	24	0.16272109
Guinea	6,776,000	962,192	0.2451%	25	0.142
Ukraine	6,000,000	1,074,000	0.2170%	26	0.179
Mongolia	4,049,000	935,048	0.1465%	27	0.23093307
Guinea Bissau	3,500,000	561,339	0.1266%	28	0.16038257
Lebanon	3,354,500	660,079	0.1213%	29	0.19677418

Table 12 (Continued) Exports of Milled Rice, 2000

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Burundi	3,009,304	809,360	0.1089%	30	0.26895256
Sierraleone	3,000,000	612,000	0.1085%	31	0.204
Kyrgyzstan	2,626,304	885,958	0.0950%	32	0.33734023
Singapore	2,259,667	853,453	0.0817%	33	0.37768972
Guinea-Bissau	1,784,500	285,175	0.0646%	34	0.15980667
Macao	1,746,745	399,304	0.0632%	35	0.22859891
Burma	1,500,000	384,000	0.0543%	36	0.256
USA	1,362,689	447,901	0.0493%	37	0.32868908
Brazil	624,000	88,608	0.0226%	38	0.142
South Africa	534,500	164,863	0.0193%	39	0.30844341
UA.E	479,220	143,640	0.0173%	40	0.29973707
U A.E.	372,925	107,638	0.0135%	41	0.28863176
Canada	291,399	117,910	0.0105%	42	0.4046342
France	161,161	65,488	0.0058%	43	0.40635141
Hungary	147,000	50,590	0.0053%	44	0.34414966
Kuwait	105,000	32,235	0.0038%	45	0.307
Algeria	100,000	14,000	0.0036%	46	0.14
Taiwan	93,000	48,360	0.0034%	47	0.52
Spain	86,000	27,490	0.0031%	48	0.31965116
United Kingdom	74,560	37,552	0.0027%	49	0.50364807
Norway	42,000	11,550	0.0015%	50	0.275
Australia	40,124	15,711	0.0015%	51	0.39156116
Germany	39,144	11,630	0.0014%	52	0.29710811
Botswana	21,000	6,195	0.0008%	53	0.295
Israel	20,000	8,200	0.0007%	54	0.41
Belgium	15,000	8,334	0.0005%	55	0.5556
Equatorialguinea	10,000	2,766	0.0004%	56	0.2766
French Guyana	3,000	867	0.0001%	57	0.289
Barbados	2,000	1,487	0.0001%	58	0.7435
Angola	1,000	767	0.0000%	59	0.767
South Korea	50	50	0.0000%	60	1

Table 13 Rice Production Level of Recent Three Year in Different Producing Regions, 1998-2000

Region	Sub Region	Average Area (Million Hectare)					Average Yield (Ton / Hectare)					Average Production (Million Ton)				
		Rice	Indica	Hybrid	Japonica	Glutung	Rice	Indica	Hybrid	Japonica	Glutung	Rice	Indica	Hybrid	Japonica	Glutung
National	Average	30.85	7.88	15.67	7.87	0.44	6.44	3.16	4.09	4.94	0.97	198.80	24.90	64.03	38.89	0.43
North 7	Average	1.01	0.08	0.32	0.61	na	6.57	na	na	5.45	na	6.62	na	na	3.31	na
	Beijing	0.02	na	Na	0.02	na	6.77	na	na	6.77	na	0.12	na	na	0.12	na
	Tianjin	0.05	na	Na	0.05	na	6.82	na	na	6.82	na	0.34	na	na	0.34	na
	Hebei	0.15	na	Na	0.15	na	5.72	na	na	5.72	na	0.86	na	na	0.86	na
	Shanxi	0.01	na	Na	0.01	na	6.34	na	na	6.34	na	0.04	na	na	0.04	na
	Neimeng	0.12	na	Na	0.12	na	4.86	na	na	4.86	na	0.57	na	na	0.57	na
	Shandong	0.18	na	Na	0.18	na	7.27	na	na	7.27	na	1.28	na	na	1.28	na
North-East 3	Average	2.76	na	Na	2.74	0.02	6.63	na	na	6.63	5.54	18.26	na	na	18.16	0.10
	Liaoning	0.50	na	Na	0.50	0.01	8.12	na	na	8.14	6.26	4.08	na	na	4.04	0.04
	Jilin	0.66	na	Na	0.66	na	6.80	na	na	6.80	na	4.47	na	na	4.47	na
	Heilong	1.59	na	Na	1.58	0.01	6.09	na	na	6.10	5.17	9.71	na	na	9.64	0.06
	Average	6.87	2.61	2.75	3.21	0.02	7.28	1.87	5.98	5.01	na	50.04	4.88	16.48	16.05	na
YV-North 4	Shanghai	0.19	na	Na	0.19	0.00	7.83	na	na	7.95	na	1.52	na	na	1.52	na
	Jiangsu	2.32	1.79	0.53	1.72	na	8.36	2.73	8.10	8.44	na	19.43	4.88	4.31	14.54	na
	Anhui	2.18	0.20	0.79	1.19	na	5.98	na	na	Na	na	13.04	na	na	na	na
	Hubei	2.18	0.62	1.43	0.10	0.02	7.38	na	8.77	Na	na	16.05	na	12.55	na	na

Table 13 (Continued) Rice Production Level of Recent Three Year in Different Producing Regions, 1998-2000

Region	Sub Region	Average Area (Million Hectare)					Average Yield (Ton / Hectare)					Average Production (Million Ton)				
		Rice	Indica	Hybrid	Japonica	Glutting	Rice	Indica	Hybrid	Japonica	Glutting	Rice	Indica	Hybrid	Japonica	Glutting
YV-South 3	Average	8.72	2.78	4.63	1.13	0.18	5.90	2.99	3.66	0.03	na	51.49	8.32	16.98	0.03	na
	Zhejiang	1.85	0.42	0.20	1.13	0.10	6.02	na	na	Na	na	11.12	Na	Na	na	na
	Jiangxi	2.94	0.91	1.94	na	0.08	5.17	na	na	Na	na	15.19	Na	Na	na	na
	Hunan	3.94	1.45	2.49	0.01	na	6.43	5.73	6.83	6.34	na	25.30	8.32	16.98	0.03	na
South 4	Average	6.68	2.33	4.32	0.01	0.05	5.85	4.98	5.93	5.15	3.11	39.07	11.61	25.60	0.03	0.15
	Fujian	1.33	0.46	0.86	0.01	na	5.21	3.57	6.09	5.15	na	6.91	1.65	5.24	0.03	na
	Guangdong	2.59	1.24	1.34	na	na	6.30	6.25	6.42	Na	na	16.32	7.72	8.57	na	na
	Guangxi	2.37	0.43	1.94	na	0.04	5.91	5.22	6.07	Na	3.00	14.04	2.24	11.80	na	0.13
	Hainan	0.39	0.21	0.18	na	0.00	4.66	na	na	Na	4.67	1.80	Na	Na	na	0.01
South-West 5	Average	4.66	0.07	3.64	0.03	0.17	6.88	1.10	1.36	1.06	1.05	32.04	0.08	4.97	0.03	0.18
	Chongqing	0.79	0.01	0.73	0.01	0.03	6.67	5.50	6.77	5.26	5.22	5.25	0.08	4.97	0.03	0.18
	Sichuan	2.16	0.04	2.01	0.01	0.09	7.68	na	na	Na	na	16.55	Na	Na	na	na
	Guizhou	0.75	0.02	0.90	0.01	0.04	6.29	na	na	Na	na	4.70	Na	Na	na	na
	Yunnan	0.97	na	na	na	na	5.72	na	na	Na	na	5.52	Na	Na	na	na
	Tibet	0.00	na	na	na	na	5.13	na	na	Na	na	0.01	Na	Na	na	na
North-West 5	Average	0.16	na	na	0.16	na	8.24	na	na	8.24	na	1.28	Na	Na	1.28	na
	Shaanxi	0.01	na	na	0.01	na	6.42	na	na	6.42	na	0.04	Na	Na	0.04	na
	Gansu	0.01	na	na	0.01	na	8.72	na	na	8.72	na	0.06	Na	Na	0.06	na
	Qinghai	0.00	na	na	na	na	Na	na	na	Na	na	na	Na	Na	na	na
	Nigxia	0.07	na	na	0.07	na	9.30	na	na	9.30	na	0.64	Na	Na	0.64	na
	Xinjiang	0.07	na	na	0.07	na	7.34	na	na	7.34	na	0.55	Na	na	0.55	na

Table 14 The Annual growth Rate of China's Rice Production in Different Producing Regions, 1990 -2000

Region	Sub Region	Growth Rate of Area (10000 mu)					Growth Rate of Yield (kg / mu)					Growth Rate of Production (10000 ton)				
		Rice	Indica	Hybrid	Japonica	Glutting	Rice	Indica	Hybrid	Japonica	Glutting	Rice	Indica	Hybrid	Japonica	Glutting
National	Average	-0.88	-2.27	-1.35	3.52	0.51	1.06	-1.57	0.86	2.94	6.58	0.16	-4.21	1.04	6.07	7.73
North 7	Average	0.80	0.33	0.33	1.13	na	-0.44	Na	na	0.72	na	0.32	na	na	1.87	na
	Beijing	-6.94	na	na	-6.94	na	0.12	Na	na	0.12	na	-6.80	na	na	-6.80	na
	Tianjin	-0.61	na	na	-0.58	na	-0.41	Na	na	-0.41	na	-0.45	na	na	-0.43	na
	Hebei	0.09	na	na	0.09	na	-1.28	Na	na	-1.28	na	-8.72	na	na	-8.72	na
	Shanxi	-5.45	na	na	-5.45	na	0.72	Na	na	0.72	na	-4.87	na	na	-4.87	na
	Neimeng	3.37	na	na	3.37	na	3.73	Na	na	3.73	na	5.30	na	na	5.30	na
	Shandong	3.46	na	na	3.46	na	1.16	Na	na	1.16	na	4.83	na	na	4.83	na
North-East 3	Average	4.22	na	na	4.12	13.24	0.80	Na	na	0.86	0.76	5.05	na	na	5.01	14.13
	Liaoning	-1.00	na	na	-1.07	6.44	1.22	Na	na	1.28	0.84	0.20	na	na	0.15	7.11
	Jilin	0.75	na	na	0.75	na	0.22	Na	na	0.22	na	0.97	na	na	0.97	na
	Heilong	9.03	na	na	8.81	19.30	2.37	Na	na	2.38	2.57	11.61	na	na	11.56	22.41
	Average	-1.01	-0.82	-2.61	6.11	0.00	1.52	-9.04	-1.94	4.41	na	0.49	-9.76	-4.48	10.68	na
YV-North 4	Shanghai	-2.60	na	na	-2.63	0.00	0.78	Na	na	0.78	na	-1.84	na	na	-1.84	na
	Jiangsu	-0.44	2.93	-7.13	10.91	na	1.96	-12.26	1.70	2.33	na	1.51	-9.76	-5.50	13.48	na
	Anhui	-0.44	-6.94	-2.92	3.71	na	1.25	Na	na	Na	na	0.79	na	na	na	na
	Hubei	-1.96	-5.65	0.05	0.00	0.00	1.41	Na	0.87	Na	na	-0.61	na	1.27	na	na

Table 14 (Continued) The Annual growth Rate of Chin a's Rice Production in Different Producing Regions, 1 990-2000

Region	Sub Region	Average Area (Million Hectare)					Average Yield (Ton / Hectare)					Average Production (Million Ton)				
		Rice	Indica	Hybrid	Japonica	Glutting	Rice	Indica	Hybrid	Japonica	Glutting	Rice	Indica	Hybrid	Japonica	Glutting
YV-South 3	Average	-1.27	-3.02	-0.12	-1.18	0.00	0.71	2.28	0.70	11.49	na	-0.57	-0.88	0.59	10.20	na
	Zhejiang	-2.68	-5.38	-4.69	-1.21	0.00	0.65	Na	na	Na	na	-2.04	na	na	na	na
	Jiangxi	-0.75	-3.23	0.64	Na	0.00	0.37	Na	na	Na	na	-0.38	na	na	na	na
	Hunan	-0.94	-2.07	-0.22	10.25	na	0.98	1.21	0.90	12.95	na	0.08	-0.88	0.59	10.21	na
South 4	Average	-1.19	-0.91	-0.17	Na	0.00	1.43	0.55	1.48	Na	na	0.23	-0.34	8.27	na	na
	Fujian	-1.30	-2.35	-0.76	Na	na	-0.02	-3.27	0.97	Na	na	-1.32	-5.15	0.21	na	na
	Guangdong	-1.75	-3.61	0.14	Na	na	1.66	1.59	1.54	Na	na	-0.10	-2.08	1.67	na	na
	Guangxi	-0.55	na	na	Na	na	1.89	Na	na	Na	na	1.34	na	na	na	na
	Hainan	-0.74	-1.69	0.47	Na	0.00	1.04	Na	na	Na	na	1.56	na	na	na	na
South-West 5	Average	-2.16	-0.25	-2.61	-2.82	-2.18	0.80	2.42	2.23	2.94	na	-1.38	2.10	-0.44	0.04	0.25
	Chongqing	-0.26	1.99	-0.32	-0.53	0.12	-0.11	0.07	-0.12	0.58	0.13	-0.38	2.10	-0.44	-1.18	0.25
	Sichuan	-4.02	-1.85	-4.07	-4.27	-3.65	0.96	Na	na	Na	na	-3.10	na	na	na	na
	Guizhou	0.19	2.17	-0.57	-0.78	-0.12	2.14	Na	na	Na	na	2.35	na	na	na	na
	Yunnan	-0.50	na	na	Na	na	1.47	Na	na	Na	na	0.91	na	na	na	na
	Tibet	0.74	na	na	Na	na	4.91	Na	na	Na	na	4.83	na	na	na	na
North-West 5	Average	-0.02	na	na	-0.02	na	2.27	Na	na	2.27	na	2.24	na	na	2.24	na
	Shaanxi	-5.52	na	na	-5.52	na	0.81	Na	na	0.81	na	-4.80	na	na	-4.80	na
	Gansu	2.89	na	na	2.89	na	4.60	Na	na	4.60	na	7.58	na	na	7.58	na
	Qinghai	na	na	na	Na	na	na	Na	na	Na	na	na	na	na	na	na
	Nigxia	0.07	na	na	0.07	na	9.30	Na	na	9.30	na	0.64	na	na	0.64	na
	Xinjiang	0.07	na	na	0.07	na	7.34	Na	na	7.34	na	0.55	na	na	0.55	na

Table 15 Largest Contributing Province to Rise in Chin a Japonica Rice Sown Area, 1990-2000

Region	Japonica Area (Million Hectare)			
	1990-1992	1998-2000	Increase	Percent*
National	5.78	7.87	2.09	100
Jiangsu	0.68	1.72	1.04	50
Heilongjiang	0.74	1.58	0.84	40
Anhui	0.86	1.19	0.33	16
Shandong	0.13	0.18	0.05	2
Jilin	0.62	0.66	0.04	2
Neimeng	0.09	0.12	0.03	1

Note: Author's Survey.

* This column doesn't add to 100 since only 6 provinces are included.

Table 16 Largest Contributing Province to Decline in China Indica Rice Sown Area, 1990 -2000

Region	Area (Million Hectare)			
	1990-1992	1998-2000	Increase	Percent*
National	9.16	7.88	-1.28	100
Guangdong	1.72	1.24	-0.48	38
Hubei	1.05	0.62	-0.43	34
Jiangxi	1.22	0.91	-0.31	24
Hunan	1.75	1.45	-0.30	23
Zhejiang	0.69	0.42	-0.27	21
Anhui	0.38	0.20	-0.18	14

Note: Author's Survey.

* This column doesn't add to 100 since only 6 provinces are included.

Table 17. Two Stage Least Squares Estimates of the Determinants of TFP for Rice in China

	Model 1		Model 2	
	TFP	Technology (VT ₁)	TFP	Technology (VT ₂)
Technology Variables				
Varietal Turnover	15.50		10.50	
(VT ₁ or VT ₂)	(9.25) ***		(9.18) ***	
Extension	-0.014	0.0004	-0.01	0.0007
	(1.68)*	(2.29)**	(1.66)*	(3.14) ***
Weather, Irrigation, and Period Dummy				
Flood Index	-8.63	0.04	-8.44	0.03
	(1.76)*	(0.37)	(1.70)*	(0.25)
Drought Index	-23.83	-0.30	-21.29	-0.73
	(2.56)**	(1.42)	(2.26)**	(2.91) ***
Irrigation Index	-100.05	-0.92	-91.82	-2.32
	(3.19) ***	(1.26)	(2.91) ***	(2.68) ***
D90-95 (Index for 1990s)	1.54	-0.29	2.25	-0.46
	(0.40)	(3.15) ***	(0.58)	(4.29) ***
Instruments				
Research Stock		0.02		0.02
		(19.65) ***		(23.96) ***
CG Contribution		-0.27		0.68
		(0.76)		(1.64)*
Yield frontier		-0.002		-0.003
		(3.03) ***		(3.78) ***
# of Observation	240	240	240	240

Note: All regression equations include provincial dummies to hold constant unobserved fixed effects . For definition of variables, see Table 2 and methodological section. T -ratios in parentheses. ***, **, and * signify that the coefficients are statistically significant at the 1, 5, and 10 percent levels.

Table 18 Exports of Paddy Rice, 1999

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Total	154,105,260	47,221,831			0.31
South Korea	115,814,150	35,576,398	75.15%	1	0.31
Japan	14,300,718	6,387,168	9.28%	2	0.45
Egypt	12,100,000	2,637,800	7.85%	3	0.22
Romania	11,000,000	2,321,000	7.14%	4	0.21
Kazakhstan	311,749	84,040	0.20%	5	0.27
Indonesia	160,000	39,659	0.10%	6	0.25
USA	147,960	81,284	0.10%	7	0.55
Singapore	100,738	29,646	0.07%	8	0.29
Kyrgyzstan	92,500	27,750	0.06%	9	0.30
Israel	20,000	9,000	0.01%	10	0.45
Uzbekistan	19,870	5,564	0.01%	11	0.28
Australia	17,925	6,758	0.01%	12	0.38
Canada	7,950	2,758	0.01%	13	0.35
Hong Kong	7,200	11,706	0.00%	14	1.63
United Kingdom	4,000	1,200	0.00%	15	0.30
Kenya	500	100	0.00%	16	0.20

Table 19 Exports of Paddy Rice, 2000

Country	Quantity (kg)	Value (\$)	Share	Order	Unit Value (\$/kg)
Total	173,724,178	40,344,621			0.23
South Korea	131,032,025	32,444,377	75.4%	1	0.25
Romania	33,500,000	5,453,500	19.3%	2	0.16
Burma	5,072,000	1,274,875	2.9%	3	0.25
North Korea	1,146,450	200,629	0.7%	4	0.18
Japan	1,056,040	393,518	0.6%	5	0.37
Mongolia	800,000	240,000	0.5%	6	0.30
Kazakhstan	467,000	136,660	0.3%	7	0.29
Kyrgyzstan	420,000	134,400	0.2%	8	0.32
Singapore	120,750	35,395	0.1%	9	0.29
Czechrepublic	34,640	7,992	0.0%	10	0.23
Tajikistan	32,000	9,600	0.0%	11	0.30
Canada	20,000	3,780	0.0%	12	0.19
Australia	17,800	8,280	0.0%	13	0.47
USA	4,473	1,361	0.0%	14	0.30
Hong Kong	1,000	254	0.0%	15	0.25

Table 20: WORKSHEET—PER HECTARE COST OF PRODUCTION OF INDICA AND JAPONICA IN 1999

	Indica	Japonica		
	Chinese Yen	US Dollar	Chinese Yen	US Dollar
Total Variable Cash Expenditures				
Seed	303.00	36.51	303.45	36.56
Organic Fertilizer	150.90	18.18	104.70	12.61
Chemical Fertilizer	838.95	101.08	1143.30	137.75
Plastic Sheeting	34.35	4.14	94.95	11.44
Pesticides (including Insecticides, Fungicides, and Herbicides)	171.90	20.71	290.55	35.01
Custom Fees--Draft Animals	349.20	42.07	175.20	21.11
Custom Fees--Tractor Operators	185.70	22.37	487.80	58.77
Total Irrigation Expenditures	216.30	26.06	548.40	66.07
Fuel Expenses for Own Equipment	11.25	1.36	38.25	4.61
Other Cash Expenses	199.35	24.02	357.90	43.12
Total	2460.90	296.49	3544.50	427.05
Own Capital Costs--Depreciation and Maintenance	181.05	21.81	226.35	27.27
Labor				
Imputed Wage Bill	2566.08	309.17	2498.16	300.98
Imputed Wage Rate	9.60	1.16	11.20	1.35
Total Labor Days	267.3	267.3	223.1	223.1
Taxes and Fees Paid for Land Use (Sort of China's Equivalent of Land Rents)	942.60	113.57	959.55	115.61
Output price (same if sold to state or to private trader)	1.03	0.12	1.27	0.15
Yield (kilograms/hectare)	7125.3	7125.3	7318.8	7318.8
Total revenue	7347.61	885.25	9259.75	1115.63
SUMMARY--COST OF PRODUCTION				
TOTAL VARIABLE COSTS	3584.55	431.87	4730.40	569.93
Total Cash Costs -- Non-land variable costs	2460.90	296.49	3544.50	427.05
Cash Costs for Land and Land-related Taxes and Fees	942.60	113.57	959.55	115.61
Costs for Own Capital	181.05	21.81	226.35	27.27
TOTAL REVENUE	7347.61	885.25	9259.75	1115.63
TOTAL RETURN to LABOR AND MANAGEMENT	3763.06	453.38	4529.35	545.70
TOTAL IMPUTED WAGE BILL	2566.08	309.17	2498.16	300.98
TOTAL "PROFIT" (OR RETURN TO MANAGEMENT)	1196.98	144.21	2031.19	244.72

Source: Agricultural Production Cost Survey Dada of China, 2000 published b y China's Price Press.

Note: The price is 1999 nominal prices.

Table 21 Japonica Rice Use Per Household

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Production per household	Year end stocks	Total available from farm	Quota	Sales	Own consumption	Seed	Feed	Borrowed/ Exchange	Year end stocks	Taxes
Kg	Kg	(1)+(2)	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg
Hebei	0	0	0	0	0	0	0	0	0	0
Shaanxi	688.13	390.83	1078.96	21.25	167.05	504.38	0.09	8.30	16.25	361.63
Liaoning	2474.48	1811.90	4286.38	629.89	1518.56	538.51	5.00	25.00	132.53	1436.90

Table 22 Indica Rice Use Per Household

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Production per household	Year end stocks	Total available from farm	Quota	Sales	Own consumption	Seed	Feed	Borrowed/ Exchange	Year end stocks	Taxes
	Kg	Kg	(1)+(2)	Kg	Kg	Kg	Kg	Kg	Kg	Kg	Kg
South China											
Zhejiang	1434.24	837.57	2271.81	60.29	80.85	710.98	8.12	256.86	56.00	1038.71	60.00
Sichuan	903.33	583.85	1487.18	24.92	109.74	708.30	0.00	81.22	11.13	541.23	10.64
Hubei	1534.61	532.80	2067.41	49.82	465.92	777.73	2.59	149.22	10.28	584.18	27.66

Table 23 Rice Consumption

	Consumption		Purchases per capita		Consumption from own production	
	Kg		Kg	% of consumption	Kg	% of consumption
North China						
Hebei	44.80		44.8	100.00	0.00	0.00
Shaanxi	101.55		31.93	31.44	69.62	68.56
Liaoning	246.15		93.6	38.03	152.55	61.97
South China						
Zhejiang	422.93		48.41	11.45	374.52	88.55
Sichuan	396.61		48.18	12.15	348.43	87.85
Hubei	395.58		109.69	27.73	285.89	72.27