

## World on the Edge - Food and Agriculture Data - Crops

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A full listing of data for the entire book is on-line at:  
[http://www.earth-policy.org/books/wote/wote\\_data](http://www.earth-policy.org/books/wote/wote_data)

This is part of a supporting dataset for Lester R. Brown, **World On the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2010). For more information and a free download of the book, see Earth Policy Institute on-line at [www.earth-policy.org](http://www.earth-policy.org).

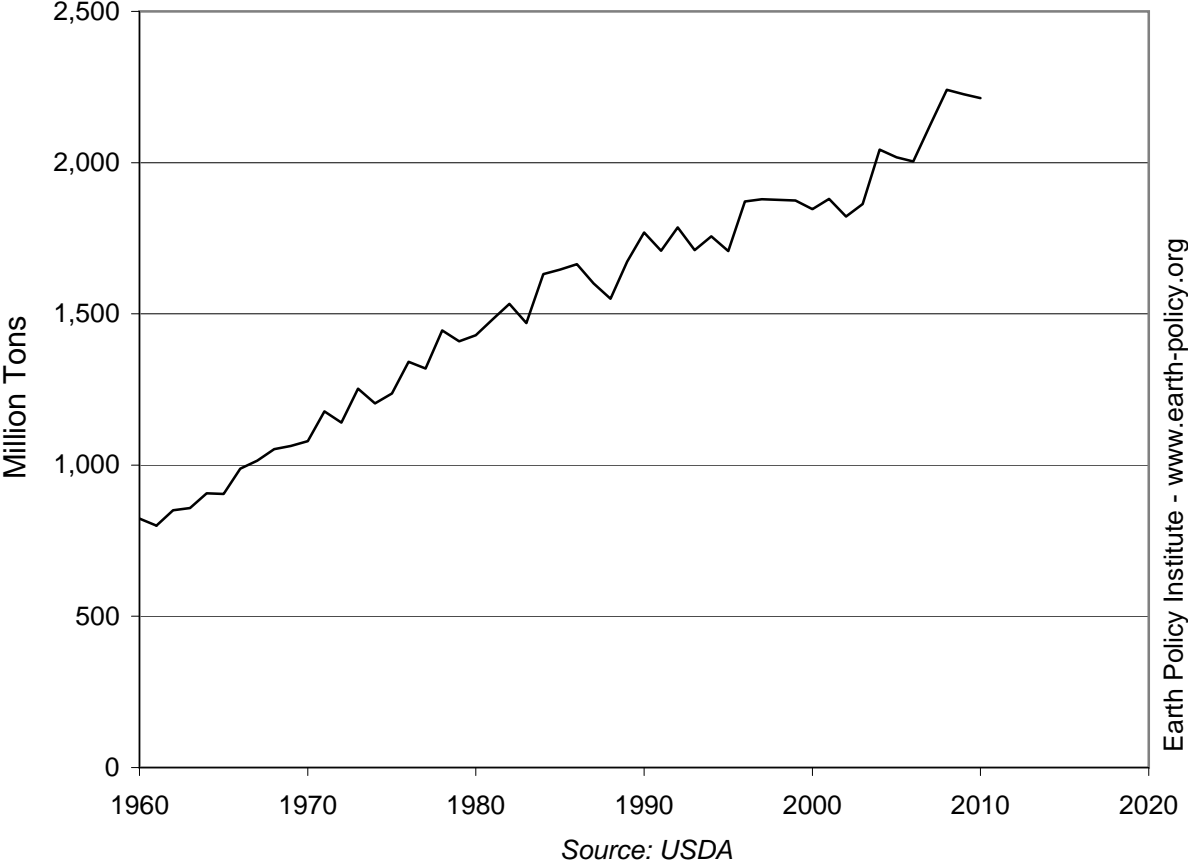
## World Grain Production, Area, and Yield, 1960-2010

Year	Production Million Tons	Area Million Hectares	Yield Tons per Hectare
1960	824	639	1.29
1961	800	635	1.26
1962	850	641	1.33
1963	858	648	1.32
1964	906	657	1.38
1965	905	653	1.39
1966	988	655	1.51
1967	1,014	665	1.52
1968	1,052	670	1.57
1969	1,063	672	1.58
1970	1,079	663	1.63
1971	1,177	672	1.75
1972	1,141	661	1.73
1973	1,253	688	1.82
1974	1,203	690	1.74
1975	1,237	707	1.75
1976	1,342	716	1.87
1977	1,319	714	1.85
1978	1,445	713	2.03
1979	1,409	710	1.98
1980	1,429	722	1.98
1981	1,482	732	2.02
1982	1,533	717	2.14
1983	1,469	708	2.07
1984	1,632	711	2.29
1985	1,647	716	2.30
1986	1,664	710	2.34
1987	1,601	686	2.33
1988	1,550	689	2.25
1989	1,673	697	2.40
1990	1,769	696	2.54
1991	1,709	694	2.46
1992	1,786	695	2.57
1993	1,711	685	2.50
1994	1,756	685	2.56
1995	1,707	682	2.50
1996	1,872	703	2.66
1997	1,879	691	2.72
1998	1,877	687	2.73
1999	1,874	670	2.80
2000	1,846	666	2.77
2001	1,880	667	2.82
2002	1,822	653	2.79
2003	1,864	665	2.80
2004	2,043	669	3.05
2005	2,017	674	2.99
2006	2,004	673	2.98
2007	2,125	692	3.07
2008	2,241	697	3.22
2009	2,226	686	3.24
2010	2,213	689	3.21

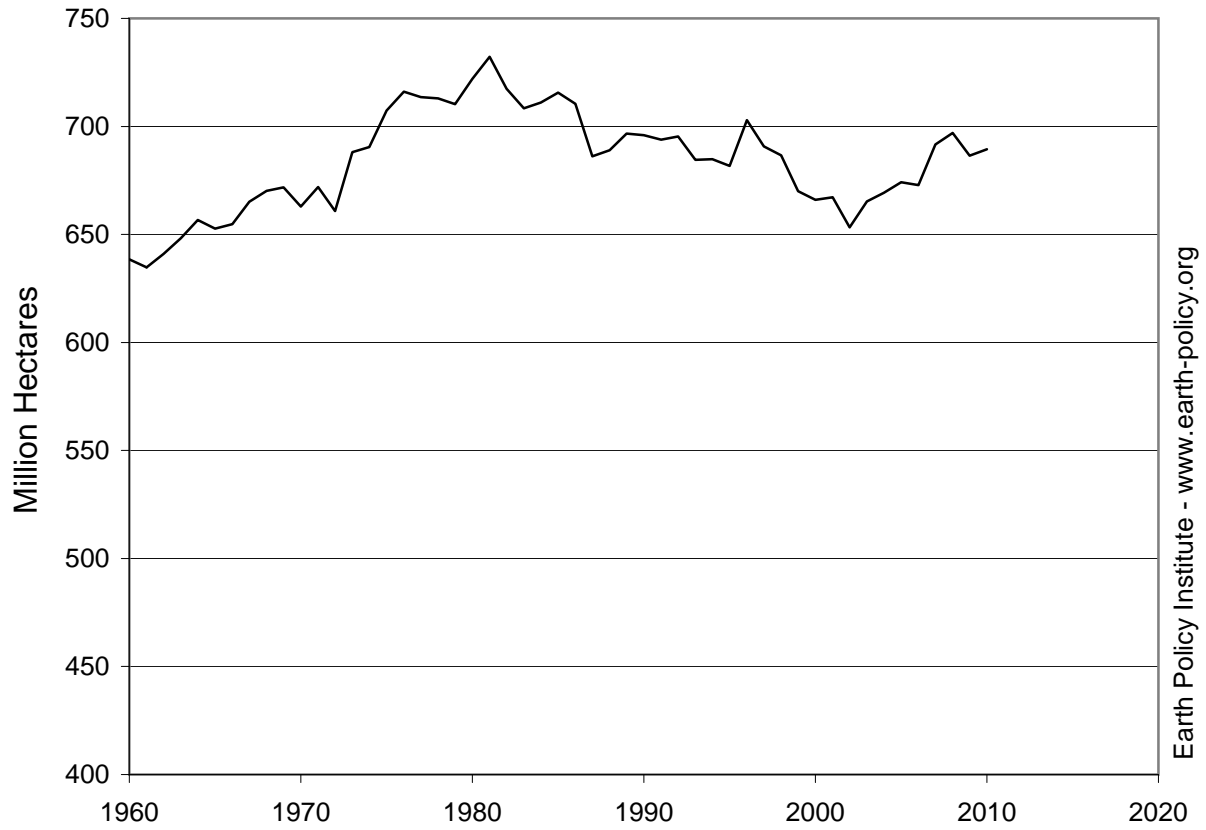
Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 12 August 2010.

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# World Grain Production, 1960-2010



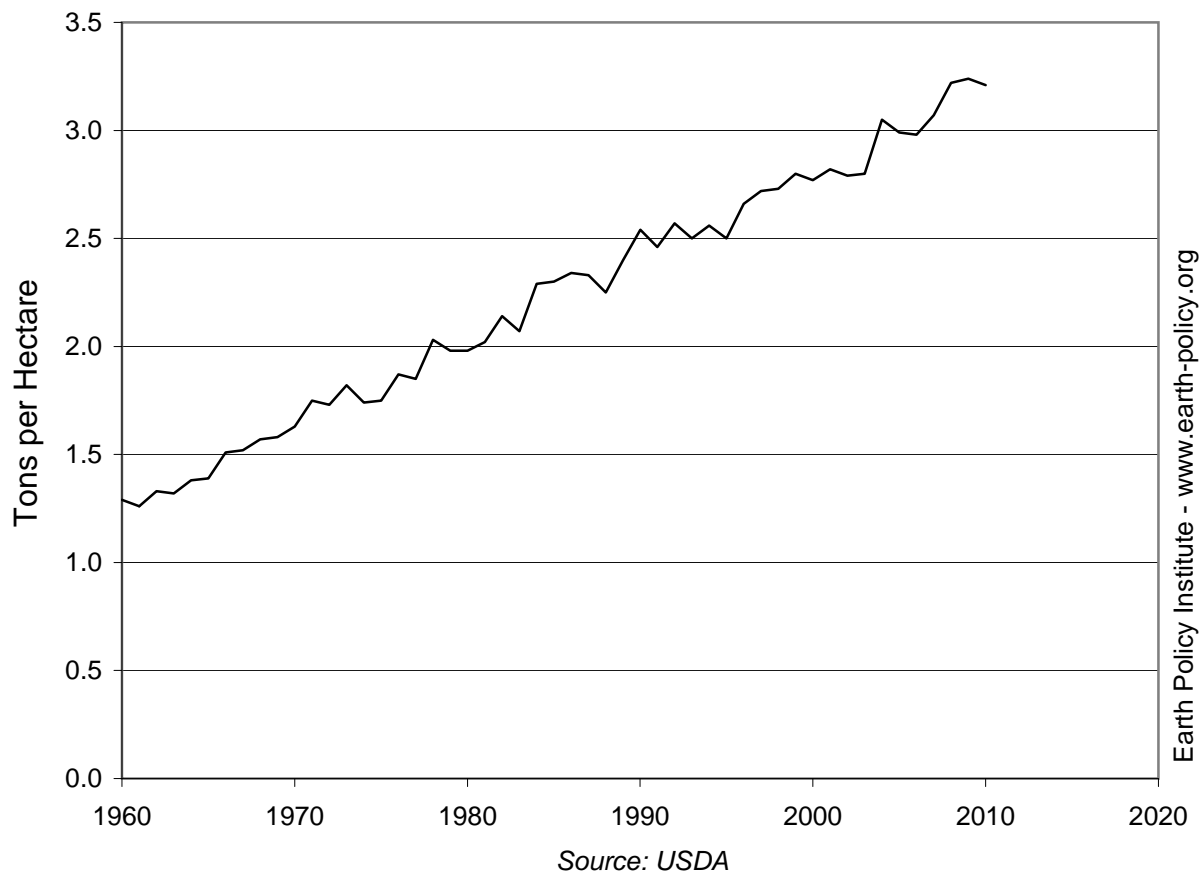
# World Grain Area Harvested, 1960-2010



Source: USDA

Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)

# World Grain Yield, 1960-2010

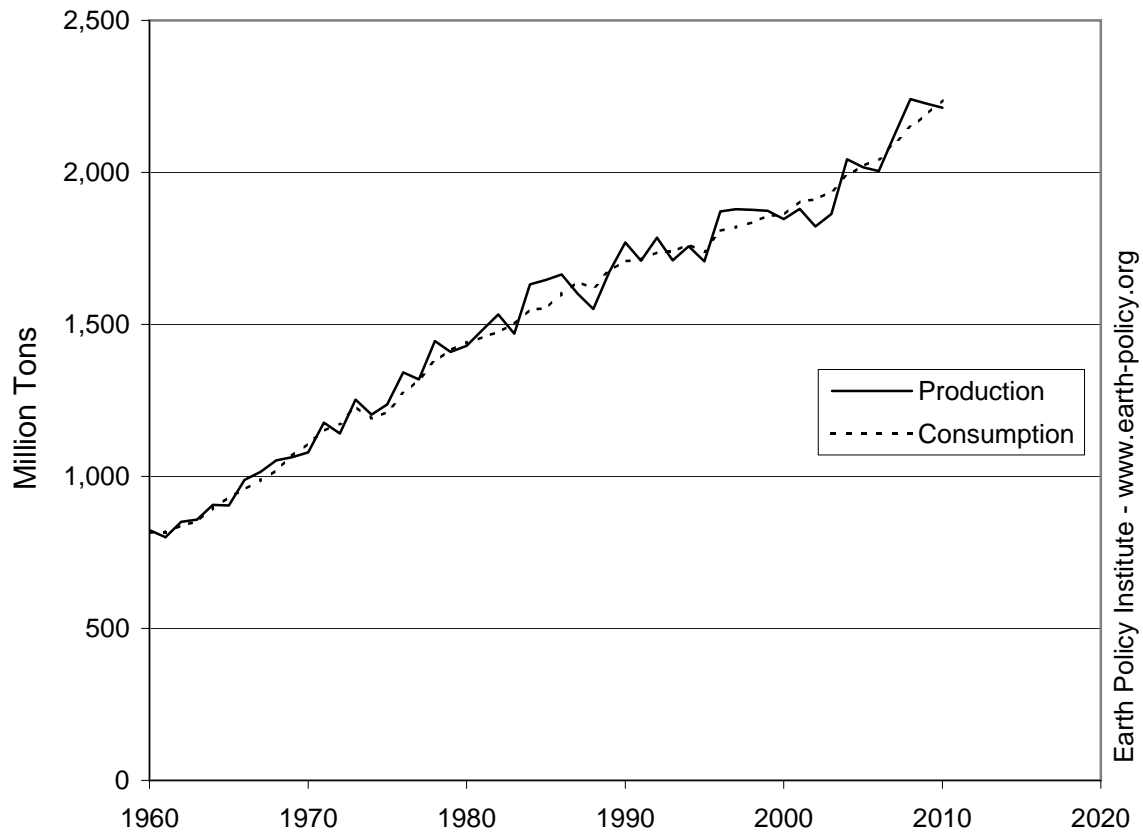


## World Grain Production, Consumption, and Stocks, 1960-2010

Year	Production	Consumption	Surplus or Deficit	Stocks	Stocks Share of Consumption	Stocks Days of Consumption
	Million Tons			Million Tons	Percent	
1960	824	815	8	203	25	91
1961	800	817	-17	182	22	81
1962	850	838	13	190	23	83
1963	858	852	6	193	23	83
1964	906	896	10	194	22	79
1965	905	932	-27	159	17	62
1966	988	957	32	189	20	72
1967	1,014	988	27	213	22	79
1968	1,052	1,020	32	244	24	87
1969	1,063	1,069	-6	228	21	78
1970	1,079	1,108	-29	193	17	64
1971	1,177	1,150	27	218	19	69
1972	1,141	1,174	-33	180	15	56
1973	1,253	1,230	23	192	16	57
1974	1,203	1,190	13	199	17	61
1975	1,237	1,212	25	219	18	66
1976	1,342	1,273	69	280	22	80
1977	1,319	1,319	0	278	21	77
1978	1,445	1,380	65	333	24	88
1979	1,409	1,416	-6	328	23	84
1980	1,429	1,440	-11	308	21	78
1981	1,482	1,458	24	331	23	83
1982	1,533	1,475	58	389	26	96
1983	1,469	1,501	-31	348	23	85
1984	1,632	1,549	83	428	28	101
1985	1,647	1,553	94	518	33	122
1986	1,664	1,601	63	572	36	130
1987	1,601	1,640	-39	528	32	118
1988	1,550	1,620	-70	451	28	102
1989	1,673	1,677	-4	441	26	96
1990	1,769	1,707	62	495	29	106
1991	1,709	1,714	-5	486	28	104
1992	1,786	1,737	49	522	30	110
1993	1,711	1,740	-29	484	28	102
1994	1,756	1,762	-6	479	27	99
1995	1,707	1,740	-33	437	25	92
1996	1,872	1,808	64	488	27	98
1997	1,879	1,820	59	542	30	109
1998	1,877	1,836	41	582	32	116
1999	1,874	1,857	18	586	32	115
2000	1,846	1,860	-14	566	30	111
2001	1,880	1,905	-26	536	28	103
2002	1,822	1,910	-88	443	23	85
2003	1,864	1,936	-73	358	18	67
2004	2,043	1,990	53	406	20	74
2005	2,017	2,021	-4	392	19	71
2006	2,004	2,044	-41	347	17	62
2007	2,125	2,096	28	369	18	64
2008	2,241	2,149	92	450	21	76
2009	2,226	2,190	36	477	22	79
2010	2,213	2,238	-25	444	20	72

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 12 August 2010.

# World Grain Production and Consumption, 1960-2010

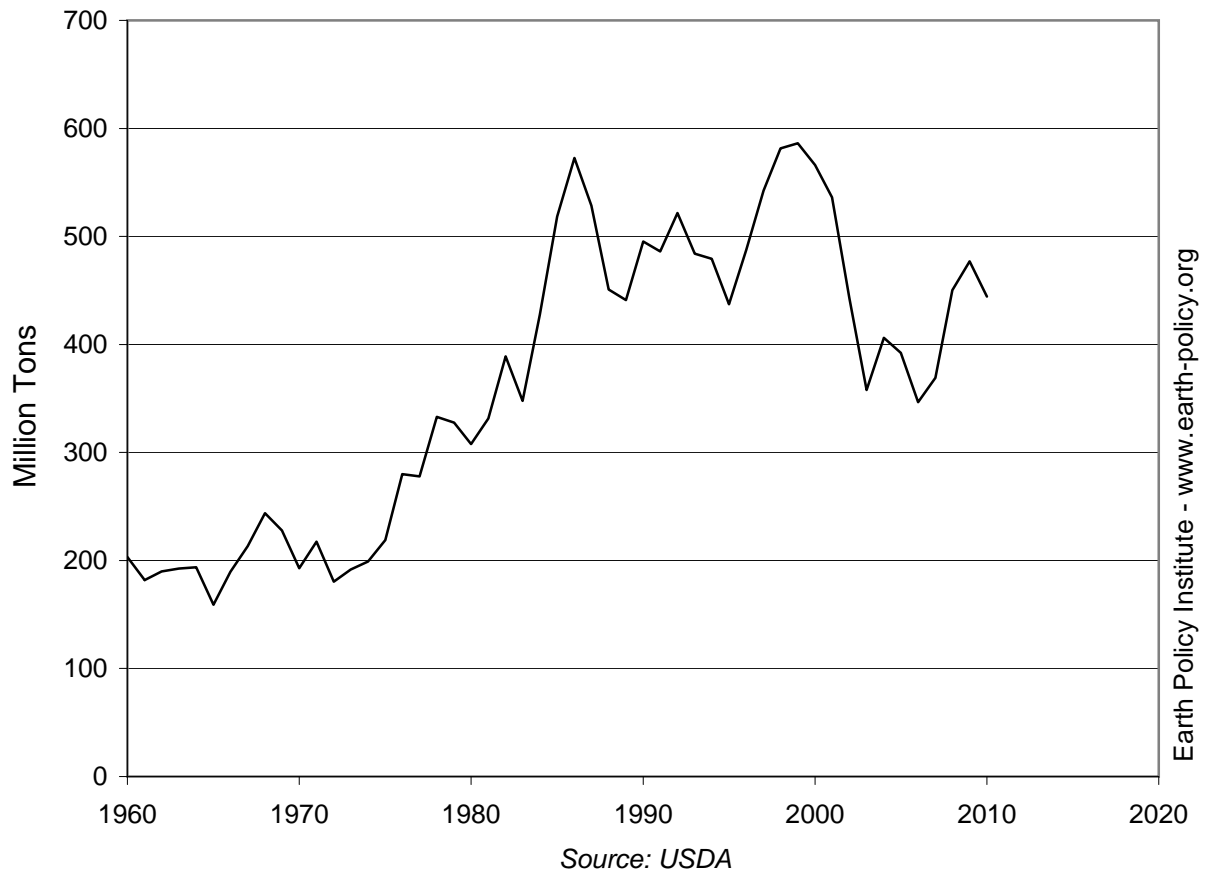


Source: USDA

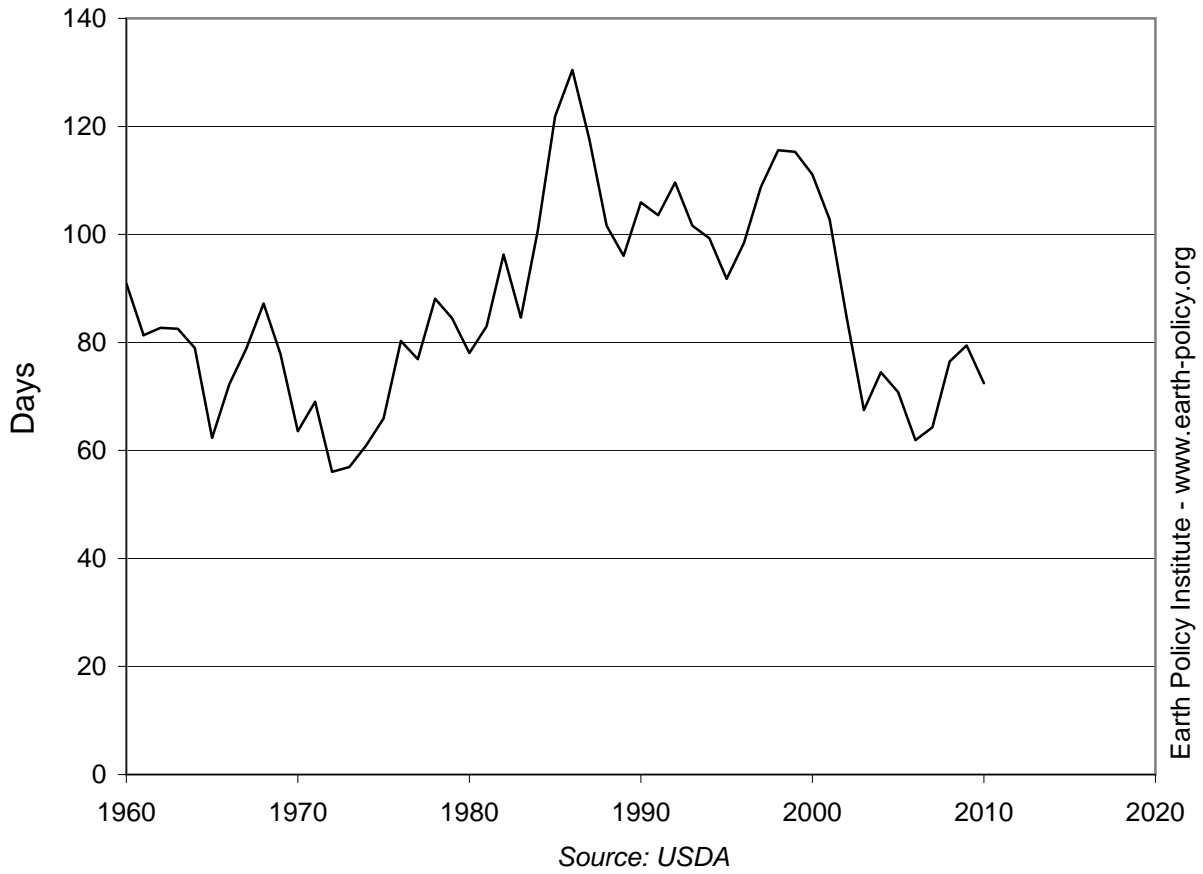
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# World Grain Stocks, 1960-2010



# World Grain Stocks as Days of Consumption, 1960-2010



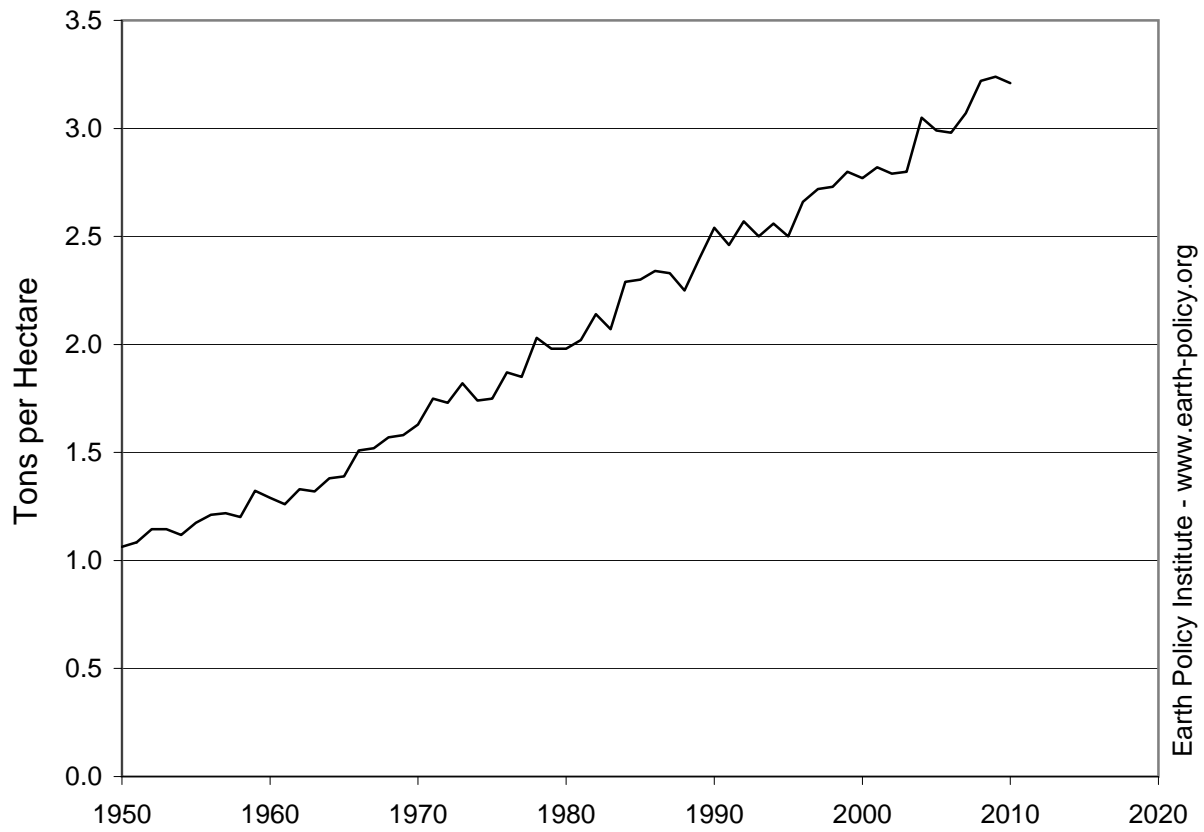
### World Average Grain Yields, 1950-2010

Year	Yield
	Tons per Hectare
1950	1.06
1951	1.08
1952	1.14
1953	1.15
1954	1.12
1955	1.17
1956	1.21
1957	1.22
1958	1.20
1959	1.32
1960	1.29
1961	1.26
1962	1.33
1963	1.32
1964	1.38
1965	1.39
1966	1.51
1967	1.52
1968	1.57
1969	1.58
1970	1.63
1971	1.75
1972	1.73
1973	1.82
1974	1.74
1975	1.75
1976	1.87
1977	1.85
1978	2.03
1979	1.98
1980	1.98
1981	2.02
1982	2.14
1983	2.07
1984	2.29
1985	2.30
1986	2.34
1987	2.33
1988	2.25
1989	2.40
1990	2.54
1991	2.46
1992	2.57
1993	2.50
1994	2.56
1995	2.50
1996	2.66
1997	2.72
1998	2.73
1999	2.80
2000	2.77
2001	2.82
2002	2.79
2003	2.80
2004	3.05
2005	2.99
2006	2.98
2007	3.07
2008	3.22
2009	3.24
2010	3.21

Source: Compiled by Earth Policy Institute, with 1950-1959 data from Worldwatch Institute, *Signposts 2001*, CD-ROM (Washington, DC: 2001); 1960-2009 from U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 12 August 2010.

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# World Average Grain Yields, 1950-2010



Source: EPI from Worldwatch; USDA

### World Grain Yields, Annual Percent Increase by Decade, 1950-2010

Decade	Average Annual Increase Percent
1950-1960	1.9
1960-1970	2.4
1970-1980	2.0
1980-1990	2.5
1990-2000	0.9
2000-2010	1.5

Source: Compiled by Earth Policy Institute, with 1950-1959 data from Worldwatch Institute, *Signposts 2001*, CD-ROM (Washington, DC: 2001); 1960-2010 from U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 12 August 2010.

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**Grain Harvested Area Per Person in Selected Countries and the World in 1950 and 2010, with Projection to 2050**

	Area		
	1950	2010	2050
	Hectares		
Afghanistan	0.36	0.10	0.04
Australia	0.73	0.90	0.67
Bangladesh	0.20	0.07	0.06
Brazil	0.13	0.10	0.09
Canada	1.42	0.38	0.29
China	0.17	0.06	0.06
Democratic Republic of the Congo	0.05	0.03	0.01
Egypt	0.08	0.04	0.02
Ethiopia	0.26	0.08	0.04
France	0.21	0.15	0.14
India	0.22	0.08	0.06
Indonesia	0.10	0.07	0.05
Iran	0.21	0.12	0.09
Iraq	0.43	0.10	0.05
Japan	0.06	0.01	0.02
Malaysia	0.09	0.02	0.02
Mexico	0.19	0.09	0.08
Nepal	0.19	0.11	0.07
Nigeria	0.26	0.13	0.07
North Korea	0.14	0.05	0.05
Pakistan	0.18	0.07	0.04
Philippines	0.16	0.08	0.05
Rwanda	0.06	0.04	0.02
South Africa	0.36	0.09	0.08
South Korea	0.10	0.02	0.02
Sudan	0.16	0.20	0.11
Sri Lanka	0.06	0.04	0.04
Tanzania	0.07	0.11	0.05
Thailand	0.27	0.18	0.16
Turkey	0.40	0.16	0.13
Uganda	0.15	0.05	0.02
United Kingdom	0.07	0.05	0.04
United States	0.51	0.18	0.14
Vietnam	0.14	0.10	0.08
Yemen	0.21	0.03	0.02
<b>World Average</b>	<b>0.23</b>	<b>0.10</b>	<b>0.08</b>

Note: 2010 grain area used for 2050 projection.

Source: Compiled by Earth Policy Institute with grain area for 1950 from U.S. Department of Agriculture (USDA), *Production, Supply and Distribution (PS&D)*, Country Reports, October 1990; 2010 grain data for France and the United Kingdom from USDA, Foreign Agricultural Service, *World Agricultural Production* (Washington, DC: December 2010); all other 2010 grain data from USDA, *PS&D*, electronic database, updated 10 December 2010; population data and projections from U.N. Population Division, *World Population Prospects: The 2008 Revision Population Database*, electronic database, at <http://esa.un.org/unpp>, updated 11 March 2009.

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## Grain Production in the Russian Federation, 1987-2010

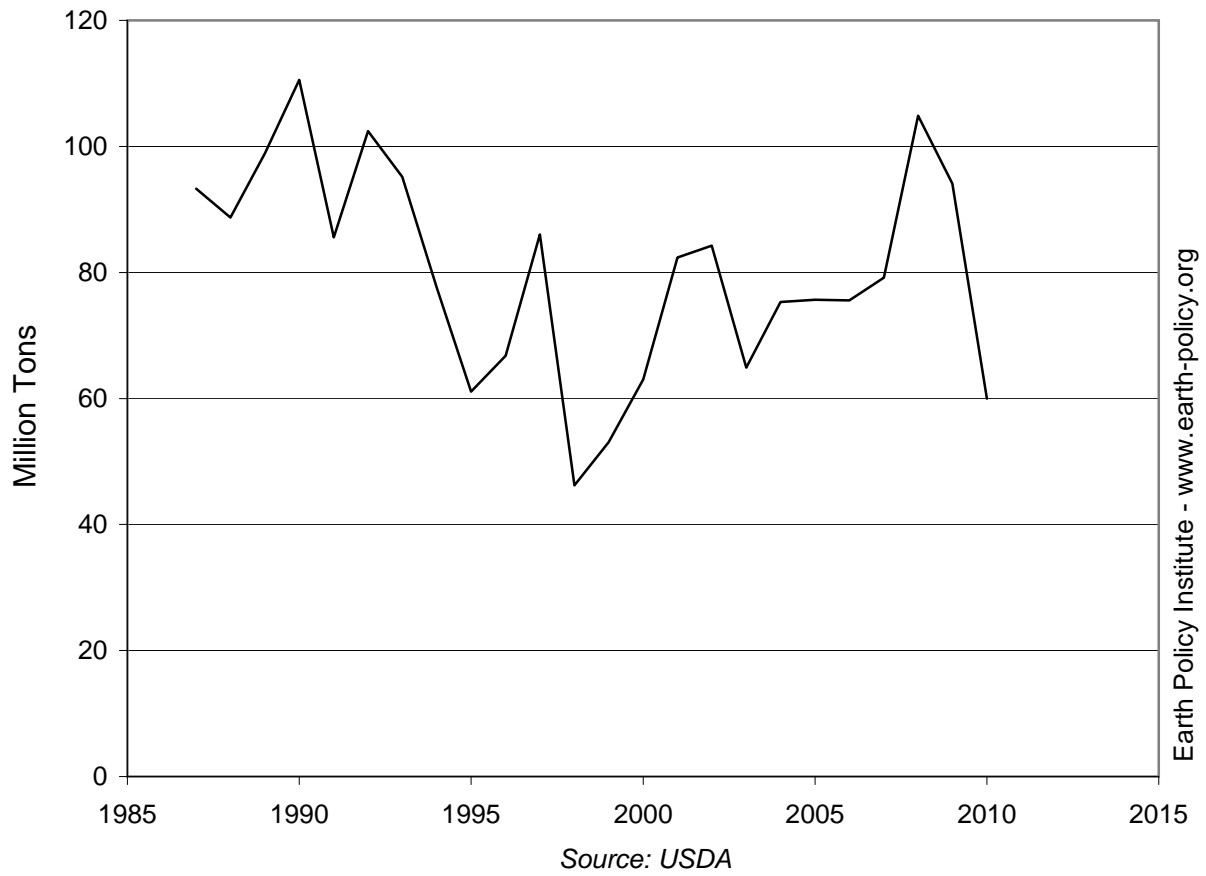
Year	Production Million Tons
1987	93
1988	89
1989	99
1990	111
1991	86
1992	102
1993	95
1994	78
1995	61
1996	67
1997	86
1998	46
1999	53
2000	63
2001	82
2002	84
2003	65
2004	75
2005	76
2006	76
2007	79
2008	105
2009	94
2010	60

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 9 November 2010.

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# Grain Production in the Russian Federation, 1987-2010



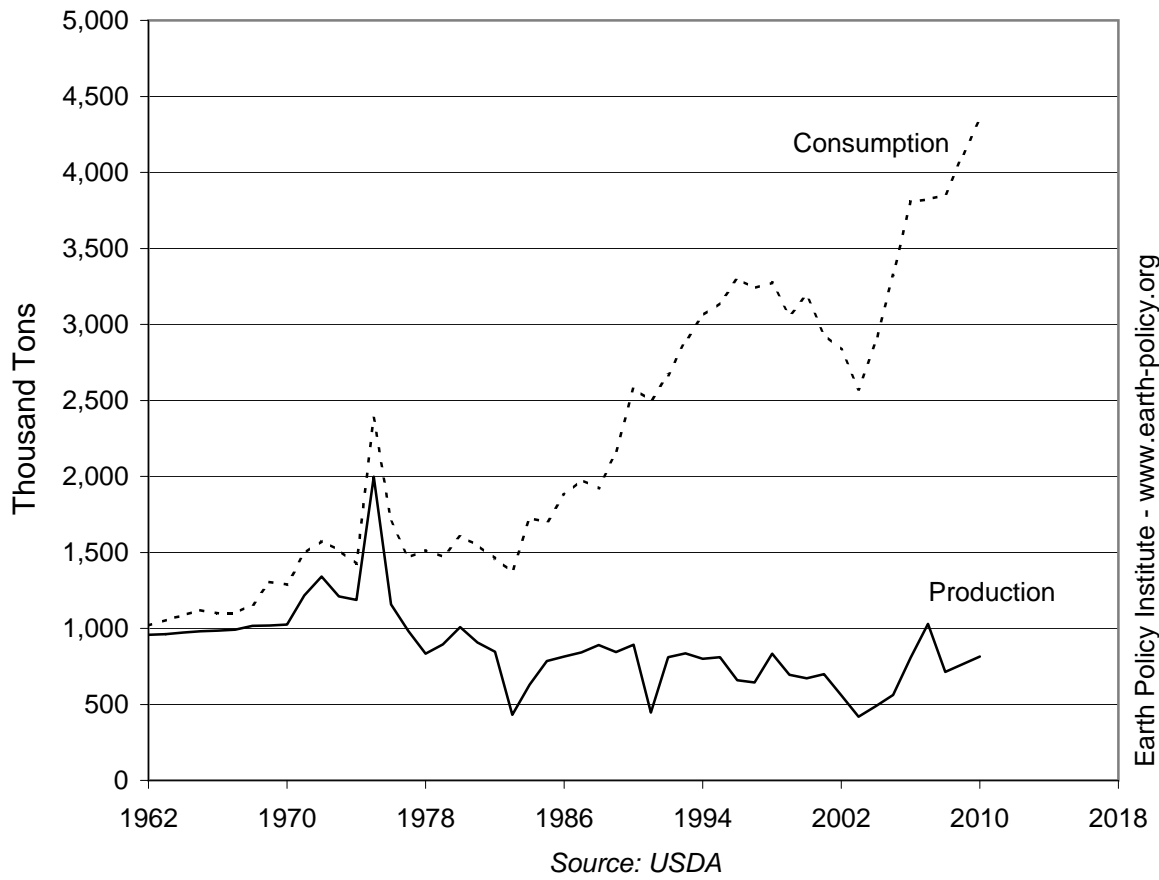
### Grain Production, Consumption, and Imports in Yemen, 1962-2010

Year	Production	Consumption	Imports
	Thousand Tons		
1962	957	1,020	93
1963	963	1,054	127
1964	973	1,087	145
1965	981	1,119	170
1966	985	1,099	156
1967	991	1,102	129
1968	1,017	1,156	149
1969	1,020	1,305	301
1970	1,026	1,289	279
1971	1,216	1,494	288
1972	1,342	1,575	254
1973	1,210	1,515	304
1974	1,187	1,425	251
1975	1,998	2,383	398
1976	1,158	1,706	594
1977	983	1,465	493
1978	834	1,514	665
1979	894	1,472	582
1980	1,009	1,603	604
1981	907	1,550	653
1982	847	1,461	624
1983	432	1,372	940
1984	630	1,724	1,094
1985	785	1,702	917
1986	814	1,878	1,064
1987	843	1,977	1,134
1988	890	1,923	1,033
1989	845	2,161	1,316
1990	893	2,579	1,686
1991	447	2,498	2,051
1992	810	2,667	1,857
1993	835	2,891	2,056
1994	801	3,059	2,258
1995	810	3,142	2,332
1996	660	3,299	2,639
1997	645	3,239	2,594
1998	833	3,273	2,440
1999	694	3,061	2,367
2000	672	3,191	2,519
2001	700	2,935	2,235
2002	561	2,836	2,275
2003	419	2,573	2,154
2004	489	2,885	2,396
2005	562	3,324	2,762
2006	809	3,807	3,202
2007	1,030	3,823	2,747
2008	714	3,851	3,735
2009	765	4,110	3,377
2010	815	4,345	3,135

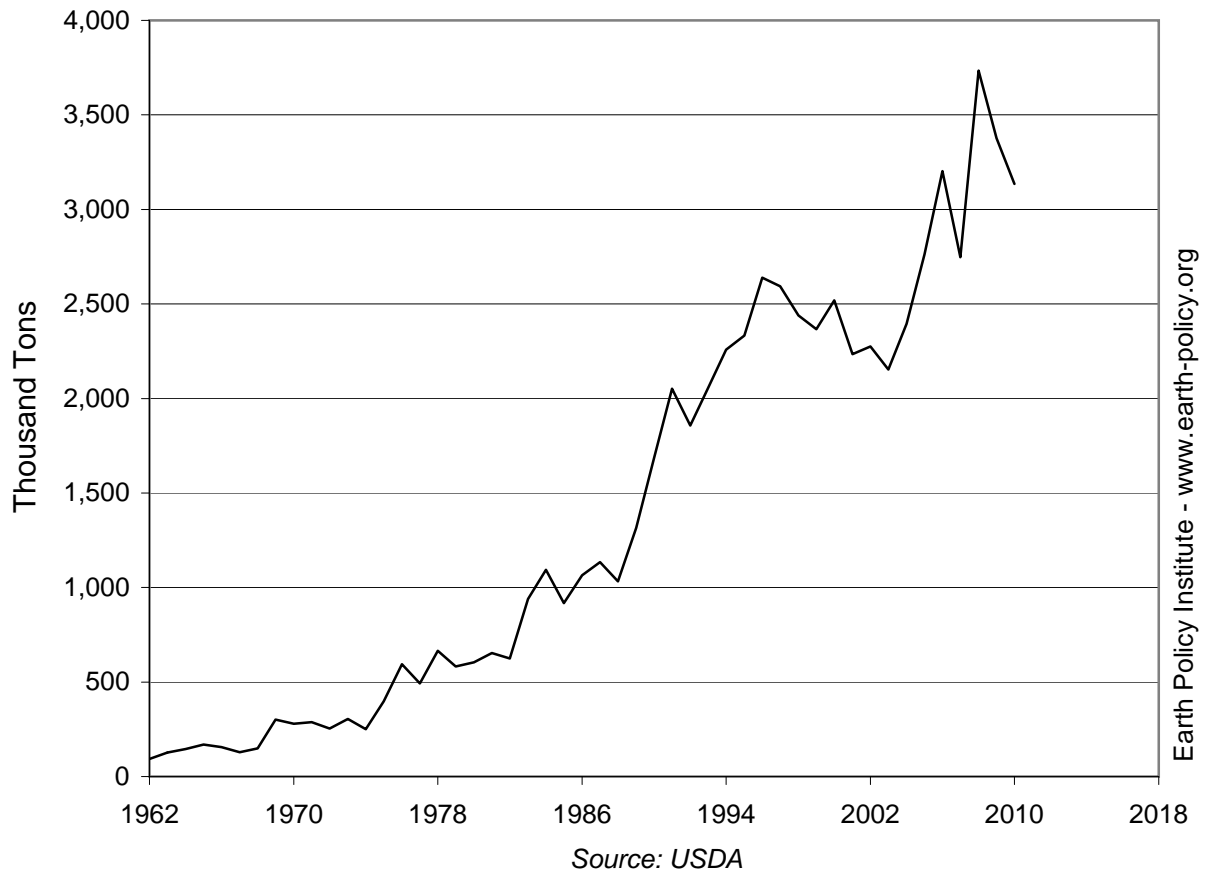
Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 8 October 2010.

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# Grain Production and Consumption in Yemen, 1962-2010



# Grain Imports by Yemen, 1962-2010



### Grain Production, Consumption, and Imports in the Arab Middle East and Israel, 1962-2010

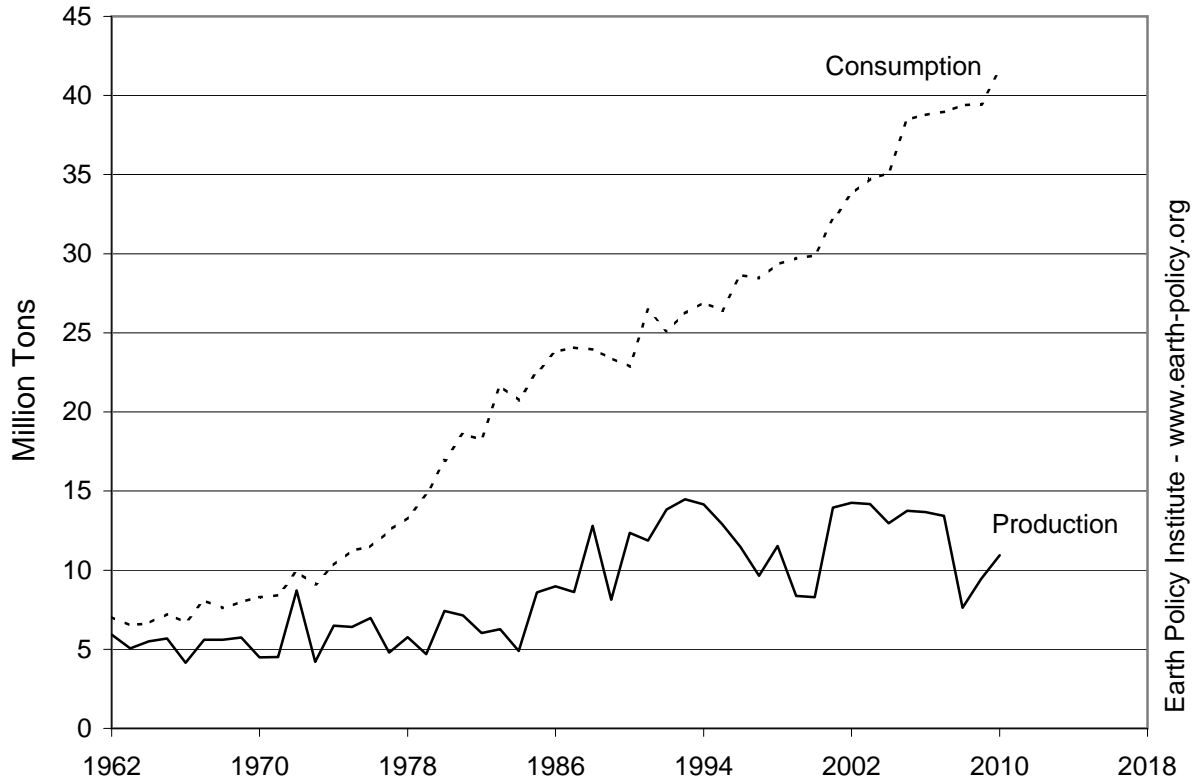
Year	Production	Consumption	Imports
	Million Tons		
1962	5.9	7.0	2.0
1963	5.0	6.5	2.0
1964	5.5	6.7	1.7
1965	5.7	7.2	1.8
1966	4.1	6.7	2.7
1967	5.6	8.1	2.6
1968	5.6	7.6	2.2
1969	5.8	8.0	2.6
1970	4.5	8.3	3.9
1971	4.5	8.4	4.3
1972	8.7	9.9	3.0
1973	4.2	9.1	4.1
1974	6.5	10.3	4.7
1975	6.4	11.2	4.8
1976	7.0	11.5	5.7
1977	4.8	12.5	7.1
1978	5.8	13.3	7.5
1979	4.7	14.7	11.1
1980	7.4	16.9	10.1
1981	7.1	18.6	11.7
1982	6.0	18.3	12.1
1983	6.3	21.7	15.6
1984	4.9	20.7	16.3
1985	8.6	22.5	15.7
1986	9.0	23.8	19.1
1987	8.6	24.1	17.1
1988	12.8	23.9	15.3
1989	8.1	23.4	16.6
1990	12.4	22.9	14.0
1991	11.9	26.4	18.3
1992	13.8	25.1	13.4
1993	14.5	26.2	14.8
1994	14.2	26.9	14.7
1995	12.9	26.4	13.6
1996	11.5	28.7	18.7
1997	9.7	28.5	17.5
1998	11.5	29.3	19.5
1999	8.4	29.7	20.8
2000	8.3	29.9	21.3
2001	14.0	32.2	21.6
2002	14.3	33.8	22.2
2003	14.2	34.8	21.9
2004	13.0	35.1	23.5
2005	13.7	38.5	28.1
2006	13.7	38.8	24.5
2007	13.4	39.0	25.3
2008	7.6	39.4	31.9
2009	9.5	39.5	31.8
2010	10.9	41.6	30.1

Note: Arab Middle East total includes Iraq, Jordan, Lebanon, Saudi Arabia, Syria, and Yemen.

Source: Compiled by Earth Policy Institute from U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 8 October 2010.

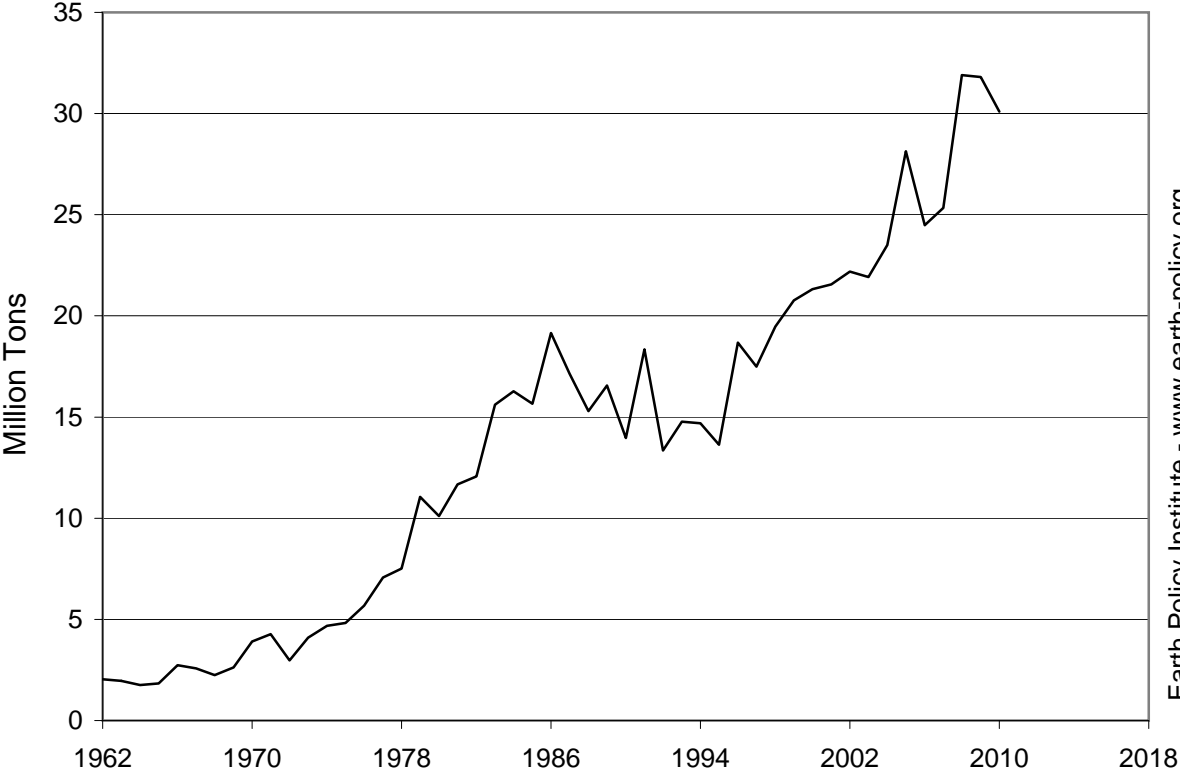
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# Grain Production and Consumption in the Arab Middle East and Israel, 1962-2010



Source: EPI from USDA

# Grain Imports by the Arab Middle East and Israel, 1962-2010



Source: EPI from USDA



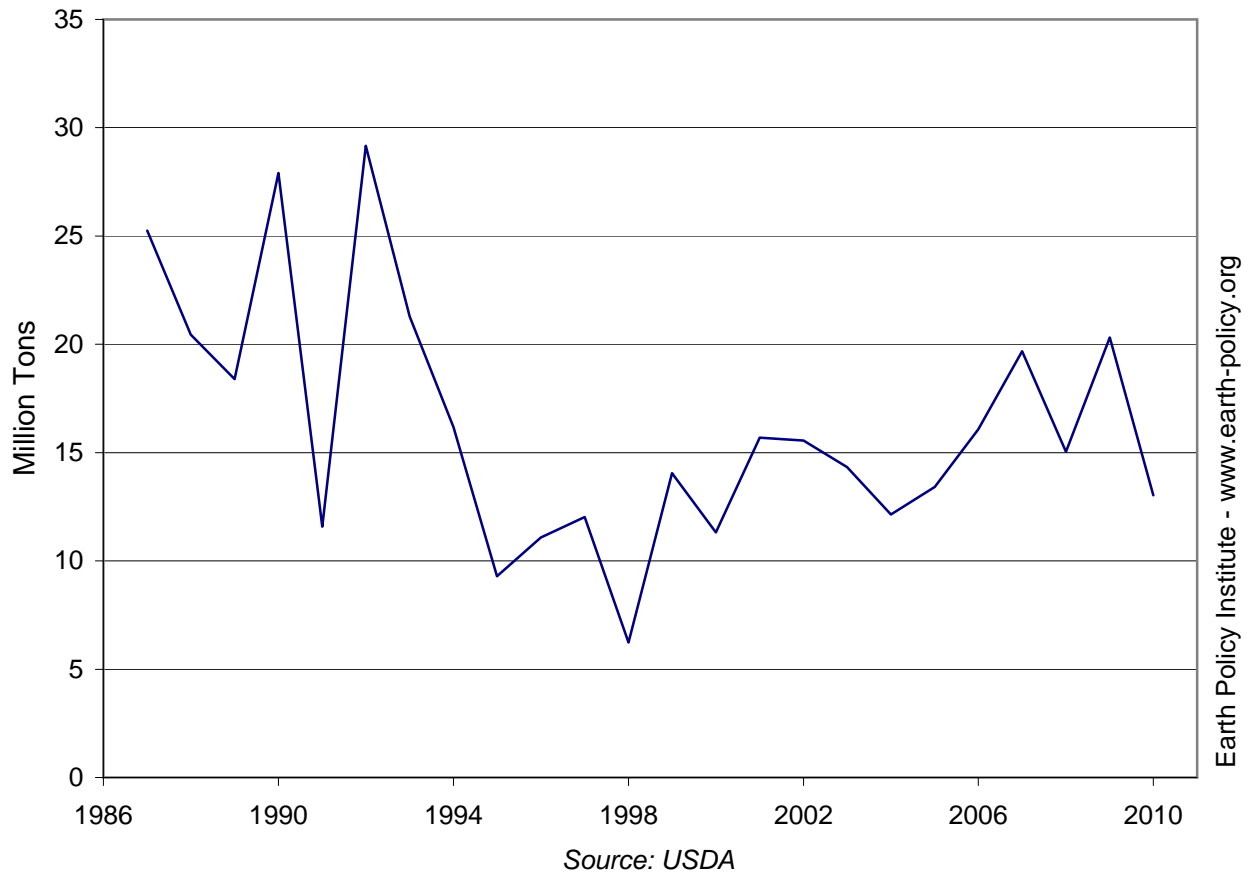
### Grain Production, Area, Yield, Consumption, and Imports in Kazakhstan, 1987-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of
	Million Tons	Million Hectares		Million Tons	Million Tons	Consumption
			Tons per Hectare			Percent
1987	25.3	24.1	1.05	16.9	0.42	2.5
1988	20.5	23.8	0.86	16.0	0.80	5.0
1989	18.4	23.3	0.79	15.7	1.03	6.5
1990	27.9	22.9	1.22	18.2	0.37	2.0
1991	11.6	22.2	0.52	14.1	1.00	7.1
1992	29.2	21.9	1.33	17.8	0.40	2.3
1993	21.3	21.7	0.98	15.9	0.03	0.2
1994	16.2	20.2	0.80	13.0	0.01	0.0
1995	9.3	18.4	0.50	6.9	0.06	0.8
1996	11.1	16.8	0.66	7.0	0.02	0.3
1997	12.0	15.3	0.79	7.2	0.02	0.3
1998	6.2	11.3	0.55	6.0	0.02	0.3
1999	14.0	10.8	1.30	6.1	0.01	0.2
2000	11.3	12.5	0.90	6.4	0.04	0.5
2001	15.7	12.8	1.22	8.3	0.07	0.8
2002	15.6	13.7	1.13	9.5	0.07	0.7
2003	14.3	13.6	1.05	9.4	0.06	0.6
2004	12.1	14.1	0.86	9.7	0.09	0.9
2005	13.4	14.7	0.91	9.5	0.09	0.9
2006	16.1	14.7	1.10	9.6	0.12	1.2
2007	19.7	15.2	1.30	9.9	0.09	0.9
2008	15.0	16.1	0.94	9.8	0.25	2.6
2009	20.3	17.2	1.18	10.2	0.13	1.3
2010	13.0	16.6	0.79	9.1	0.13	1.4

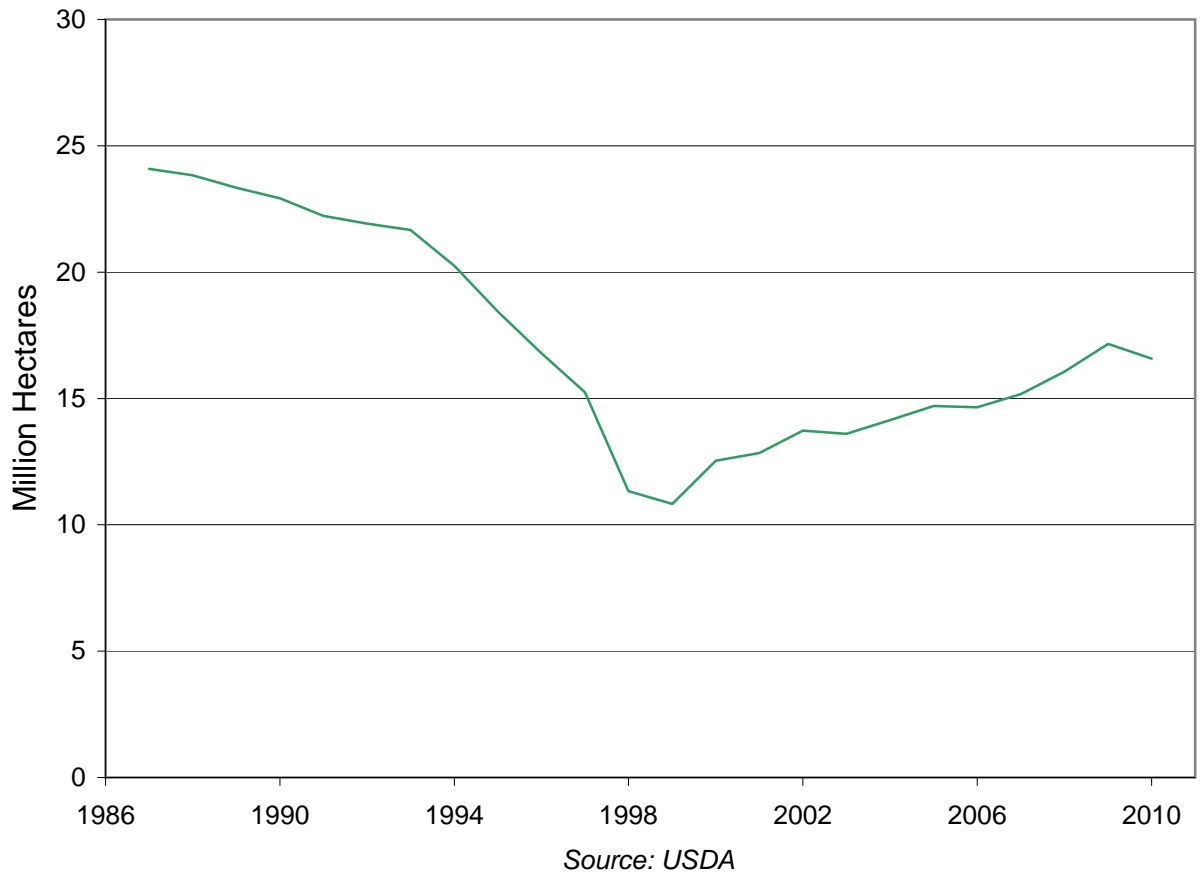
Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 9 November 2010.

This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at [www.earth-policy.org](http://www.earth-policy.org).

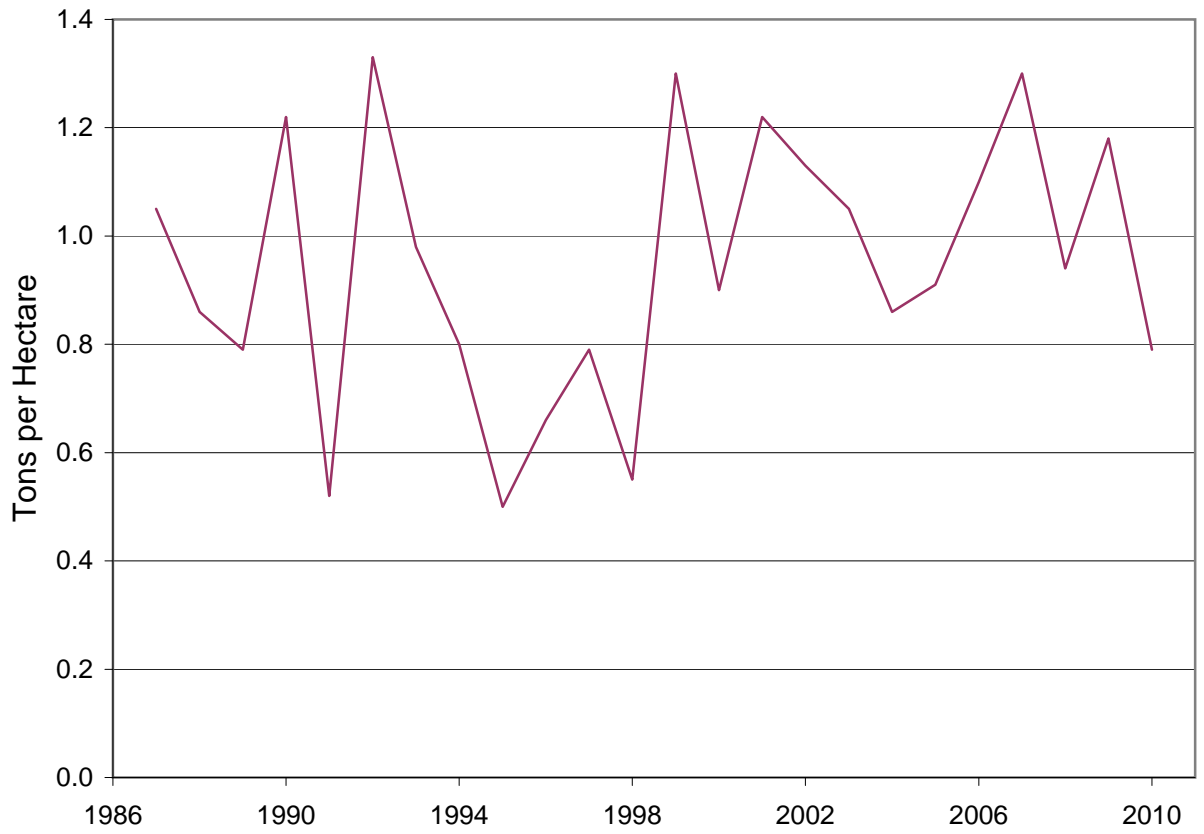
## Grain Production in Kazakhstan, 1987-2010



## Grain Area Harvested in Kazakhstan, 1987-2010



### Grain Yield in Kazakhstan, 1987-2010



Source: USDA

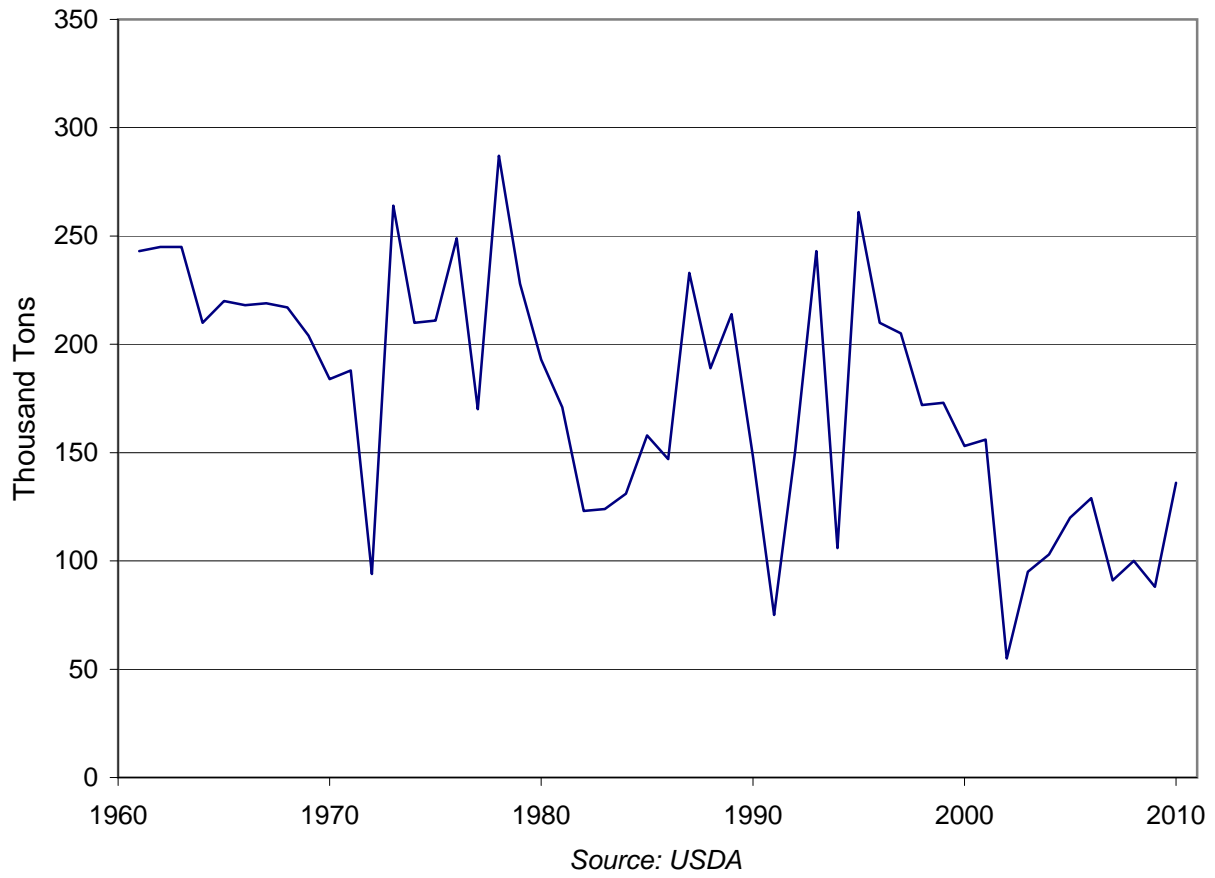
### Grain Production, Area, Yield, Consumption, and Imports in Lesotho, 1961-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of Consumption
	Thousand Tons	Thousand Hectares	Tons per Hectare	Thousand Tons	Thousand Tons	Percent
1961	243	292	0.83	249	6	2.4
1962	245	300	0.82	250	5	2.0
1963	245	300	0.82	254	9	3.5
1964	210	270	0.78	231	21	9.1
1965	220	273	0.81	241	21	8.7
1966	218	280	0.78	239	21	8.8
1967	219	254	0.86	247	28	11.3
1968	217	311	0.70	246	29	11.8
1969	204	297	0.69	243	39	16.0
1970	184	307	0.60	234	50	21.4
1971	188	319	0.59	238	50	21.0
1972	94	273	0.34	160	66	41.3
1973	264	290	0.91	335	71	21.2
1974	210	283	0.74	276	66	23.9
1975	211	291	0.73	281	70	24.9
1976	249	164	1.52	320	71	22.2
1977	170	231	0.74	239	69	28.9
1978	287	203	1.41	383	96	25.1
1979	228	198	1.15	335	107	31.9
1980	193	200	0.97	351	158	45.0
1981	171	200	0.86	381	210	55.1
1982	123	174	0.71	383	260	67.9
1983	124	194	0.64	176	52	29.5
1984	131	199	0.66	173	42	24.3
1985	158	186	0.85	183	25	13.7
1986	147	214	0.69	160	13	8.1
1987	233	263	0.89	266	33	12.4
1988	189	196	0.96	214	25	11.7
1989	214	211	1.01	215	1	0.5
1990	148	146	1.01	188	40	21.3
1991	75	110	0.68	108	33	30.6
1992	151	154	0.98	211	60	28.4
1993	243	213	1.14	305	62	20.3
1994	106	133	0.80	162	56	34.6
1995	261	197	1.32	290	33	11.4
1996	210	215	0.98	279	68	24.4
1997	205	214	0.96	215	7	3.3
1998	172	180	0.96	182	10	5.5
1999	173	173	1.00	182	9	4.9
2000	153	156	0.98	200	47	23.5
2001	156	172	0.91	291	135	46.4
2002	55	134	0.41	195	140	71.8
2003	95	199	0.48	220	125	56.8
2004	103	158	0.65	228	125	54.8
2005	120	208	0.58	215	95	44.2
2006	129	208	0.62	229	100	43.7
2007	91	157	0.58	241	150	62.2
2008	100	185	0.54	275	175	63.6
2009	88	170	0.52	263	175	66.5
2010	136	170	0.80	311	175	56.3

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 9 November 2010.

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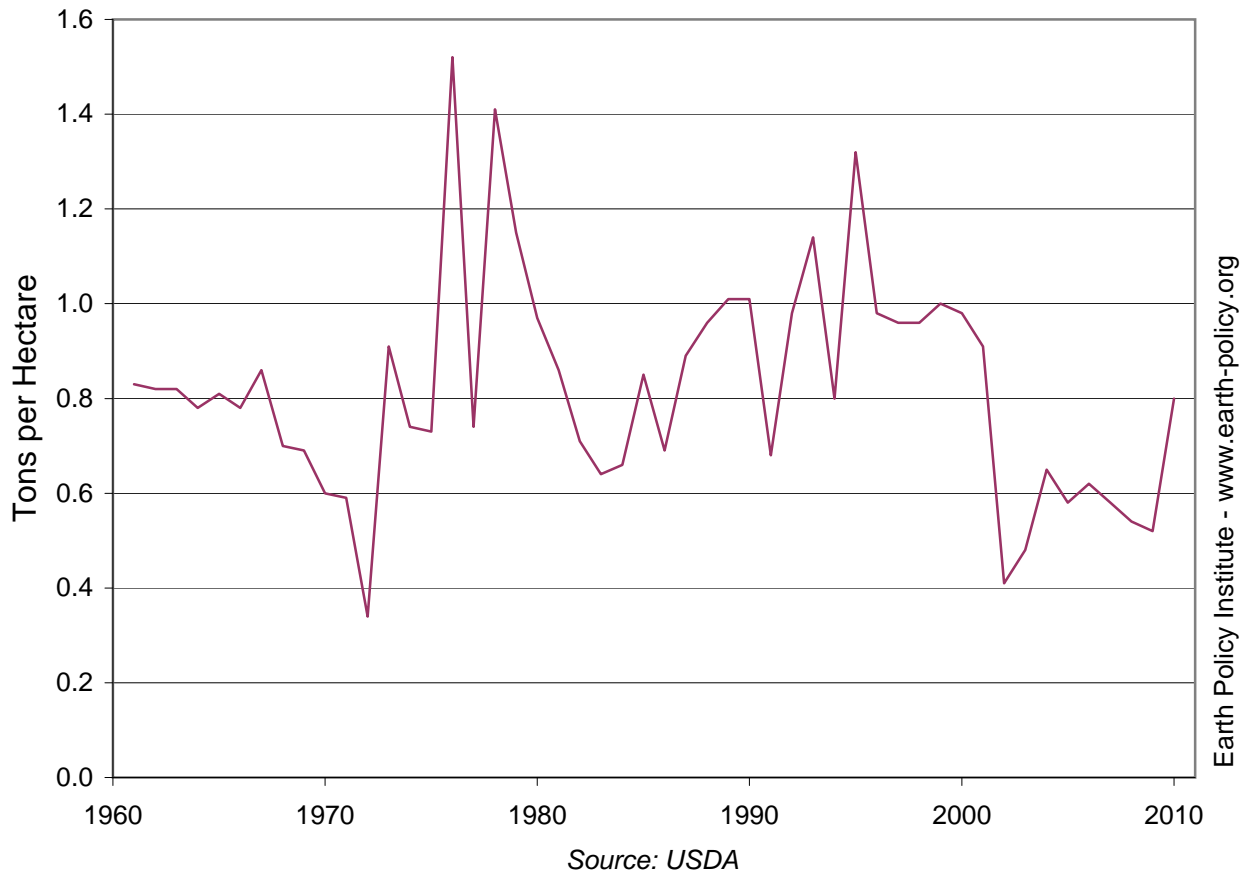
# Grain Production in Lesotho, 1961-2010



# Grain Area Harvested in Lesotho, 1961-2010



# Grain Yield in Lesotho, 1961-2010





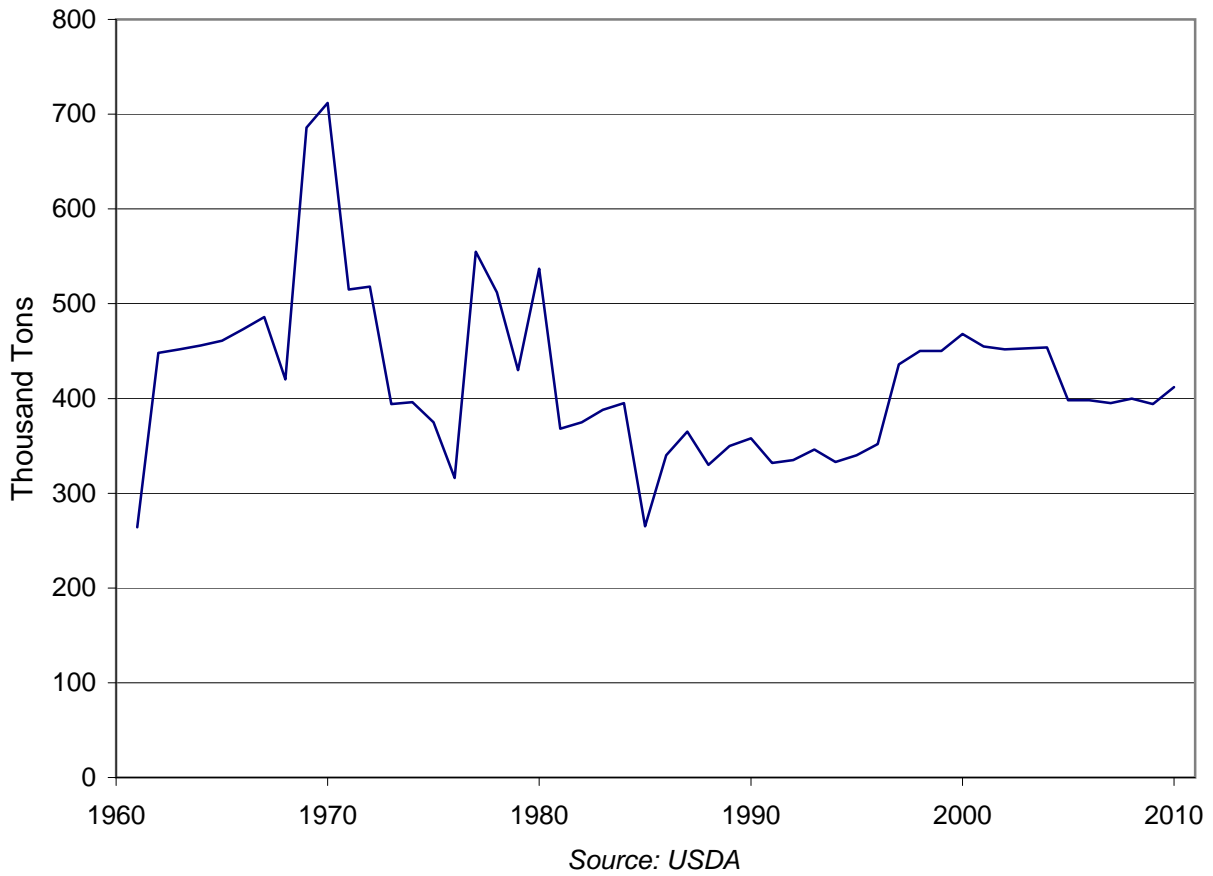
## Grain Production, Area, Yield, Consumption, and Imports in Haiti, 1961-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of Consumption
	Thousand Tons	Thousand Hectares	Tons per Hectare	Thousand Tons	Thousand Tons	Percent
1961	264	348	0.76	329	65	19.8
1962	448	614	0.73	495	47	9.5
1963	452	615	0.73	502	50	10.0
1964	456	620	0.74	509	53	10.4
1965	461	625	0.74	518	57	11.0
1966	473	645	0.73	514	41	8.0
1967	486	660	0.74	521	35	6.7
1968	420	602	0.70	482	62	12.9
1969	686	840	0.82	721	35	4.9
1970	712	835	0.85	753	43	5.7
1971	515	625	0.82	558	48	8.6
1972	518	636	0.81	600	82	13.7
1973	394	616	0.64	468	74	15.8
1974	396	616	0.64	490	94	19.2
1975	375	580	0.65	546	171	31.3
1976	316	550	0.57	459	150	32.7
1977	555	465	1.19	645	147	22.8
1978	512	465	1.10	660	122	18.5
1979	430	455	0.95	619	151	24.4
1980	537	460	1.17	716	194	27.1
1981	368	405	0.91	533	165	31.0
1982	375	405	0.93	547	177	32.4
1983	388	410	0.95	582	194	33.3
1984	395	415	0.95	620	220	35.5
1985	265	275	0.96	528	257	48.7
1986	340	370	0.92	637	297	46.6
1987	365	385	0.95	598	233	39.0
1988	330	345	0.96	648	318	49.1
1989	350	360	0.97	618	279	45.1
1990	358	377	0.95	695	337	48.5
1991	332	375	0.89	722	400	55.4
1992	335	358	0.94	724	397	54.8
1993	346	355	0.97	700	341	48.7
1994	333	353	0.94	790	480	60.8
1995	340	350	0.97	731	388	53.1
1996	352	418	0.84	780	428	54.9
1997	436	485	0.90	860	450	52.3
1998	450	516	0.87	940	490	52.1
1999	450	515	0.87	964	515	53.4
2000	468	517	0.91	942	472	50.1
2001	455	505	0.90	974	544	55.9
2002	452	517	0.87	1,008	603	59.8
2003	453	518	0.87	1,017	531	52.2
2004	454	517	0.88	1,031	589	57.1
2005	398	513	0.78	979	648	66.2
2006	398	514	0.77	993	545	54.9
2007	395	514	0.77	908	472	52.0
2008	400	520	0.77	999	561	56.2
2009	394	520	0.76	910	510	56.0
2010	412	520	0.79	930	525	56.5

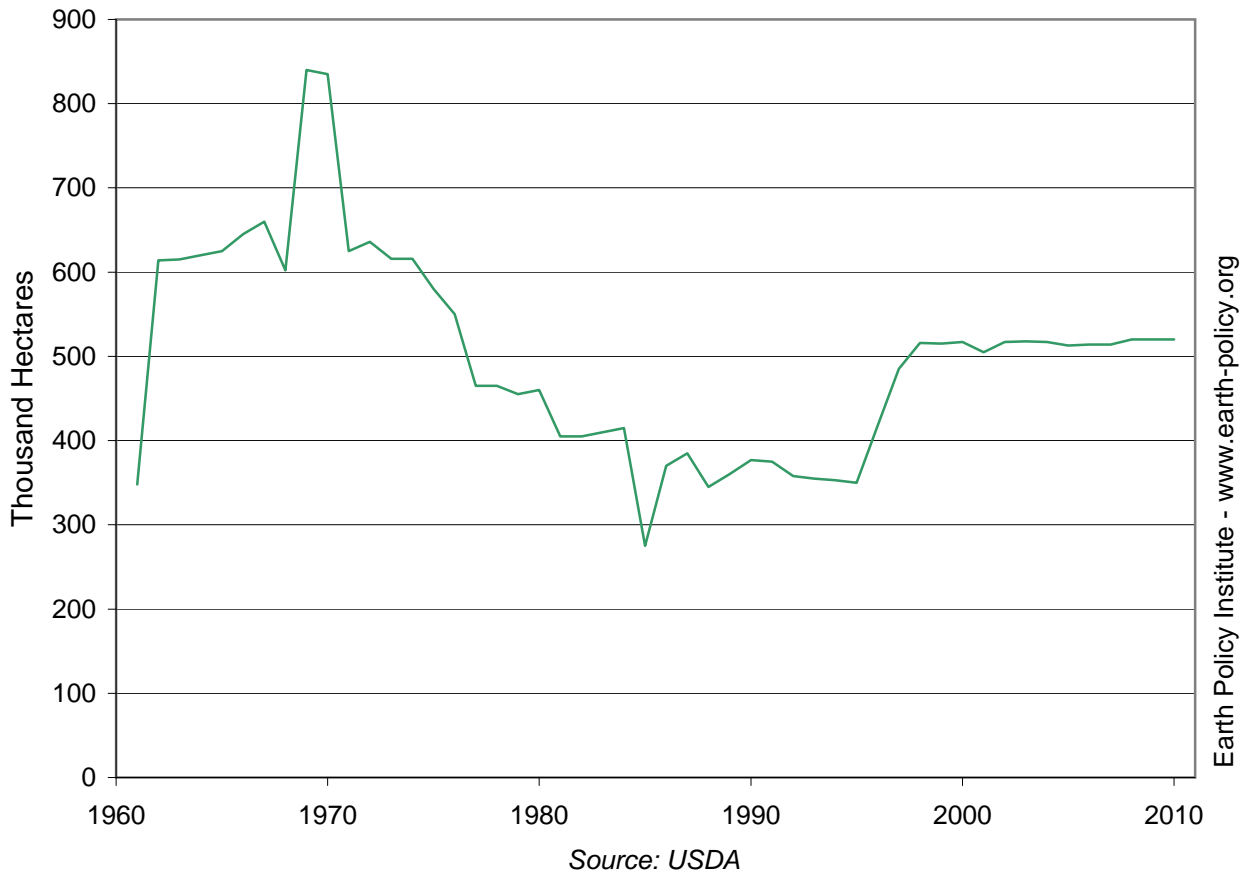
Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 9 November 2010.

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# Grain Production in Haiti, 1961-2010



# Grain Area Harvested in Haiti, 1961-2010



# Grain Yield in Haiti, 1961-2010



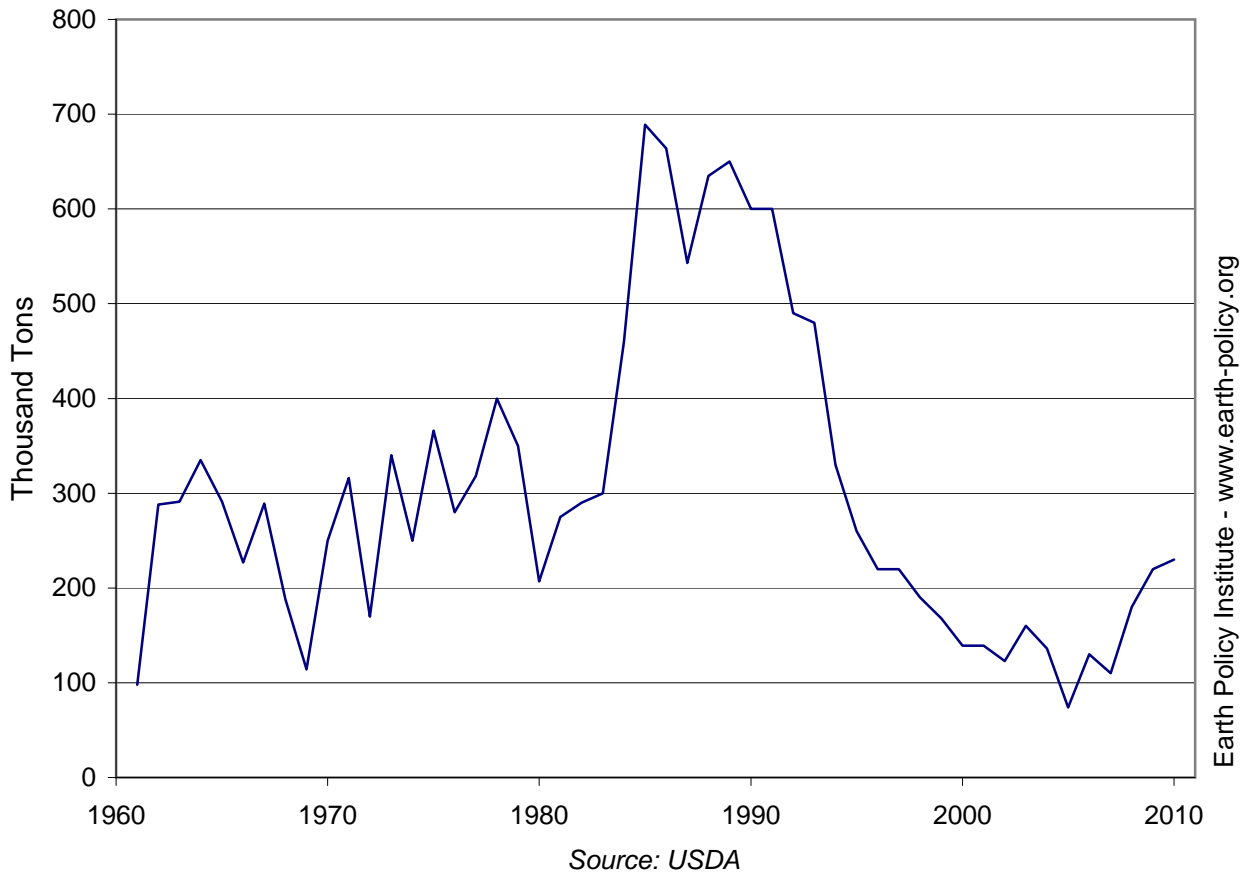
## Grain Production, Area, Yield, Consumption, and Imports in Mongolia, 1961-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of Consumption
	Thousand Tons	Thousand Hectares	Tons per Hectare	Thousand Tons	Thousand Tons	Percent
1961	98	267	0.37	138	40	29.0
1962	288	320	0.90	340	52	15.3
1963	291	348	0.84	299	8	2.7
1964	335	356	0.94	357	22	6.2
1965	291	362	0.80	357	66	18.5
1966	227	343	0.66	248	21	8.5
1967	289	344	0.84	305	16	5.2
1968	188	346	0.54	204	16	7.8
1969	114	347	0.33	140	26	18.6
1970	250	348	0.72	355	105	29.6
1971	316	333	0.95	371	55	14.8
1972	170	314	0.54	220	50	22.7
1973	340	307	1.11	355	15	4.2
1974	250	305	0.82	265	15	5.7
1975	366	316	1.16	381	15	3.9
1976	280	324	0.86	339	59	17.4
1977	318	351	0.91	411	93	22.6
1978	400	360	1.11	443	43	9.7
1979	350	360	0.97	390	40	10.3
1980	207	408	0.51	247	40	16.2
1981	275	410	0.67	325	50	15.4
1982	290	410	0.71	340	50	14.7
1983	300	410	0.73	350	50	14.3
1984	460	461	1.00	460	0	0.0
1985	689	482	1.43	689	0	0.0
1986	664	467	1.42	664	0	0.0
1987	543	470	1.16	543	0	0.0
1988	635	475	1.34	635	0	0.0
1989	650	475	1.37	650	0	0.0
1990	600	475	1.26	630	30	4.8
1991	600	475	1.26	609	9	1.5
1992	490	590	0.83	529	39	7.4
1993	480	545	0.88	625	145	23.2
1994	330	450	0.73	350	34	9.7
1995	260	355	0.73	310	50	16.1
1996	220	300	0.73	350	130	37.1
1997	220	300	0.73	359	139	38.7
1998	190	300	0.63	349	159	45.6
1999	168	273	0.62	274	106	38.7
2000	139	179	0.78	319	180	56.4
2001	139	193	0.72	393	254	64.6
2002	123	209	0.59	331	208	62.8
2003	160	203	0.79	394	234	59.4
2004	136	168	0.81	333	197	59.2
2005	74	154	0.48	401	327	81.5
2006	130	118	1.10	426	296	69.5
2007	110	117	0.94	338	228	67.5
2008	180	150	1.20	524	344	65.6
2009	220	150	1.47	480	260	54.2
2010	230	150	1.53	480	250	52.1

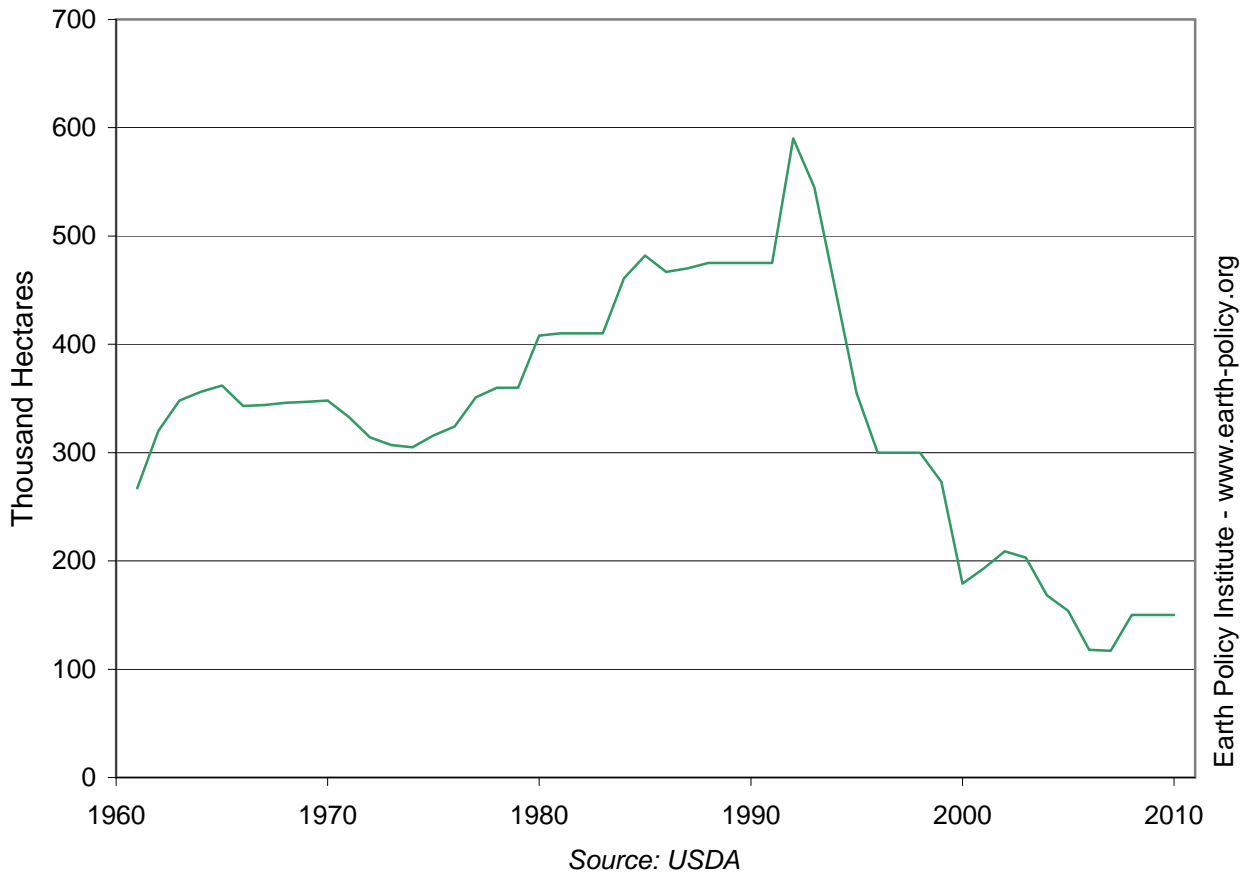
Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 9 November 2010.

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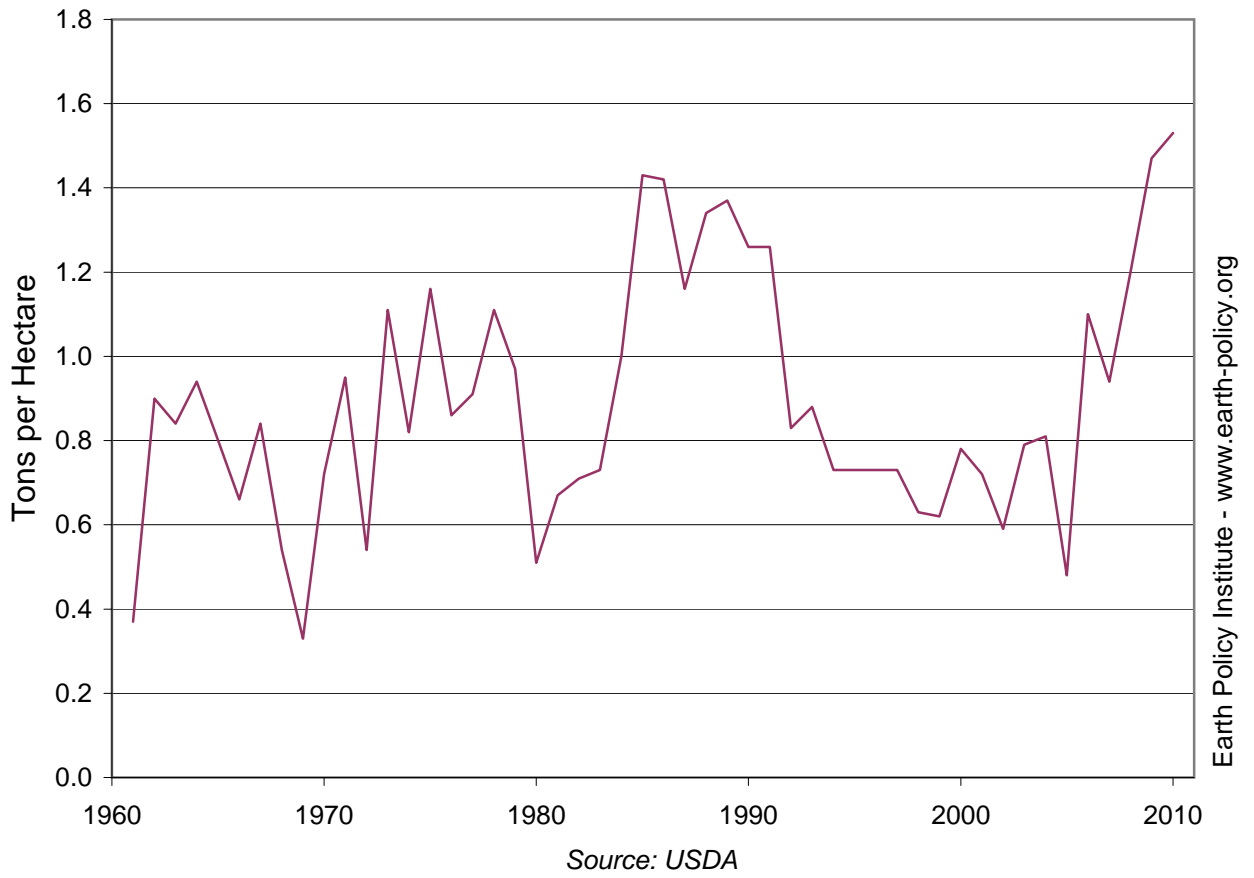
# Grain Production in Mongolia, 1961-2010



# Grain Area Harvested in Mongolia, 1961-2010



# Grain Yield in Mongolia, 1961-2010





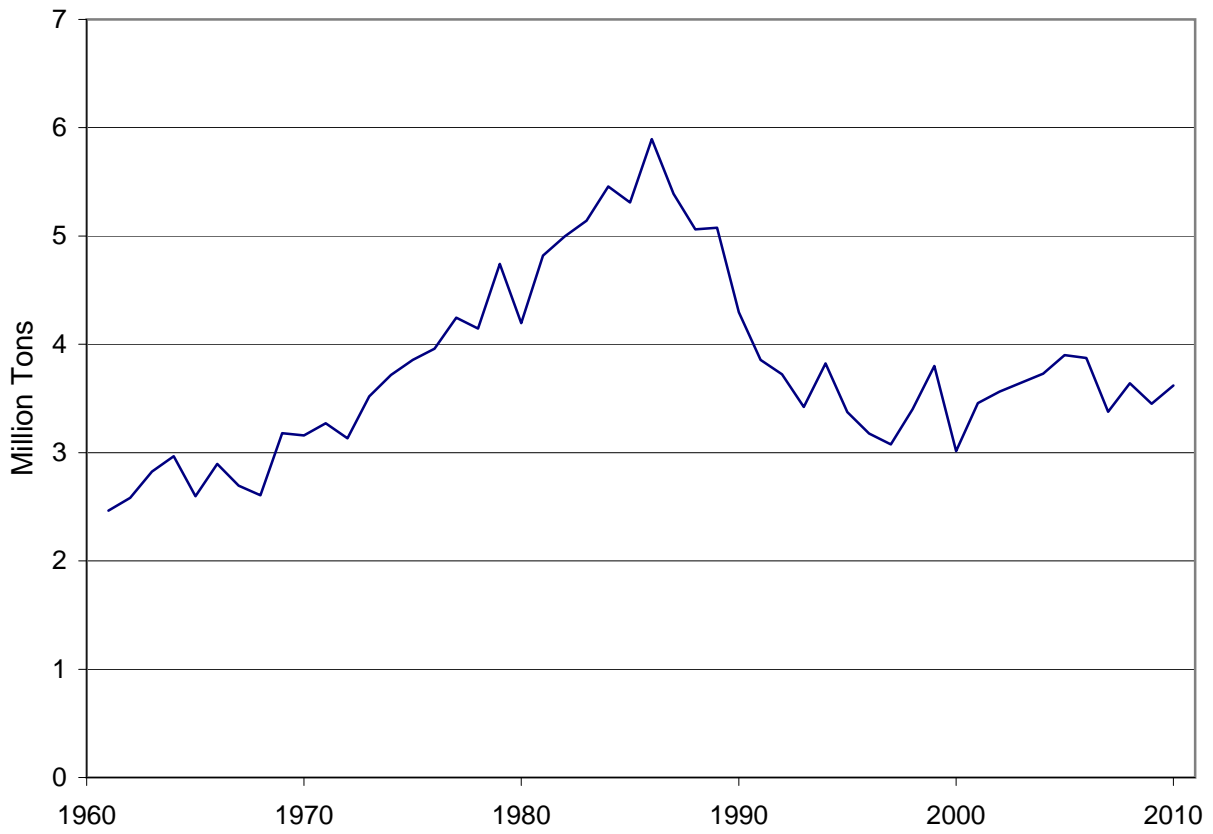
### Grain Production, Area, Yield, Consumption, and Imports in North Korea, 1961-2010

Year	Production	Area Harvested	Yield	Consumption	Imports	Imports as a Share of
	Million Tons	Million Hectares	Tons per Hectare	Million Tons	Million Tons	Consumption Percent
1961	2.5	1.2	2.03	2.7	0.24	8.9
1962	2.6	1.2	2.09	2.7	0.13	4.9
1963	2.8	1.2	2.27	2.9	0.11	3.7
1964	3.0	1.3	2.36	3.0	0.11	3.6
1965	2.6	1.3	2.05	2.9	0.38	13.2
1966	2.9	1.3	2.26	3.3	0.53	16.0
1967	2.7	1.3	2.09	2.7	0.04	1.6
1968	2.6	1.3	2.00	2.8	0.33	11.7
1969	3.2	1.3	2.41	3.4	0.31	9.2
1970	3.2	1.3	2.37	3.3	0.27	8.3
1971	3.3	1.4	2.42	3.7	0.48	13.1
1972	3.1	1.4	2.29	3.8	0.79	20.8
1973	3.5	1.4	2.55	4.4	1.16	26.4
1974	3.7	1.4	2.66	3.6	0.43	11.9
1975	3.9	1.4	2.74	3.8	0.35	9.1
1976	4.0	1.4	2.81	3.7	0.33	8.8
1977	4.2	1.4	3.00	3.7	0.07	2.0
1978	4.1	1.4	2.93	3.9	0.15	3.9
1979	4.7	1.8	2.59	4.7	0.23	4.8
1980	4.2	1.8	2.29	4.3	0.37	8.6
1981	4.8	1.8	2.63	5.0	0.40	7.9
1982	5.0	1.8	2.73	5.1	0.21	4.1
1983	5.1	1.8	2.79	5.6	0.50	8.9
1984	5.5	1.8	2.96	5.9	0.55	9.3
1985	5.3	1.9	2.86	5.9	0.58	9.8
1986	5.9	1.8	3.25	6.0	0.32	5.3
1987	5.4	1.7	3.14	5.7	0.54	9.5
1988	5.1	1.6	3.17	5.4	0.38	7.0
1989	5.1	1.5	3.36	5.6	0.52	9.3
1990	4.3	1.4	3.14	5.4	1.09	20.2
1991	3.9	1.4	2.81	4.9	1.05	21.4
1992	3.7	1.4	2.72	4.6	0.83	18.2
1993	3.4	1.4	2.50	4.0	0.56	14.1
1994	3.8	1.4	2.75	4.8	0.95	20.0
1995	3.4	1.3	2.69	3.8	0.47	12.2
1996	3.2	1.3	2.54	4.5	1.31	29.1
1997	3.1	1.3	2.42	4.4	1.28	29.3
1998	3.4	1.3	2.59	4.5	1.06	23.8
1999	3.8	1.3	2.98	4.7	0.88	18.9
2000	3.0	1.2	2.56	4.5	1.53	33.6
2001	3.5	1.2	2.87	4.8	1.30	27.3
2002	3.6	1.2	2.97	4.7	1.09	23.5
2003	3.6	1.2	3.03	4.7	1.04	22.2
2004	3.7	1.2	3.09	4.6	0.92	19.7
2005	3.9	1.2	3.22	4.4	0.54	12.2
2006	3.9	1.2	3.15	4.9	1.04	21.1
2007	3.4	1.2	2.74	4.0	0.58	14.7
2008	3.6	1.2	2.92	4.3	0.66	15.4
2009	3.5	1.2	2.78	4.0	0.55	13.8
2010	3.6	1.2	2.96	4.2	0.60	14.2

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 9 November 2010.

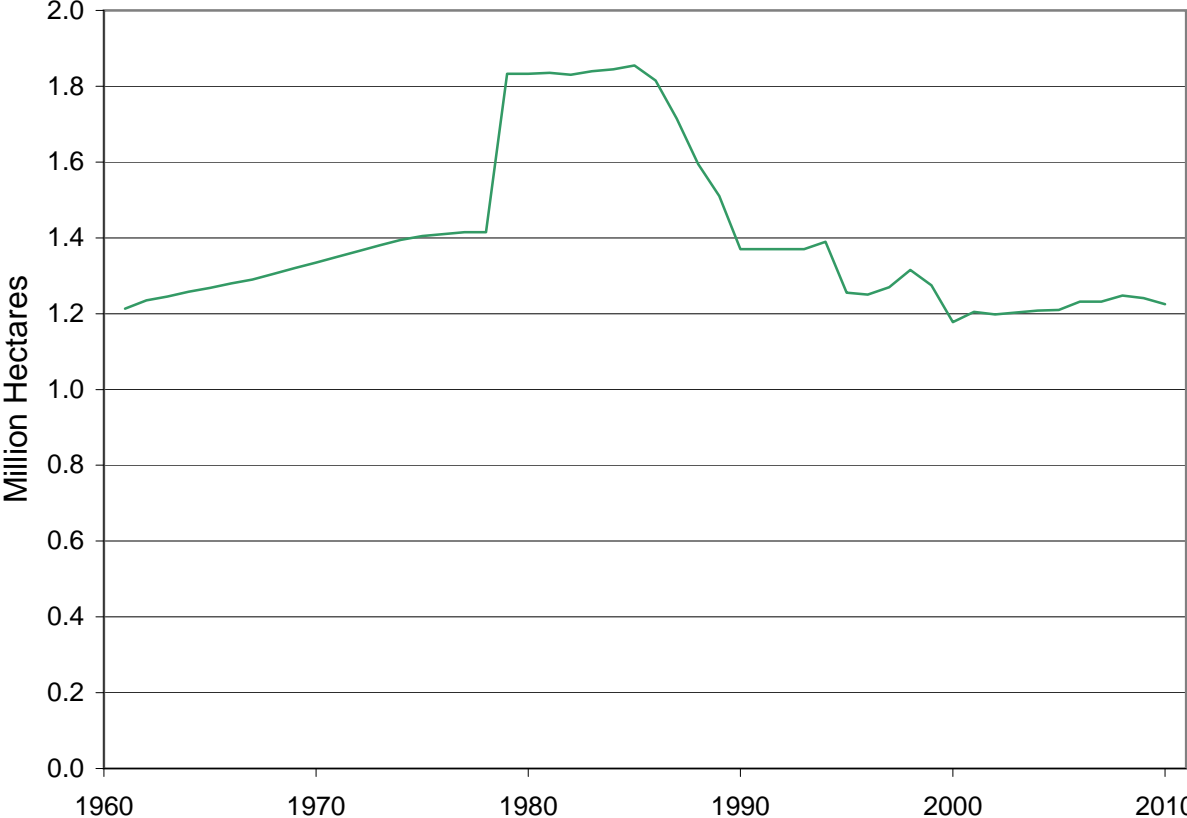
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## Grain Production in North Korea, 1961-2010



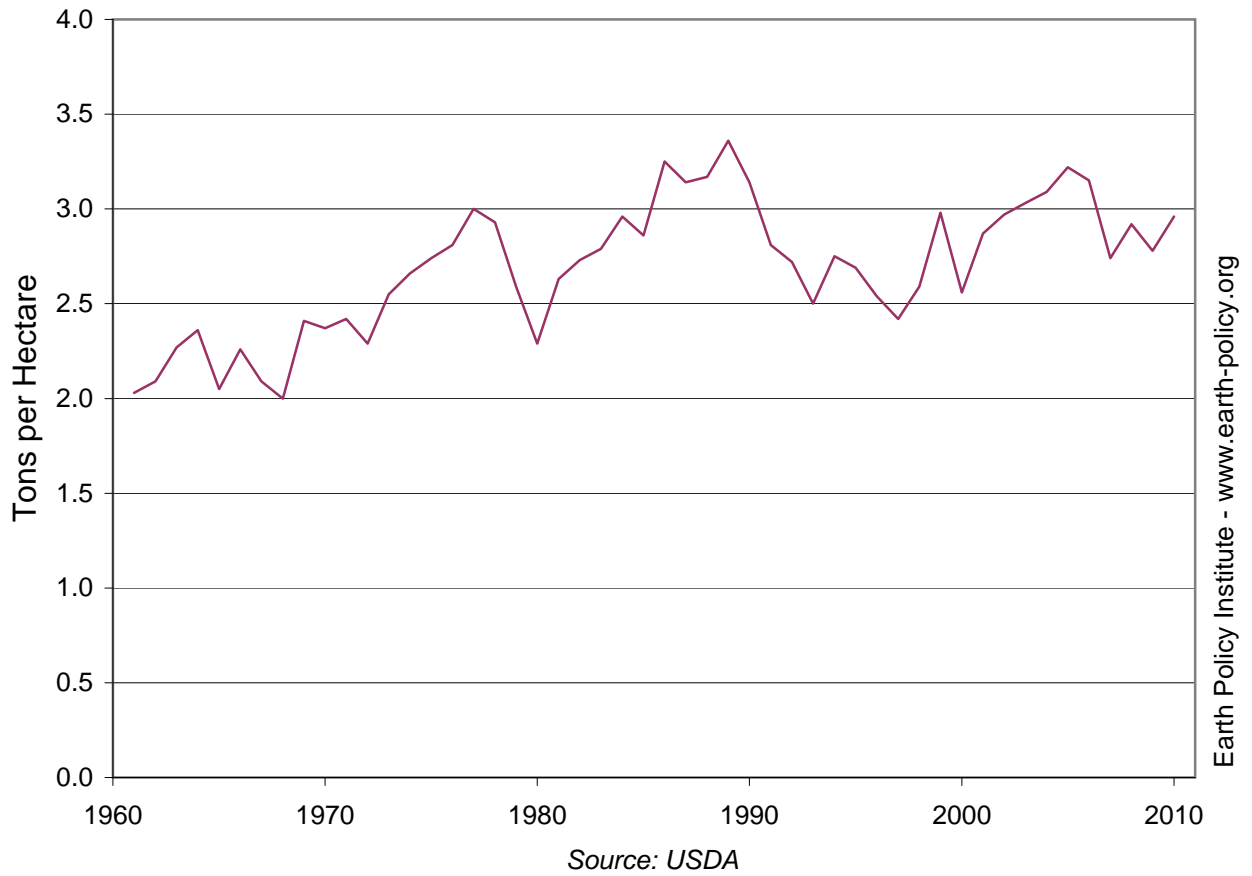
Source: USDA

# Grain Area Harvested in North Korea, 1961-2010



Source: USDA

## Grain Yield in North Korea, 1961-2010

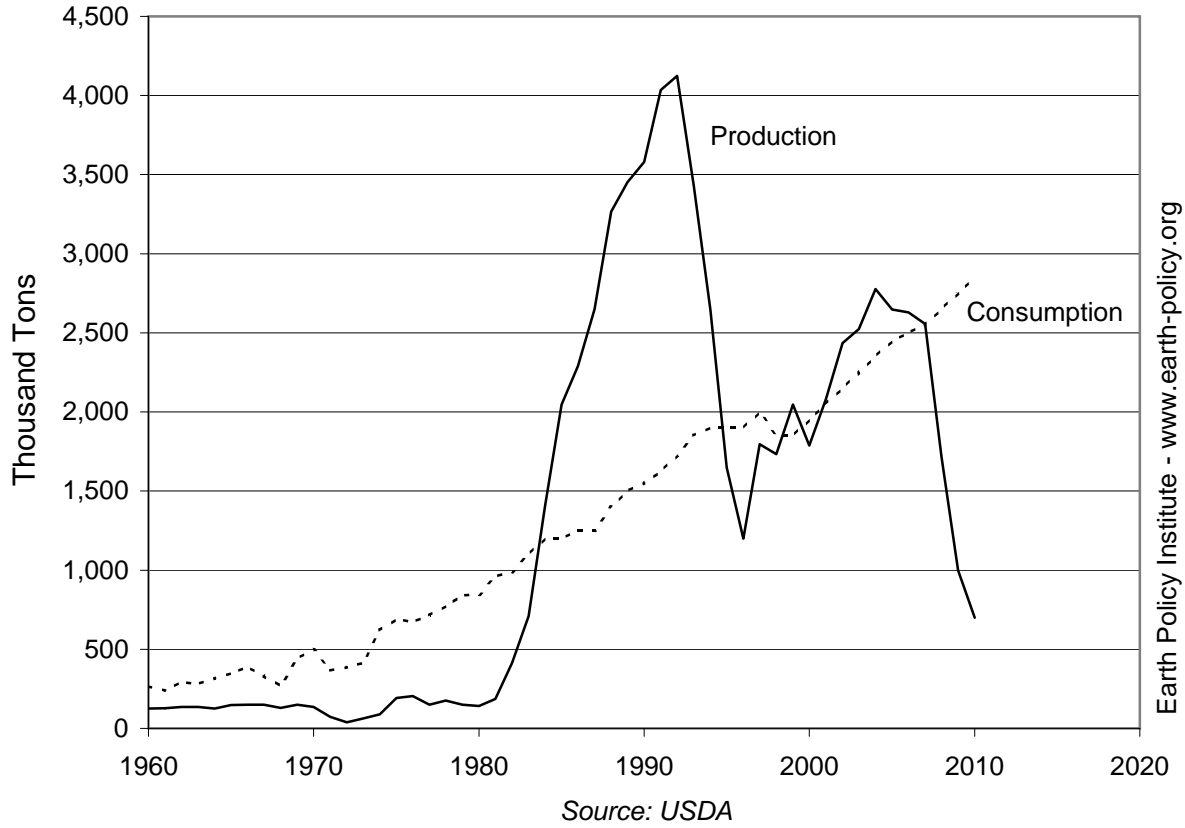


### Wheat Production, Consumption, and Imports in Saudi Arabia, 1960-2010

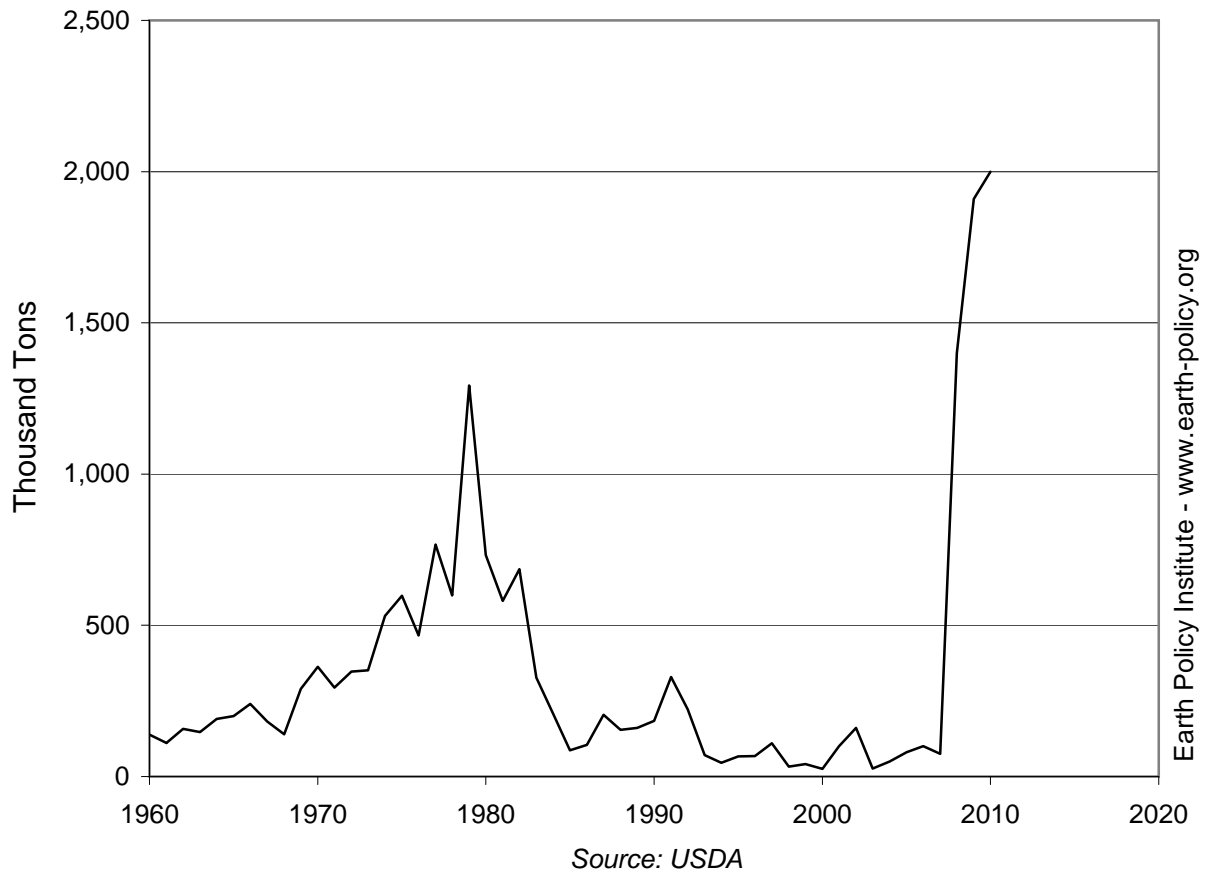
Year	Production	Consumption	Imports
	Thousand Tons		
1960	125	264	139
1961	127	238	111
1962	135	293	158
1963	135	282	147
1964	125	315	190
1965	148	348	200
1966	149	389	240
1967	150	332	182
1968	130	270	140
1969	150	440	290
1970	135	498	363
1971	72	366	294
1972	39	386	347
1973	63	414	351
1974	90	621	531
1975	193	691	598
1976	205	672	467
1977	150	716	767
1978	175	772	599
1979	150	841	1,293
1980	141	846	732
1981	187	961	581
1982	412	988	686
1983	710	1,100	327
1984	1,402	1,200	206
1985	2,047	1,200	87
1986	2,290	1,250	105
1987	2,649	1,250	204
1988	3,267	1,400	154
1989	3,452	1,500	161
1990	3,580	1,550	184
1991	4,035	1,625	329
1992	4,124	1,725	222
1993	3,430	1,850	71
1994	2,646	1,900	46
1995	1,648	1,900	67
1996	1,200	1,900	68
1997	1,795	2,000	110
1998	1,734	1,850	33
1999	2,046	1,850	41
2000	1,788	1,950	25
2001	2,082	2,050	101
2002	2,436	2,150	161
2003	2,524	2,250	26
2004	2,776	2,350	50
2005	2,648	2,450	80
2006	2,630	2,500	100
2007	2,556	2,550	75
2008	1,720	2,650	1,400
2009	1,000	2,750	1,910
2010	700	2,850	2,000

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 8 October 2010.

# Wheat Production and Consumption in Saudi Arabia, 1960-2010



# Wheat Imports by Saudi Arabia, 1960-2010



## Corn Production and Use for Fuel Ethanol in the United States, 1980-2010

Year	Corn Production Million Tons	Total Grain Production Million Tons	Corn Used for Fuel Ethanol Million Tons	Share of Grain Used for Fuel Ethanol * Percent
1980	169	268	0.9	0.3
1981	206	328	2.2	0.8
1982	209	331	3.6	1.1
1983	106	206	4.1	1.2
1984	195	313	5.9	2.9
1985	225	345	6.9	2.2
1986	209	313	7.4	2.1
1987	181	278	7.1	2.3
1988	125	204	7.3	2.6
1989	191	282	8.2	4.0
1990	202	310	8.9	3.1
1991	190	278	10.1	3.3
1992	241	350	10.8	3.9
1993	161	257	11.6	3.3
1994	255	353	13.5	5.3
1995	188	275	10.1	2.8
1996	235	333	10.9	4.0
1997	234	334	12.4	3.7
1998	248	347	13.2	3.9
1999	240	332	14.4	4.1
2000	252	340	16.0	4.8
2001	241	321	18.0	5.3
2002	228	294	25.3	7.9
2003	256	345	29.7	10.1
2004	300	385	33.6	9.7
2005	282	363	40.7	10.6
2006	268	335	53.8	14.8
2007	331	412	77.5	23.1
2008	307	400	93.4	22.7
2009	333	416	114.3	28.6
2010	336	419	119.4	28.7

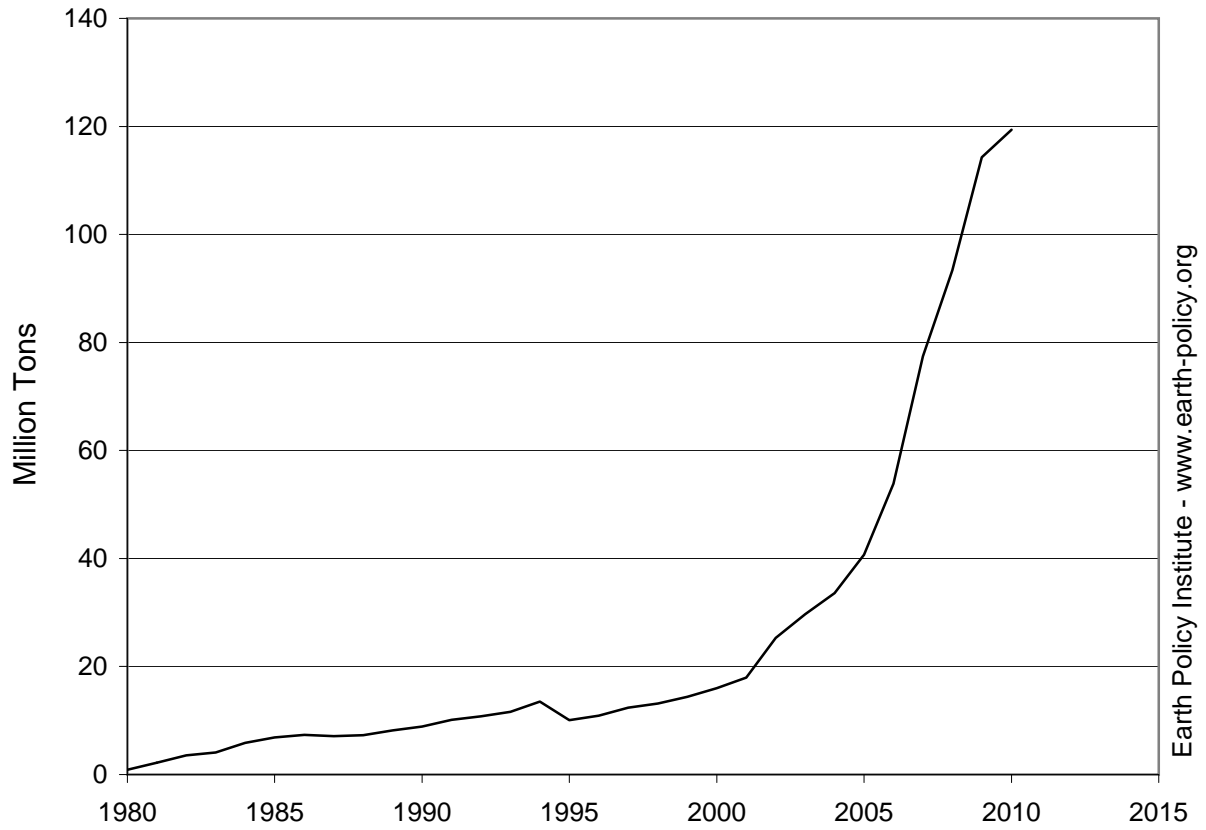
\* Note: Nearly all of the grain used for fuel ethanol in the United States is corn; the small share of other grain used is not included in these figures. Also note that corn used for fuel ethanol in a given year comes from the previous year's crop; therefore, the 119 million tons of corn used for fuel ethanol in 2010 is reported as 28.7 percent of the 2009 grain crop of 416 million tons.

Source: Compiled by Earth Policy Institute with corn used for fuel ethanol from U.S. Department of Agriculture (USDA), *Feed Grains Database*, electronic database, at [www.ers.usda.gov/Data/FeedGrains](http://www.ers.usda.gov/Data/FeedGrains), updated 14 July 2010; U.S. corn and grain production from USDA, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 9 July 2010.

This is part of a supporting dataset for Lester R. Brown, **World on the Edge: How to Prevent Environmental and Economic Collapse** (New York: W.W. Norton & Company, 2011). For more information and a free download of the book, see Earth Policy Institute on-line at [www.earth-policy.org](http://www.earth-policy.org).



# Corn Used for Fuel Ethanol in the United States, 1980-2010



Source: EPI from USDA

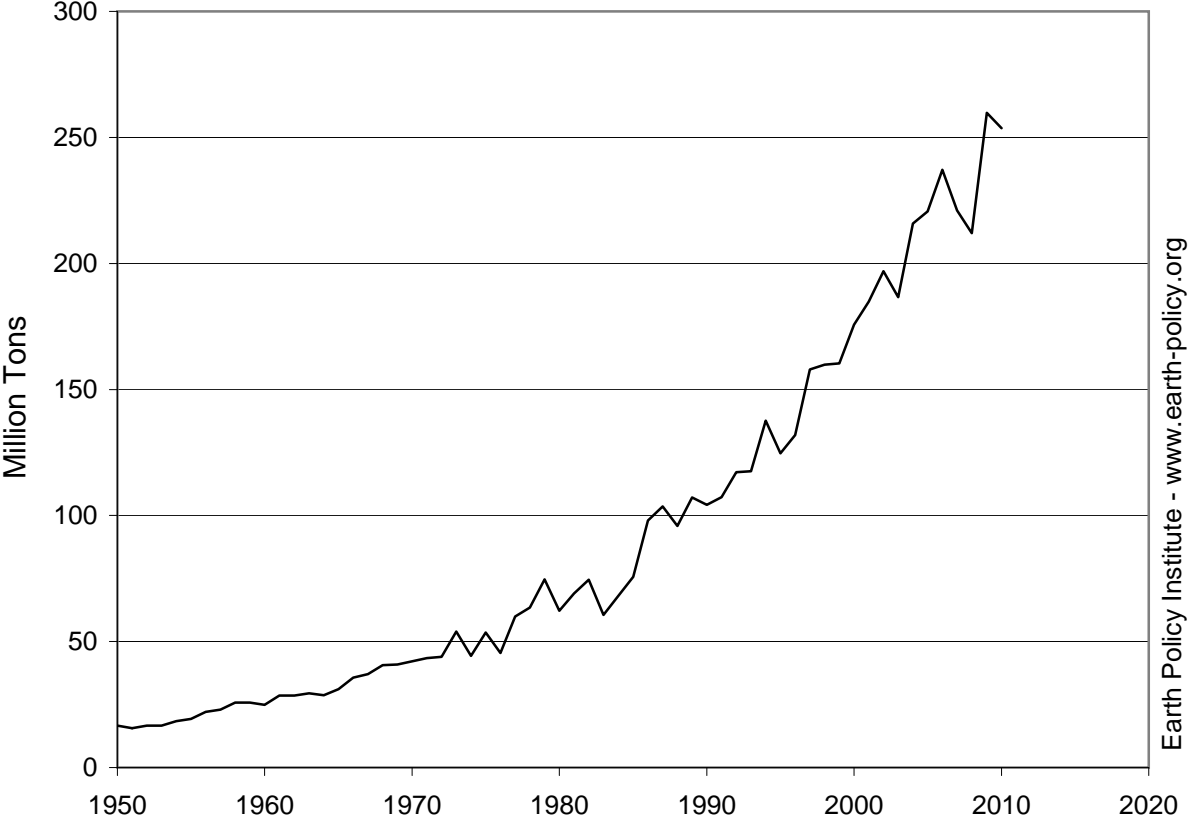
Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)

**World Soybean Production, Area, and Yield, 1950-2010**

Year	Production Million Tons	Area Harvested Million Hectares	Yield Tons per Hectare
1950	17	14	1.18
1951	16	15	1.07
1952	17	16	1.07
1953	17	16	1.04
1954	18	17	1.07
1955	19	21	0.94
1956	22	22	1.00
1957	23	23	1.00
1958	26	21	1.21
1959	26	22	1.18
1960	25	22	1.15
1961	29	27	1.06
1962	29	27	1.06
1963	29	28	1.07
1964	29	25	1.14
1965	31	25	1.23
1966	36	26	1.38
1967	37	27	1.35
1968	41	28	1.46
1969	41	28	1.46
1970	42	28	1.49
1971	43	28	1.53
1972	44	30	1.48
1973	54	34	1.60
1974	44	32	1.38
1975	54	32	1.65
1976	45	30	1.49
1977	60	34	1.74
1978	63	37	1.70
1979	75	41	1.84
1980	62	40	1.57
1981	69	40	1.74
1982	75	42	1.79
1983	61	38	1.58
1984	68	40	1.69
1985	76	39	1.93
1986	98	52	1.90
1987	104	54	1.92
1988	96	56	1.72
1989	107	58	1.84
1990	104	54	1.92
1991	107	55	1.95
1992	117	57	2.07
1993	118	60	1.95
1994	138	62	2.21
1995	125	61	2.04
1996	132	62	2.11
1997	158	69	2.30
1998	160	71	2.24
1999	160	72	2.23
2000	176	75	2.33
2001	185	79	2.33
2002	197	82	2.39
2003	187	88	2.11
2004	216	93	2.32
2005	221	93	2.37
2006	237	94	2.52
2007	221	91	2.44
2008	212	96	2.20
2009	260	102	2.55
2010	254	102	2.49

Source: Compiled by Earth Policy Institute, with 1950-1963 from U.S. Department of Agriculture (USDA), in Worldwatch Institute, *Signposts 2001*, CD-ROM (Washington, DC: 2001); USDA, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 12 August 2010.

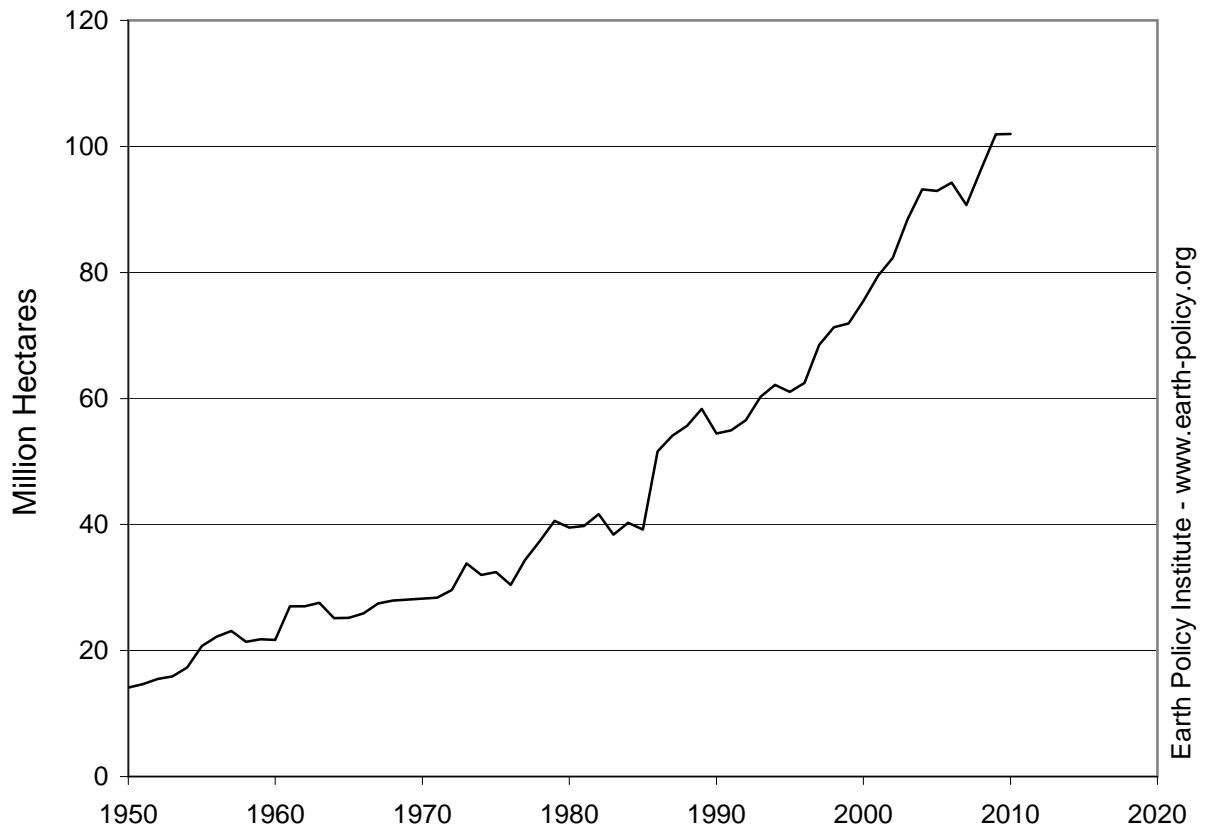
# World Soybean Production, 1950-2010



Source: EPI from Worldwatch; USDA

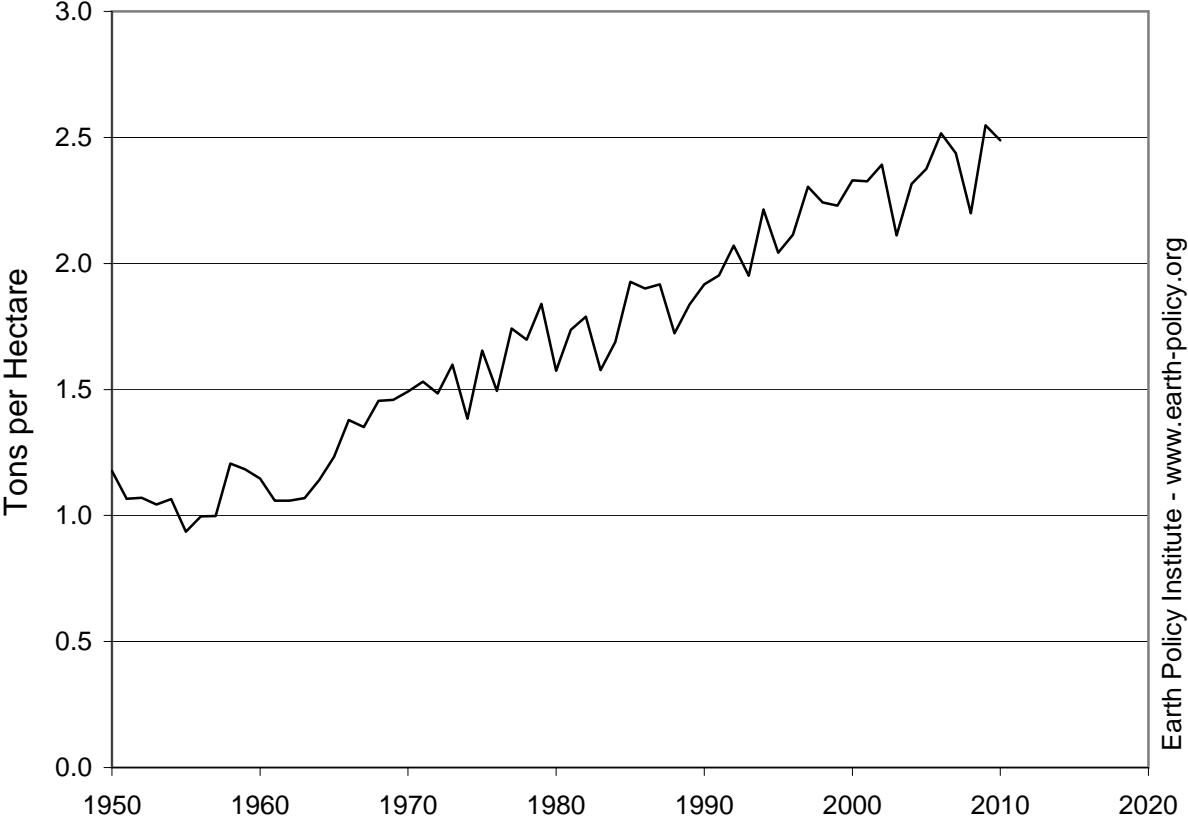
Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)

# World Soybean Area Harvested, 1950-2010



Source: EPI from Worldwatch; USDA

# World Soybean Yield, 1950-2010



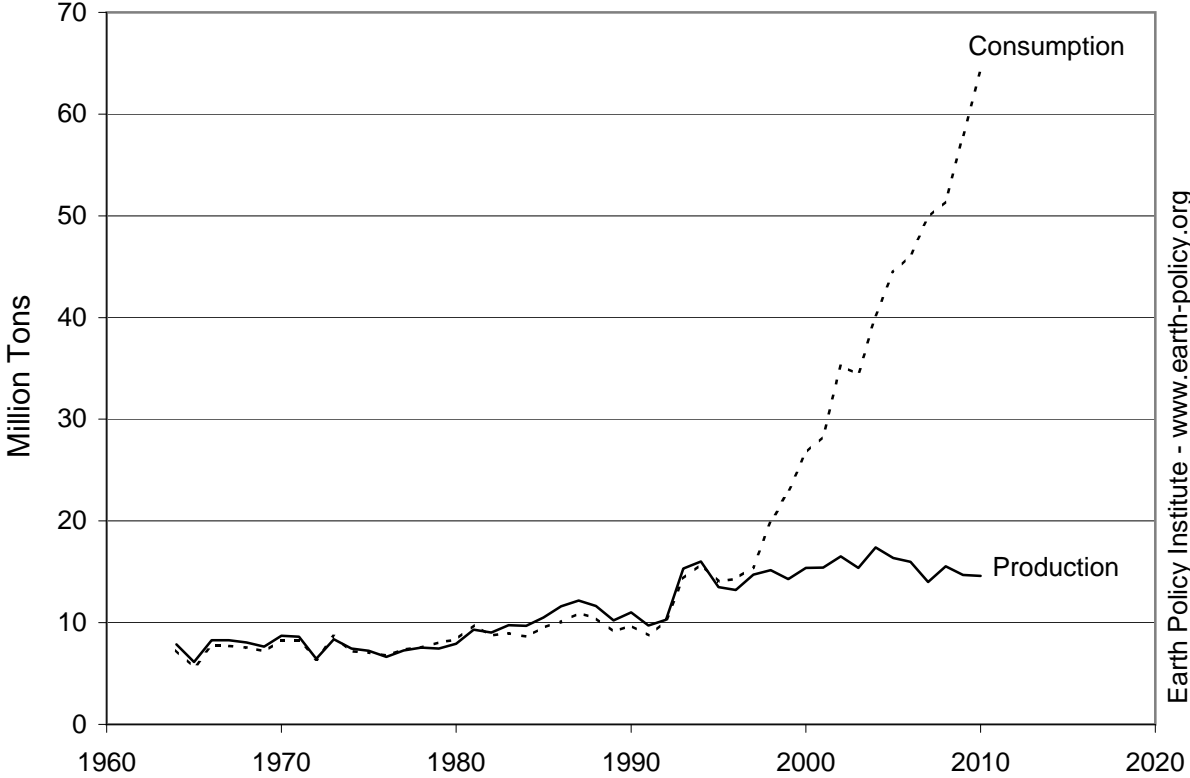
Source: EPI from Worldwatch; USDA

### Soybean Production, Imports, and Consumption in China, 1964-2010

Year	Production	Imports	Consumption	Imports as
				Share of Consumption
			Million Tons	Percent
1964	7.9	0.0	7.3	0
1965	6.1	0.0	5.6	0
1966	8.3	0.0	7.7	0
1967	8.3	0.0	7.7	0
1968	8.0	0.0	7.6	0
1969	7.6	0.0	7.2	0
1970	8.7	0.0	8.3	0
1971	8.6	0.0	8.2	0
1972	6.5	0.3	6.4	4
1973	8.4	0.6	8.6	7
1974	7.5	0.0	7.2	1
1975	7.2	0.0	7.1	0
1976	6.6	0.3	6.8	4
1977	7.3	0.2	7.4	3
1978	7.6	0.3	7.6	3
1979	7.5	0.8	8.1	10
1980	7.9	0.5	8.3	6
1981	9.3	0.5	9.7	5
1982	9.0	0.0	8.7	0
1983	9.8	0.0	9.0	0
1984	9.7	0.0	8.6	0
1985	10.5	0.3	9.5	3
1986	11.6	0.2	10.1	2
1987	12.2	0.2	10.9	2
1988	11.6	0.0	10.5	0
1989	10.2	0.0	9.1	0
1990	11.0	0.0	9.7	0
1991	9.7	0.1	8.8	2
1992	10.3	0.2	10.2	1
1993	15.3	0.1	14.3	1
1994	16.0	0.2	15.8	1
1995	13.5	0.8	14.1	6
1996	13.2	2.3	14.3	16
1997	14.7	2.9	15.5	19
1998	15.2	3.9	19.9	19
1999	14.3	10.1	22.9	44
2000	15.4	13.2	26.7	50
2001	15.4	10.4	28.3	37
2002	16.5	21.4	35.3	61
2003	15.4	16.9	34.4	49
2004	17.4	25.8	40.2	64
2005	16.4	28.3	44.4	64
2006	16.0	28.7	46.1	62
2007	14.0	37.8	49.8	76
2008	15.5	41.1	51.4	80
2009	14.7	48.0	57.9	83
2010	14.6	50.0	64.2	78

Source: U.S. Department of Agriculture, *Production, Supply and Distribution*, electronic database, at [www.fas.usda.gov/psdonline](http://www.fas.usda.gov/psdonline), updated 9 July 2010.

# Soybean Production and Consumption in China, 1964-2010



Source: USDA

## Extent of No-Tillage Agriculture in Top Countries, 2007/08

Country	Area under No-till Hectares <sup>1</sup>
United States	26,500,000
Argentina	25,785,000
Brazil	25,502,000
Australia	17,000,000
Canada	13,481,000
Indo-Gangetic Plains <sup>2</sup>	5,000,000
Paraguay	2,300,000
China	1,330,000
Kazakhstan	1,330,000
Bolivia	706,000
Uruguay	655,000
Spain	650,000
South Africa	368,000
Venezuela	300,000
France	200,000
Finland	200,000
Chile	180,000
New Zealand	162,000
Colombia	102,000
Ukraine	100,000
<b>Total</b>	<b>116,921,000</b>

### Notes:

<sup>1</sup> One hectare = 2.47 acres.

<sup>2</sup> Includes four countries in South Asia: India, Pakistan, Bangladesh, and Nepal.

Source: Rolf Derpsch and Theodor Friedrich, "Sustainable Crop Production Intensification - The Adoption of Conservation Agriculture Worldwide," presentation for International Soil Tillage Research Conference, Santiago, Chile, November 2010.

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