

## WOTE - Supporting Data for Chapter 5

[Countries Receiving World Food Programme Aid, October 2010](#)

[Grain Harvested Area Per Person in Selected Countries and the World in 1950 and 2010, with Projection to 2050](#)

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

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

[World Soybean Production, Area, and Yield, 1950-2010](#)

GRAPH: World Soybean Production, 1950-2010

GRAPH: World Soybean Area Harvested, 1950-2010

GRAPH: World Soybean Yield, 1950-2010

[Soybean Production, Imports, and Consumption in China, 1964-2010](#)

GRAPH: Soybean Production and Consumption in China, 1964-2010

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).

Countries Receiving World Food Programme Aid, October 2010

Country/Territory	Emergency Operations <sup>1</sup>	Protracted Relief and Recovery Operations <sup>2</sup>	Member of Top 20 Failing States List
Afghanistan		X	X
Algeria		X	
Armenia		X	
Bangladesh	X	X	
Benin	X		
Bhutan			
Bolivia		X	
Burkina Faso	X	X	
Burma (Myanmar)	X	X	X
Burundi		X	
Cambodia		X	
Cameroon	X		
Cape Verde			
Central African Republic	X	X	X
Chad	X	X	X
China	X		
Colombia	X	X	
Côte D'Ivoire		X	X
Cuba	X		
Democratic Republic of the Congo	X	X	X
Djibouti		X	
Dominican Republic	X		
Ecuador	X	X	
Egypt			
El Salvador		X	
Ethiopia		X	X
Gambia	X		
Georgia		X	
Ghana	X	X	
Guatemala	X	X	
Guinea	X	X	X
Guinea-Bissau		X	
Haiti	X	X	X
Honduras			
India			
Indonesia		X	
Iran		X	
Iraq		X	X
Kenya		X	X
Kyrgyzstan	X		
Lao People's Democratic Republic		X	
Lesotho		X	
Liberia		X	
Madagascar		X	
Malawi		X	
Mali		X	
Mauritania		X	
Mozambique		X	
Namibia		X	
Nepal		X	
Nicaragua			
Niger	X	X	X
North Korea	X	X	X
Occupied Palestinian Territory	X	X	
Pakistan	X	X	X
Peru			
Philippines	X	X	
Republic of Congo	X	X	
Rwanda		X	
Sao Tome and Principe			
Senegal		X	
Sierra Leone		X	
Somalia	X		X
Sri Lanka		X	
Sudan	X		X
Swaziland		X	
Syria	X		
Tajikistan		X	
Tanzania	X	X	
Timor-Leste		X	X
Togo	X		
Uganda	X	X	
Yemen	X	X	X
Zambia		X	
Zimbabwe		X	X
Total	32	56	19

<sup>1</sup>Emergency Operations (EMOPs): WFP carries out EMOPs in countries hit by sudden disasters such as floods; by more gradually-occurring disasters such as drought or crop failure; or by civil unrest, conflict, and/or displacement of large numbers of people. The typical duration for EMOPs is between three months and one year, but an EMOP can last up to two years.

<sup>2</sup>For situations in which communities will need more help to recover and to restore food security after the EMOP expires, WFP plans and implements a Protracted Relief and Recovery Operation (PRRO).

Source: Compiled by Earth Policy Institute from U.N. World Food Programme, "Operations," at [www.wfp.org/operations](http://www.wfp.org/operations), viewed 5 October 2010; Fund for Peace and *Foreign Policy*, "The Failed States Index," *Foreign Policy*, July/August 2010, pp. 74–105.

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

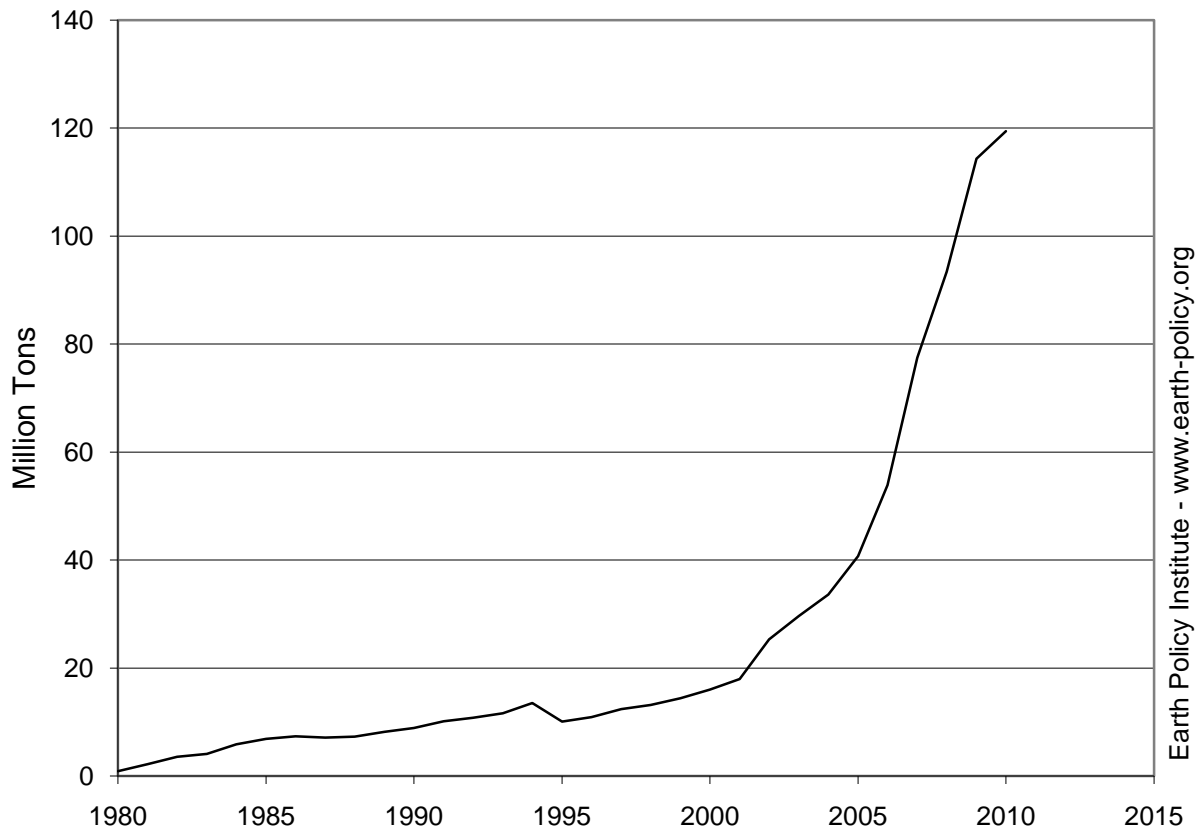
Year	Corn Production Million Tons	Total Grain Production Million Tons	Corn Used for Fuel Ethanol Million Tons	Share of Grain Used for Fuel Ethanol * Percent
1980	169	268	0.9	0.3
1981	206	328	2.2	0.8
1982	209	331	3.6	1.1
1983	106	206	4.1	1.2
1984	195	313	5.9	2.9
1985	225	345	6.9	2.2
1986	209	313	7.4	2.1
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.

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# 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)

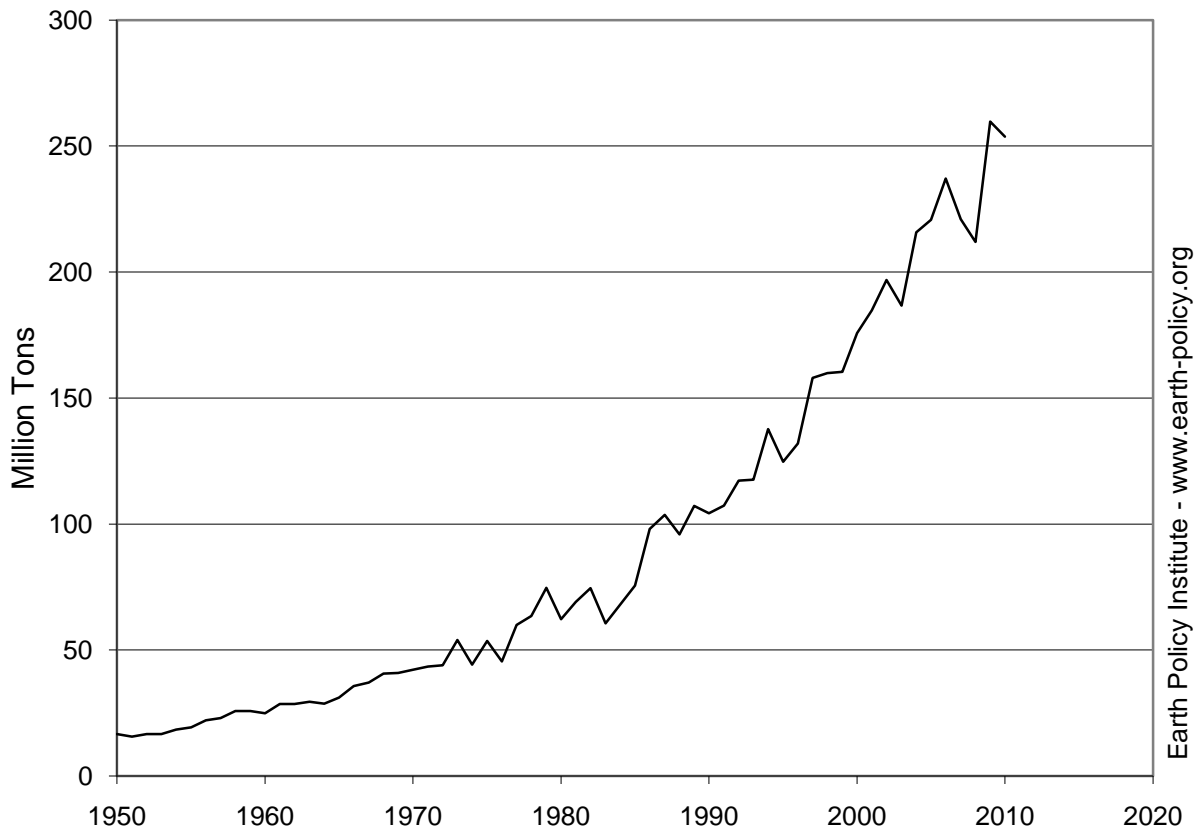
### World Soybean Production, Area, and Yield, 1950-2010

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.

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# World Soybean Production, 1950-2010

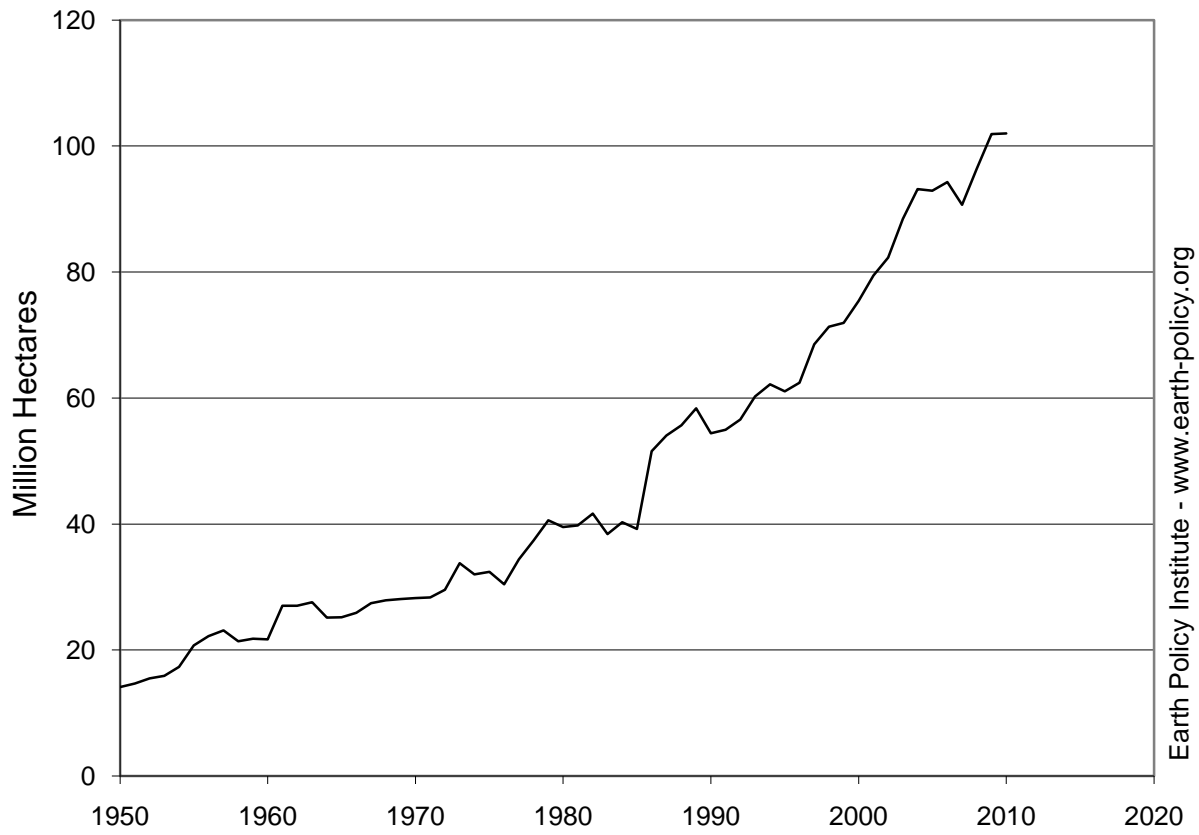


Source: EPI from Worldwatch; USDA

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



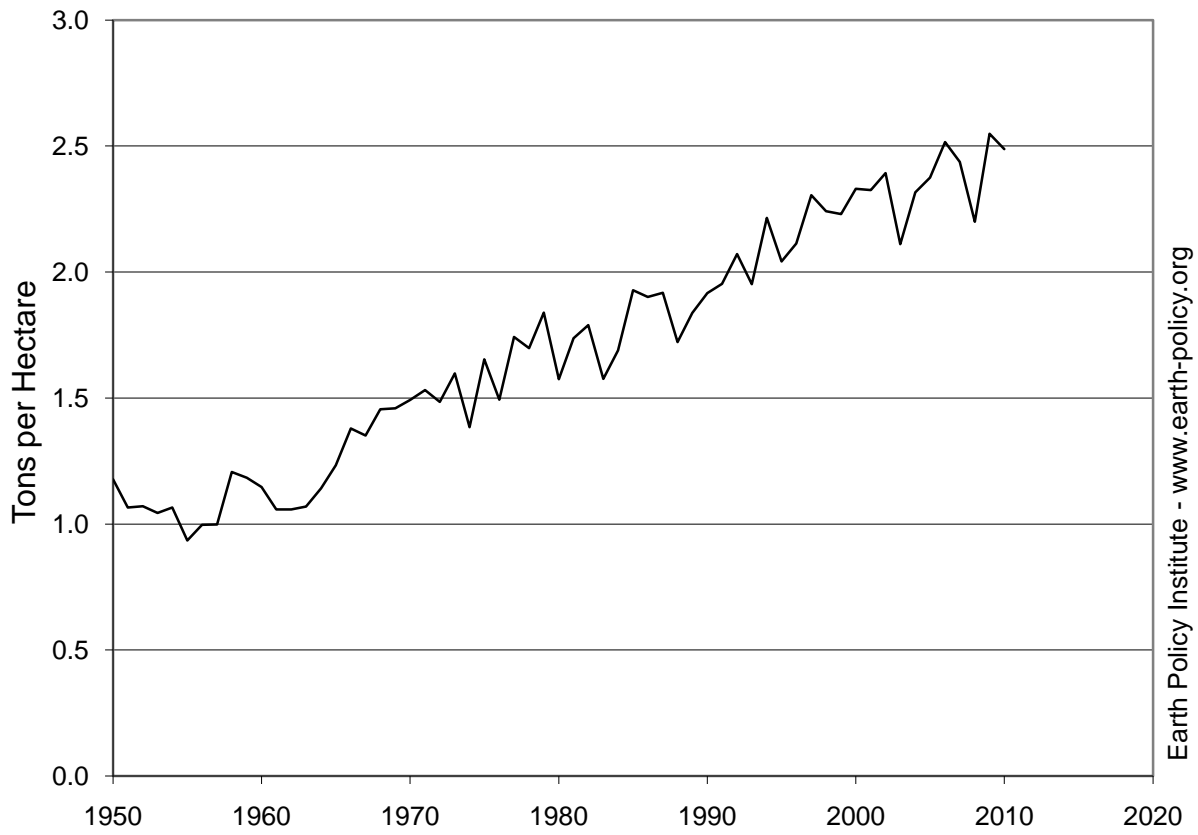
# World Soybean Area Harvested, 1950-2010



Source: EPI from Worldwatch; USDA

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

# World Soybean Yield, 1950-2010



Source: EPI from Worldwatch; USDA

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

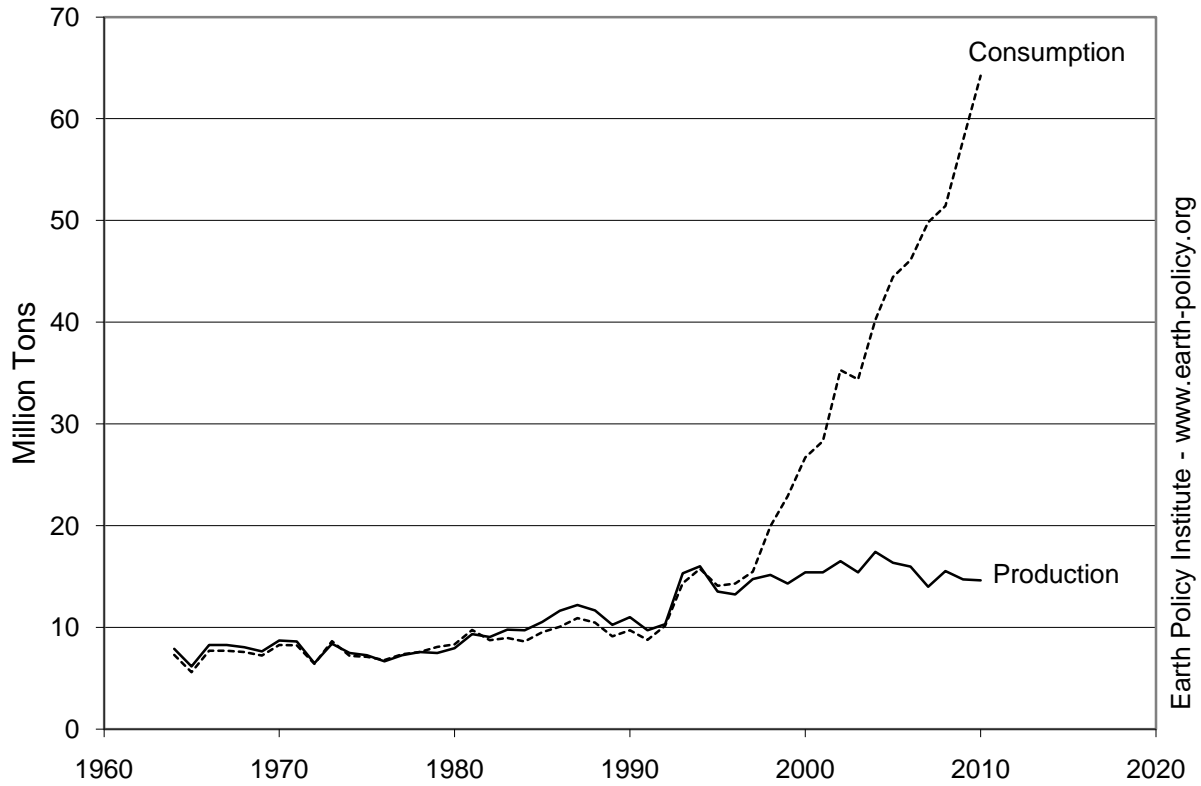
### Soybean Production, Imports, and Consumption in China, 1964-2010

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.

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# Soybean Production and Consumption in China, 1964-2010



Source: USDA