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Chickpeas (Garbanzo Beans)

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Background

Chickpeas, *Cicer arietinum*, are an annual grain legume or pulse crop. Chickpeas were first grown over 8,000 years ago (between 7,000-6,000 BC) in the Fertile Crescent between the Tigris and Euphrates Rivers, a region that now encompasses portions of Jordan, Turkey, Iraq, Iran, Israel, Lebanon, and Syria. The term pulse originates from the Latin word *puls*, meaning thick soup. Chickpeas are legumes that convert nitrogen from the atmosphere into nitrogen nodules on the plant roots.

Two types of chickpeas are raised: Kabuli and Desi. Kabuli chickpeas are usually grown in temperate regions of the world. They typically have large seeds that contain a thin seed coat and are graded into 58 or fewer seeds per ounce. Kabuli chickpeas are often referred to as Garbanzo beans and

have a white to cream-colored seed coat.

Desi chickpeas are usually grown in more semi-arid tropic regions of the world. They have smaller seeds than Kabuli chickpeas, and are graded around 100 or more seeds per ounce. Desi seeds have a thick, irregular-shaped seed coat with color ranging from light tan to black.

There is often little distinction between chickpeas and Garbanzo beans in the United States and Montana, although the technical definition classifies Kabuli varieties as Garbanzo beans. Kabuli are often described as big chickpeas and Desi as small chickpeas.

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Figure 1: Percent of World Chickpea Production by Country: 2002

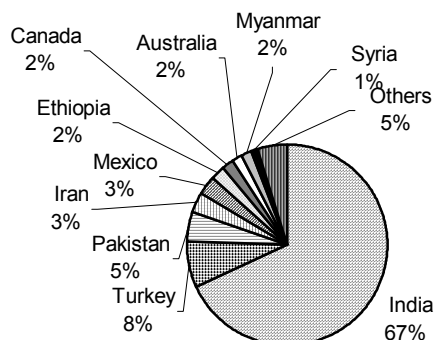


Table 1: World Chickpea Production, Historical

<i>Year</i>	<i>Production in Metric Tons</i>
1993	6,777,790
1994	7,094,819
1995	9,108,465
1996	8,009,506
1997	8,253,662
1998	8,822,748
1999	9,382,163
2000	7,864,246
2001	6,843,101
2002	7,807,891

Production

*World*¹: In 2002, global chickpea production was about 7.8 million metric tons, second only to dry beans among edible pulses. Chickpeas are produced in over 45 different countries. India typically produces nearly two thirds of total world chickpea output (Figure 1).

Annual world chickpea production fluctuated between approximately seven million metric tons and nine million metric tons over the period 1993 to 2002 (Table 1). In 1999, global chickpea production peaked at 9.3 million metric tons but was much lower in subsequent years. In 2002, world chickpea production was about 7.8 million metric tons, approximately 16 percent lower than in 1999.

Table 2: United States Chickpea Production, Acreage and Production

<i>Year</i>	<i>Acreage</i>		<i>Production</i>		
	<i>Planted (000)</i>	<i>Harvested (000)</i>	<i>Yield (lbs)/acre</i>	<i>Total (000) cwt.</i>	<i>Metric Tons</i>
1993	27.3	25.7	1,171	301	13,653
1994	21.9	21.9	1,498	328	14,878
1995	30.6	28.6	1,654	473	21,455
1996	42.7	39.4	1,279	504	22,861
1997	24.3	24	1,633	392	17,781
1998	28.5	28	418	1,493	67,722
1999	58.5	55.8	735	1,317	59,739
2000	112.7	102.2	1,280	1,308	59,330
2001	148.7	128.5	1,254	1,612	73,120
2002	82.1	70.9	1,182	838	38,011

United States: The United States accounted for less than one percent of world chickpea production in 2002. In the United States, the total area planted to chickpeas increased moderately in the early to mid 1990s and more substantially in 1999 and 2000 (Table 2). However, largely as a result of recent low market prices, chickpea production declined substantially by about 63 percent from about 149,000 acres in 2001 to only 82,000 acres in 2002.

Montana: Montana is a relatively minor producer of chickpeas, accounting for about 10 percent of total United States production in recent years. Chickpea production in Montana reached a peak of 7,757 metric tons in 2001, but declined over 60 percent to 3,221 metric tons in 2002 (Table 2) mainly because area planted to chickpeas declined from 31,500 acres to 12,700 acres between 2001 and 2002

(Table 3). Chickpea producers have suggested that disease problems, limited marketing channels, low market prices, and prolonged drought contributed to recent decreases in acreage and production of chickpeas in Montana.

Montana's share of total United States chickpea planted acreage was about 20 percent between 1998 and 2001, but fell to approximately 15 percent in 2002 (Figure 2). Montana grows both small and large chickpeas.

Domestic Competition: In addition to producers in other countries, Montana producers must compete with other states for the United States chickpea market.

¹ All data concerning world production of safflower is received from the FAOSTAT database of the Food and Agriculture Organization of the United Nations, which is compiled on a calendar year-basis. Marketing year and crop year information may yield somewhat different numerical results.

Table 3: Montana Chickpea Production, Historical Production

<i>Year</i>	<i>Acreage</i>		<i>Production</i>		
	<i>Planted (000)</i>	<i>Harvested (000)</i>	<i>Yield (lbs.)/acre</i>	<i>Total (000) cwt.</i>	<i>Metric Tons</i>
1998	4	3.8	84	2,210	3,810
1999	12.1	11.8	133	1,130	6,033
2000	25.3	20.5	150	730	6,804
2001	31.5	18.0	171	950	7,757
2002	12.7	9.6	71	740	3,221

Figure 2: Montana's Share of United States Total Chickpea Acreage

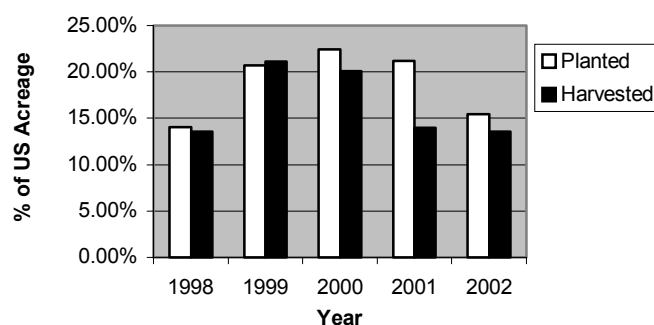


Figure 3: Percent of United States Chickpea Planted Acreage by State: 2002

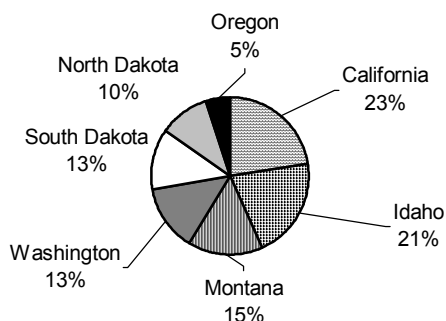
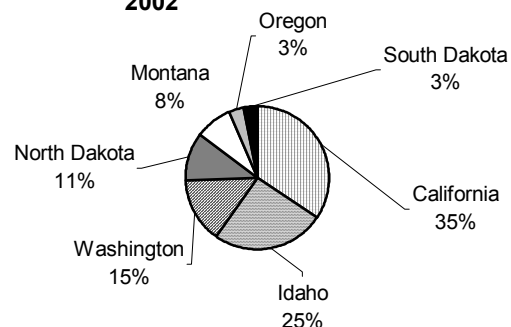


Figure 4: Percent of United States Chickpea Production by State: 2002



Chickpea acreage is spread among seven states with California and Idaho planting the largest proportions of United States acreage at 23 percent and 21 percent, respectively (Figure 3). Chickpea yields vary considerably across states. California and Idaho lead other states at 35 percent and 25 percent of chickpea production in the United States, respectively (Figure 4). In 2002, Montana accounted for 15 percent of the United States chickpea acreage and eight percent of United States chickpea production.

Consumption

Chickpeas are valued for their nutritive seeds that have protein contents ranging from 25 to 29 percent. Additional nutritional attributes of chickpeas include 67 percent total carbohydrates, 47 percent starch, eight percent crude fiber, five percent fat, and over three

percent ash. Chickpea seeds are eaten fresh as green vegetables, parched, fried, roasted, broiled, in snack foods and condiments, and chickpea flour can be used as soup, dhal, and to make bread. Small amounts of chickpeas are also used for livestock feeds.

Kabuli chickpeas are marketed as canned Garbanzo beans for salads and also ground for baking flour. Desi chickpeas require a special seed coat removal process that leaves behind a small yellow seed resembling a pea, and are used in numerous East Asian ethnic food products.

Imports

In recent years, about 15 percent of the world's production of chickpeas has been traded internationally. Around one million metric tons were traded internationally in the 2001 crop year.

In 2001, the top three chickpea importing countries were India, Pakistan, and Algeria (Table 4), collectively accounting for approximately 64 percent of world chickpea imports. India by itself had a 50 percent share of total world chickpea imports. The United States is a minor importer of chickpeas with about a one percent share of total world imports (Figure 5).

Exports

The United States exported about 30,000 metric tons of chickpeas, accounting for approximately 40 percent of total United States production and three percent of total world chickpea exports in 2001 (Table 5). Australia, Mexico, and Turkey accounted for approximately 63 percent of world chickpea exports in the same year (Figure 6).

Table 4: Major World Chickpea Importing Countries, 2001

<i>Country</i>	<i>World Rank</i>	<i>Metric Tons</i>
India	1	516,819
Pakistan	2	106,123
Algeria	3	70,496
Spain	4	68,734
Bangladesh	5	37,500
United States	16	10,957
Others		277,230
World Total		1,087,859

Table 5: Major World Chickpea Exporting Countries, 2001

<i>Country</i>	<i>World Rank</i>	<i>Metric Tons</i>
Australia	1	266,519
Mexico	2	207,093
Turkey	3	153,953
Canada	4	149,212
Iran	5	123,522
United States	6	29,613
Others		66,607
World Total		929,912

Figure 5: Percent of World Chickpea Imports by Country: 2001

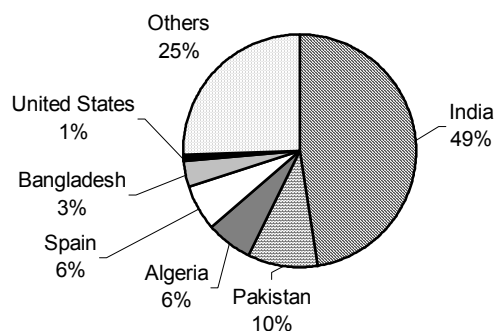
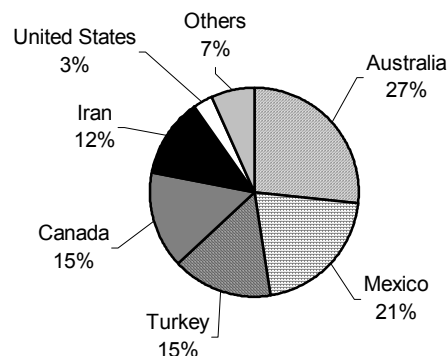


Figure 6: Percent of World Chickpea Exports by Country, 2001



Summary

World production of chickpeas has averaged about eight million metric tons in recent years. About 15 percent of world production just over million metric tons is traded internationally annually.

The United States accounts for less than one percent of world production, and about three percent of world exports. Chickpea imports into the United States are minimal. In recent years, Montana accounted for 13 to 15 percent of total acres planted to chickpeas in the United States. In the 2002 crop year, acres planted and chickpea production in Montana declined sharply, mainly because of prolonged drought conditions, disease problems, and limited marketing channels.

References

1. Crop Profiles for Chickpea (Garbanzo bean) in Montana," USDA Crop Profiles, North Carolina State University NSF for Integrated Pest Management, August 1999, Internet Accessed 7/21/03: <http://pestdata.ncsu.edu/cropprofiles/docs/mtchickpea-garbanzobean.html>
2. "Dry Bean Production Press Release", National Agricultural Statistics Service of the USDA, Internet Accessed 7/21/03: <http://www.nass.usda.gov/mt/crops/forecast/decfor.html>
3. McNew, Kevin and Bixler, Sam, "Chickpeas: Production, Uses, and Exports," Agricultural Marketing Policy Center, Briefing No. 19. November 2001.
4. Miller, Perry et Al, "Growing Chickpea in the Northern Great Plains," Montana State University Extension Service MontGuide, MT200204 AG 3/2002, March 2002, p 1-2.
5. Muehlbauer, F.J. and Tullu, Abebe, "Cicer arietinum L." New Crop Fact Sheet, 1997, Purdue University Center for Crops & Plant Products, Internet Accessed 7/21/03: <http://www.hort.purdue.edu/newcrop/cropfactsheets/Chickpea.html>
6. "Montana Garbanzo Beans Production Statistics-Historical Data," National Agricultural Statistics Service of the USDA, Internet Accessed 7/21/03: <http://www.nass.usda.gov/mt/crops/garbnayp.htm>
7. "United States Garbanzo Beans Production Statistics-Historical Data," National Statistics Service of the USDA, Internet Accessed 7/21/03: <http://www.nass.usda.gov:81/ipedb/report.htm>
8. "World Chickpeas Production and Import/Export Data," FAOSTAT Database, Food and Agriculture Organization of the United Nations, Internet Accessed 7/21/03: <http://apps.foa.org/default.htm>



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