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CHICK PEAS: SITUATION AND OUTLOOK

Canadian production of chick peas at the commercial level began in 1995-1996 and increased sharply in subsequent years. Canada became the third largest producer in the world in 2001-2002, but Canadian production is forecast to decrease sharply in 2002-2003. In 2000-2001, Canada became a major exporter of chick peas, with Canadian exports valued at $106 million. Canadian exports are expected to increase further in 2001-2002, but decrease in 2002-2003. This issue of the *Bi-weekly Bulletin* examines the situation and outlook for chick peas.

BACKGROUND

Chick peas have contributed to the diversification of crop production in Saskatchewan and Alberta and are valuable in crop rotations which help to control weeds, diseases and insects and improve soil texture and fertility. The production of chick peas has also contributed to the expansion of the pulse crops handling, marketing and processing industry, which increased employment opportunities in rural areas.

The two commercial types of chick peas produced are desi and kabuli. Kabuli chick peas, also known as garbanzo beans, have a larger, cream-coloured seed with a thin seed coat. The desi type has a smaller, darker coloured seed with a thick seed coat. Included in the kabuli chick pea production are the large kabuli type with the seed size mostly 8-9 millimetres (mm) and a seed weight of about 420-550 grams/1000 seed, and the small kabuli type, which have a more uniform seed size of about 7 mm and a seed weight of about 265 grams/1000 seed. Yields of the desi and small kabuli types are about 20% higher than of the large kabuli type.

Chick peas thrive under good moisture conditions with daytime temperatures between 21 to 29 degrees Celsius (° C) and nighttime temperatures near 20° C. Length of maturity depends on available heat and moisture, but is in the range of 95-105 days for desi type and 100-110 days for kabuli type. Chick peas are best adapted to the Brown and Dark Brown soil zones of south-western Saskatchewan and south-eastern Alberta where production problems of seedling blight, ascochyta blight and late maturity are less common. Chick peas are relatively drought tolerant due to the long tap root. They are not well adapted to high moisture areas, saline soils, soils which are slow to warm in the spring and wet or waterlogged soils. Chick pea production works well in rotation with cereal grains such as spring or durum wheat. Nitrogen fertilizer

WORLD: CHICK PEA SUPPLY AND DISPOSITION

	1998 -1999	1999 -2000	2000 -2001	2001 -2002	2002 -2003f
Harvested Area (000 ha)	11,227	11,948	10,422	8,762	8,800
Average Yields (t/ha)	0.84	0.65	0.60	0.90	0.85
	..... thousand tonnes				
Carry-in Stocks (e)	600	1,200	400	100	300
Production					
*India**	*6,800*	*5,120*	*3,520*	*5,070*	*4,900*
*Turkey***	*625*	*560*	*548*	*590*	*620*
Pakistan	*767*	*698*	*565*	*397*	*390*
*Australia****	*160*	*187*	*150*	*258*	*291*
*Canada*****	*53*	*197*	*388*	*447*	*240*
Mexico	*98*	*198*	*234*	*200*	*200*
Iran	*249*	*165*	*160*	*158*	*165*
Ethiopia	*137*	*165*	*176*	*176*	*160*
Myanmar	*89*	*68*	*84*	*119*	*110*
Syria	*85*	*29*	*65*	*60*	*65*
*United States******	*19*	*34*	*59*	*73*	*55*
Other	*404*	*298*	*316*	*332*	*324*
Total Production	9,486	7,719	6,265	7,880	7,520
Total Production - Kabuli (e)	*1,590*	*1,615*	*1,920*	*2,005*	*1,800*
Total Production - Desi (e)	*7,896*	*6,104*	*4,345*	*5,875*	*5,720*
Total Supply	**10,086**	**8,919**	**6,665**	**7,980**	**7,820**
Total Use (e)	**8,886**	**8,519**	**6,565**	**7,680**	**7,670**
Carry-out Stocks (e)	1,200	400	100	300	150

e: estimate, AAFC, August 2002

f: forecast, AAFC, Pulse Australia and USDA Attache, August 2002

Source: FAO, except *India Department of Agriculture, **FAO/USDA Attache, ***Pulse Australia, ****Statistics Canada, *****USDA - August 2002

Canada

is usually not required since chick peas possess the ability to fix nitrogen from the air in nodules on the roots where it is used for plant growth. To maximize the nitrogen fixation ability, chick pea seed should be inoculated with the chick pea strain of nitrogen-fixing inoculant.

The stage of crop development should be closely monitored as weathered seed and dark seed discolouration (green, brown, black) makes the seed less desirable to most processors and consumers. Kabuli chick pea colour is especially important because buyers prefer a yellowish-cream colour. Early fall frost can result in green discolouration of immature kabuli chick pea seed, which will reduce the value of the crop. Other important factors affecting visual quality are levels of admixture, seed size and seed uniformity. The use of conveyors instead of augers when handling chick peas, will reduce mechanical damage.

WORLD

Production

During the past 10 years, world production has been variable, ranging from a low of 6.27 million tonnes (Mt) in 2000-2001 to a high of 9.49 Mt in 1998-1999. India accounted for 60-70% of world production during this period. Production in India was variable, which was the main reason for the large range in world production. Among the other major producers, production was also variable in Australia, Pakistan, Mexico, Myanmar and Ethiopia, but trended upwards in Canada, Syria and the United States (US), and trended downwards in Turkey and Iran. Countries in the Indian sub-continent and Australia produced mainly the desi type, Canada produced both the kabuli and desi types, and the remaining countries produced mainly the kabuli type. On average, world production consisted of about 75% desi type and 25% kabuli type. Production of the kabuli type is more dispersed and therefore less variable than for the desi type.

Consumption and Trade

Chick peas are used almost exclusively for human consumption. The desi type seed must be dehulled and is used whole or split or milled. In India and surrounding countries, the desi chick peas are used whole, shelled and split to produce dhal, or ground into a fine flour called *besan*. Besan is used in many ways for cooking, including mixed with wheat flour to make roti or chapatti, and for making sweets and snacks. Chick peas are also used as a vegetable. In the Middle East, consumption is based on a popular dish known as "hommus" which is produced from mashed chick peas mixed with oil and spices. The kabuli type are used mainly in salad bars and vegetable mixes. They are also used in preparing a wide variety of snack foods, soups, sweets, and condiments. Smaller size kabuli chick peas are also milled for flour. Kabuli chick peas are substituted for desi chick peas if the price is competitive. Chick peas are an excellent source of protein, fibre, complex carbohydrates, vitamins, and minerals. They are low in sodium and fat, and can be used in gluten-free, diabetic, low salt, low calorie, low cholesterol, and high fibre diets.

More than 90% of the chick peas are consumed in the countries where they are produced. World exports during the past 10 years were variable, ranging from a low of 427,000 tonnes (t) in calendar year 1992 to a high of 878,000 t in 1997. In 2000, the latest year for which world trade statistics are available, exports were 745,000 t and imports were 581,000 t. The large difference between exports and imports may be attributed to timing of delivery and international classification differences. The top three exporting countries (Australia, Mexico and Canada) accounted for 80% of exports in 2000. Imports were distributed much more widely than exports, with the top five countries, Pakistan, India, Algeria, Bangladesh, and Spain accounting for 61% of imports. During the past 10 years, India was the largest importer of chick peas, but imports were extremely variable, depending on the volume of production in India and price. Because of the variability in India's imports, there was large variability in total world imports. Excluding India, world imports were more stable. India and surrounding countries import mainly the desi type, while countries in North and South America, Europe, the Middle East and northern Africa import mainly the kabuli type.

WORLD: CHICK PEA EXPORTS

calendar year	**1996**	**1997**	**1998**	**1999**	**2000**
	..... thousand tonnes.....				
Australia	217	380	165	127	307
Mexico	137	98	111	155	159
Canada*	1	1	12	21	133
Turkey	193	263	158	102	50
United States	8	6	10	23	35
Iran	4	106	62	33	19
Other	26	24	76	43	42
Total	**586**	**878**	**594**	**504**	**745**

WORLD: CHICK PEA IMPORTS

calendar year	**1996**	**1997**	**1998**	**1999**	**2000**
	..... thousand tonnes.....				
Pakistan	76	20	21	15	165
India	122	381	110	11	64
Spain	74	50	41	56	59
Algeria	44	40	38	38	37
Bangladesh	7	20	22	55	29
Saudi Arabia	18	18	20	12	19
Jordan	5	17	18	19	18
Italy	26	19	19	18	18
Tunisia	14	20	18	19	18
United Kingdom	14	15	15	12	16
Sri Lanka	6	14	15	13	14
France	19	12	12	9	13
United States	13	14	12	12	12
Other	116	119	108	95	99
Total	**554**	**759**	**469**	**384**	**581**

Note: The difference between imports and exports may be attributed to the timing of delivery and international classification differences.

Source: FAO except *Statistics Canada, August 2002

CANADA

Production

Chick pea production at the commercial level in Canada started in 1995-1996 at about 1,000 t, but increased rapidly during the next six years to 447,000 t in 2001-2002. Production of desi and both large and small kabuli types increased during this period. Saskatchewan accounted for about 96% of Canadian production in 2001-2002, and Alberta for 4%. The Canadian chick pea harvest generally occurs during the period from mid-August to early October.

Marketing

All of the chick peas produced in Canada are sold on the open market to dealers. There are about 35 dealers, mainly in Saskatchewan, who buy, clean and ship chick peas to domestic and export consumers. The dealers range from small, family owned businesses to large corporations. In recent years, producers have invested in several plants which handle pulse crops, including chick peas. There are several processing plants in Saskatchewan which dehull and split desi chick peas. Some chick peas are grown, under production contracts, which guarantee a price for part of the production, and others are sold on the spot market. Chick peas are shipped mainly bagged in containers, although some are also shipped bulk in containers or bulk inside the hold of ships. Most Canadian chick pea exports are through the ports of Vancouver and Montreal.

The Canadian Special Crops Association (CSCA) (www.specialcrops.mb.ca) is an industry organization representing traders, exporters and processors of pulse and special crops, including chick peas. Pulse Canada (www.pulsecanada.com) is an industry organization, with the CSCA and provincial pulse growers' organizations as members. It is involved in policy issues, coordinating

CANADA: CHICK PEA PRODUCTION BY TYPE

August-July crop year	1998 -1999	1999 -2000	2000 -2001	2001 -2002	2002 -2003f
	..... thousand tonnes.....				
Desi	22	99	194	150	110
Kabuli (large)	31	89	156	185	85
Kabuli (small)	0	9	38	112	45
Total	**53**	**197**	**388**	**447**	**240**

f: forecast, AAFC, August 2002

Source: AAFC estimates based on Statistics Canada, crop insurance, and industry reports.

CANADA: CHICK PEA AVERAGE PRODUCER PRICES*

August-July crop year	1998 -1999	1999 -2000	2000 -2001	2001 -2002	2002 -2003f
	.....$/tonne.....				
Desi	315	310	325	355	365
Kabuli (large-9 mm)	710	680	740	595	620
Kabuli (small)	n/a	415	525	355	365

* No.1 CW grade, Saskatchewan

n/a: not applicable

f: forecast, AAFC, August 2002

Source: AAFC

CANADA: CHICK PEA SUPPLY AND DISPOSITION

August-July crop year	1998 -1999	1999 -2000	2000 -2001	2001 -2002e	2002 -2003f
Harvested Area (Mha)	40	139	283	460	210
Average Yield (t/ha)	1.33	1.42	1.37	0.97	1.14
			.....thousand tonnes.....		
Carry-in Stocks	1	5	15	30	115
Production	53	197	388	447	240
Imports	2	5	5	10	11
Total Supply	**56**	**207**	**408**	**487**	**366**
Exports	14	56	179	210	200
Total Domestic Use	37	136	199	162	141
Total Use	**51**	**192**	**378**	**372**	**341**
Carry-out Stocks	5	15	30	115	25
Stocks-to-Use Ratio (%)	10	8	8	31	7
Average Producer Price (CAN$/t)*	493	390	410	380	380 -410
Harvested Area (000 ac.)	99	343	699	1,137	519
Yield (lb./ac.)	1,182	1,264	1,223	867	1,020
Production (Mlb.)	117	434	855	985	529
Average Producer Price (CAN$/lb.)*	0.224	0.177	0.186	0.172	0.172 -0.186

* average over all types and grades

e: estimate, AAFC, August 2002

f: forecast, AAFC, August 2002

Source: Statistics Canada and AAFC

research efforts and market development.

The Canadian Grain Commission (CGC) establishes quality standards for chick peas. The grades are No.1, 2 and 3 Canada Western (CW) Kabuli, and No.1, 2 and 3 CW Desi. Chick peas which do not meet the listed grade standards are graded Sample CW. The major quality concerns in chick pea grading are damage due to heating and peeling, split or broken seed, seed discolouration, as well as foreign material. For further information, or to access the Official Grain Grading Guide, please visit the CGC website: www.grainscanada.gc.ca

Prices

Canadian prices are largely determined in the international markets because Canada exports most of its production. Although prices of the large kabuli type are higher than the desi type, they are also more volatile. Prices of the large kabuli type increase as the size of the seed increases from 7 mm, to 8 mm, to 9 mm and to 10 mm. The producer receives a weighted average price for kabuli chick peas based on the percentage of various sized seed. The price of the small kabuli type is generally higher than for the desi type, but lower than the weighted average large kabuli type price. Since there is no futures market for chick peas, prices are negotiated directly between the dealers and customers based on supply and demand factors for each type of chick pea. The prices negotiated could be for immediate delivery or for delivery at some future date.

Domestic Use and Exports

Domestic use consists of food, feed, seed, dockage and waste. It has been increasing, in line with increasing production. Only small volumes of low quality chick peas are used for livestock feed, however nutritional analysis indicates that they make an excellent feed.

Canadian chick pea exports have increased sharply, in line with the increase in production. The main markets by region, with the leading countries in brackets, are Asia (India, Bangladesh, Pakistan), Europe (Spain, Italy, Portugal, France, Belgium, Greece), the Middle East (United Arab Emirates, Jordan, Saudi Arabia, Lebanon), northern Africa (Algeria, Morocco, Egypt), South America (Colombia), and the US. Exports to Asia are mainly the desi type, although exports of kabulis are also significant. Exports to the other regions of the world are mainly the kabuli type.

OUTLOOK: 2002-2003

World

World production is forecast to decrease by about 4% from 2001-2002 to 7.5 Mt, with a small decrease for the desi type and a larger decrease for the kabuli type. Total supply is expected to decrease slightly to about 7.8 Mt. The world production forecast for 2002-2003 is preliminary as seeding in the countries of the Indian sub-continent has not started, information about the crop in the Middle East is limited and there is uncertainty about the production volume in Australia because of dry conditions in many chick pea growing areas.

Canada

Area seeded in Canada decreased by 55% due to (1) lower potential returns from growing kabuli chick peas, (2) increased frustration among producers with the costs and risks of ascochyta blight and (3) higher risk in growing chick peas, as compared to some alternative crops, such as durum wheat. Area seeded has shifted to the desi type from the kabuli type. Although soil moisture conditions in the chick pea growing areas improved during the month of June, about one-third of the areas continued to be dry. Therefore, average yields are forecast to be lower than normal, but higher than in 2001-2002. Production is forecast to decrease by 46% to 240,000 t. Although production of all types is expected to decrease, the decrease is expected to be larger for the small and large kabuli types than for the desi type. Total supply is expected to decrease by only 25% to 366,000 t because of increased carry-in stocks. Exports are expected to decrease due to the lower supply. Carry-out stocks are forecast to decrease to a low level, with a stocks-to-use ratio of 7%. Lower world production is expected to support prices of all types of chick peas. The average price, over all types, grades and sizes, is forecast to increase by about 5%. The harvest has started.

India

Chick peas in India are grown as a winter crop in the central and north-western parts of the country. Nearly all of the chick peas produced in India are the desi type. Chick peas are generally seeded in October and November and harvested mainly in March and April. Most of the rainfall in the chick pea growing areas occurs during the summer monsoon season which normally lasts from early June to early October in the central parts of the country and mid-June to late September in the north-western parts. The monsoon rainfall provides moisture for the summer crops and a moisture reserve for winter crops, such as chick peas. Chick peas are generally grown without irrigation. In 2002, the monsoon rainfall has been lower than normal in the chick pea growing areas. If the rainfall does not improve, the chick pea areas will have below normal moisture reserves and will be dependent on winter rains. However, winter rainfall is normally much lower and less reliable than during the summer. Below normal soil moisture reserves during the seeding period could encourage additional seeding of chick peas because they are considered to be more drought tolerant than cereals and oilseeds. However, yields would be lower than normal, unless winter rainfall is ideal. Therefore, there is a great deal of uncertainty about the 2002-2003 chick pea crop in India. If production falls significantly, imports of desi chick peas would increase. Imports of kabuli chick peas would also increase, although prices would have to be competitive with the desi type. Therefore most of the imports would be the smaller size kabuli chick peas. In addition, imports of yellow peas would also increase because they are used as a cheaper substitute for desi chick peas. Larger imports of desi and kabuli chick peas and yellow peas would strengthen Canadian prices for desi and kabuli chick peas, as well as yellow peas.

US Farm Security and Rural Investment Act (FSRIA) of 2002

For the first time, lentils, dry peas and small chick peas are included under the loan program. The loan rate provides a floor return for small chick pea producers because if the market price is lower than the loan rate, the producer is eligible for a loan deficiency payment. This will make it easier for producers to obtain operating loans. The loan rate for small chick peas is US$7.56 per 100 pounds (cwt) for crop years 2002 and 2003, and US$7.43/cwt for 2004 to 2007. Small chick peas are defined as those that "drop below a 20/64 screen" or less than 7.8 mm, which means the desi and small kabuli types. US production is nearly all the large kabuli type. Long-term price data for the desi and small kabuli types is not available, but the current price in Montana and North Dakota for No.1 desi chick peas is US$10.00/cwt. The current North Dakota and Montana price is similar to the price paid in Saskatchewan converted to US currency. Therefore, using that assumption, the average price in those states would have been in US$/cwt 10.15, 9.70, 9.50 and 9.80 for 2001-2002, 2000-2001, 1999-2000 and 1998-1999, respectively. All of these prices are higher than the loan rate. The average prices for the small kabuli type were usually higher than for the desi type. Therefore, the main advantage of the loan rate on the US production of the desi and small kabuli types is that it provides a floor return, which makes it easier to obtain operating loans. In addition, it appears that both large and small chick peas are covered by the FSRIA planting flexibility restrictions for vegetables and dry beans, which means that planting of chick peas would be limited to non-program base acres. Therefore, although US production of the desi and small kabuli types is expected to increase because of the loan rate, production of these types is expected to remain small and not have significant impact on world supply and prices. Small chick peas are not eligible for counter cyclical payments, unlike the major grains and oilseeds, since there is no target price and they do not receive direct payments. Since there is no loan rate for the large kabuli type, US production of this type will continue to depend on market signals.

US chick pea production in 2001-2002 was in the states of Idaho (26%), California (24%), North Dakota (14%), Washington (13%), South Dakota (9%) and Montana (8%). The small amount of desi and small kabuli chick peas produced were in Idaho, Montana and North Dakota.

For periodic updates on the situation and outlook for chick peas, visit the Market Analysis Division Website for "Canada: Pulse and Special Crops Situation and Outlook."

CANADA: CHICK PEA EXPORTS

August-July crop year	**1998 -1999**	**1999 -2000**	**2000 -2001**	**2001 -2002e**	**2002 -2003f**
	.....thousand tonnes				
Asia	7	28	119	125	115
Europe	3	10	20	25	25
Middle East	2	11	16	30	25
Africa	0	2	15	15	15
South America	1	2	5	8	10
Central America and Carribean	1	1	2	3	3
United States	1	2	3	5	7
Total	**14**	**56**	**179**	**210**	**200**

e: estimate, AAFC, August 2002
f: forecast, AAFC, August 2002
Source: Statistics Canada

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