



# BRIEFING

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## Economic Issues Related To Chickpea Production In The Northern Plains

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**Objective**

**Analysis**

**for Informed**

**Decision Making**

### Introduction

Some crop producers in the Northern Plains have added chickpeas to traditional crop rotations. In the United States, chickpeas have historically been produced in California, Oregon, and Washington. Measurable amounts of chickpea production have only recently occurred in Montana and North Dakota. Agronomic, production, and marketing management of chickpeas may be quite different from that for more commonly-grown crops. This Briefing addresses economic issues related to chickpea production, marketing, and risk management in the Northern Plains.

Chickpeas have become an important crop in the Canadian prairies within the last decade. In addition, Canadian chickpea buyers are important markets for many U.S. Northern Plains chickpea producers. Because of regional similarities between the two areas, this Briefing provides an overview of Canadian chickpea production and marketing experiences. This overview may provide insights and experiences for Montana and North Dakota producers.

### Canadian Chickpea Experience

*Canadian Chickpea Production:* More than 90 percent of Canadian chickpeas are produced in the province of Saskatchewan (Statistics Canada). Saskatchewan's planted acreage and production between 1997 and 2002 are presented in Table 1. The planted acreages and yield projections for 2002 represent decreases from prior years. The projected acreage decrease is the result of lower profit expectations. The yield decline in 2001 and projected lower yields for 2002 are the result of poor weather conditions.

Several factors have contributed to the growth in Canadian chickpea production. The loss of rail transportation subsidies in Canada reduced prices for feed grains in the prairie provinces. This prompted some producers to substitute specialty crop production for feed grain production. Another factor is that many pulse-producing regions of the world are saddled with relatively low yields. Saskatchewan producers, with relatively high yields, can often compete on world markets in the production of pulse crops. In addition, many Canadian producers have added pulse crops to traditional spring wheat and barley rotations for agronomic purposes. With the adoption of reduced tillage practices, many producers are better able to accommodate expanded crop rotations. For many in the Southwest portion of Saskatchewan, chickpeas are more suitable than other pulse crops in terms of disease management and income generation.

*Canadian Chickpea Exports:* Although Canada's chickpea production is a small percentage of world production (Figure 1), its exports are becoming an increasing percentage of world exports (Figure 2). One would expect that export prices will decrease with increased production. However, a number of factors including production levels and economic conditions in importing countries are critical determinants of export prices. Canadian exporters have successfully positioned themselves as suppliers of high-quality chickpeas, but that position appears to be in jeopardy in 2002.

*Canadian Chickpea Marketing:* In general, Canadian chickpeas are cleaned and packed in 100-pound bags. Some countries, such as India and Bangladesh

**Table 1: Chickpea Production in Saskatchewan, 1997 - 2002.**

Year	Seeded Acres	Harvested Acres	Yield (lbs/acre)	Production (tons)
1997	25,900	25,600	1,249	14,500
1998	96,000	95,000	1,181	50,900
1999	350,000	325,000	1,270	187,200
2000	680,000	650,000	1,257	370,700
2001	1,150,000	1,100,000	895	446,800
2002	545,000	n.a.	444	109,800

*Source: Saskatchewan Agriculture, Food, & Rural Revitalization. 2002 values are projections.*

accept alternative packaging such as smaller bags or bulk containers. Wholesalers and brokers generally sell Canadian chickpeas by the hundredweight with prices quoted as free-on-board (FOB) at importing ports. In most cases, Canadian exporters own their own processing/packing plants and broker their own shipping contracts.

There are at least 16 active processors of chickpeas in Western Canada. These firms purchase, transport, sort, clean, package, and deliver chickpeas to domestic ports or directly to importing port destinations. Most of these firms also buy and sell other specialty and/or pulse crops. Buyers generally purchase chickpeas from farmers on a FOB basis at the farm gate. Farmers sometimes deliver these products to packing facilities and are compensated accordingly. In general, the basis for chickpeas has been quite variable.

Canada competes directly with Australia in the Desi chickpea market, and with the United States and Turkey in the 8mm or

larger Kabuli market. Canada has become the dominant producer of 7mm-and-smaller chickpeas (Chico and B-90 varieties), which are exported to the Indian subcontinent. Recently, however, Iran and other producers have started growing these varieties which has resulted in lower world prices.

Many Canadian export contracts, including small Kabuli contracts, have been procured through consistency of quality and timeliness of supply. Recently, concerns have risen that Canadian exporters may fall short of delivering on their contracts because of reductions in planted acreages and expected poor yields in 2002. The long term impact of not meeting these contracts could be substantial.

*Canadian Chickpea Research and Risk Management Programs*

Pulse producers in Saskatchewan pay a levy of 1 percent of the value of gross pulse sales to the Saskatchewan Pulse Grower's Research and Development

Fund. These funds are primarily used to fund research into new shorter-season and aschotyta-resistant pulse varieties. Provincial and Federal funds also contribute to this research initiative. Additional *ad hoc* funding is provided by other government sources. Nonetheless, many producers are concerned that current research expenditures are insufficient to maintain competitiveness.

The Canadian and provincial governments do not provide differential production subsidies for chickpeas relative to other crops in Saskatchewan. For example, the Net Income Stabilization Act (NISA) is based on total farm receipts and is offered to all Canadian farmers. Thus, such programs do not provide incentives to expand chickpea production relative to other crops. Chickpeas have been added to two major programs in the past three years: the crop insurance program and the Federal Cash Advance Program. These programs have improved the viability of chickpea production.

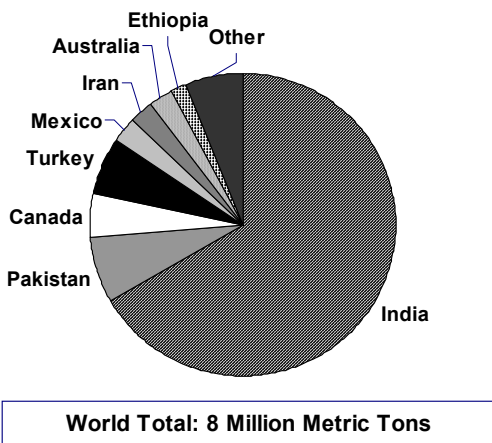


Figure 1: World Chickpea Production by Country, 2000

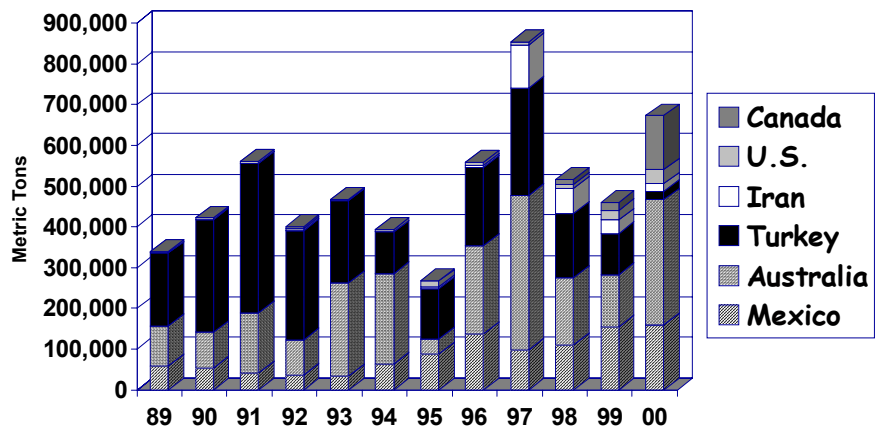


Figure 2: World Chickpea Exports, 1989-2000

Prior to 2001, widespread chickpea crop insurance was not available. Currently, the Canada–Saskatchewan Crop Insurance program insures Kabuli and Desi chickpea production in specific areas of Saskatchewan. Insurable areas have been selected for their agronomic suitability. Under this program, producers are insured for base yields ranging from 770 lbs/acre to 1,400 lbs/acre depending on risk zone and chickpea variety. In addition to yield insurance, the Saskatchewan Crop Insurance Corporation also offers replanting options to offset costs associated with stand establishment. To be eligible for insurance benefits, farmers must follow recommended agronomic practices regarding varieties, seeding dates, disease prevention and control, and crop rotation. These insurance plans reduce production risk associated with the expansion of crop rotations. Premiums are set at actuarially sound levels.

Canadian chickpea producers are eligible for the Federal Cash Advance Program. This program is administered by the Canadian Canola Grower's Association and provides operating capital based upon anticipated production. Producers are offered interest-free loans up to CDN\$50,000 with a loan administration fee of \$150. The advance rate for Kabuli chickpeas in 2002 was CDN\$0.095/lb, and CDN\$0.05/lb for Desi chickpeas. Loans are payable upon delivery of actual production to a buyer. These recourse loans do not provide price support for chickpeas.

### Chickpeas in the U.S. Northern Plains

*U.S. Chickpea Production:* Increases in U.S. chickpea production and exports are illustrated in Figure 3. This production increase mirrors to some extent chickpea production increases in Saskatchewan. As in Saskatchewan, the impact of increased production on prices is uncertain.

U.S. chickpea exports have generally been less than 50 percent of U.S. production. Information regarding domestic use of chickpeas is limited, but substantial amounts are expected to have been used for seed to accommodate the expansion in planted acreage.

*U.S. Chickpea Marketing:* A USDA Economic Research Service publication

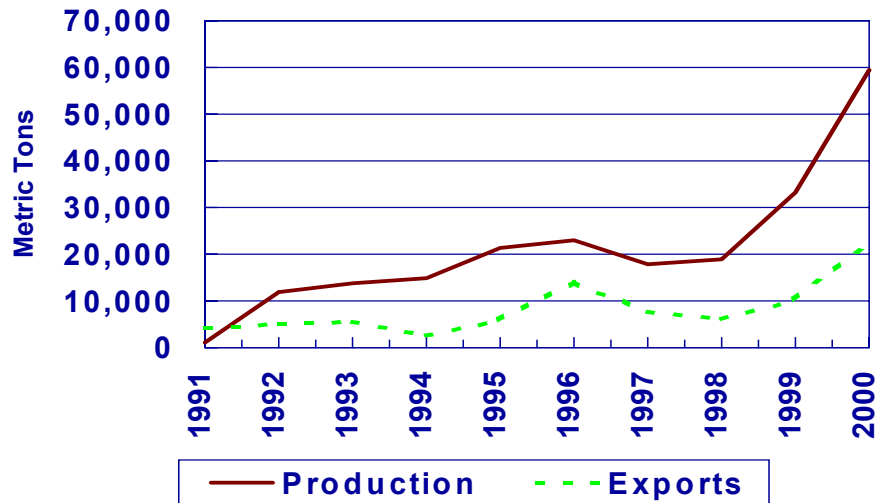


Figure 3: U.S. Chickpea Production and Exports, 1991-2000

(Price, <http://www.ers.usda.gov/publications/agoutlook/Nov2002/ao296f.pdf>) provides an overview of chickpea marketing in the United States. Most U.S. chickpeas are marketed through processors, who clean, sort, and grade chickpeas. Also, most chickpea sales are non-contracted and generally unbranded in the Northern Plains. Annual U.S. domestic food use of chickpeas is small -- generally less than 1 pound per capita.

Chickpea producers in Montana and North Dakota are expected to experience similar challenges as Canadian producers regarding production, transportation, and sales. Price (2002) identifies four considerations that reduces U.S. price competitiveness in the world chickpea market:

1. U.S. pulses are high-quality commodities, commanding price premiums. Many price-sensitive segments of foreign markets are unwilling to pay significant premiums for U.S. quality, especially when lower cost pulses from other countries are plentiful. For example, India imports many of its pulses from Burma, Canada, and Australia, where both prices and quality are lower than in the United States.
2. U.S. exporters bag and containerize shipments to preserve quality. While this results in less product damage, the process is more costly than bulk shipping.
3. U.S. transportation costs are

relatively high. Long distances cause high trucking costs, particularly in the Northern Plains. Rail rates to ports are also high.

4. The high value of the U.S. dollar relative to other currencies makes U.S. exports more expensive than those from other countries.

Factors one and two are influenced by producer decisions to sell high-quality chickpeas that may provide returns above production costs. Factors three and four are generally beyond the control of chickpea producers.

*U.S. Chickpea Risk Management - Crop Insurance Alternatives:* Beginning with the 2003 crop, USDA's Risk Management Agency (RMA) will offer multiple crop insurance (MPCI) for Desi and small Kabuli (AMIT and B-90) chickpeas in three Montana counties (Dawson, Prairie, and Richland) and six North Dakota counties (Grant, Hettinger, McKenzie, McLean, Oliver, and Williams). These chickpea varieties are considered new varieties of dry beans for crop insurance purposes.

Details of MPCI crop insurance are provided in Briefing No. 8 (revised November 2002). Producers need to establish approved production histories as described in Briefing No. 7 (revised November 2002), and make decisions regarding insurable units as described in Briefing No. 6 (revised November 2002). Producers may choose yield elections between 50-75% and price elections

between 30-100%. Replant options can be added to dry bean policies. If a replant option is purchased and plant populations are unable to provide 90% of trigger yields, then producers can receive the monetary equivalent of 120 pounds of beans or 10% of trigger yields -- whichever is less.

Only ascochyta-resistant varieties and seed that has been treated against disease are insurable. In addition, insurance is only available on land that has not been planted to chickpeas in any of the preceding three years.

*Requests for Actuarial Change in Counties For Which Dry Bean MPCIs Exist:* If Desi or small Kabuli chickpeas are produced in a county (other than those noted above) for which dry bean MPCIs exist, then a producer can request an actuarial change (Briefing No. 13, revised November 2002). A successful *Request for Actuarial Change* results in a *Written Agreement*. This agreement, if accepted by a producer, is an individualized crop insurance contract for chickpeas in the specified county for that crop year.

The *Request for Actuarial Change* process is usually initiated with a farm manager conferring with a local crop insurance agent. The farm manager and the crop insurance agent then complete form FCI-5, *Request for Actuarial Change*.

Two years of production history for dry beans or chickpeas (or proof of adaptability of chickpeas) must be submitted for a producer to qualify for Desi or small Kabuli written agreements. In addition, producers must establish approved production histories for chickpeas. The type and variety of chickpeas that are to be grown must be indicated, and evidence of a market for the current crop must be established (e.g., previous year's sales invoice, contract for current crop, etc.). Aerial photos delineating field boundaries must also be submitted. Once the *Request for Actuarial Change* form is completed, it is forwarded by the farm manager's crop insurance agent to the private sector insurance company the agent represents for research and review. Subject to the insurance company's review for completeness and accuracy, the request is forwarded to the RMA regional office. Once the RMA determines premium

rates, a producer decides on coverage levels. Producers have the option to reject or accept the *Written Agreement*.

*Requests for Actuarial Change in Counties for Which Dry Bean MPCIs Do Not Exist:* If Desi or small Kabuli chickpeas are produced in a county for which dry bean MPCIs do not exist, then a producer can request an actuarial change. In this case, producers must follow the above procedures for a *Request for Actuarial Change*. However, they must submit three years of dry bean or chickpea production records to qualify for a chickpea written agreement. In addition, producers must establish chickpea approved production histories and provide anticipated planting and harvesting dates.

*Crop Insurance for Varieties Other Than Desi or Small Kabulis:* RMA *Written Agreements* are available for large Kabulis. Furthermore, the Farm Service Agency's (FSA) Noninsured Crop Disaster Assistance Program (NAP) provides some financial assistance to producers affected by natural disasters (Briefing No. 14, revised November 2002). This program covers noninsurable crop losses and prevented plantings resulting from natural disasters.

Producers apply for NAP coverage by filing *Applications for Coverage* and paying applicable service fees at local Farm Service Agency offices. Applications and service fees must be filed by the application closing date as established by the state-level Farm Service Agency committee. The service fee schedule is as follows: \$100 per crop per county; or, \$300 per producer per administrative county; with the total fees not to exceed \$900 per producer in all counties. Limited resource farmers may request a waiver of fees. To remain eligible for NAP assistance, farm managers must annually report both acreage and production information. Local FSA offices can advise producers of reporting dates. In addition, farm managers must annually provide the following production information:

1. the quantity of all harvested production of the crop in which you have an interest during the crop year.
2. the disposition of the harvested crop, such as whether it was marketable, unmarketable,

salvaged, or used differently than intended.

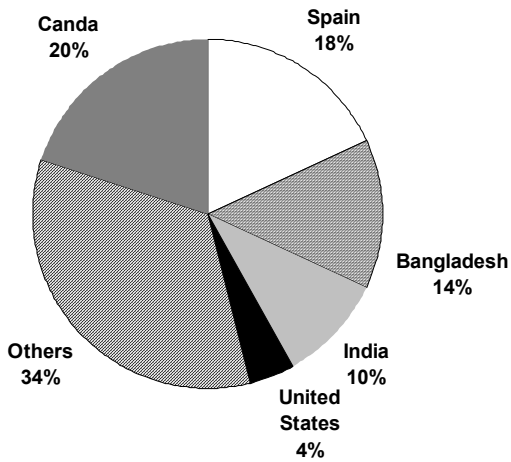
3. verifiable or reliable production records, when required.

FSA uses acreage information and production data to calculate an *approved yield* that represents expected production for the crop year. An approved yield for a crop for an individual producer is usually the average of the producer's actual production history (APH) for a minimum of 4 to a maximum of 10 years.

FSA compares expected production (producer's approved yield) to actual production to determine the percentage of crop loss. NAP compensates producers for production losses exceeding 50 percent of approved yields. The FSA values these losses at 55 percent of the average market price for the specific commodity as established by the state FSA committee. The calculated NAP payment may be reduced by a payment factor reflecting the decrease in production costs incurred in the crop production cycle for the crop that is harvested, unharvested, or prevented from being planted. Payment factors vary by crop.

*U.S. Chickpea Risk Management - 2002 Farm Security and Rural Investment Act (FSRI):* The FSRI added several new commodities to the marketing assistance loan program including small chickpeas. The 2002-2003 loan rate for #1 grade Desi chickpeas is \$7.56/cwt., and the 2004-2006 loan rate is \$7.43/cwt. Marketing assistance loans can also be obtained for smaller chickpeas. Like other commodities that are eligible for marketing assistance loans, chickpeas are subject to discounts if they do not meet loan quality. Loan rate discounts for chickpeas below #1 grade are: \$1.00/cwt. for grade #2; \$2.25/cwt. for grade #3; and \$3.50/cwt. for sample grade.

Producers can obtain a nonrecourse marketing assistance loan for chickpeas after harvest. The maximum duration of such loans is nine months beyond the month of inception. Producers have three



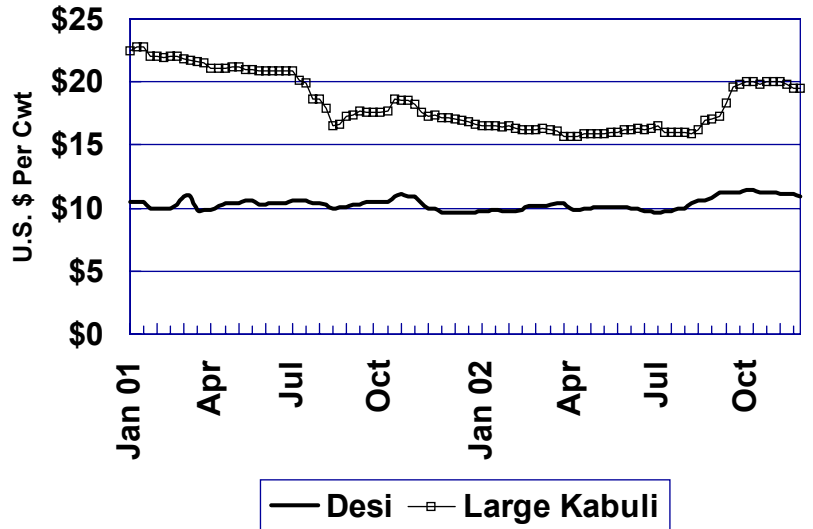
4: World Chickpea Imports, 2000  
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loan settlement options: (1) prior to loan maturity, a producer may repay the Commodity Credit Corporation (CCC) the lesser of the loan rate plus accrued interest or the posted-county price, (2) at loan maturity, a producer can repay the loan at the loan rate plus accrued interest to reclaim the commodity offered as collateral, or (3) at maturity, a producer can forfeit the commodity offered as collateral to the CCC which absolves the producer's principal and interest loan liability (the nonrecourse component of the loan).

Two possible income enhancement possibilities exist within the marketing assistance loan program: (1) loan deficiency payments, and (2) marketing loan gains. Loan deficiency payments (LDPs) may be available for chickpeas if a daily posted-county price is below the county-level loan rate for chickpeas. A producer may then elect to receive as cash the difference between the county-level loan rate and the posted-county price. A producer who makes such an election is then ineligible for a marketing assistance loan on that quantity of chickpeas on which the LDP was received.

A marketing loan gains occurs if a producer decides to settle a marketing assistance loan before loan maturity at a time in which the posted-county price is below the county-level loan rate. Producers are likely to repay a loan at the posted-county price whenever they can market their collateral at market prices which exceed the loan rate. Hence, the difference between the posted-county

Figure 5: Weekly Saskatchewan chickpea prices, Figure



price and the county-level loan rate represents an income enhancement.

Essentially, the market assistance loan program establishes a price floor for small chickpeas. However, some argue that this price floor will not greatly affect planted acreage because county-level loan rates are generally below equilibrium market prices (Price). Nonetheless, the program does limit downside price risk for chickpea producers.

For the 2002 crop year, all county-level loan rates were equal to the national loan rate for chickpeas. That is, chickpea producers received identical loan rates regardless of distance to a primary market. This is a departure from the mechanics of marketing assistance loan rates for most commodities. As local basis information becomes more prevalent, producers will likely see changes in the chickpea marketing assistance loan program so that county-level loan rates reflect basis differences.

Chickpeas are not eligible for either FSRI direct or counter-cyclical payments. However, for those producers who have established base acreages and production histories for program crops, chickpeas have been designated as a vegetable crop. For producers with base acreages, a condition for eligibility to receive direct and counter-cyclical payments is that fruit and vegetable crops (except lentils, dry peas, and most beans) cannot be planted on "contract" acres. "Contract" acres refers to base acres plus acres enrolled in the Conservation Reserve Program

(CRP). For example, if a producer had 4,000 acres of cropland with 2,200 acres of wheat base and 1,800 acres enrolled in CRP, then that producer has no "noncontract" acres. In this situation, a producer should check with their local Farm Services Agency office to fully understand the consequences of chickpea production with respect to direct and counter-cyclical eligibility of base acreages.

### Summary

Producers of specialty crops such as chickpeas face risks associated with price uncertainty and production. Price uncertainty is a particular problem with chickpeas since foreign countries represent the majority of the market and the United States appears to be a residual supplier. Thus, world chickpea prices are largely determined by production and economic conditions in countries such as India. India is the world's largest producer and consumer of chickpeas, and in recent years, one of the largest chickpea importers (Figure 4).

Canadian buyers have emerged as an important market outlet for many Northern Plains chickpea producers. The 2002 Canadian crop is projected to fall well below expected levels due to weather problems. Thus, chickpea prices have been driven higher as Canadian processors and exporters struggle to meet contractual obligations (Figure 5).

Chickpea production in the Northern Plains must compete with traditional crops -- many of which are supported by

long-standing government price support and risk management programs. Chickpea crop insurance opportunities are limited. Although the FSRI limits downside price risk for chickpeas, the lack of formal futures markets hinders price risk management options for chickpeas relative to traditional crops.

Although many opportunities exist for contracting chickpea production with both U.S. and Canadian buyers, producers must carefully evaluate the terms of such contracts, particularly quality measurements and dispute resolution criteria. The chickpea market, like that of other speciality crops, is

undergoing significant changes with many firms entering and leaving the industry each year. Producers should research the reputation of firms prior to signing contracts.

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