

## Summary

The 2002 Farm Act extended the marketing loan program for the first time to dry peas and lentils. The marketing loan program provides producers with a minimum return for their crop, thereby reducing their market risk. Since passage of the 2002 Act, acreage for dry peas and lentils has steadily increased. This study investigates the role of marketing loans in that increase and the implications for world prices and U.S. exports.

### What Is the Issue?

With passage of the 2002 Farm Act, many observers believed that the protection against financial risk offered by marketing loans for dry peas and lentils would lead to greater production of these legumes. If true, that development would expand U.S. exports and lead to lower world prices. Key questions posed in this study are:

- What share of acreage expansion for U.S. dry peas and lentils can be attributed to marketing loans, as opposed to market forces?
- How did expected marketing loan benefits affect world prices and U.S. exports of dry peas and lentils?
- Given the proximity of U.S. dry pea and lentil growing areas (North Dakota and Montana) to Canada and the fact that Canada is the largest U.S. export market for pulse crops, what are the likely impacts on Canadian pulse growers if U.S. exports rise significantly?

### What Did the Study Find?

#### *Effects on Acreage*

*Dry Peas*—U.S. dry pea production started to increase in 2000, due to a 36-percent increase in planted acreage in North Dakota. This expansion was largely attributed to an increase in the expected dry pea yield and to lower costs of production. The 2002 Farm Act created further incentive to expand production. Marketing loans have an impact on acreage whenever the expected grower price is lower than the loan rate. The presence of marketing loans in 2003 contributed to the expansion of dry pea acreage of one-third in North Dakota and one-fifth in Montana, above and beyond any increase due to market forces. In 2004 and 2005, the expected price and loan rate differential was considerably smaller, and marketing loan benefits provided only a limited stimulus to dry pea acreage, with an effect only in North Dakota.

*Lentils*—In North Dakota and Montana, the presence of marketing loans had an influence on 2003 expansion of lentil acreage similar to that for dry peas, but loans played a minor role in 2004 and 2005 lentil expansion.

#### *Effects on Prices*

*Dry Peas*—Marketing loans for dry peas had a negligible impact on world prices during 2003-2005, according to a simulation model adapted for this study. Critical factors in determining this result include the small U.S. share of world markets, the share of U.S. producer revenue attributable to

marketing loans, and inelastic supply and demand elasticities. Model results showed that marketing loans contributed to a reduction in the world price of 0.33-0.55 percent in 2003, depending on the demand price elasticity, and had an even smaller impact in 2004 and 2005.

*Lentils*—The effect of marketing loans on the world price of lentils in 2003 was likewise minimal, and was virtually zero for the 2004 and 2005 lentil crops.

### ***Effects on Exports***

*Dry Peas*—Marketing loans have had a minor impact on the volume of U.S. exports of dry peas, increasing exports by at most 1.8 percent in the 2003 crop year, with a smaller estimated impact in 2004 and 2005.

*Lentil*—Marketing loans for lentils are estimated to have led to an increase of 2.2 percent in exports in 2003, with no impacts found for 2004 and 2005.

### ***Effects on Trade with Canada***

U.S. dry pea and lentil exports to Canada have increased substantially since 2003. However, these increases were largely attributed to factors other than U.S. marketing loans (such as the stronger Canadian dollar). The direct impact of U.S. marketing loans on Canadian imports of U.S. dry peas and lentils has been negligible.

### ***Long-Term Trade Effects***

The study's assessment of future effects of marketing loans on the U.S. dry pea and lentil industry is dependent on certain conditions:

*Dry Peas*—Growth of the U.S. dry pea trade will depend on whether sustainable feed markets can be developed in the United States to absorb the additional production. Any increase in feed markets, in turn, will depend on a consistent supply of dry peas for use as feed. Until a larger domestic market for dry peas is assured, the dry pea industry will continue to rely on export markets to sell any production growth induced by marketing loans.

*Lentils*—While lentils are used primarily for human food, conditions similar to those for dry peas apply to the development of a larger domestic market.

## **How Was the Study Conducted?**

This analysis is based on an acreage response model, which treats the acreage response for dry peas and lentils, along with spring wheat, durum wheat, barley, and other minor field crops, as a system of acreage allocation decisions. The model consists of four acreage share equations for dry peas, lentils, spring wheat (including durum), and barley, which are estimated using pooled time-series (1997-2005) and cross-sectional (four States) data. Expected net returns include a nitrogen credit generated by dry peas and lentils (nitrogen-fixing), used in a rotation with grains.

Estimated impacts of marketing loans for dry peas and lentils on world prices are based on an adaptation of a simulation model. U.S. supply elasticities and shares of revenues from marketing loan benefits are taken directly from the acreage response analysis. The simulation model is cast in an ex ante context with and without the policy change, based on the expected grower price and expected marketing loan benefits.