

Implications of Marketing Loans for World Trade in Dry Peas and Lentils

The United States ranks fourth among dry pea exporting nations, with 5 percent of the world export market in 2002-04. Canada, France, and Australia are the top three exporting countries and collectively account for 72 percent of world dry pea exports. For lentils, the United States is the fifth-largest exporter, behind Canada, Turkey, Australia, and India. During 2003-05, the United States held 8 percent of the world lentil export market.

The expansion in dry pea and lentil acreage induced by marketing loan benefits was greatest in 2003 and was limited to North Dakota and Montana. The impact of the loans on dry pea acreage was modest in 2004 and 2005 and virtually zero for lentils in these 2 years. These findings reflect the fact that the expected marketing loan benefit accounted for a larger share of the combined market and program benefit on a per cwt basis for both dry peas and lentils in 2003, particularly in North Dakota, where the share reached 20.0 percent for dry peas and 24.0 percent for lentils. In 2004 and 2005, however, the shares declined to 5.0 percent and 11.3 percent, respectively, for dry peas and to zero each year for lentils due to high prices in 2003 and 2004. In Montana, the shares of market loan benefits in combined market loan/program benefits were 10.7 percent for peas and 5.7 percent for lentils in 2003 and zero for each in 2004 and 2005.

How does the expected marketing loan benefit affect the world price and U.S. exports? The expansion in U.S. dry pea and lentil acreage attributed to marketing loan benefits clearly is an important factor in exports; however, the impact of expanded production on the world market also depends on whether sustainable feed markets can be developed in the United States to absorb the additional production. The growth experience of the Canadian feed market for dry peas suggests that developing a feed market is a slow process. Until a threshold production level of several million acres is reached, necessary to support a feed industry, the U.S. dry pea industry will primarily rely on export markets to absorb additional production induced by marketing loans. Given limited domestic demand, a similar situation applies to the U.S. lentil industry, because lentils are used almost exclusively as human food. A conceptual framework that illustrates how marketing loans induce acreage expansion and affect world prices and U.S. exports is presented in appendix B.

In addition to the lack of sustainable feed markets for dry peas in the United States, with consequent increases in U.S. exports, there are other important factors that affect the world price, discussed in connection with the simulation model in appendix B. These factors include the share of revenue derived from market price vs. marketing loan benefits, supply and demand price elasticities in the United States and world market, and the share of U.S. production and consumption in world markets. The simulation model, adapted from Sumner, shows that in 2003, when marketing loans for dry peas had the largest impact, marketing loans led to a decline in the world price of 0.33 percent to 0.55 percent, depending on the demand price elasticity. The lower figure assumes an inelastic demand elasticity of -0.7 (the base case), while the higher one assumes a lower elasticity of -0.3.

The share of revenue coming from marketing loan benefits in North Dakota in 2003—20 percent, as obtained from this study's supply response analysis—is assumed here to reflect a likely upper-bound impact facing Canadian pulse growers and the fact that most acreage expansion came from this State. Also, results from this study's simulation model are cast in an *ex ante* context, which differs from the *ex post* analysis in Sumner.¹⁶ Results from the simulation model based on the expected grower price and expected marketing loan benefits can more accurately reflect reality, because producers make their planting decisions on the expected market returns and program benefits, not on actual values.

The present study's estimates of the impact of marketing loans on the world price assumes that all additional U.S. production of dry peas induced by marketing loans is channeled into export markets. An impact of similar magnitude applies to marketing loans for lentils in 2003 because of similarities in the share of U.S. lentil production in the world market and the share of lentil producers' revenue from the marketing loan benefit.¹⁷ However, larger supply price elasticity for lentils (0.624) than for dry peas (0.281) might exert a greater impact on world prices. Smaller impacts on the world price were expected from dry pea and lentil marketing loans in 2004 and 2005.

The impact of marketing loans for dry peas and lentils on the volume of U.S. exports is more pronounced in 2003 than in 2004 and 2005, but limited to that caused by expanded acreage in North Dakota and Montana. In the case of dry peas, the expanded acreage in 2003 translated into a production expansion of 39,500 tons. Assuming all the additional production is channeled into export markets, the volume of exports would be up by 1.8 percent for the 2003 crop, which would be particularly felt by Canadian pulse growers. The impact of marketing loans on U.S. exports would be smaller in 2004 and 2005 due to stronger expected grower prices and would be limited to induced acreage expansion in North Dakota.

The estimated impact on export volume is consistent with steady increases in Canadian dry pea imports, from 24,000 tons in 2003/04 to 56,000 tons in 2004/05 and 90,000 tons in 2005/06 (Skrypetz, Feb. 3, 2006). However, these large increases can apparently be attributed more to factors other than U.S. marketing loans, such as a Canadian dollar that had been steadily strengthening against the U.S. dollar since 2002, making imports of U.S. dry peas cheaper, all else being equal. Thus, the impact of U.S. marketing loans on dry pea exports was negligible for the study period.

The impact of marketing loans for lentils on the volume of U.S. exports is limited to that caused by acreage expansion in North Dakota and Montana in 2003. No such impacts apply to the 2004 and 2005 crops. Marketing loans for lentils are estimated to have induced an acreage expansion of 32,900 acres in North Dakota and 5,700 in Montana (table 9), accounting for 2.2 percent of world trade for lentils in 2003.

¹⁶The Sumner study treated an average of recent years (2003-05) as though they were representative for expectations for future years.

¹⁷In 2005/06, U.S. export share of production reached 61 percent for dry peas and 60 percent for lentils.