Summary

Shortfalls in 1997 Net Farm Income in North Dakota

Prepared for
Senators Byron Dorgan and Kent Conrad

by

Won W. Koo, Richard Taylor, Andy Swenson,
Demcey Johnson, and George Flaskerud

Department of Agricultural Economics
North Dakota State University, Fargo

The study estimated losses in wheat, durum and barley. The estimated loss was the difference between actual revenue (actual 1997 prices times actual yields) and "normal revenue" (trend line yields times the five year moving average price) for the harvested acreage in 1997.

As supporting evidence, the study cited the low net farm income in 1997, relative to past years, from the North Dakota Farm Management Education program reports.

Severe financial stress in ND farm sector

Drop in average net farm income (NFI) in 1997

Table 1. Average North Dakota Net Farm Income, Excluding Red River Valley.

Year	20% low profit farms	60% middle profit farms	20% high profit farms	All Farms
1989	(11,931)	17,079	65,500	20,979
1990	(580)	30,639	90,267	36,334
1991	(6,970)	29,416	84,945	33,262
1992	3,467	41,277	119,766	49,413
1993	2,973	46,399	131,774	54,789
1994	(10,956)	32,281	113,661	39,891
1995	(25,144)	24,394	104,162	30,440
1996	(18,619)	28,609	119,059	37,272
1997	(34,394)	13,662	69,391	15,190
'89-96 Avg	(8,470)	31,262	103,642	37,779

Source: North Dakota Farm and Ranch Business Management Education program, 1989-1997

- 1997 average net farm income of $15,190 was down 59% from 1996, 72% from 1993.
- In 1997, about 30% of farms in N.D. Farm Business Management Program had negative net farm incomes, averaging -$24,000. Farms with greater than 2,000 crop acres were as likely to suffer losses as smaller farms.
- 1997 net farm income is the lowest since 1984; when adjusted for inflation, it is similar to 1980-82.
- Average NFI of middle profit group is probably a better representation of a typical farm than the average for all farms.

- 1997 numbers are from 462 farms, average size 2,063 acres (1,480 crop acres), average gross cash revenue of $197,000

Exodus from agriculture

- *2,000 ND farms lost in '92-96, versus 500 lost in* previous 4 years
- Auction sale listings up 55% from year ago

Proximate causes:

Weather-related problems for wheat, durum and barley

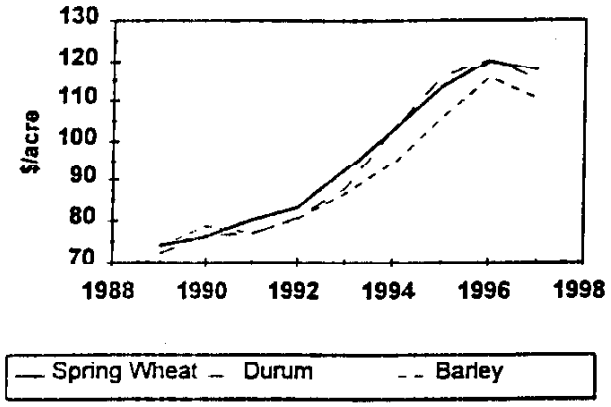
- Low yields, crop disease and poor grain quality
- State average yield of 1993-97 time period below trend

Low prices for major ND crops

- Spring wheat and barley prices on a downward trend in real (inflation adjusted) terms for past 20 years.
- Prices in 1997 were substantially lower than 5-year moving averages

Rising production costs

Cost of Production, Small Grains on Cash Rented Land, Excluding Red River Valley 1989-97

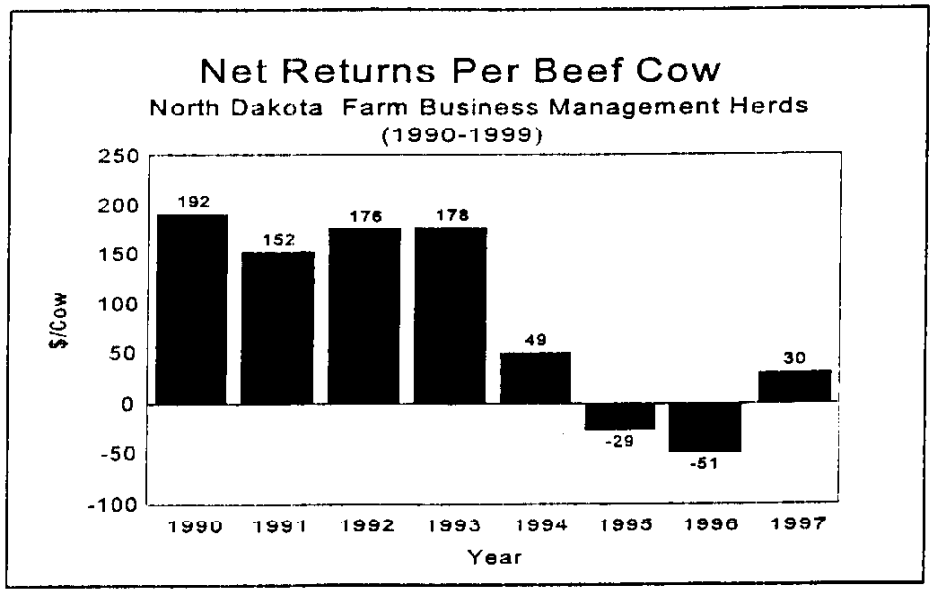


Source: N.D. Farm Business Management Education Program, 1989-1997.

- Graph of production costs includes land cash rent, but no charge for operator's labor, management and equity.
- Total costs 1989-1997, on cash rented land increased about 60% for spring wheat and durum. Trend line yields only increased about 7%.
- The largest % increase in costs, 1989-97, was for fertilizer and chemical. Smallest % increases were for land rent, repairs, and fuel.
- Direct costs (seed, fertilizer, chemical, fuel, and repairs) increased over 70% for spring wheat between 1991 and 1996.

- Average per acre production costs in 1997 on cash rented land, outside of Red River Valley, was $117 for spring wheat, $115 for durum, and $110 for barley. (Add $50-60 per acre to approximate production costs in Red River Valley.)

Low beef cattle prices



Purpose of study:

Estimate the contribution of weather-related factors and low prices on reductions in ND net farm income in 1997.

Method:

Measure deviations from trend yields and 5-year average prices for 3 major crops: spring wheat, durum, and barley

Calculate lost farm income for each crop-reporting district (CRD)

Estimate indirect economic impact on state economy

North Dakota Crop Reporting Districts

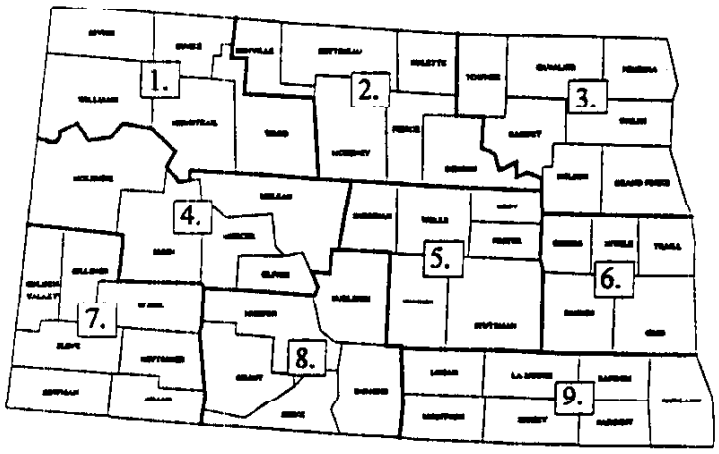


Figure 3. North Dakota Crop Reporting Districts, (CRD)

Results of Study

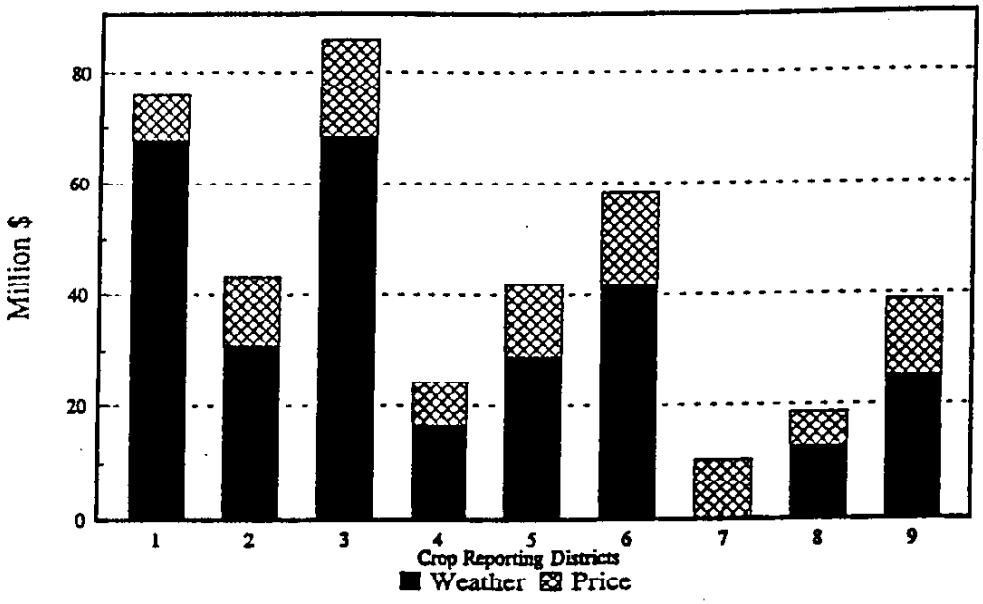


Figure 4. Total Farm Income Losses by Crop Reporting Districts for North Dakota in 1997

- Adverse weather conditions caused state average yield reduction of 22% for spring wheat, 26% for durum, and 18% for barley relative to trend yield.
- Yield losses were greatest in Regions 6 (East Central), 3 (North Central), and 1 (Northwest).
- Prices received for spring wheat and barley were lower than their 5-year average in all crop reporting districts.
- Estimated income losses for spring wheat is $261.3 million, $81.1 million for durum, and $51.7 million for barley.

- Largest estimated spring wheat, durum and barley income losses due to weather and prices was $83.8 million in Region 3 (Northeast), $75.7 million in Region 1 (Northwest), and $58 million in Region 6 (East Central).

Estimated Economic Impacts for 1997

	$million
Loss of ND net farm income due to:	
adverse weather	(290.2)
low prices	(103.9)
Total loss of NFI due to both factors	(394.1)
Estimated impact on state economy*	(1,214.0)

*Change in total economic activity, based on ND input-output model