

# NORTH DAKOTA FARM LABOR PROJECTIONS 1975 ... 1980 ... 1985 ...

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Agriculture has constantly sought to increase its total productivity. In the early history of the United States, increased agricultural productivity was the result of increased inputs of labor and land resources. Since the 1930's, labor inputs have decreased relative to land, and technological innovations have become the primary source of increased agricultural output, involving the substitution of capital for labor and land inputs.

Agricultural technology is putting new ways of doing things on the farm into practice. These include such chemical, mechanical, and biological innovations as fertilizer, power machinery, mechanical tools, insecticides, herbicides, new crop varieties, and improved livestock feeding. New technology may increase output or it may decrease resource inputs. The result is an increase in output per acre of land and per man-hour.

The impact of technology has changed the structure of agriculture from an industry which utilized 95 per cent of the total labor force to feed the nation in 1790 to an industry which in 1969 produced adequate food and fiber for the nation with only five per cent of the total labor force employed in farming. In 1900, one farm worker produced food and fiber for seven people. In 1968, one farm worker produced food and fiber for 43 people. This is an increase of more than 500 per cent.

The national trend in the change of the farm structure reflects changes taking place in North Dakota. In 1947, the number of farm workers in North Dakota totaled 153,000, but has declined each year since. In 1969, the total was 60,000 farm workers, a decline of 61 per cent in 23 years.

Reduced farm employment in North Dakota has released many workers, formerly required in the farm industry, to work in other industries. The reduction in farm employment has led to fewer people in the small rural communities.

What is the outlook for the number of persons employed in the near future on farms in North Dakota? An economic model was developed to estimate the farm employment for 1975, 1980, and 1985. In projecting the number of persons employ-

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Total Farm Labor  
(000)

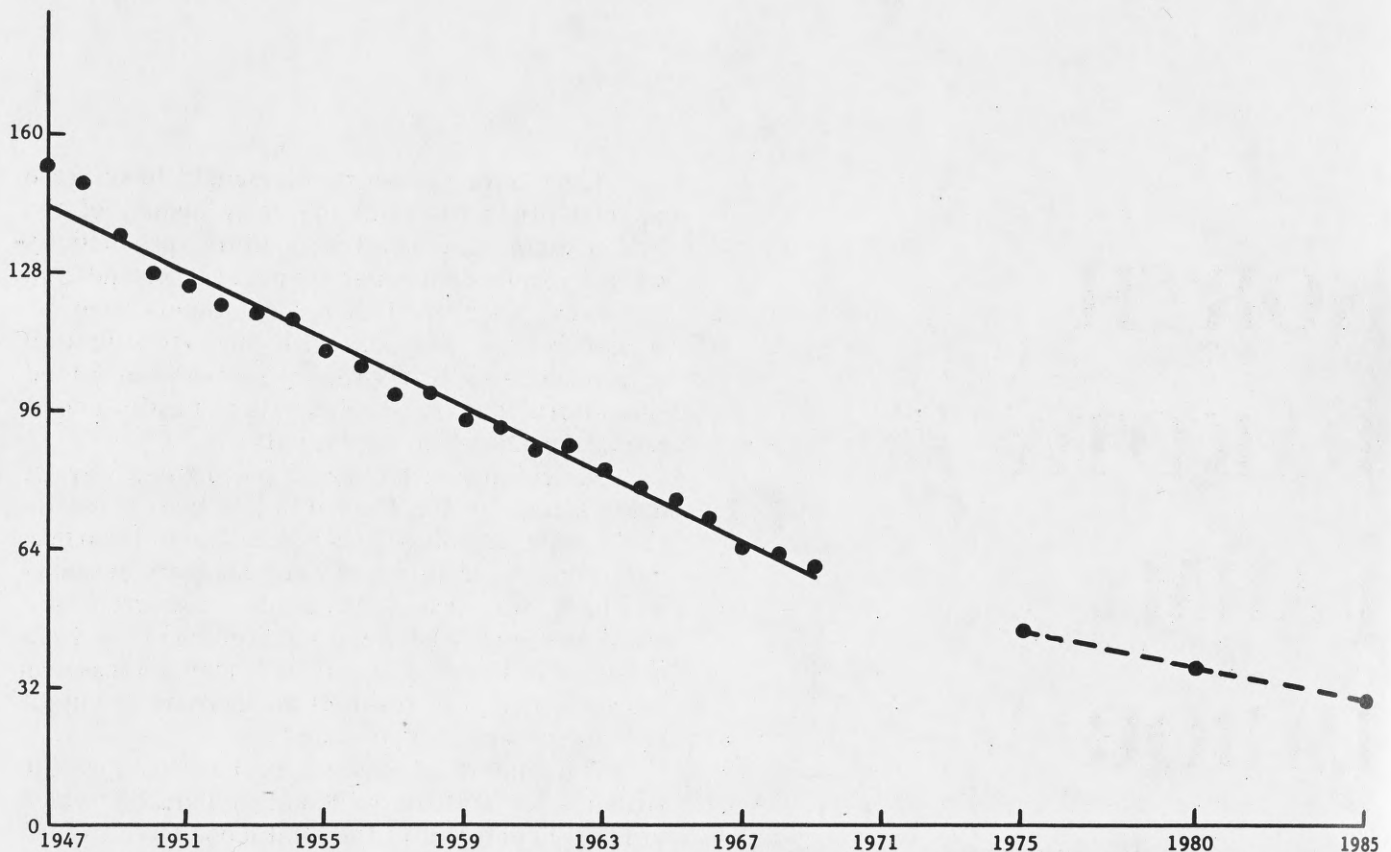


Figure 1. Average Annual Farm Employment in North Dakota, 1947-1969, and Projected Average Annual Farm Employment, 1975, 1980, and 1985.

ed on farms, it was necessary to project the following in order to obtain estimates of labor requirements:

1. United States per capita consumption of agricultural products produced in North Dakota.
2. Population in the United States.
3. Total domestic, export, and import demands for agricultural products and North Dakota's contribution for supplying these demands.
4. Technological advancement by 1975, 1980, and 1985.

Also, seven basic assumptions were made:

1. No all-out war.
2. Average weather will prevail.
3. Continued national level of unemployment of less than six per cent.
4. Substitution between labor-extensive and labor-intensive commodities will be at the same rate as during the period 1960 to 1967.
5. The estimates of United States farm production do not allow for surpluses of any of the products produced.
6. Technology increase would be at the same rate as during the 1960 to 1967 period.

7. United States export and import demand would be the average for the period 1958 to 1966.

Annual farm employment was projected to be 44,775 persons in 1975, 35,680 persons in 1980, and 28,775 persons in 1985. Figure 1 shows the trend from 1947 to 1969 in annual farm employment and projected employment data. The decline experienced since 1947 will continue into the projected time periods with a slight decrease in the rate of decline.

The decrease in farm employment will continue to have a great impact on the state of North Dakota. If the rate of decrease continues as projected in Figure 1, there will be a reduction of about 31,000 farm employees between 1969 and 1985. As farm people leave the rural community, the demand for consumer services in the small rural communities will decrease. The North Dakota farm industry has gone through a period where technology has created an excess of human resources in farming. In resource adjustment, it is the human resources that are being removed from the farm industry. This adjustment will continue in the future.