North Dakota Agriculture and Rural Infrastructure

North Dakota Trends in Agricultural Production and Infrastructure

Highlights
- With no navigable waterways, North Dakota is heavily reliant on rail movements of its grain production.
- The population density of North Dakota is virtually unchanged from its level in 1930, with an average of 10 people per square mile.
- While the value of agricultural production in North Dakota increased by 1.17% from 1950 to 2007, the number of farms decreased by 52%.

Production Consumed on Farm
- Home consumption of a farm's production has changed dramatically. In 1950, the value of farm production consumed at home in North Dakota was 3.50%.
- In contrast, in 2010 just 0.08% of the value of production in North Dakota was consumed at home. This shift amounts to an even greater reliance by agricultural producers on rural infrastructure to transport farm products.

Rural Population Trends
- In 1930 there were 567,539 people living in North Dakota, with 83.4% of that population in rural areas.
- By comparison, in 2010 there were 672,591 people living in North Dakota, with 40.1% of that population in rural areas.

Agricultural Production

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<tr>
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<th>Then</th>
<th></th>
<th>Now</th>
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<th>Change</th>
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<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Quantity</td>
<td>Percentage</td>
<td>Year</td>
<td>Quantity</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>of U.S.</td>
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<tr>
<td>Consolidation Trends: Number of Farms</td>
<td>1950</td>
<td>66,000</td>
<td>1.2%</td>
<td>2010</td>
<td>31,900</td>
</tr>
<tr>
<td>Farmland Trends: Land in Farms (Acres)</td>
<td>1950</td>
<td>42,700,000</td>
<td>3.6%</td>
<td>2010</td>
<td>39,600,000</td>
</tr>
<tr>
<td>Average Farm Size (Acres)</td>
<td>1950</td>
<td>647</td>
<td>304%</td>
<td>2010</td>
<td>1,241</td>
</tr>
<tr>
<td>Population Trends: Population Density (Pop. per Square Mile)</td>
<td>1930</td>
<td>10</td>
<td>28%</td>
<td>2010</td>
<td>10</td>
</tr>
<tr>
<td>Production Trends: Volume of Production (Million Bushels)</td>
<td>1940</td>
<td>168</td>
<td>3.6%</td>
<td>2011</td>
<td>550</td>
</tr>
</tbody>
</table>

North Dakota Agriculture and Rural Infrastructure

Highlights
Roads
- With 86,842 miles of road as of 2008, North Dakota accounts for 2.1% of U.S. road miles.
Railroad
- North Dakota had 5,311 miles of railroad in 1920 (around the time of the peak rail mileage), but this mileage had fallen to 5,195 miles in 1965 and decreased even further to 3,413 freight railroad miles in 2009.
Waterways
- North Dakota has 0 miles of inland waterways.
Bridges
- North Dakota has 4,910 bridges, and approximately 21.3 percent of those are considered structurally deficient or functionally obsolete.

Did you know?
- In North Dakota in 2007, there were an average of 532 soybean acres per soybean farm, while for the U.S. the average soybean area per soybean farm was 229 acres.
- Broilers are a major consumer of soybean meal. In 2007, there were 8.01 million broilers sold in North Dakota and 8,915 million broilers sold in the U.S.
- Average farm size in the U.S. increased from 213 acres in 1950 to 418 acres in 2010, while average farm size in North Dakota increased from 647 acres to 1,241 acres over the same period.
- In North Dakota in 1945, there were 23,261 grain combines, while in 2007 there were 17,586 self-propelled grain and bean combines in the state.

Miles of Road by Owner for North Dakota
North Dakota Agricultural Production and Rural Infrastructure

Consolidation Trends: Fewer Farms and Larger Average Farm Size

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</thead>
<tbody>
<tr>
<td></td>
<td>Number of Farms</td>
<td>Average acreage or number of head per farm for farms with production</td>
<td>Number of Farms</td>
</tr>
<tr>
<td>Corn for Grain</td>
<td>11,829</td>
<td>5,809</td>
<td>-51%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Wheat</td>
<td>63,250</td>
<td>12,303</td>
<td>-81%</td>
</tr>
<tr>
<td>Cattle and Calves Inventory</td>
<td>49,410</td>
<td>10,508</td>
<td>-79%</td>
</tr>
<tr>
<td>Hogs Sold</td>
<td>21,657</td>
<td>351</td>
<td>-98%</td>
</tr>
<tr>
<td>Broilers Sold</td>
<td>47</td>
<td>75</td>
<td>60%</td>
</tr>
<tr>
<td>All Farms</td>
<td>61,943</td>
<td>31,970</td>
<td>-48%</td>
</tr>
</tbody>
</table>

Farm Equipment

Farm Equipment Used: Number of Tractors of Various Sizes, 2007

- Tractors, Less than 40 HP: 16,194
- Tractors, 40 to 99 HP: 26,802
- Tractors, 100 HP or greater: 46,582

Farmer Input Trends: North Dakota Farm Inputs by Type, 1949-2010

- Miscellaneous and other production expenses
- Capital consumption, excluding operator dwellings
- Interest expenses, excluding operator dwellings
- Total labor expenses
- Marketing, storage, and transportation expenses
- Repair and maintenance expenses, excluding operator dwellings
- Fuel and oil expenses
- Pesticide expenses
- Fertilizer and lime expenses
- Purchased seed expenses
- Purchased livestock and poultry expenses
- Purchased feed expenses
North Dakota Agricultural Production and Rural Infrastructure

### Rural Infrastructure Trends

<table>
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<tr>
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<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Quantity</td>
<td>Percentage of U.S.</td>
<td>Year</td>
<td>Quantity</td>
</tr>
<tr>
<td>Off Farm Storage (million bushels)</td>
<td>1986</td>
<td>229</td>
<td>2.5%</td>
<td>2011</td>
<td>343</td>
</tr>
<tr>
<td>On Farm Storage (million bushels)</td>
<td>1986</td>
<td>901</td>
<td>6.5%</td>
<td>2011</td>
<td>830</td>
</tr>
<tr>
<td>Estimated Average Tractor Weight (lbs.)</td>
<td>1950</td>
<td>6,163</td>
<td>114.3%</td>
<td>2011</td>
<td>12,867</td>
</tr>
<tr>
<td>Railroad Miles</td>
<td>1920</td>
<td>5,311</td>
<td>2.1%</td>
<td>2009 freight</td>
<td>3,413</td>
</tr>
<tr>
<td>Road Miles</td>
<td>1940</td>
<td>7,382</td>
<td>1.3%</td>
<td>2008</td>
<td>86,842</td>
</tr>
</tbody>
</table>

### Estimated Number of Semi Trailer Loads Required to Haul North Dakota's Grain and Oilseed Production

(Includes Corn, Soybeans, Wheat, Sorghum, Barley, and Oats)

Note: Assumes 26 tons of grain per semi trailer load. Estimated number of semi trailer loads if all production is initially hauled by semi trailer. Based on Informa crop production forecasts.
North Dakota: Agricultural Production and Infrastructure

**Infrastructure**

- North Dakota crop production consists primarily of wheat, corn, and soybeans.
- Crops are moved from production regions by truck or rail to elevators and processing facilities.
- North Dakota has 571 miles of interstate; 4,410 miles of rail lines; and 86,842 miles of roadways.
- North Dakota has 49 shuttle facilities; five ethanol plants; and 367 grain elevators.
North Dakota: Change in Production from 1950 to 2010

Production

- Crop production in the state has been increasing, with exception to a south central county.
- Production of grains and soybeans in the state has increased by over 500 million bushels from 1950 to 2010.
- Since 1950, the state has been a key producer of wheat, oats, barley and corn.
- Wheat remains the predominant crop, with corn and soybeans following closely behind. The state also continues to produce barley and oats; however, oat production has declined.

Funded by the soybean checkoff