

NORTH DAKOTA AGRICULTURE 2008



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No other industry or activity plays a greater or more vital role in the life of North Dakota than agriculture. Nearly one fourth of our economic base is from agriculture. Almost 90 percent of North Dakota's land area is in farm and grazing land.

Today, North Dakota agriculture is a multi-billion dollar industry. In 2006, North Dakota generated more than \$4 billion in agricultural cash receipts. In 2007, the projected value of crop production alone jumped to more than \$6 billion. Some 30,000 family farmers and ranchers supply the nation and the world with vast amounts of food, feed, fiber and fuel. Our producers are number one in the nation in 16 important commodity categories, including spring wheat, durum, barley, canola and various pulse crops.

This is not a simple task. Volatile markets, unpredictable weather, the vagaries of federal farm policy are just some of the long-term challenges facing our producers. More recent worries include environmental concerns, changing consumer demands and rapidly rising costs for fuel, equipment, labor and land.

While there are challenges, agriculture also offers tremendous opportunities. The demands of the growing renewable energy industry are likely to increase, providing a huge market for corn, canola and soybeans. The same industry also gives producers and others the opportunity to invest and partner in ethanol and biodiesel production plants. Cellulosic ethanol technology is becoming closer to reality, promising manifold growth in agriculture.



We hope you enjoy this overview of North Dakota agriculture and that you will share what you have learned about this vital industry, the most important in our state.

Sincerely,

Roger Johnson
Agriculture Commissioner

Darin Jantzi
Director
ND Agricultural Statistics

Robert Carlson
President
ND Farmers Union

NORTH DAKOTA PROFILE

Population:	636,677
Urban population:	47%
Rural population:	53%
Land area:	44.1 million acres
Land in farms:	39.4 million acres
Number of farms:	30,100
Average farm size:	1,309 acres
Number of counties:	53



Photo by Katherine Plessner.

TOP COMMODITIES

Commodity	Value in (1000 dollars)	Percent of Value
Wheat	1,060,372	26.6
Cattle and Calves	726,132	18.2
Soybeans	588,176	14.8
Corn	269,708	6.8
Sugarbeets	224,746	5.6
Sunflower	189,019	4.7
Canola	145,948	3.7
Potatoes	137,370	3.5
Dry Edible Beans	135,483	3.4
Barley	110,203	2.8
Flaxseed	73,393	1.8
Milk	57,375	1.4
Hay	55,914	1.4
Dry Edible Peas	42,076	1.1
Hogs	41,269	1.0
Other Crops	25,455	0.6
Honey	23,310	0.6
Other Livestock	23,120	0.6
Lentils	22,469	0.6
Turkeys	4,338	0.4
Oats	8,021	0.2
Sheep & Lambs	6,414	0.2
Wool	417	0.0

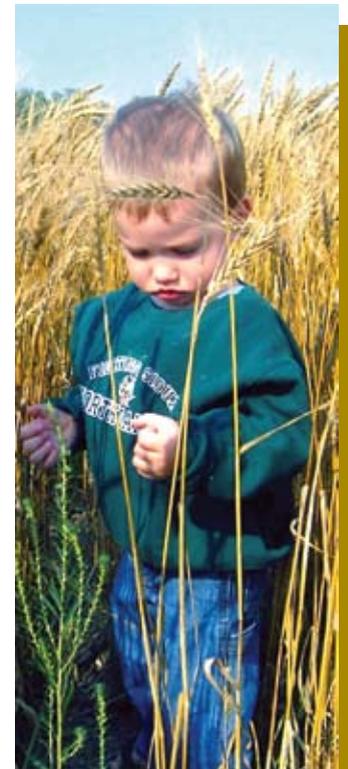
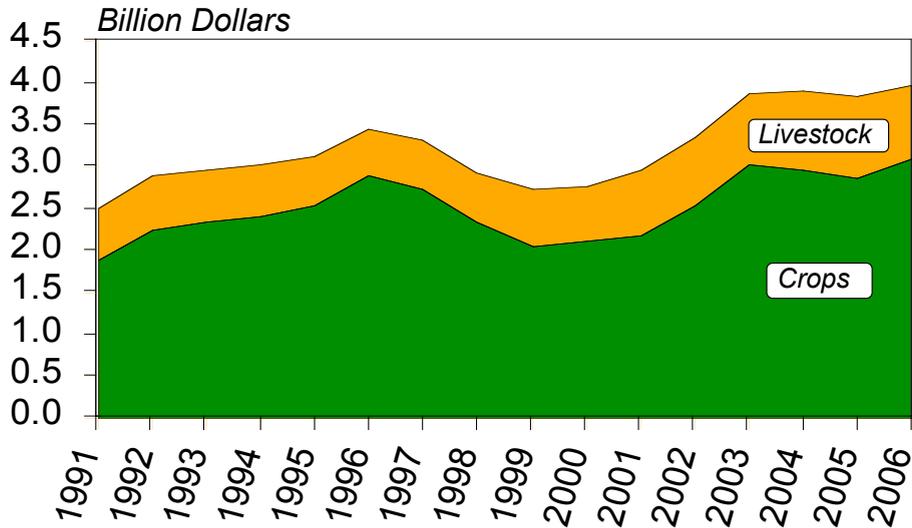


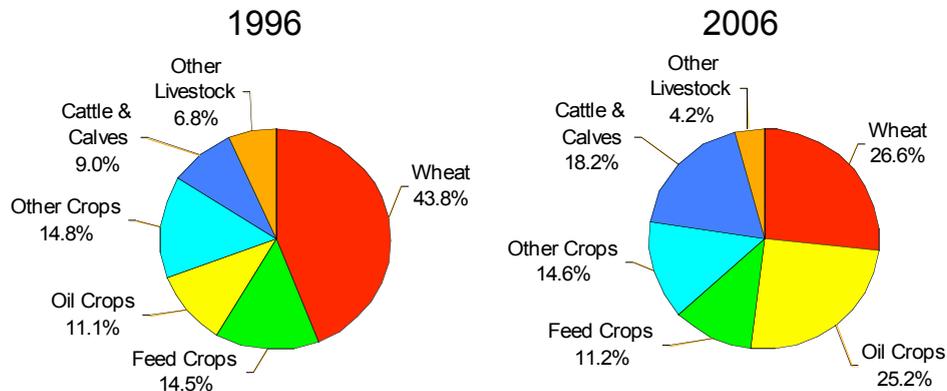
Photo by Carly Tufte-Schenck.

CASH RECEIPTS

Cash Receipts North Dakota, 1991-2006



Cash Receipts North Dakota



AGRICULTURE IS OUR LEADING INDUSTRY

- North Dakota production agriculture generated more than \$4.4 billion in total cash receipts in 2006 (including government payments).
- The projected crop production in 2007 was valued at \$6.46 billion—an increase of 75 percent over 2006. This figure does not include sugarbeet or livestock production.
- Production agriculture is the largest sector of North Dakota’s economy, making up 25 percent of the economic base.
- Nearly 24 percent of North Dakota workers are farmers and ranchers or are employed in farm-related jobs.
- Value-added ag processing and farm input manufacturing generates \$1.7 billion in business activity per year.
- North Dakota crop land would cover more than 12 million city blocks.
- North Dakota farms provide food and habitat for 75 percent of the state’s wildlife.
- North Dakota has 30,100 farms and ranches. The average size of a North Dakota farm is 1,309 acres.
- North Dakota is home to nearly 160 certified organic farms. Thirty companies in North Dakota are organically certified to handle and/or process organic products.
- North Dakota ranks first in the nation in the organic production of flax, sunflowers, oats and buckwheat.



Photo by Ronald F. Fischer.

ND LEADS THE NATION IN THE PRODUCTION OF THESE COMMODITIES

2007	Percent of the U.S.	2007	Percent of the U.S.
<u>First</u>		<u>Third</u>	
Flaxseed	94%	Sugarbeets	18%
Canola	91%		
Dry Edible Peas	65%	<u>Fourth</u>	
Pinto Beans	65%	Potatoes	5%
Durum Wheat	61%		
Oil Sunflower	52%	<u>Ninth</u>	
All Sunflower	52%	Alfalfa	5%
Non-Oil Sunflower	52%	Soybeans	4%
Spring Wheat	49%		
Navy Beans	42%	<u>Tenth</u>	
All Dry Edible Beans	42%	All Hay	3%
Lentils	39%		
Barley	37%	<u>Thirteenth</u>	
Honey	21%	Corn for Grain	2%
Oats	17%		
All Wheat	15%		

Did you know?

- It takes a combine 9 seconds to harvest enough wheat to make 70 loaves of bread.
- A pig can run a 7-minute mile.
- An ear of corn contains approximately 600 kernels.

AGRICULTURE IS A PART OF YOUR LIFE

We use many products that are made from plant and animal by-products in our daily lives:

- **Healthcare:** pharmaceuticals, surgical sutures, ointments, latex gloves, x-ray film, gelatin for capsules and heart valves.
- **Construction:** lumber, paints, brushes, tar paper, dry wall and tool handles.
- **Transportation:** fuel, lubricants, antifreeze, tires and upholstery.
- **Manufacturing:** adhesives, solvents and detergents.
- **Printing:** paper, ink and film.
- **Personal care products:** shampoo, cosmetics, lotions, fingernail polish and toothpaste.
- **Education:** crayons, textbooks, chalk, desks, pencils and paper.
- **Sports:** uniforms, baseball bats, leather equipment and shoes.



Photo by Kaylee Stein.

Quick Fact:

Fifty cents of every food dollar is spent on food prepared outside the home.

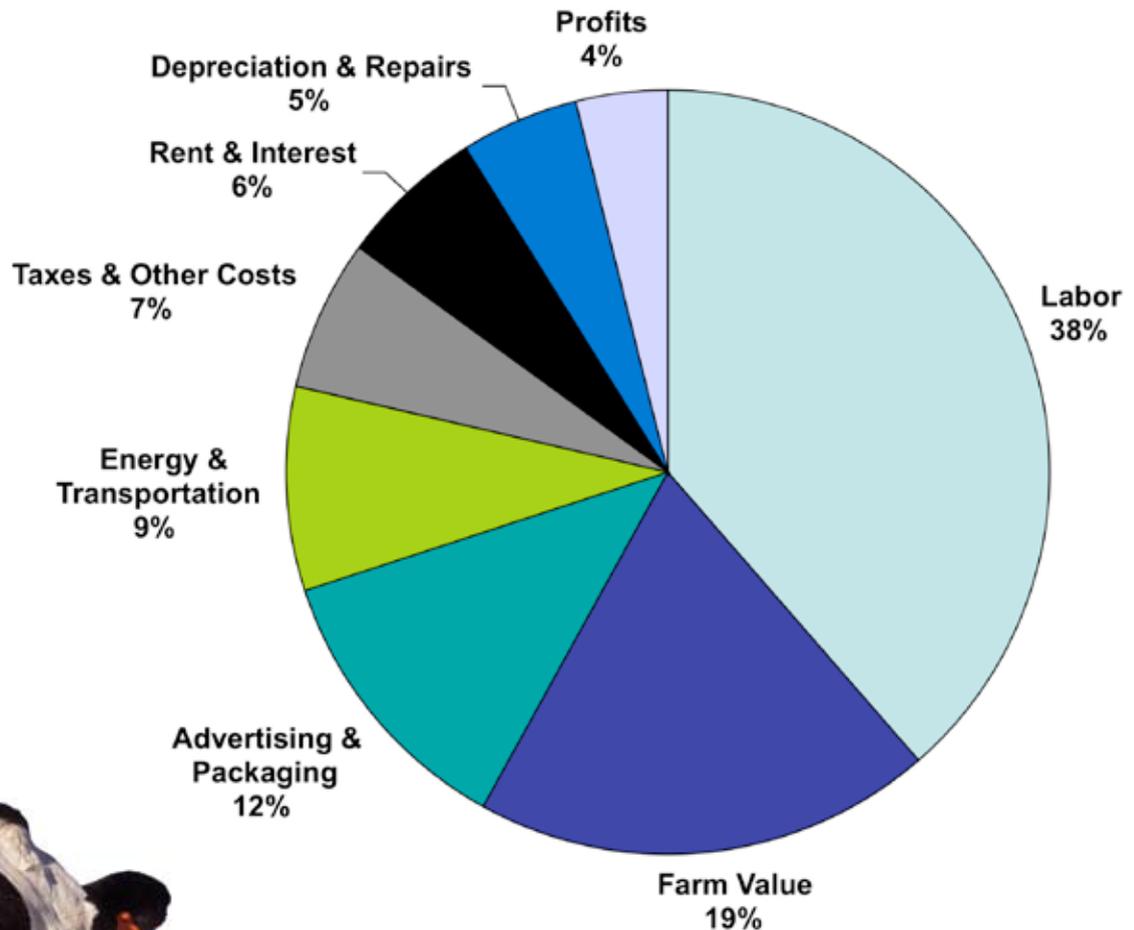
DID YOU KNOW?

North Dakota farmers and ranchers annually produce enough:

- **Wheat** for 14.8 billion loaves of bread.
- **Soybeans** to make 219 billion crayons.
- **Potatoes** for 178 million servings of french fries.
- **Durum** for 8.7 billion servings of spaghetti.
- **Sunflowers** to fill 813 million bags of sunflower seeds.
- **Beef** for 108 million hamburgers.
- **Wool** for 461,000 sweaters.
- **Milk** to fill 950 million glasses.
- **Pork** for 5.4 million pork chops.
- **Corn** to produce 736 million gallons of ethanol.
- **Canola** to fill the ND State Capitol tower more than 17 times.
- **Sugarbeets** to produce enough sugar to sweeten 31 billion gallons of Kool-Aid.
- **Alfalfa** to feed 741,000 cows for one year.



WHERE DOES YOUR FOOD DOLLAR GO?



Quick Fact:

US farmers and ranchers receive only 19 cents of every dollar spent on food.

NORTH DAKOTA'S TOP AGRICULTURAL EXPORTS

Product	Value in Millions
1. Wheat and products	\$699
2. Soybeans and products	\$312
3. Other*	\$274
4. Vegetables and preparations	\$207
5. Feed grains and products	\$150

*Category includes sunflower seed and oil, canola, flax and sugar



RENEWABLE ENERGY &



North Dakota has a proud heritage as a generator and producer of many forms of energy. The development of renewable energy — including wind, biomass and biofuels — has been growing in recent years. North Dakota is now home to six biofuel production facilities, with more on the way.

Biodiesel is an alternative fuel produced from renewable resources, such as soybeans and canola. The biodiesel industry is beginning to take hold, with a canola-based biodiesel facility at Velva with a production capacity of 85 million gallons per year. Two other smaller facilities operate in the state.

Corn-based **ethanol** is also a burgeoning industry in North Dakota. Ethanol plants in operation have a current production capacity of 123 million gallons of ethanol per year. New ethanol facilities currently under construction will add an additional 300 million gallons per year of production capacity.

A new generation of technologies and feedstocks may be on the horizon for the biofuels industry and North Dakota has tremendous opportunities to capitalize on these developments.



Photo Courtesy of Lyndon Anderson, Great River Energy.

North Dakota has tremendous opportunities to

NORTH DAKOTA AGRICULTURE

Research is underway world-wide on the production of **cellulosic ethanol** from a variety of feedstocks. Cellulose (or lignocellulose) is a structural material in plant walls. Switchgrass and other perennial grasses, along with crop aftermath and forestry products, are all examples of cellulose materials that are undergoing research for the production of ethanol.

A 1999 study conducted by Oak Ridge National Laboratory concluded that North Dakota ranks first in the nation in the potential to produce perennial dedicated energy crops.



Photo Courtesy of Blue Flint Ethanol.

The production process for biofuels yields more than just ethanol or biodiesel — it also yields **high quality co-products** that can be fed to livestock or converted to other products.

In the ethanol industry alone, North Dakota produces 437,000 tons of DDGs (dried distillers grains) annually.

Projected DDG production from additional ethanol plants under consideration could reach 1.9 million tons per year.

Quick Fact:

A 30 million gallon biodiesel plant will crush enough soybeans to place 60,000 head of new feeder pigs on feed every day.



WIND ENERGY & NORTH DAKOTA



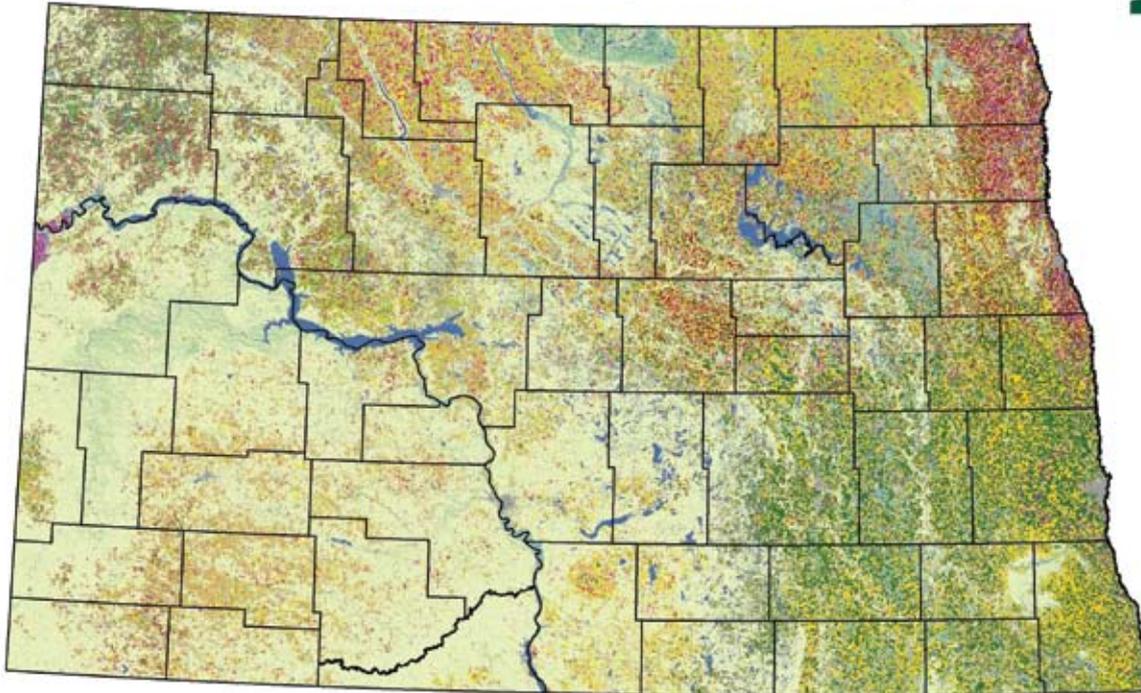
- North Dakota leads the nation in utility scale wind resource development potential.
- According to the American Wind Energy Association, nearly 350 MW of wind capacity has been installed in North Dakota with several more projects in the planning or construction phases.
- Nearly 250 wind towers have been erected in North Dakota, with major projects in operation in six North Dakota counties.
- Based on a study conducted by North Dakota State University, 1,000 MW of turbine capacity generates more than \$2 million annually to landowners.
- North Dakota-based companies in West Fargo and Grand Forks manufacture wind towers and wind turbine blades. These businesses employ more than 1,300 people.



NORTH DAKOTA'S PRODUCTIVE LANDSCAPE



North Dakota 2007 Cropland Data Layer



Land Cover Categories
(Ordered by Decreasing Acreage)

Agricultural

Spring Wheat	Barley	Flaxseed	Millet
Soybeans	Dry Beans	Lentils	Rye
Corn	Peas	Oats	Other Small Grains
Durum Wheat	Winter Wheat	Potatoes	Clover/Wildflowers
Canola	Alfalfa	Safflower	Sorghum
Sunflowers	Sugarbeets	Misc. Veggies. & Fruits	Speltz

Non-Agricultural

Grass/Pasture/Non-Ag	Woodland
Wetlands	Fallow/Idle Cropland
Urban/Developed	Shrubland
Water	Barren

Quick Fact:

39.4 million acres — nearly 90% of North Dakota's land area — are in farms and ranches.



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Cover Photo by Lynsey Frey.

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