

### 5.4.3 Impact of a 1,600 Head Robotic Dairy Farm

Table 21 shows the estimated economic impact of the construction of a 1,600 head robotic dairy facility in North Dakota. The construction of this facility is expected to support 65 total jobs and have a one-time impact of \$4.6 million in labor income, \$6.4 million in value added, and nearly \$13.2 million in total sales.

**Table 21. Robotic Dairy Farm Construction Impact Summary**

Robotic Dairy Farm Construction Impact Summary					
Impact Type	Employment	Labor Income	Value Added	Output	
Direct	41	\$ 3,000,636	\$ 3,661,799	\$ 7,817,658	
Indirect	10	\$ 777,878	\$ 1,435,321	\$ 2,998,904	
Induced	14	\$ 778,113	\$ 1,297,899	\$ 2,410,063	
<b>Total</b>	<b>65</b>	<b>\$ 4,556,627</b>	<b>\$ 6,395,019</b>	<b>\$ 13,226,625</b>	

The dairy's construction is estimated to generate around \$1.4 million in total tax revenue, with around \$545,000 paid at the federal level and \$133,000 paid at the state and local levels (Table 22).

**Table 22. Robotic Dairy Farm Construction Tax Impact**

Robotic Dairy Farm Construction Tax Impact				
Impact Type	State and Local	Federal	Total	
Direct	\$ 221,023	\$ 610,326	\$ 831,350	
Indirect	\$ 200,240	\$ 174,793	\$ 375,033	
Induced	\$ 67,512	\$ 173,080	\$ 240,592	
<b>Total</b>	<b>\$ 488,776</b>	<b>\$ 958,199</b>	<b>\$ 1,446,974</b>	

Some of the industries most impacted by the dairy's construction include sand and gravel mining, truck transportation, healthcare, and banking (Table 23).

**Table 23. Robotic Dairy Farm Top Industries Impacted**

Robotic Dairy Farm Construction Top Industries Impacted	
Industry	Total Value Added
Construction of new commercial structures, including farm structures	\$ 2,185,462
Ready-mix concrete manufacturing	\$ 1,258,809
Sand and gravel mining	\$ 421,857
Owner-occupied dwellings	\$ 184,664
Truck transportation	\$ 157,360
Hospitals	\$ 134,473
Monetary authorities and depository credit intermediation	\$ 111,225
Wholesale - Other durable goods merchant wholesalers	\$ 108,027
Offices of physicians	\$ 75,669
Oil and gas extraction	\$ 69,857

The estimated operations impact of a 1,600 head robotic dairy in North Dakota is shown in Table 24. The new farm is expected to directly employ 10 workers who make a collective \$1.2 million in labor income and generate more than \$1.1 million in value added annually. After accounting for indirect and induced

effects, the total operations impact is nearly \$14.3 million in output, nearly \$4.8 million in value added, and 36 jobs.

**Table 24. Robotic Dairy Farm Operations Impact Summary**

Robotic Dairy Farm Operations Impact Summary				
Impact Type	Employment	Labor Income	Value Added	Output
Direct	10	\$ 1,201,244	\$ 1,911,847	\$ 7,594,858
Indirect	17	\$ 1,159,569	\$ 2,031,421	\$ 5,156,330
Induced	9	\$ 485,777	\$ 810,521	\$ 1,505,254
<b>Total</b>	<b>36</b>	<b>\$ 2,846,590</b>	<b>\$ 4,753,789</b>	<b>\$ 14,256,443</b>

The operations of a 1,600 head robotic dairy is estimated to generate nearly \$763,000 in total annual tax revenue, with around \$599,000 paid at the federal level and \$164,000 paid at the state and local levels (Table 25).

**Table 25. Robotic Dairy Farm Operations Tax Impact**

Robotic Dairy Farm Operations Tax Impact			
Impact Type	State and Local	Federal	Total
Direct	\$ 50,689	\$ 238,074	\$ 288,764
Indirect	\$ 71,813	\$ 252,391	\$ 324,204
Induced	\$ 41,908	\$ 108,071	\$ 149,979
<b>Total</b>	<b>\$ 164,411</b>	<b>\$ 598,536</b>	<b>\$ 762,947</b>

In addition to the industry representing milk production (dairy cattle and milk production), other industries impacted by the dairy's operations include grain farming, truck transportation, and other animal food manufacturing (Table 26).

**Table 26. Robotic Dairy Farm Operations Top Industries Impacted**

Robotic Dairy Farm Operations Top Industries Impacted	
Industry	Total Value Added
Dairy cattle and milk production	\$ 1,911,936
Wholesale - Other nondurable goods merchant wholesalers	\$ 505,129
Other real estate	\$ 192,722
Grain farming	\$ 129,866
Owner-occupied dwellings	\$ 116,466
Truck transportation	\$ 115,139
Hospitals	\$ 83,467
Monetary authorities and depository credit intermediation	\$ 79,530
Other animal food manufacturing	\$ 76,439
Oil and gas extraction	\$ 65,303