

Economic Impact Study – 2,400-Head Wean-to-Finish Hog Farm

The 2018 IMPLAN data package was also used for this portion of the analysis and, where appropriate, adjusted to 2020 dollars. The entry of a new 2,400-head wean-to-finish hog farm causes a measurable increase in economic activity within the state of Iowa, both in terms of construction and annual operations. When a hog farm enters a local economy, it causes a series of new economic activities (impacts) to take place. For this summary, we break the impacts into one-time construction impacts and ongoing annual operations impacts. The magnitude of these new economic activities is largely related to the presence of industries which supply the needed inputs for a new hog farm. A wean-to-finish facility in Iowa sources roughly 35.5% of all operation's inputs locally.

The construction of a new hog farm requires several purchases such as steel, concrete, and equipment; once construction is completed, hog farms purchase feed, veterinary and other professional services, and many other inputs to produce hogs for sale. The direct purchase of supplies and equipment are known as direct effects. The suppliers and vendors used by the hog farm then must purchase inputs to supply the hog farm; these are known as indirect effects. Those who work in the construction of the farm, for the hog farm once it has been completed, and for the farm's suppliers and vendors then use their additional income to make household purchases; these are known as household, or induced effects. Taken together, the sum of direct, indirect and induced effects is known as total effects and accounts for the total multiplier effect present from the construction and operations of a new hog farm. Value-added numbers are a better way to represent the economic impact of a certain event because it is a summation of all value-added to inputs. Sometimes the total sales (output) number is used because it's bigger but it inherently includes some double counting since it sums inputs for each round of value-added as it moves through the chain.

A new 2,400-head hog wean-to-finish farm's total impact of construction and operations for the first year in Iowa would generate \$1.1 million in total value-added or 12 total jobs. In terms of labor income nearly \$637 thousand and \$2.5 million in total sales would be added to Iowa.

Table 5, Total Effect of Constructing and Operating a 2,400 Head Wean-to-Finish Barn for First Year⁴

Combined Effect of Construction and Operations for First Year				
Impact Type	Employment	Labor Income	Value-Added	Sales
Direct Effect	7	\$347,430	\$591,083	\$1,473,695
Indirect Effect	3	\$178,506	\$312,437	\$711,754
Induced Effect	3	\$110,606	\$201,693	\$362,444
Total Effect	12	\$636,541	\$1,105,213	\$2,547,892

⁴ Totals may not add up to the totals presented in the report due to rounding

Constructing a 2,400-head deep pit barn in Iowa will create economic impacts through every phase of construction. A construction cost of \$316/head was used to determine the cost to construct the facility. Looking at Table 6, this would create a total value-added impact of \$579,058 or 6 total jobs with labor income of nearly \$377,000. In addition, \$1.2 million in total sales are added to the Iowa economy.

Table 6, Total Effect of Constructing a 2,400-Head Wean-to-Finish Barn

Construction				
Impact Type	Employment	Labor Income	Value-Added	Sales
Direct Effect	4	\$232,666	\$325,646	\$757,228
Indirect Effect	1	\$78,992	\$134,342	\$269,034
Induced Effect	2	\$65,264	\$119,070	\$213,930
Total Effect	6	\$376,921	\$579,058	\$1,240,193

As shown in Table 7, the economic sector impacted the most through total value-added by constructing a wean-to-finish farm in Iowa is “construction of new commercial structures, including farm structures” with a total value-added effect of nearly \$172,000. The second largest impacted economic sector is “ready-mix concrete manufacturing” with a total value-added effect of nearly \$104,000.

Table 7, Top 10 Sectors Impacted by Value-Added of Constructing a 2,400-Head Wean-to-Finish Barn for First Year

Construction Top 10 Sectors Impacted – Value-Added					
Sector #	Sector	Direct	Indirect	Induced	Total
55	Construction of new commercial structures, including farm structures	\$171,957	\$0	\$0	\$171,957
204	Ready-mix concrete manufacturing	\$101,210	\$2,338	\$30	\$103,578
260	Farm machinery and equipment manufacturing	\$37,219	\$105	\$1	\$37,325
240	Ornamental and architectural metal work manufacturing	\$15,260	\$114	\$2	\$15,376
203	Cement manufacturing	\$0	\$12,601	\$6	\$12,607
417	Truck transportation	\$0	\$8,823	\$994	\$9,817
441	Monetary authorities and depository credit intermediation	\$0	\$4,260	\$4,181	\$8,441
396	Wholesale - Other durable goods merchant wholesalers	\$0	\$7,801	\$440	\$8,241
29	Sand and gravel mining	\$0	\$8,189	\$5	\$8,194
490	Hospitals	\$0	\$0	\$6,153	\$6,153

Construction of a 2,400-head wean-to-finish site will create tax impacts at both the state and local level and the federal level. As shown in Table 8, nearly \$37,000 are added to state and local taxes and nearly \$72,000 are added to federal taxes.

Table 8, Tax Impacts of Constructing a 2,400-Head Wean-to-Finish Barn

Tax Impacts of Construction	
Total	\$108,243
State and Local	\$36,699
Federal	\$71,544

Operating the wean-to-finish farm would contribute economic impacts to Iowa’s economy through the production of market pigs. A 2,400-head site was expected to have two turns of pigs marketed per year with a mortality of 4.67%. This would result in just over 4,500 head of pigs marketed. Market pigs were assumed to have a sales price of \$68/cwt on a carcass basis with the average carcass weight of marketed pigs being 213 pounds. As shown in Table 9, this would support \$526,000 in total value-added and nearly \$260,000 in labor income to Iowa’s economy. This would also support 6 total jobs, and in terms of total sales \$1.3 million would be contributed to Iowa.

Table 9, Total Effect of Operating a 2,400-Head Wean-to-Finish Barn for First Year

Operations for First Year				
Impact Type	Employment	Labor Income	Value-Added	Sales
Direct Effect	3	\$114,764	\$265,437	\$716,467
Indirect Effect	2	\$99,514	\$178,095	\$442,719
Induced Effect	1	\$45,342	\$82,623	\$148,513
Total Effect	6	\$259,620	\$526,155	\$1,307,699

As shown in Table 10, by operating a wean-to-finish farm in Iowa, the economic sector impacted the most through total value-added was “animal production, except cattle and poultry and eggs” with a total value-added effect of \$268,000. The second-largest impacted economic sector was “wholesale – other nondurable goods merchant wholesalers” with a total value-added effect of nearly \$37,000.

Table 10, Top 10 Sectors Impacted by Value-Added of Operating a 2,400-Head Wean-to-Finish Barn for First Year⁵

Operations Top 10 Sectors Impacted – Value-Added					
Sector #	Sector	Direct	Indirect	Induced	Total
14	Animal production, except cattle and poultry and eggs	\$240,423	\$27,739	\$59	\$268,221
400	Wholesale - Other nondurable goods merchant wholesalers	\$0	\$35,697	\$1,076	\$36,773
167	Nitrogenous fertilizer manufacturing	\$25,014	\$561	\$2	\$25,578
417	Truck transportation	\$0	\$12,314	\$689	\$13,003
64	Other animal food manufacturing	\$0	\$11,846	\$17	\$11,863
447	Other real estate	\$0	\$7,975	\$1,668	\$9,643
444	Insurance carriers, except direct life	\$0	\$4,188	\$2,756	\$6,944
19	Support activities for agriculture and forestry	\$0	\$6,750	\$12	\$6,762
441	Monetary authorities and depository credit intermediation	\$0	\$3,119	\$2,915	\$6,034
490	Hospitals	\$0	\$0	\$4,296	\$4,296

Operations for the first year of a 2,400-head wean-to-finish farm will create tax impacts at both the state and local level and the federal level. As shown in Table 11, \$32,000 are added to state and local taxes and \$49,000 are added to federal taxes.

Table 11, Tax Impacts of Operating a 2,400-Head Wean-to-Finish Barn for First Year

Tax Impacts of Operations	
Total	\$81,433
State and Local	\$32,095
Federal	\$49,338

⁵ For additional details on IMPLAN sectors please see [IMPLAN's website](#)