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Building Cost Estimates – Ag Facilities 2022

The following tables provide cost estimates for various components of agricultural facilities. These figures have been collected from websites, price sheets, project quotes, and producers themselves. It should be clearly understood that these are estimates intended for initial budgeting and decision making, only. **Truly accurate costs can only be determined from the competitive bidding process.** Such bids should include materials delivered to the site, installation, labor, and any project management costs.

Unless otherwise specified, the costs are for materials only and do not include shipping, the labor to install them, or future price inflation. They also do not reflect the seasonality of the construction industry and its supply and demand cycle, nor is any consideration given for regional cost differentials.

The list is not exhaustive, but should provide enough data to cover most of the items on a typical agricultural project, leaving you to focus on the few remaining items of your project. The right two columns are set up so that you can input the size of your project (number of stalls, fans, cubic yards, etc.) then multiply by the cost per unit to come up with a potential project cost for budgeting or comparison of multiple scenarios.

Turnkey Project	Estimated Cost per Unit	Your Project Size	Your Project Cost
Freestall Barn – Electric & Plumbing extra	\$3,000 - \$3,500 / stall or \$22 - \$26 / ft ²		
Robot Milking Facility – Bldg., robots, gates, ~30-day storage	\$14,000 - \$15,000 / stall or \$35 - \$38 / ft ²		
New Parlors w/ structure	\$28,000 - \$36,000 / milking stall		
Retrofit Parlors	\$3,500 - \$7,000 / milking stall		
Estimated value of existing structure and mechanicals for retrofit parlor	\$50,000 - \$75,000		
Calf Barn w/ warm room	\$1,500 - \$2,000 / head		
Heifer Barn (bedded pack)	\$2,400 - \$3,600 / head		

Earthwork			
Site Preparation	\$5.00 / ft ² or \$3.60/ yd ³		
Site Stripping	\$3.00 - \$3.50 / yd ³		
Earthfill, on site (trucking extra)	\$5.00 / yd ³		
Lane w/ screenings, ~16' wide	\$7.50 / linear ft.		
Geotextile, non-woven, Class 2 minimum	\$9.00 - \$10.00 / yd ²		
Crushed Stone, 4" layer	\$12.50 / yd ³		
Diversion or Sod Waterway	\$3.75 - \$4.00 / Linear ft.		
Wastewater Treatment Area (NRCS Spec. 635)	\$1,200 / acre		
Excavation, Trench, 6' depth max.	\$4.50 / yd ³		

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Framing			
Post Frame – roof, open front, no floor		\$10.50/ ft ²	
Post Frame – materials only		\$7.25 / ft ²	
Post Frame – labor only		\$3.60 / ft ²	
Post Frame – posts in ground, 100' long, 30' – 120' wide		\$8.40 - \$14.40 / ft ²	
Additional 8' – 10' bay		\$7.25 - \$10.50 / ft ²	
Post Frame – posts on frost foundation, 100' long, 30' – 120' wide		\$12.00 - \$18.00 / ft ²	
Additional 8' – 10' bay		\$9.00 - \$13.00 / ft ²	
Calf Barn – 30'-35' wide, ⅔ concrete floor, doors, curtains		\$12.00 - \$14.50 / ft ²	
Heifer Barn, open front, 40'-44' wide, ⅔ concrete floor, doors, curtains		\$20.00 - \$21.75 / ft ²	
Post Frame overhang		\$9.50 / ft ²	
Steel Frame, on piers, 100' long		\$14.50 / ft ²	
Steel Frame, on frost foundation, 100' long		\$24.00 / ft ²	
Additional 20' bay		\$12.00-\$18.00 / ft ²	
Hoop Structure, materials only, no concrete		\$5.00 / ft ²	
Hoop Structure, frame only, w/ labor, no concrete		\$7.25 / ft ²	
2x6 Stud Frame Wall, insulated		\$30.00 / ft ²	
2x4 Stud Wall, uninsulated		\$18.00 / ft ²	

Concrete Walls & Floors			
6" High Curb, w/ footing		\$30.00 / ln ft.	
12" High Curb, w/ footing		\$37.00 / ln ft.	
24" High Curb, w/ footing		\$40.00 / ln ft.	
8" x 6" High Curb, on slab		\$3.35 / ln ft.	
8" x 12" High Curb, on slab		\$6.25 / ln ft.	
8" x 24" High Curb, on slab		\$12.00 / ln ft.	
8" x 4' Wall, w/ footing		\$69.00 / ln ft.	
8" x 5' Wall, w/ footing		\$88.00 / ln ft.	
8" x 6' Wall, w/ footing		\$105.00 / ln ft.	
8" x 8' Wall, w/ footing		\$150.00 / ln ft.	
4" Concrete Slab, 6"x6"x 6 ga. welded wire mesh		\$4.00 / ft ²	
5" Concrete Slab, #3 Rebar (⅜"), 18"o.c. each way		\$4.25 / ft ²	
6" Concrete Slab, #4 Rebar (½"), 18"o.c. each way		\$4.75 / ft ²	
Concrete, material only		\$110 - \$ 125 / yd ³	
Concrete, material & labor only (no steel)		\$240 - \$280 / yd ³	
Saw-cut concrete, control joints or demolition		\$8.50 / ln ft.	

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Concrete Slab, 6" or less, demolition & removal	\$2.50 / ft ²		
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Roof Deck Insulation			
Double Bubble	\$0.75 - \$0.80 / ft ²		
Fiberglass, 2" vinyl covered, material only	\$0.75 - \$0.85 / ft ²		
Fiberglass, 2" vinyl covered, material & labor	\$1.75sidin - \$1.80 / ft ²		
Polystyrene Foam, rigid, 1" foil faced	\$1.30 / ft ²		
Dripex	\$1.30 - \$1.45 / ft ²		

Sheathing			
Steel, corrugated, painted	\$1.30 - \$1.45 / ft ²		
HDPE Sheet, 1/16", 100' roll	\$1.25 / ft ²		
HDPE Sheet, 1/8", 100' roll	\$2.40 / ft ²		
HMWPE Sheet, 1/4", 100' roll	\$5.00 / ft ²		
HDPE Flat Sheet, 0.100"	\$0.80 / ft ²		
HDPE Flat Sheet, 0.220"	\$1.65 / ft ²		
HDPE Flat Sheet, 0.500"	\$3.50 / ft ²		
TrussCore® PVC Panel, 1/2"	\$2.40 / ft ²		
HDPE Corrugated Panel, 1/16"	\$1.00 / ft ²		
HDPE Corrugated Panel, 1/8"	\$1.80 / ft ²		
HDPE Corrugated Panel, 1/4"	\$3.30 / ft ²		
Norlock® PVC Panel, 1 3/8"	\$2.35 / ft ²		
Polycarbonate Sheet, twin-wall, 4 mm	\$0.90 / ft ²		
Polycarbonate Sheet, twin-wall, 6 mm	\$1.30 / ft ²		
Polycarbonate sheet, twin-wall, 8 mm	\$1.95 / ft ²		
Oriented Strand Board (OSB), 1/2"	\$0.95 / ft ²		
Tri-Ply® Ceiling, material only	\$0.25 - \$0.30 / ft ²		

Doors & Windows			
Window, PVC frame, stationary, double glazed	\$11.55 / ft ²		
Window, PVC frame, double hung w/ grid, dbl. glaz.	\$16.00 / ft ²		
Window, Aluminum frame, double hung storm	\$10.35 / ft ²		
Door, Steel / fiberglass, 3'-0" x 6'-8", pre-hung	\$425 - \$450 ea.		
Door, Sliding	\$5.10 / ft ²		
Door, overhead	\$9.60 - \$10.25 / ft ²		
Door Opener, small door	\$400 ea.		
Door Opener, Large door	\$800 ea.		

Hutches, Pens, Gates, & Stalls			
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Calf Pen, 4' x 7' PVC	\$550 ea.		
Calf Hutch, individual, no wire panel	\$325 - \$350 ea.		
Livestock Panel, 52"H x 16'L	\$55.00 ea.		
Calf Hutch, group, max. 4 calves	\$1,300 ea.		
Double Pail Holder	\$20 ea.		
Calf Pail	\$10 ea.		
Calf Gate w/ frame	\$350 / headlock		
Calf Slant Bar Gate, 38", galvanized	\$25 / ln ft.		
Freestall Partition w/ neck rail	\$130 / stall		
Tiestall w/ tie rail, no waterbowl	\$100 - \$130 / stall		
Rubber Flooring, ½" thick	\$2.50 / ft ²		
Mattresses	\$350 - \$600 / stall		
Steel Tube Gates	\$8.50 / ln ft.		
Post – Steel, galvanized, 4" x 7'	\$100 ea.		
Post – Wood, PPT, 6"x 8"x 8'	\$65.00 ea.		

Feeding Systems			
Flat floor, 3' wide, 21" curb, posts 10'o.c., rail barrier	\$35 / ln ft.		
Precast Concrete J-Bunk w/ cable fence line	\$30 - \$35 / ln ft.		
w/ pipe fence line	\$32 - \$37 / ln ft.		
	\$40 - \$45 / ln ft.		
Precast Concrete H-Bunk	\$37 - \$48 / ln ft.		
Headlocks	\$60 - \$75 / ln ft.		
Slant Bar Feed Barrier	\$42 / ln ft.		
Mechanical Bunk Feeder	\$150 - \$175 / ln ft.		
Feed Conveyor	\$90 / ln ft.		
Round Bale Feeder	\$200 - \$400 ea.		
Feeder Wagon, on gear, feed both sides	\$140 / ln ft.		
Slant Bar Feeder Wagon, on gear, feed both sides	\$250 / ln ft.		
Feed bunk, Portable, steel, feed both sides	\$40 / ln ft.		
Feed Bunk, Portable, poly, feed both sides	\$28/ ln ft.		
Steer Stuffer 65 bu. – 30 head	\$1700 ea.		
100 bu. – 50 head	\$1900 ea.		
150 bu. – 75 head	\$2400 ea.		

Feed Storage			
Upright Silo	\$1.50 / ft ³		
Bunker Silo	\$0.75 / ft ³		
6" Concrete Slab, #4 Rebar (½"), 18"o.c. each way	\$5.50 / ft ²		

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Bituminous Concrete (Asphalt), w/o subgrade prep	\$3.50 / ft ²		
10,000 bu. grain bin w/ conveyance	\$3.20 / bu.		
25,000 bu. grain bin w/ conveyance	\$2.50 / bu.		

Watering Systems			
Waterer, Frost Free			
24" Long	\$450 ea.		
36"	\$600 ea.		
48"	\$700 ea.		
60"	\$750 ea.		
84"	\$900 ea.		
96"	\$1000 ea.		
124"	\$1100 ea.		
144"	\$1200 ea.		
Waterer, Energy Free			
2 holes	\$650 ea.		
4 holes	\$850 ea.		
Water Tanks / Tubs			
50 gallon	\$100 ea.		
100	\$125 ea.		
300	\$200 ea.		
600	\$300 ea.		
Polyethylene Water Pipe – 160 psi			
¾" – 100' roll	\$70 / roll		
1" – 100' roll	\$90 / roll		
PVC Pipe – Schedule-40, 160 psi (not DWV pipe)			
3" diameter	\$3.00 / ln ft.		
4"	\$4.50 / ln ft.		
6"	\$7.00 / ln ft.		

Ventilation			
Covered Ridge	\$10.00 / ln ft.		
Curtain Sidewalls			
48" wide roll-up	\$13.50 / ln ft.		
72"	\$16.50 / ln ft.		
96"	\$18.00 / ln ft.		
Welded Wire Panel curtain protection – 2" x 4" openings	\$0.50 / ft ²		
Panel Fans (circulation / cooling)			
36" diameter	\$600 ea.		
48"	\$850 ea.		
Exhaust Fans (in wall)			
12" diameter	\$350 ea.		
18"	\$600 ea.		
24"	\$700 ea.		
36"	\$800 ea.		
48"	\$1,000 ea.		
Tunnel Vent Fans w/ cone			
24" diameter	\$650 ea.		

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36"		\$1,300 ea.		
48"		\$1,500 ea.		
Positive Pressure Tube Ventilation (PPTV)	<u>Plastic Tube</u>	<u>Fan</u>		
12" diameter	\$3.50 / ln ft.	\$400 ea.		
18"	\$3.75 / ln ft.	\$425 ea.		
24"	\$4.00 / ln ft.	\$500 ea.		
36"	\$5.00 / ln ft.	\$600 ea.		

Ag Waste Storage				
Concrete stacking pad w/ buck wall		\$3.50 / ft ²		
Slatted floor tank under barn		\$1.75 / ft ³		
Concrete vertical wall tank		\$1.10 / ft ³		
Clay lined lagoon		\$0.75 / ft ³		
Concrete lined lagoon		\$0.90 / ft ³		
HDPE pipe, double walled, 18"		\$25.00 / ln ft.		
HDPE pipe, double walled, 24"		\$35.00 / ln ft.		
Precast cross alley channel, 48" deep		\$115 / ln ft.		
Precast cross alley channel, 48" deep, w/ lid		\$170 / ln ft.		
Precast Sanitary drop structure, 4' diam. x 8' deep		\$2,700 ea.		
Precast Sanitary Manhole, 6' diam. x 10' deep w/ lid, 24" ring & cover		\$3,800 ea.		
Chopper Pump		\$18,000 ea.		
Piston Pump		\$30,000 ea.		
Vertical Piston Pump		\$40,000 ea.		
Agitator		\$10,000 ea.		

Outside Lots and Fencing				
Corral Panels		\$20 /ln ft.		
Pipe Fence Panels – 2", 50" high		\$17.50 / ln ft.		
Highway Guide Rail – 12" W-beam		\$3.50 / ln ft.		
Highway Guide Rail – 20" beam		\$4.75 / ln ft.		
Cattle Panel – 16' x 50" high		\$1.90 - \$2.25 / ln ft.		
Woven Wire		\$1.23 / ln ft.		
Barbed Wire Fence – 5 strands (no labor)		\$0.95 / ln ft.		
+/- 1 strand		+/- \$0.05 / ln ft.		
High Tensile Wire Fence – 8 Strands (no labor)		\$0.92 / ln ft.		
+/- 1 strand		+/- \$0.025 / ln ft.		
High Tensile Wire Fence – 5 strands, electric (no labor)		\$0.60 / ln ft.		
+/- 1 strand		+/- \$0.02 / ln ft.		
Polywire Electric Fence – single strand (no labor)		\$0.20 / ln ft.		
+1 strand		\$0.03 / ln ft.		

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Polytape Electric Fence- single strand (no labor)	\$0.25 / ln ft.		
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Shade and Shelter			
Shade Shelter, Pipe Frame			
<400 ft ²			
400 – 1,600 ft ²		\$3.00 / ft ²	
1,600 – 3,600 ft ²		\$2.00 / ft ²	
3,600 – 10,000 ft ²		\$1.80 / ft ²	
10,000 – 40,000 ft ²		\$1.40 / ft ²	
>40,000 ft ²		\$1.25 / ft ²	
Shade Cloth, 300' roll		\$0.20 - \$0.25/ ft ²	
Shade Cloth, panels, hemmed & grommeted		\$0.70 - \$0.85/ ft ²	
Windbreak Shelter, pipe frame, 10' high		\$20.00/ ln ft.	

Cattle Handling and Restraint			
Hydraulic Chute w/ headgate		\$10,000 - \$15,000 ea.	
Squeeze Chute w/ headgate		\$5,000 ea.	
Self-catch headgate, mechanical		\$1,500 ea.	
Scissor Headgate		\$900 ea.	
Palpation Cage		\$900 ea.	
Portable Loading Chute		\$5,700 ea.	
Crowding Tub, 180°		\$2,900 ea.	
Scale, 2,400 lb. capacity		\$5,000 ea.	
Working Chute		\$60 / ln ft.	
Holding Pen, 10' x 10'		\$28 / ft ²	

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