

FARM UTILITY BUILDINGS

OCCUPANCY DESCRIPTION: Utility buildings have many uses, such as general material, commodity or equipment storage. Interior modifications can make them accommodate any of several uses. Floors are light concrete, asphalt or dirt at the lower qualities.

Lean-tos are side extensions used in conjunction with utility buildings. The lowest-cost, cheap lean-tos are totally unfinished, with dirt floors, while the low-cost quality includes some openings.

Tool sheds are small multipurpose auxiliary type structures which may be used for the storage of small hand tools, feed supplies or wood, or as pump houses, etc. Better qualities have a slab, while the lower qualities have dirt floors with no electrical or plumbing.

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit.

NOT INCLUDED IN COSTS: Heating systems are not included.

FARM UTILITY BUILDINGS

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING & PLUMBING
C	Good	\$19.25	Brick, concrete block, clay tile, wood rafters, windows	Unfinished walls, slab or plank floor	Adequate wiring and outlets, water service
	Average	13.90	Block, cheap brick, light roof	Cheap slab or asphalt	Minimum electric service
D	Average	9.55	Wood frame, siding or stucco, windows	Unfinished walls, cheap asphalt or slab floor	Adequate wiring and outlets, water service
	Low cost	6.15	Wood frame, board siding on exposed studs, sliding door	Unfinished, dirt floor	Minimum electric service
DPOLE	Average	7.60	Pole frame, metal siding, windows, walkdoor	Unfinished walls, cheap asphalt or slab floor	Adequate wiring and outlets, water service
	Low cost	4.45	Light pole frame, metal siding, sliding door entry only	Unfinished, dirt floor	Minimum electric service
S	Average	8.90	Steel frame and truss, metal siding, windows, walkdoor	Unfinished walls, cheap asphalt or slab floor	Adequate wiring and outlets, water service
	Low cost	5.55	Light steel frame, metal siding, sliding-door entry only	Unfinished, dirt floor	Minimum electric service
SSLANT WALL	Average	8.20	Light steel slant frame and metal siding, windows, walkdoor	Unfinished walls, cheap asphalt or slab floor	Adequate wiring and outlets, water service
	Low cost	5.10	Light steel slant frame and siding, sliding-door entry only	Unfinished, dirt floor	Minimum electric service

UTILITY LEAN-TOS

D	Good	\$8.65	Side extension, wood frame, siding or stucco, windows, walkdoor	Unfinished, good concrete slab	Adequate wiring and outlets, water service
	Average	6.10	Side extension, board siding on exposed studs, sliding door	Unfinished, cheap asphalt or slab floor	Minimum electric service
	Low cost	4.30	Side extension, plywood/box frame	Unfinished, no doors, dirt floor	None
DPOLE	Good	7.45	Side extension, pole frame, metal siding, windows, walkdoor	Unfinished, good concrete slab	Adequate wiring and outlets, water service
	Average	5.25	Side extension, light frame, metal siding, sliding-door entry only	Unfinished, cheap asphalt or slab floor	Minimum electric service
	Low cost	3.70	Side extension, metal on pole frame	Unfinished, no doors, dirt floor	None
S	Good	8.05	Side extension, steel frame, metal siding, windows, walkdoor	Unfinished, good concrete slab	Adequate wiring and outlets, water service
	Average	5.90	Side extension, light frame, metal siding, sliding-door entry only	Unfinished, cheap asphalt or slab floor	Minimum electric service
	Low cost	4.35	Side extension, steel frame/siding	Unfinished, no doors, dirt floor	None

TOOLSHED BUILDINGS

C	Good	\$17.65	Cheap block, windows, hip or gable roof	Unfinished, good slab	One or two lights and outlets, no plumbing
D	Good	14.60	Good siding and windows, hip or gable roof	Some wainscot, good concrete slab	One or two lights and outlets, no plumbing
	Average	9.00	Board or metal on exposed studs, windows, gable roof	Unfinished interior, light slab or board floor	None
	Low cost	5.55	Low-cost board siding or box frame, few openings	Unfinished interior, dirt floor	None

FARM UTILITY BUILDINGS

REFINEMENTS: On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

1

ADJUSTMENTS FOR DEVIATIONS FROM BASE COSTS	ADD OR DEDUCT PER SQUARE FOOT		
	GOOD	AVERAGE	LOW
Dirt Floor	\$.23	\$.19	\$.14
Gravel .....	.49	.42	.35
Asphalt	2.10	1.70	1.30
Concrete Floor, plain	2.78	2.36	1.93
Reinforced	3.80	2.90	2.21
Plank Floor	2.35	1.39	.82
Electric Service, implement buildings .....	.89	.46	.17
Utility buildings .....	.41	.25	.13
Water Service .....	.55	.29	.12

2

HEATING AND COOLING	
These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees.	
Electric cable or baseboard	\$2.90
Electric wall heaters (inc. FWA)	1.25
Forced air, ducted	3.20
heaters or furnace, vented .....	.95
Hot water, baseboard/convactor	5.85
radiant floor or ceiling	6.05
Space heaters, with fan	1.60
radiant	1.80
Steam	5.05
Wall or floor furnace	1.45
Package heating and cooling	6.30
Ventilation, blower and ducts .....	.95
fans only .....	.40

3

HEIGHT REFINEMENTS	
STORY HEIGHT MULTIPLIERS	
Multiply base cost by following multiplier for any variation in average story height.	
Average Wall Height	Square Foot Multiplier
7	.946
8	.963
9	.981
10	1.000
11	1.019
12	1.038
13	1.058
14	1.077
16	1.115
18	1.154
20	1.192
22	1.231
24	1.269
28	1.346
32	1.423

4

Average Floor Area, Sq. Ft./Story	AVERAGE PERIMETER														Average Floor Area, Sq. Ft./Story
	60	100	150	200	250	300	350	400	500	600	700	800	900	1100	
200	1.54	2.04	----	----	----	----	----	----	----	----	----	----	----	----	200
300	1.29	1.62	2.04	----	----	----	----	----	----	----	----	----	----	----	300
400	1.17	1.42	1.73	2.04	----	----	----	----	----	----	----	----	----	----	400
500	1.09	1.29	1.54	1.79	----	----	----	----	----	----	----	----	----	----	500
1,000	.94	1.04	1.17	1.29	1.42	1.54	1.66	1.79	----	----	----	----	----	----	1,000
2,000	----	.92	.98	1.04	1.10	1.17	1.23	1.29	1.42	1.54	1.66	1.79	----	----	2,000
3,000	----	----	.92	.96	1.00	1.04	1.08	1.12	1.21	1.29	1.37	1.46	1.54	1.71	3,000
4,000	----	----	.87	.92	.95	.98	1.01	1.04	1.10	1.17	1.23	1.29	1.35	1.48	4,000
5,000	----	----	----	.89	.92	.94	.97	.99	1.04	.97	1.14	1.19	1.24	1.34	5,000
6,000	----	----	----	.87	.90	.92	.94	.96	1.00	.92	1.08	1.12	1.17	1.25	6,000
8,000	----	----	----	----	.87	.85	.90	.92	.95	.90	1.01	1.04	1.07	1.13	8,000
10,000	----	----	----	----	----	.88	.88	.89	.92	.88	.97	.97	1.02	1.07	10,000

Use the total length of walled sides as the perimeter.

5

USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

FARM STORAGE BUILDINGS



CLASS D CORN CRIB
Wood-covered Exterior



CLASS D CORN CRIB
Wire-mesh-covered Exterior

OCCUPANCY DESCRIPTION: Utility building modified for grain storage.

Corn cribs are for the dry storage of corn on the cob; both wire and wood cribs are priced. Corn cribs are modified for height and perimeter just as other structures are.

Fertilizer storage buildings provide for the blending and distribution of dry fertilizers in bulk or bag.

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit.

NOT INCLUDED IN COSTS: Heating and special storage and handling equipment are not included.

FARM UTILITY/GRAIN STORAGE BUILDINGS

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING & PLUMBING
D	Very good	\$16.15	Dropsiding on wood frame, sliding doors, asphalt shingles	Good slab, interior wood cribbing, good granary	Adequate wiring and lighting
	Good	15.00	Heavy wood frame, siding or stucco, bulkheads	Finished walls, good slab, grain or feed storage	Adequate wiring and lighting
DPOLE	Very good	14.10	Pole frame, metal siding	Good slab, interior wood cribbing	Adequate wiring and lighting
	Good	13.00	Pole frame and truss metal siding, sheathing and bulkheads	Lined walls, good slab, grain storage	Adequate wiring and lighting
DHOOP ARCH	Good	11.20	Wood post, bulkhead, pipe hoop, fabric cover, end walls, curtain doors	Good concrete slab, grain storage	Adequate wiring and lighting
S	Good	14.30	Steel frame and truss, heavy steel panels, bulkheads	Good concrete slab, grain storage	Adequate wiring and lighting
SSLANT WALL	Good	13.35	Light steel slant frame, heavy steel panels	Good concrete slab, grain storage	Adequate wiring and lighting

For quonset storage, see Page 248.

CORN CRIB BUILDINGS

D	Good	\$12.75	Wood skeleton frame, spaced boards, gable roof	Concrete slab or wood plank, drive-through alley	Minimum lighting
	Average	12.00	Wood skeleton, spaced boards	Concrete slab or wood plank	None
	Loft	4.15	Not included	Storage bin loft, adequate support	Not included
	Good	11.70	Wood skeleton frame, wire mesh, gable roof	Concrete slab or wood plank, drive-through alley	Minimum lighting
	Average	10.95	Wood skeleton, wire mesh	Concrete slab or wood plank	None

BAG FERTILIZER STORAGE

D	Average	\$24.30	Heavy wood frame, composition roof, wood siding and skirting	Concrete or built-up wood dock-height floor, sealed, few partitions	Rigid conduit, sparkproof fixtures, no plumbing
DPOLE	Average	22.70	Metal siding on poles, sheathing, metal skirting	Concrete or built-up wood dock-height floor, sealed, few partitions	Rigid conduit, sparkproof fixtures, no plumbing
S	Average	22.80	Pre-engineered frame, siding and sheathing, steel skirting	Concrete or built-up wood dock-height floor, sealed, few partitions	Rigid conduit, sparkproof fixtures, no plumbing

Loading platforms cost \$9.55 to \$12.30 per square foot; add \$250 for steps.

BULK FERTILIZER STORAGE

C	Average	\$30.65	Wall-bearing block or concrete, wood trusses, driveway	Heavy bins, concrete slab, small finished office, blend area	Rigid conduit, sparkproof fixtures, some plumbing
D	Average	28.25	Heavy wood frame, roof, wood siding, driveway	Heavy bins, concrete slab, small finished office, blend area	Rigid conduit, sparkproof fixtures, some plumbing
DPOLE	Average	26.05	Metal siding on poles, wood sheathing, driveway	Heavy bins, concrete slab, small finished office, blend area	Rigid conduit, sparkproof fixtures, some plumbing
S	Average	27.00	Steel frame, siding and sheathing, driveway	Heavy bins, concrete slab, small finished office, blend area	Rigid conduit, sparkproof fixtures, some plumbing

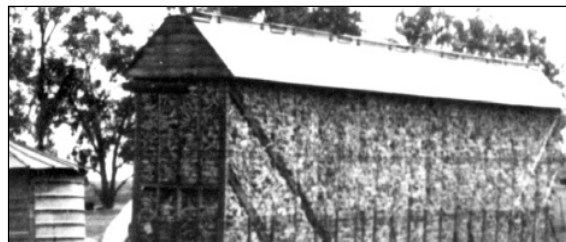
FARM STORAGE BUILDINGS

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1

ADJUSTMENTS

Exclusively owner-built corn crib;
pole frame, rough wood floor, wrapped with cheap fencing materials or wire mesh . . . \$5.00 – \$7.75 per sq. ft. of ground area
For inexpensive metal roof, add \$1.05 – \$1.40 per sq. ft. of roof. Add \$.45 for spaced boards in place of mesh.



EXCLUSIVELY OWNER-BUILT CORN CRIBS

2

HEATING AND COOLING

These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees.

Electric cable or baseboard	\$2.90
Electric wall heaters (inc. FWA)	1.25
Forced air, ducted	3.20
heaters or furnace, vented . . . . .	.95
Hot water, baseboard/convactor	5.85
radiant floor or ceiling	6.05
Space heaters, with fan	1.60
radiant	1.80
Steam	5.05
Wall or floor furnace	1.45
Package heating and cooling	6.30
Ventilation, blower and ducts . . . . .	.95
fans only . . . . .	.40

3

HEIGHT REFINEMENTS

STORY HEIGHT MULTIPLIERS

Multiply base cost by following multiplier for any variation in average story height.

Average Wall Height	Square Foot Multiplier
7	.943
8	.963
9	.981
10	1.000
11	1.019
12	1.038
13	1.058
14	1.077
16	1.115
18	1.154
20	1.192
22	1.231
24	1.269
28	1.346
32	1.423

4

Average Floor Area, Sq. Ft./Story	AVERAGE PERIMETER													Average Floor Area, Sq. Ft./Story	
	60	100	150	200	250	300	350	400	500	600	700	800	900		1100
200	1.54	2.04	----	----	----	----	----	----	----	----	----	----	----	----	200
300	1.29	1.62	2.04	----	----	----	----	----	----	----	----	----	----	----	300
400	1.17	1.42	1.73	2.04	----	----	----	----	----	----	----	----	----	----	400
500	1.09	1.29	1.54	1.79	----	----	----	----	----	----	----	----	----	----	500
1,000	----	1.04	1.17	1.29	1.42	1.54	1.66	1.79	----	----	----	----	----	----	1,000
2,000	----	----	.98	1.04	1.10	1.17	1.23	1.29	1.42	1.54	1.66	1.79	----	----	2,000
3,000	----	----	.92	.96	1.00	1.04	1.08	1.10	1.21	1.29	1.37	1.46	1.54	1.71	3,000
4,000	----	----	----	.92	.95	.98	1.01	1.10	1.10	1.17	1.23	1.29	1.35	1.48	4,000
5,000	----	----	----	----	.92	.94	.97	.92	1.04	1.09	1.14	1.19	1.24	1.34	5,000
6,000	----	----	----	----	----	.92	.94	.88	1.00	1.04	1.08	1.12	1.17	1.25	6,000
8,000	----	----	----	----	----	----	.90	.87	.95	.98	1.01	1.04	1.07	1.13	8,000
10,000	----	----	----	----	----	----	----	.85	.92	.94	.97	.99	1.02	1.07	10,000

Use the total length of walled sides as the perimeter. Do not use table for sheds without walls.

5

USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.