BARNS AND SHEDS

OCCUPANCY DESCRIPTION: Utility sheds are designed with an open front and only three exterior walls and may be of either wood frame or steel construction. The interior is usually unfinished, with no doors or partitioning and a dirt floor. No electrical or water service is included in the costs. They can be modified to be used for commodity or equipment storage only (no repair shop). Livestock loafing sheds include rub boards.

Feeder barns are designed for livestock shelter and feeding. They are open-front sheds with wood or metal siding attached to wood posts or steel frames. The low quality has an endwall door, while the good quality has doors at both ends and rear vents. Feeders and water are not automated.

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

NOT INCLUDED IN COSTS: Heating systems.

FARM UTILITY STORAGE SHEDS

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING & PLUMBING
C	Low cost	$8.45	Open one side, cheap block, shed roof	Unfinished, no doors, dirt floor	None
D	Good	5.90	Open one side, boards/hvy. timber	Unfinished, no doors, dirt floor	None
	Average	5.30	Open one side, plywood/box frame	Unfinished, no doors, dirt floor	None
	Low cost	4.75	Open one side, plywood/post frame	Unfinished, no doors, dirt floor	None
DPOLE	Low cost	3.90	Open one side, metal on pole frame	Unfinished, no doors, dirt floor	None
S	Low cost	4.95	Open one side, steel frame/siding	Unfinished, no doors, dirt floor	None
SSLANT WALL	Low cost	4.55	Open front, metal on light slant frame	Unfinished, no doors, dirt floor	None

For commodity (hay) storage, add silage floor from adjustments table.

LOAFING SHEDS

D	Good	$5.55	Open one side, plywood or boards on timber frame	Unfinished, no doors or vents, dirt floor, rub boards	None
	Average	5.20	Open one side, light plywood on box frame	Unfinished, no doors or vents, dirt floor, rub boards	None
	Low cost	4.85	Open one side, light plywood on post frame	Unfinished, no doors or vents, dirt floor, rub boards	None
DPOLE	Low cost	4.00	Open one side, metal on pole frame	Unfinished, no doors or vents, dirt floor, rub boards	None
S	Low cost	5.05	Open one side, steel frame and siding	Unfinished, no doors or vents, dirt floor, rub boards	None

Add for scraper alley, feed driveway paving, etc., from adjustments table.

FEEDER BARNS (CATTLE SHEDS)

D	Good	$6.35	Open one side, box frame and siding, good doors, rear vents	Unfinished, dirt floor, rub boards	Feeders, water troughs, not automated
	Average	5.60	Open one side, boards or siding on wood frame, end doors	Unfinished, dirt floor, rub boards	Feeders, water troughs, not automated
	Low cost	4.95	Open one side, boards or siding, post/box frame, one end door	Unfinished, dirt floor	Feeders, not automated
DPOLE	Good	5.30	Open one side, metal on pole frame, good doors, rear vents	Unfinished, dirt floor, rub boards	Feeders, water troughs, not automated
	Average	4.65	Open one side, metal siding on pole frame, end doors	Unfinished, dirt floor, rub boards	Feeders, water troughs, not automated
	Low cost	4.10	Open one side, metal on pole frame, one end door	Unfinished, dirt floor	Feeders, not automated
DHOOP ARCH	Average	4.50	Wood post, knee wall, pipe hoop frame, fabric cover, end curtains	Unfinished, dirt floor, rub boards	Feeders, water troughs, not automated
	Low cost	3.95	Wood post, pipe hoop, partial fabric cover, open ends	Unfinished, dirt floor	Feeders, not automated
S	Good	6.50	Open one side, metal on steel frame, good doors, rear vents	Unfinished, dirt floor, rub boards	Feeders, water troughs, not automated
	Average	5.80	Open one side, metal siding on steel frame, end doors	Unfinished, dirt floor, rub boards	Feeders, water troughs, not automated
	Low cost	5.15	Open one side, metal on steel frame, one end door	Unfinished, dirt floor	Feeders, not automated

Add for scraper alley, feed driveway paving, etc., from adjustments table.

BARNS AND SHEDS

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	AVG.	LOW
Dirt Floor	$ .23	$ .19	$ .14
Gravel	.49	.42	.35
Asphalt	2.10	1.70	1.30
Concrete Flatwork	1.50	1.35	1.25
Alleys with Curbs	2.30	2.10	1.85
Silage Floor or Driveways, Reinforced	1.70	1.55	1.40
Plank floor	2.35	1.39	.82
Feeders, Water Troughs			
Not Automated	.31	.24	.16
Electric Service	.64	.38	.12
Water Service	.29	.19	.09

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/convector	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

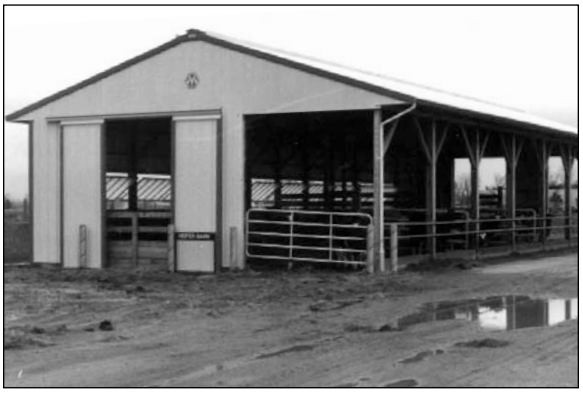
4

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	.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	-----	.87	.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	-----	-----	.88	.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	1.09	1.14	1.19	1.24	1.34	**5,000**
6,000	-----	-----	-----	.87	.90	.92	.94	.96	1.00	1.04	1.08	1.12	1.17	1.25	**6,000**
8,000	-----	-----	-----	-----	.87	.88	.90	.92	.95	.98	1.01	1.04	1.07	1.13	**8,000**
10,000	-----	-----	-----	-----	-----	.86	.88	.89	.92	.94	.97	.99	1.02	1.07	**10,000**

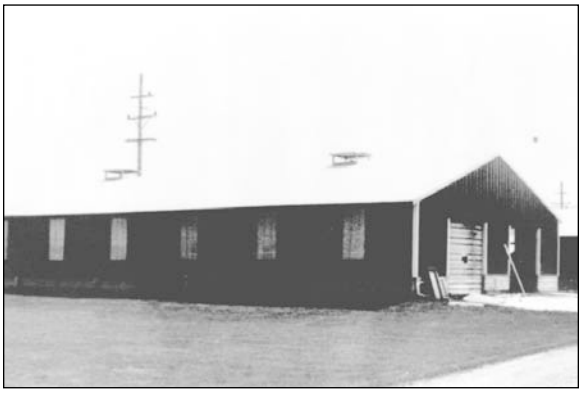
Use the total length of walled sides as the perimeter.

5 **USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.**

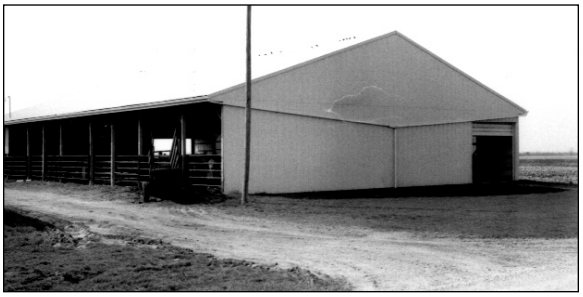
BARNS AND SHEDS



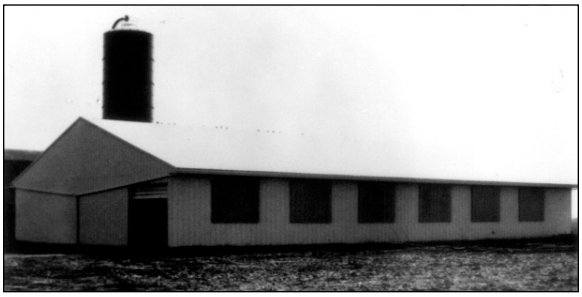
GOOD CLASS DPOLE FEEDER BARN



AVERAGE DPOLE FEEDER BARN

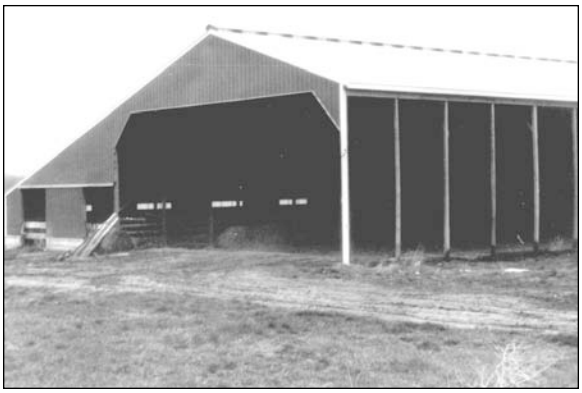


AVERAGE DPOLE FEEDER BARN



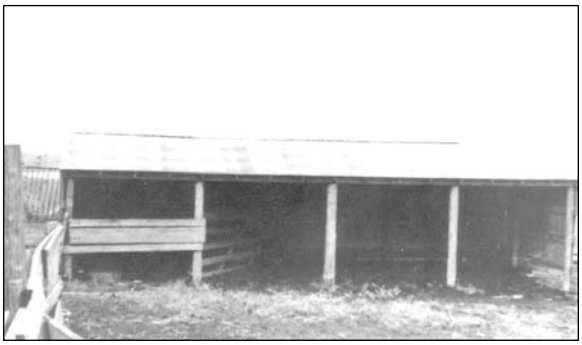
AVERAGE DPOLE FEEDER BARN

LOW CLASS DPOLE CATTLE SHED



AVERAGE CLASS DPOLE CATTLE SHED

LOW CLASS DPOLE STORAGE SHED



LOW CLASS DPOLE LOAFING SHED