Here's How To Plan Dairy Freestall Barns

UNIVERSITY PARK (Centre Co.) — A freestall dairy barn is a housing unit that provides for the resting, eating, exercising and drinking needs of a producing dairy cow, dry cow, or heifer.

There are many questions that must be answered when designing, building, or operating a freestall dairy barn.

What's a good freestall?

A good freestall or cubicle provides comfort, promotes cleanliness, and prevents injuries to dairy cattle. It should provide enough room for the largest cow in the herd to enter freely, lie down, rest comfortably, and rise easily. A good freestall base will be dry, soft, and conforming. A properly designed and managed freestall will pass the three knee tests.

- First, can you drop hard to one knee without major discomfort? Since a cow free-falls the last 12 inches or so as she reclines, imagine how her knees must feel if the base is too hard.
- Second, how long can you comfortably support your weight on one knee? Do the base and bedding materials conform to support your entire knee cap, spreading out the weight, or is the surface hard and nonconforming?
- Third, when you get up after these tests, is your knee clean and dry or wet and stained? For new freestalls a length of eight feet and a width of four feet will provide adequate space for the cow to recline and rise comfortably. Shorter stalls require special provisions to give the cow room to lunge forward as she rises or reclines.

What's the best freestall barn layout, two row or three row?

A good freestall barn layout provides convenient cow movement and access to the feed area, water, freestalls, milking center, and, if available, exercise lot or pasture. Coordinate freestalls, feed space, and watering locations to provide adequate room and reasonable travel distances for cows. Barn layout also affects manure removal patterns, feed distribution, and ventilation.

The best layouts place either two rows or three rows of freestalls and a feed line along two parallel travel alleys. If two rows of stalls are placed along a feed line there will be two feet of feed space along the bunk for each freestall. If three rows are used, only about 16 inches of feeding space will be available for each stall. A good layout also provides at least two watering locations in each group and two travel paths between feeding and resting areas.

For complete answers on freestalls, refer to Guidelines for Planning Dairy Cattle Freestalls. Information is also available from the Dairy Practices Council and the Northeast Regional Agricultural Engineering Service.

National Milk Production Figures

California held onto its number one ranking as the top milk producing state in 1995 even though milk production increased only 0.3% from 1994. Adverse weather conditions and high feed costs kept production well below the 10.1% growth experienced in 1994. Wisconsin, which lost its title to California in 1993, has remained in second place. New York finished third, although each year number four Pennsylvania moves in closer.

Total US milk production for 1995 rose 1.3% (nearly 2.0 billion lbs). Milk production in the top ten milk producing states, as a whole, grew 1.8% (about 1.9 billion lbs). The table shows the top ten states' milk production changes from 1993 - 1995.

Top Ten Milk Producing States, 1993-1995

1995 Rank	State	1993	1994	1995	Change from 1993-94	Change from 1994-95
		million pounds			percent	
1	California	22,927	25,242	25,327	10.1	0.3
2	Wisconsin	22,844	22,412	22,942	(1.9)	2.4
3	New York	11,415	11,400	11,643	(0.1)	2.1
4	Pennsylvania	10,181	10,230	10,600	0.5	3.6
5	Minnesota	9,693	9,342	9,442	(3.6)	1.1
6	Texas	5,910	6,225	6,113	5.3	(1.8)
7	Michigan	5,435	5,545	5,565	2.0	0.4
8	Washington	4,980	5,203	5,302	4.5	1.9
9	Ohio	4,620	4,515	4,600	(2.3)	1.9
10	Idaho	3,229	3,754	4,210	16.3	12.1
Total Top Ten		101,234	103,868	105,744	2.6	1.8
Total US		150,582	153,664	155,644	2.0	1.3

Source: USDA, National Agricultural Statistical Service