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# Stall Sizes for Jerseys

Jersey Canada, 2016

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It is widely known that a Jersey cow's body is about 75% of the size of larger dairy breeds. Therefore, it is reasonable to expect that comfortable stalls for Jerseys will be smaller than what is required for larger cows. Ideally, stalls must be sized to allow cows to lie down, stand up, and change positions without pushing, banging, or bumping against any part of the stall. This will help ensure that the cows remain clean, dry, and comfortable. Optimally-sized stalls will reduce or eliminate injuries and swelling to necks, hocks, legs, and hips of the cows in the herd, while making the most efficient use of farm labour by reducing the amount of time required to clean manure from the stall and replace bedding.

When building or renovating a barn to accommodate Jerseys in your herd, break the stall design process down into three important steps:

1. **Determine your priorities.** What is most important to the day-to-day management of your herd? You might consider things such as: cow comfort, ease of handling, efficient machinery use, ability to attend to individual animals, retrofitting an existing structure, number of people working with cattle, accommodating different sizes of cows and/or heifers, bedding type, nutrition program and feeding protocols. It is also important to consider the initial and on-going cost to maintain the stalls.
2. **Visit other barns, and learn from others' experiences.** Visit newer or recently renovated barns, and watch how the cows behave in that particular set up. Talk to farm managers about their barns. Ask lots of questions about what they like, and what they would do differently about their barns and handling facilities.
3. **Work with a builder to create the barn that is right for you.** Professional builders will work with you to integrate all of the desired features of your new or renovated barn, while ensuring that everything meets building code requirements, and giving you a safe and efficient facility for years to come.

## Stall Dimensions

The ideal stall size for your Jerseys will be based on the size of cows in your particular herd, as well as your design priorities. An extension article published by Penn State University explains that, "An ideal freestall will allow a cow to recline, rise, and change position without coming into contact with any portion of the stall except the base or bedding. Items such as partitions, neck rails, brisket tubes, and stall supports should be guides that define the cow's resting area but do not hinder her movements or result in injuries or entrapment."<sup>1</sup>

If stalls are too long or too wide, animals will tend to lie on an angle, or will lie backward in the stall, causing more manure to be deposited on the stall surface. This leads to dirty cows and additional labour to clean stalls and replace bedding.

Researchers at the University of Wisconsin-Madison explain the challenge of finding the right balance between large stalls to optimize comfort, and the cost to build and maintain the housing area. "These objectives often are antagonistic and the producer must select a design that considers both criteria. Current research has shown stall usage increases with increased stall size and the use of certain stall base materials. The task for the producer is to weigh the value of the expected increased milk production, lower health costs, and/or increased longevity in the herd against the extra costs incurred."<sup>2</sup>

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<sup>1</sup> Graves, R., McFarland, D., Tyson, J. and T. Wilson. (2005). "Design Considerations for Dairy Cattle Freestalls." Retrieved from <http://articles.extension.org/pages/11015/design-considerations-for-dairy-cattle-free-stalls>.

<sup>2</sup> Palmer, R. and B. Holmes. (2011). "Cow Comfort Issues in Freestall Barns." Retrieved from <http://manitowoc.uwex.edu/files/2011/10/Cow-Comfort-Issues-2005-Dairy-Road-Show-12-9-04d1.pdf>.

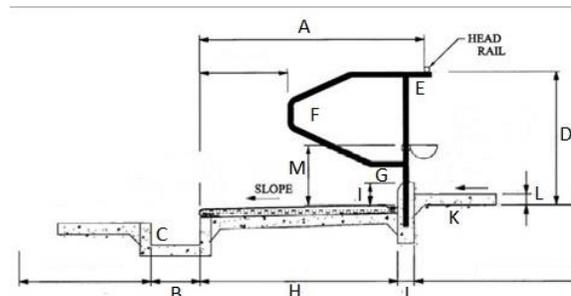
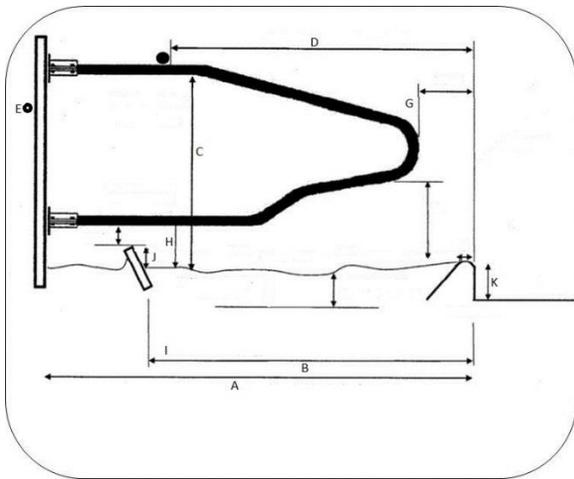
The following tables outline recommended freestall and tie stall dimensions, based on values found in literature and personal observations.

**Table 1: Recommended freestall dimensions for Jerseys** (Jersey Canada, 2016)

Measurement	Dimensions (inches)
Stall Width	41-48 (42-45 optimal)
<b>A</b> Stall Length – Curb to Front	90-96 (closed front) 78-82 (open front)
<b>B</b> Bed Length	64-70
<b>C</b> Neck Rail Height Above Floor	42-50
<b>D</b> Neck Rail – Distance from Curb	62-66
<b>E</b> Deterrent Strap Height	32-40
<b>F</b> Deterrent Strap Forward Location	90
<b>G</b> Loop Length	10-12
<b>H</b> Loop Height Above Floor	10-12
<b>I</b> Brisket Board – Distance from Curb	72-84
<b>J</b> Brisket Board Height	4-6
<b>K</b> Curb Height	8

**Table 2: Recommended tie stall dimensions for Jerseys** (Jersey Canada, 2016)

Measurement	Dimensions (inches)
Stall Width	42-48
<b>A</b> Stall Length	58-62 (60 optimal)
<b>B</b> Gutter Width	18
<b>C</b> Gutter Depth	12
<b>D</b> Head Rail –Height above floor	38-42
<b>E</b> Head Rail – Forward location	12-14
<b>F</b> Loop Length	38-43
<b>G</b> Loop Height from floor	10-12
<b>H</b> Brisket Board – Forward location	58-63
<b>I</b> Brisket Board Height	8
<b>J</b> Brisket Board Width	6
<b>K</b> Manger Width	30
<b>L</b> Manger Height	4-6
<b>M</b> Water Bowl Height	16-20
Stall/Floor Slope	1-2%
Neck Chain Length	36-40
Trainers – Height above chine	2



Determining the right stall dimensions for your barn is no easy task. Careful planning is vital to a successful barn design, and proper sizing is essential to cow comfort. Stalls that are too small may lead to injuries, abrasions and swelling, while stalls that are too large require additional management to keep clean and dry. Consider the day-to-day management of your herd, and determine your priorities when it comes to stall design. Take time to talk to other Jersey farm managers about their barn, and what they like and dislike about their setup. Remember that the Jersey cow's body is about 75% the size of larger breeds, and that finding the optimal stall size for your operation will be worth the effort in the long run!

**References & Helpful Resources**

Anderson, Neil. "Freestall Dimensions." *Ontario Ministry of Agriculture, Food and Rural Affairs INFOSheet*. (January 2007).

Anderson, Neil. "Dairy Cow Comfort Tie-Stall Dimensions." *Ontario Ministry of Agriculture, Food and Rural Affairs INFOSheet*. (January 2014).

Bethard, G., and D. Armstrong. "Facility Design for Large Jersey Dairies." Retrieved from [https://www.usjersey.com/Portals/0/AJCA/2\\_Docs/Reference/Facility-Design-Jerseys\\_Bethard\\_Armstrong.pdf](https://www.usjersey.com/Portals/0/AJCA/2_Docs/Reference/Facility-Design-Jerseys_Bethard_Armstrong.pdf).

Graves, R., McFarland, D., Tyson, J. and T. Wilson. (2005). "Design Considerations for Dairy Cattle Freestalls." Retrieved from <http://articles.extension.org/pages/11015/design-considerations-for-dairy-cattle-free-stalls>.

Palmer, R. and B. Holmes. (2011). "Cow Comfort Issues in Freestall Barns." Retrieved from <http://manitowoc.uwex.edu/files/2011/10/Cow-Comfort-Issues-2005-Dairy-Road-Show-12-9-04d1.pdf>.