

**SELECTING APPROPRIATE STALLS FOR TETHERED CATTLE****1. PURPOSE**

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To ensure that stalls and tether lengths are compatible with the body size of the cow.

**2. RESPONSIBILITY**

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- 2.1 All trained and qualified staff
- 2.2 Veterinarians
- 2.3 Farm manager

**3. MATERIALS**

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- 3.1 Tape measure
- 3.2 Calculator

**4. GENERAL**

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- 4.1 Stalls and their components must be compatible with the cow's body size to:
  - 4.1.1 Minimize lameness.
  - 4.1.2 Reduce injuries.
  - 4.1.3 Allow for comfortable, natural, resting positions.
  - 4.1.4 Lying down and standing up with ease.
- 4.2 Each cow in the herd has different proportions and the stalls in the barn are not homogenous (see Figure 1) thus it is imperative to ensure the compatibility of a cow's proportions with her stall before leaving her for prolonged periods.
- 4.3 Hip height (HH) and width (HW) are easy to measure and can be used in simple equations to determine stall compatibility.
- 4.4 Tethers must be long enough to enable cattle to rest in a head-back position. Tying a halter in a way that prevents this for prolonged periods of time (>1 hour) should be avoided. Cows in heat and trying to mount their neighbor may need to be tethered for longer periods as they can injure themselves on the stall divider.
- 4.5 Tethers should be at least 1 meter long.
- 4.6 Tether rail height should be 0.8 times the cow's Hip Height (HH).
- 4.7 Stall length should be at least 1.2 times the cow's Hip Height (HH). Longer stalls are associated with increased lying time and decreased lameness and other injuries but may lead to slightly dirtier stalls and should be managed accordingly. See SOP DC-320 Managing Dirty Cows.
- 4.8 Stall width should be at least 2 times the width of the cow's Hip Width (HW) plus 8 inches (20 cm). It is recommended that lactating Holstein cows have stall widths of at least 54 inches and that dry Holstein cows have stall widths of 60 inches to accommodate the increased body size in late pregnancy and facilitate longer lying times.

To Exercise Paddocks

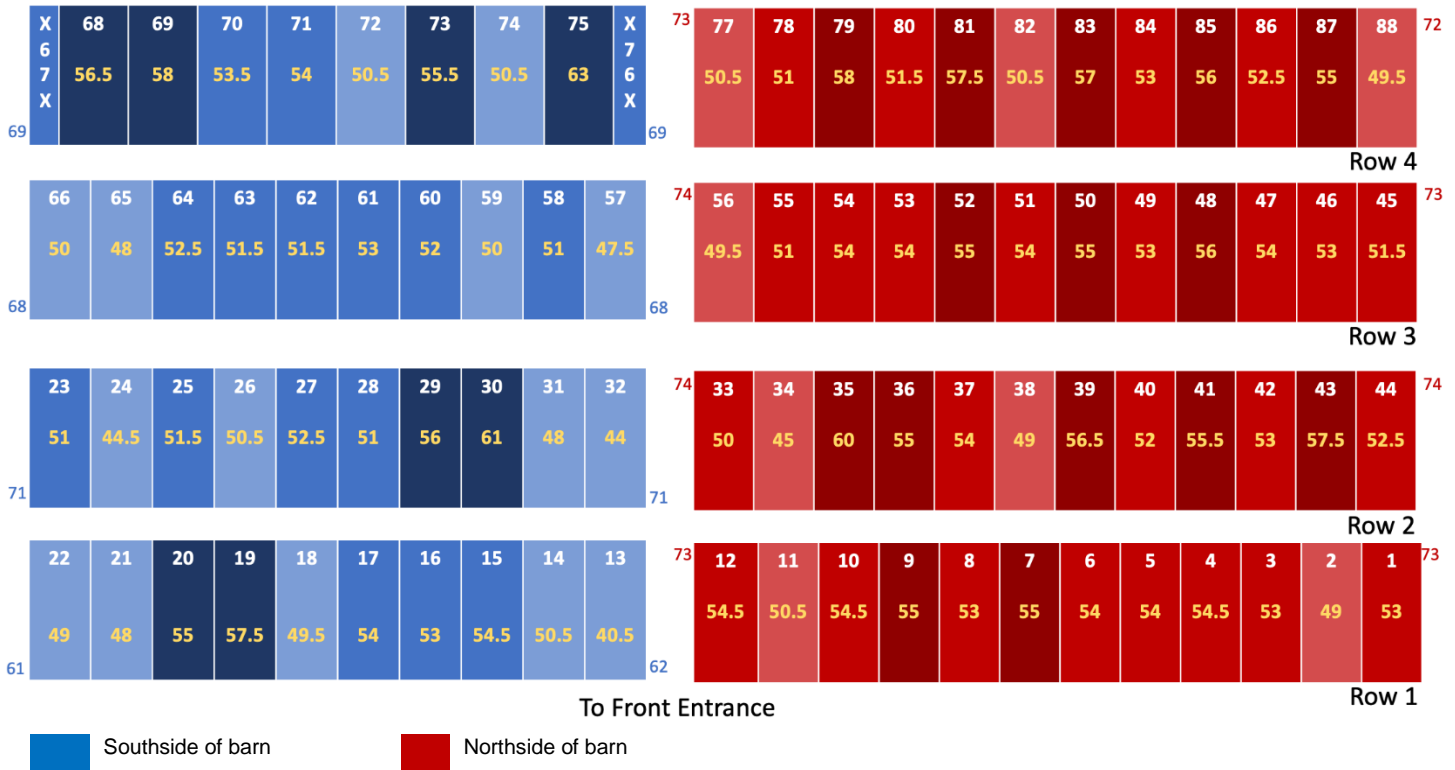


Figure 1: Barn Plan and Stall Dimensions

5. PROCEDURE

5.1 Assessing Stall Compatibility: Length

- 5.1.1 Measure the vertical height of the cow's hindquarters from the bottom of her hoof to the top of her spine (HH, Figure 2).
- 5.1.2 Multiply this number by 1.2.
- 5.1.3  $(1.2 * HH) = Min Length$
- 5.1.4 This is the minimum length of the stall she can be placed in.
- 5.1.5 Consult Figure 1 to identify the rows/side of the barn that is appropriate for this cow. The length (in inches) of the stalls is indicated by the numbers on the left and right of each half-row. The blue half rows are on the south side of the barn and the red half rows are on the north side.

5.2 Assessing Stall Compatibility: Width

- 5.2.1 Measure the widest part of the cow's pelvis (HW, Figure 3).
- 5.2.2 Multiply this number by 2 and add 8 (or 20 if measuring in centimeters).
- 5.2.3  $(2 * HW) + 8 = Min Width$
- 5.2.4 This is the minimum width of the stall she can be placed in.



5.2.5 Consult Figure 1 to identify stalls that are appropriate for this cow.

- Yellow numbers indicate stall width.
- White numbers correspond to the stall number written on the manger-facing side of the gray PVC pipe above each stall in the barn.
- In general, larger stalls (>54 inches) are shaded darker, and
- Smaller stalls (<51 inches) are shaded lighter.

5.3 Assessing Stall Compatibility: Tether Length and Tether Rail Position

5.3.1 Measure the tether length of the stall to ensure it is at least 1m.

5.3.2 Ensure

5.4 Indications of Incompatibility

5.4.1 Move the cow to a larger stall or modify the stall to accommodate the cow if:

- 5.4.1.1 She is frequently seen standing but not eating or drinking.
- 5.4.1.2 She is showing abnormal resting or standing.
- 5.4.1.3 She repeatedly is seen perching, kneeling, or positioned (standing or lying) diagonally in the stall.
- 5.4.1.4 She is rising or lying down abnormally or with hesitation or difficulty (takes >5 seconds)
- 5.4.1.5 She has new or worsening injuries indicative of collision with the stall dividers/curb such as abrasions, wounds, swelling, or fractures on ribs, brisket, or pelvis (see SOP DC-310 Cattle Welfare Assessment and Health Monitoring).
- 5.4.1.6 If a collision with a part of the stall is observed as she rises or lies down.
- 5.4.1.7 Nervous cows may not be compatible with stalls located in front of ventilation fans or doors. Monitor behavior and appetite over 24-48 hours if a cow is moved to stalls #12, 13, and 68.

5.4.2 Attempts will be made to relocate the animal to another tie stall, pen, or outdoors, if possible.

5.4.3 Incompatibility will be assessed with increased monitoring in accordance with SOP – Cattle Welfare Assessment and Welfare and/or Veterinarian instructions.

Figure 2: Hip Height



Figure 3: Hip width

**7. REFERENCES**

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Document Status and Revision History

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