Loading Facilities for Market Hogs: Saskatchewan's Top 10


Harold Gonyou, Ph.D. Jen Brown, Ph.D.

T. Stevens B.Sc.

For swine producers, loading pigs at marketing can be one of the most stressful and time-consuming experiences. Problems at loading also affect the welfare of animals and have a significant economic impact as they may cause death losses, carcass damage and meat quality problems. The objective of this project was to identify components of swine loadouts that have the greatest impact on pig stress and loading time. Ten swine loadouts in Saskatchewan were visited, and the facility design and handling methods at each facility were documented by photographs and video footage. Observations were compared against recommended practice to identify design features and practices that promote good handling in pigs.

Background

Poorly designed loading facilities increase the incidence of prod use and rough handling, and result in longer loading times. Stress associated with loading can also increase the incidence of downer pigs and death losses, as well as having adverse effects on carcass and meat quality. Methods for reducing stress at loading have been identified, however few producers have adopted these changes as construction costs are high and the benefits are uncertain. This project documented loading facilities and handling methods in barns recognized for having good laodouts. The results provide clear suggestions for changes to facilities and management at loading that will facilitate adoption of improved practices to benefit pigs and producers.

> Important design features include wide alleys, even lighting, moderate ramps with cleats or steps and non-slip flooring. Some of the best farms also used dedicated man-ways, pre-loading pens and truck bays.

Experimental approach

Saskatchewan farms with superior loading facilities were identified based on information supplied by pork producers and truckers. Participating farms were selected from locations across the province in order to document a wide variety of loadout designs. Participating farms included large corporations such as Fast Genetics and Big Sky Farms, as well as individual producers. Each visit included a brief questionnaire on the basic housing and management practices, measurements of the loading facility, and observation of the handling techniques used to move pigs at loading.

Loadout measurements included the width, length, and height of pens, alleys and doorways. Light intensity was measured in lux using a light metre placed at pig height at various locations throughout the loadout. Ramp angle was measured and any corners, flooring changes, or obstacles were documented using a digital camera.

For each farm visit, a video camera was either mounted in the loadout, or operated by the producer, to record handling techniques used at loading. For each site, either live observations or video footage of pigs at loading were reviewed to assess handling technique and pig flow. Handling techniques were evaluated on the basis of appropriate/inappropriate use of tools (prods), handler vocalizations, body position, attitude, and factors affecting the flow of animals.

The results of this study were descriptive observations. By examining superior facilities and handling methods, and comparing them with recommended practice, we identified design and handling practices that are effective at reducing stress during loading.

Figure 1. Hydraulic loading ramp with manway (looking down ramp from truck entry).

Figure 2. Well lit loadout with concrete steps (30 cm treads).

The results:

The ten farms studied included 6 farrow to finish operations, 3 finishing barns and one farrow to wean operation. Hogs marketed per week ranged from 160 to 1100 animals, with an average of 500 hogs shipped/ week. Loading time needed to fill a standard potbelly trailer (approx 230 pigs) ranged from 30 to 90 minutes (45 min average).

Loadout design

Recommended practice indicates that ramp angles should be less than 20°, that ramps should be fitted with cleats and have a non-slip surface. Ramps observed on all farms met these specifications, with ramp angles ranging from 0 to 11°. Figure 1 shows examples of the ramps observed. The ramp designs varied considerably but all worked well. Some farms had concrete step ramps with 30 cm treads, which the pigs readily negotiated. One farm had an adjustable hydraulic ramp with an attached man way, which was very efficient for moving multiple groups up the ramp. As well, the adjustable ramp was used to load the top deck, which reduced handling stress compared to the steep internal truck ramp. One colony fabricated a ramp extension which was used to reduce the slope of the internal truck ramp, making it easier to load pigs onto the top deck.

Lighting in the loadout area was also examined. It is recommended that loading facilities be well lit, with diffuse incandescent lighting preferred as this reduces contrast and shadows, which may cause animals to balk. Also, when moving into a new area such as the truck, lighting should ideally change from darker to lighter, as animals may balk if required to move into darkness. Lighting levels recorded using a light meter showed a large variation in lighting between farms, ranging from below 100 lux at some facilities to over 1000 lux at others. Lighting during loading was also affected by the time of loading and external weather conditions. Some facilities used an enclosed truck bay, which minimized effects of time of day and weather conditions.

Handling practices

Recommended practices related to group size, distractions and handler technique and attitude were reviewed. In terms of group size, smaller groups (5-10 animals) have been shown to be easier to move. If larger groups are moved, considerations must be made regarding the animals (level of fear and willingness to move), facilities (minimal blockage or distractions), and the handlers abilities. Distractions are known to cause pigs to slow, balk or turn back. One common distraction is too many handlers, or handlers getting ahead of pigs and causing them to turn back.

Handler technique and attitude are very difficult to define and measure, however general recommendations include minimizing prod use, using behavioural principles such as the flight zone and herd behaviour, and maintaining a calm and consistent attitude. Prod use on the farms observed was very low. In fact, the farm with highest prod use had the longest loading time. This is because when the prod is used frequently, pigs become less capable of responding and attempt to turn back. Several examples of good handling were found. In one example, the handler stood well back of a large group as they exited the home pen, providing 'release'. When pigs are moving well a good handler will step back and let the animals move on their own. In another example, groups of 12 pigs were moved with minimal interference from handlers. The pigs exited a pre-loading pen, negotiated a turn and mounted the truck ramp calmly with handlers using boards and minimal prod use.

Presentations to producers

Results from this work were presented to producers at the Red Deer Swine Technology conference on November 2, 2011. Dr. Matt Ritter, a research scientist with Elanco Animal Health, also presented on handling practices at this meeting, emphasising effects of handling on stress and pork quality. The results were also presented on November 3, 2011, at the BC Pork Congress in Chilliwack, BC. Additional presentations will be made in 2012.

Figure 3. External loading ramp allows trucker to assist without entering barn. Note also the ramp extension used to reduce angle of truck ramp to top deck.

The Bottom Line:

There is a large variation in facilities and handling skills across the swine industry, and often little opportunity for producers or barn employees to gain new knowledge. Lighting, flooring, alley and ramp dimensions, and animal handling techniques all have the potential to cause problems when moving pigs through a facility. The best loadouts in Saskatchewan are ones which take these factors into account. Our results highlight the fact that handling of pigs can be improved by a variety of measures, ranging from extensive load-out renovations, to simple changes in lighting and handling techniques.

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