

Farm Structures FACTSHEET



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Swine Barn Construction and Services



SWINE BARN CONSTRUCTION AND SERVICES

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The wild ancestors of the domestic pig evolved in a tropical jungle environment, resulting in an almost hairless animal that is not naturally equipped to handle cold, wide temperature variations and drafts. This plan discusses the construction materials, construction methods and services required for efficient pig production in the hostile Canadian climate.

REMODELING VERSUS NEW CONSTRUCTION

Building a complete new swine unit on bare land is rare. Most improvements to swine barns involve some utilization of existing buildings in combination with some expansion in the form of new construction. However, before you spend a lot of time and money on remodeling, remember that typical old barns have a number of problems and limitations.

Carefully examine the wood and masonry structural parts of the old barn. Probe the wood posts, beams and ceiling joists with a knife blade or ice-pick, looking for soft, rotted wood. Look for small worm-holes and fine "sawdust" (evidence of powder post beetle — a most difficult insect to control). If you find severe infestation, do not remodel the old barn.

Check the old masonry walls for cracks, off-plumb or other signs of movement due to frost or poor drainage under the walls. Such problems require remedial repairs such as concrete retaining piers to halt tilting movements and perimeter tile drains with crushed stone backfill to improve drainage.

Low, beamed ceilings will interfere with fresh air distribution, calling for extra ducting to distribute the ventilation air. A new, smoother ceiling can provide a flat surface that brightens the rooms and improves airflow, but creates another problem — rodents can travel unseen and uncontrolled in the concealed space above it. Preferably just sweep, scrape and clean the old beamed ceiling, then whitewash it periodically to brighten and sanitize it.

Because of practical difficulties in making an old barn basement suitable for the high degree of sanitation required for farrowing and weaning rooms, it's usually better used for adult pigs (breeding and gestation) or at least the growing-finishing phase of production. If you place farrowing and weaning facilities in an old building, you can meet their special sanitary and ventilation requirements more easily in a one-storey building, or upstairs in a two-storey structure.

Another problem is that old barns can almost never be made airtight enough to use simple slot air inlets and negative-pressure ventilation — every crack becomes an uncontrolled air inlet! The practical solution is to use powered air recirculation with perforated duct-work or plastic tubes to distribute mixed fresh air, supplemented by exhaust fans to increase the ventilation in mild to warm weather.

Soil and footings can cave in, where manure gutters are excavated below and too close to the old footings. Keep the trenches at least one full trench-depth away from any load-bearing walls and footings. Only the smallest trenching machines can work between the posts and under the low beams, therefore much laborious excavating must be done by hand. For these reasons, remodeled barns are typically restricted to shallow manure gutters, often with a mechanical scraper or auger system to remove the manure to outside storage.

RENOVATE OR BUILD NEW — THE MANAGEMENT DECISION Renovation can be justified only if the total costs are considerably less than an equivalent new building. For example, costs to renovate the basement of a two-storey barn for 400 hogs should be compared with a new building for 400 hogs, not 500 hogs plus a sorting and loading area.

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