



SWINE HOUSING AND EQUIPMENT

COMPLETE INSTRUCTIONS

REVISED 86:04

In Canada, the trend in swine production is toward totally enclosed, well-insulated buildings with controlled ventilation. Pigs have specific temperature and space requirements depending on the age and stage of growth. For this reason, buildings are usually partitioned into rooms where each age group can be housed in the best possible environment.

Canada Plan Service swine plans show the various components that satisfy the needs of each age group or each part of the production cycle.

BREEDING-GESTATION

Dry sows are confined either in group pens or in individual pen stalls for much of the gestation period (16 weeks). Pen stalls prevent fighting and competition for feed during the breeding-gestation period. To improve breeding, intermix boar pens with sow pens to promote sexual stimulation by sight, hearing, smell and touch.

FARROWING

Standard-size farrowing pens (with a crate to confine the sow and a creep area for the piglets) can be fitted into one-room systems for small herds, or into multiple-room systems for large operations.

Farrowing barns must have good pen drainage and a separate warm creep area at each pen to ensure the piglets' comfort without overheating the sow.

WEANLING

In small operations the weanling area may be a part of the farrowing barn. In larger operations, one or several specialized weanling rooms let the producer maintain the warmer environment preferred by the weanling pig.

Weanling pigs must be kept especially clean to maintain good health. The traditional way to do this was to use ample bedding and clean the pens frequently. Now, pens with slotted, perforated or mesh floors (without bedding) are used to keep pigs clean enough at this stage. .

GROWING-FINISHING

Growing and finishing pigs develop better housekeeping habits in long narrow pens. Pens can be as small as 1.5 x 4.8 m (5 x 16 ft) for 20 growers or 10 finishers. Larger pens and correspondingly larger groups may be used but the pen length must remain at least 2.5 times the width. Pigs stay cleaner on totally slotted floors, but if only part of the pen is slotted, they suffer fewer foot injuries and make better gains on less feed. The pigs' Bunting habits also improve if solid pen partitions surround three sides of the sleeping areas and open partitions or gates divide the Bunting-watering areas.



The Canada Plan Service prepares detailed plans showing how to construct modern farm buildings, livestock housing systems, storages and equipment for Canadian Agriculture.

To obtain another copy of this leaflet, contact your local provincial agricultural engineer or extension advisor.

SPACE REQUIREMENTS

Table 1 gives general recommendations for sows, weaner pigs. For each boar provide a pen area of 3.7 m² (40sq ft). Separate breeding pens should have a minimum rectangular dimension of 2.4 m (8 ft).

TABLE 1 SPACE REQUIREMENTS FOR SWINE

Accommodation	Sows	Weavers under 25 kg (50 lb)	Feeders 25- 100 kg (25- 220 lb)
Feedlot			
- Hard-surfaced area	2.3 m ² (25 sq ft)/sow	0.75 m ² (8 sq ft)/pig	1.9 m ² (20 sq ft)/pig
- Pasture area	0.4 ha (1 ac)/2 sows with litters	0.4 ha (1 ac)/25 pigs	0.4 ha (1 ac)/10 pigs
Confinement housing			
- Solid floor pen area	1.8 m ² (20 sq ft)/sow under 180 kg (400 lb)	*0.3 m ² (3 sq ft)/pig	*0.35 m ² (3.8 sq ft)/pig under 45 kg (100 lb) *0.5 m ² (5.4 sq ft)/pig @ 45 - 67 kg (100 -150 lb) *0.7 m ² (7.5 sq ft)/pig over 67 kg (150 lb)
Slotted floor pens			
- Total area/pig	1.5 m ² (16 sq ft), sow under 180 kg 1.9 m ² (20 sq ft), sow over 180 kg	*0.2 - 0.3 m ² (2.2 - 3.2 sq ft)/pig	
- Slotted area	35 - 100 % of pen	30 - 100% (100 preferred)	30- 100 % (40 % preferred)
- Slot width	25 - 32 mm (1 - 1.25 in.)	9 or 25 mm (0.4 or 1 in.)	25 - 32 mm (1 - 1.25 in.)
- Slat width	38-200 mm (7.5-8in.)	38-100 mm (1.5-4in.)	38-200 mm (1.5-8in.)
Partition height	**1.1 m (43 in.)	0.7 m (28 in.)	0.9m(36in.), vertical rods 1.0 m (39 in.), solid panels
Self-feeder length	(not recommended)	50 mm (2 in.)/pig	75 mm (3 in.)/pig
Feed trough length	0.45 m (18 in.)/sow	0.25 m (10 in.)/pig	0.33 m (13 in.)/pig
Individual feeding stall	0.45 m (18 in.) wide		0.33 X 1.5 m (13 x 60 in.)
Gestation tie stall			
- Width	0.6- 0.7 m (24- 28 in.)		
- Length feed trough to: gutter	1.45 - 1.65 m (58 - 66 in.)		
slotted floor	1.2 m (48 in.)		
Gestation pen stall			
- Width	0.66 m (2 ft 2 in.)		
- Length	1.8 m (6 ft)		
- Height	1.06 m (3 ft 6 in.)		
Farrowing pen			
dimensions			
- With side creeps:			
early weaning	1.5 X 2.1 m (5 X 7 ft)		
late weaning	1.8 X 2.1 m (6 X 7 ft)		
- With front creep	1.5 X 2.7 m (5 X 9 ft)		
Feed	0.9 t (1 ton)/sow.year		295-325 kg (650-720 lb) from birth to 90 kg (200 lb)

* Provide enough sleeping area for all pigs to lie halfway between 'recumbent' (on the flank) and 'sternum' (on the belly).

**Open partitions with vertical spindles or rods are preferred; increase to 1.2 m (48 in.) at boar pens.

TABLE 2 DAILY WATER CONSUMPTION

Stage of growth	L	(gal)
Weaner: 12 kg (26 lb)	2.3-03.2	(0.5-0.7)
Grower: 27-36 kg (60-80 lb)	3.2-04.5	(0.7-1.0)
Finisher: 34-90 kg (75-200 lb)	4.5-07.3	(1.0-1.6)
Sow: 90-172 kg (200-378 lb)	5.4-13.6	(1.2-3.0)
Sow: before farrowing	13.6-17.2	(3.0-3.8)
Sow: after farrowing	18.1-22.7	(4.0-5.0)

TABLE 3 DAILY MANURE STORAGE VOLUMES

kg	Class of swine (lb)	weeks of age	Manure/pig		Liquid manure* storage/pig		Solid manure storage/pig	
			L	(cu ft)	L	(cu ft)	L	(cu ft)
Growing pigs								
18 - 91	(40 - 200)	8 - 22	5.1	(0.18)	7.1	(0.25)	7.1	(0.25)
4 - 11	(10 - 25)	3 - 6	1.1	(0.04)	1.6	(0.06)		
11 - 23	(25 - 50)	6 - 9	2.3	(0.08)	3.1	(0.11)		
23 - 34	(50 - 75)	9 - 12	3.4	(0.12)	4.8	(0.17)		
34 - 57	(75 - 125)	12 - 16	5.1	(0.18)	7.1	(0.25)		
57 - 80	(125 - 175)	16 - 20	7.4	(0.26)	10.2	(0.36)		
80 - 91	(175 - 200)	20 - 22	9.1	(0.32)	12.7	(0.44)		
Dry sow			11.3	(0.40)	15.9	(0.56)	13.6	(0.48)
Nursing sow and litter								
- wean at 3 weeks			15.6	(0.55)	21.8	(0.76)		
- wean at 6 weeks			19.5	(0.68)	27.5	(0.96)		

*This column was calculated from daily manure/pig column by a multiplying factor of 1.4 to account for spillage from waterers, floor washing and other dilution water here required. Actual storage required may vary widely.