

WINTER PROTECTION FOR FATTENING SWINE

The objectives of this trial are: to determine the effect of windbreak protection of the feeding area on winter gains; and, to compare the effect of different combinations of portable houses and windbreaks on winter gains.

The portable house used throughout this trial is a well constructed house 8 feet wide and 10 feet long, with a 2 by 3 foot door opening.

The windbreak used in the trial is a solid board fence 39 inches high, and protects the feeding area on the north and west.

The following four shelter combinations were compared.

Shelter #1 was a house only, with open door, and no windbreak protection for the feeding area.

Shelter #2 was a house with open door, plus windbreak protection for the feeding area.

Shelter #3 was a house with swinging door, plus windbreak protection for the feeding area.

Shelter #4 was a house equipped with an "L" shaped tunnel entrance, plus windbreak protection for the feeding area.

A 16 percent protein barley-oats-soybean oilmeal ration was self-fed to all lots.

Table 1. Average Weights, Gains and Costs in the Shelter Comparison Study for the Two Year Period, 1970-1971

Data on:	Treatment 1 House Only	Treatment 2 House plus Windbreak	Treatment 3 House with Door plus Windbreak	Treatment 4 House with Tunnel plus Windbreak
Number of pigs per lot	21	22	23	22
Average initial weight (lbs.)	47.7	47.5	48.0	48.3
Final weight (lbs.)	220.2	225.4	226.5	221.5
Average gain per pig (lbs.)	172.5	177.9	178.5	173.2
Average daily gain (lbs.)	1.32	1.34	1.36	1.32
Feed per hundred pounds gain	402.7	410.8	396.0	417.1
Cost per hundred pounds gain	\$9.54	\$9.72	\$9.37	\$9.88

Table 1 summarizes data on weights, gains and feed costs for the two years, 1970 and 1971. Table 2 shows high and low temperatures and wind movement.

Table 2. Comparison of High and Low Temperatures and Wind Movement for a Twenty Four Hour Period

	Average Totals				
	November	December	January	February	March
High Temperatures^{1/}:					
1970-71	33.3	24.4	15.8	23.6	35.8
1969-70	46.4	30.4	15.2	28.6	30.9
1968-69	39.4	15.7	6.9	22.0	27.6
1967-68	40.9	27.0	22.5	25.5	49.3
1966-67	34.1	28.4	26.0	25.7	39.0
1965-66	40.2	36.3	10.4	21.4	43.4
1964-65	36.5	12.9	18.1	23.2	22.0
Total	224.4	144.7	99.7	141.4	217.1
6 Year Average	37.4	24.1	16.6	23.6	36.2
Low Temperatures^{2/}:					
1970-71	16.3	5.0	-5.5	5.1	17.4
1969-70	18.6	11.1	-4.5	6.4	9.8
1968-69	19.7	0.8	-8.7	3.0	10.6
1967-68	18.0	5.0	1.1	4.4	21.3
1966-67	11.1	7.1	3.5	0.8	16.0
1965-66	16.2	12.1	-10.5	1.4	18.0
1964-65	10.3	-4.9	-4.3	-1.5	2.9
Total	91.6	25.1	24.4	13.2	86.2
6 Year Average	15.3	4.2	-4.1	2.2	14.4
24 Hour Wind Movement^{3/}:					
1970-71	81.2	77.9	57.1	52.5	81.3
1969-70	64.0	72.0	68.4	75.7	78.4
1968-69	74.5	83.1	93.9	90.7	83.5
1967-68	93.2	81.5	79.7	121.2	97.3
1966-67	79.0	64.2	91.9	108.9	93.5
1965-66	72.0	77.1	95.5	113.6	115.3
1964-65	77.0	123.9	71.7	102.5	150.6
Total	476.9	507.7	489.8	589.4	621.5
6 Year Average	79.5	84.6	81.6	98.2	103.6

^{1/} and ^{2/} High and Low Temperatures are in degrees Farenheit.

^{3/} Total wind data is total movement for a 24 hour period. Average wind velocity is found by dividing total wind movement by 24.

Summary

Providing wind protection for the feeding and watering area and a swinging door for the house has slightly improved daily gain and feed efficiency over the two year trial period. During years when weather conditions were more severe, this difference would undoubtedly be greater. In the past two years the amount of wind movement has been considerably below the six year average with no wide temperature extremes which may help to account for the small differences between the protected and unprotected lots.