

to a lighter feed of mineral matter of coal, or to a state. The frozen wheat, on, seem to be feeding is evident that the fed under the one, should be pregnant sows, mented with a as meat meal not only safely

heat the question as it contained one which made a large number of seasons of early devoted to the Lot 4 was fed under the very shed and fed as morning, scattered for the evening



the tankage to from th cases.

, salt, coal and t all times. The made an average but their cost y, showing that a certain consti- nment. Of the 14 were raised, ir average birth ds. These pig was practically ers were scantily

le frozen wheat, ind without the tter in the form ed was regulated ite of the sows; what they could e gilts made the f any in the ex- 6 pounds to their hrift throughout a large number er being entirely s farrowed, with weight of 1.792 aised, or 50 per

zen wheat under Lot 4, with the cent. meat meal made an average and were sleek es. Twenty-two averaging 25 21 or 95.45 per pigs were strong very evidence of rishment. at per 100 pounds t the experiment r Lot 4, 1.880 1.866 pounds for hairless pigs in seems that the e to a lack of the frozen wheat k of added min- of coal. At any eared in Lot 4 it was fed under the amount lim- given free access

to coal. Results proved conclusively that frozen wheat does not contain poisonous properties resulting in hairless pigs, but if fed as a single feed hairless pigs are to be expected as a result of the deficiency in protein. With the addition of a proper protein supplement, as meat meal tankage, frozen wheat can be fed with every assurance of excellent results.

Oats

Lot 9 was fed whole oats scattered on the ground for both morning and evening feeds and allowed free access to coal, salt and water. These gilts made a rather low average gain of 59.66 pounds and lacked somewhat the thrifty appearance of the frozen wheat, tankage, and barley tankage lots, but



Hairless Pig from Sow fed on a Ration of Straight Barley

the gain in weight was due to body growth rather than fat. The pigs came large and strong, weighing an average of 2.56 pounds at birth. Of the 25 farrowed, 21 were raised, or 84 per cent. In this case the grain consumed per hundred pounds live weight throughout the period was 1.559 pounds. No doubt more feed would have been consumed and larger gains made if the morning feed had been crushed, scalded and fed in a warm slop, for, as with all classes of animals, brood sows like variety. Oats prove to be a well-balanced feed for pregnant sows and should make up a large part of the ration in a country so well adapted to oat production.

Exercise

Many swine producers have attributed hairlessness in young pigs to insufficient exercise during pregnancy. It is common belief that the greatest losses follow long severe winters when the sows spend the greater part of their time in the straw pile, or under other protection. To secure data on this point three gilts were placed in a 6 ft. x 7 ft. frame house with the addition of a 4 ft. x 14 ft. runway. These sows were fed the same kind and practically the same amount of feed as check Lot 1, with the exception that the evening feed of oats was crushed and fed in the form of slop to prevent exercise. Several hog men visited the farm during the experiment and all predicted poor results from this lot, for the gilts took very little exercise and hence became excessively fat, leading all lots in average gains for the period with 120 pounds per head to their credit. In all, 26 pigs with an average birth weight of 2.43 pounds were farrowed in this lot, and 20 or 76.92 per cent. raised. All pigs came strong and were normal in every respect. It should be borne in mind that old sows that become excessively fat are sluggish and tend to crush a large number of their young, while gilts were used in this test and hence there were no losses from this source. Furthermore, sows confined in cramped quarters are often subject to unsanitary conditions. The importance of an abundance of exercise for young pigs in preventing thumps and the like is well known to all. It should be understood that this department does not recommend limited exercise for pregnant sows—far from it, we insist on plenty of outdoor work for all breeding stock. This experiment, however, leads us to the conclusion that lack of exercise is not the cause of hairlessness in new born pigs.

Forcing Sows to Eat Snow

Quite a number of farmers have followed the practice of forcing sows to eat snow in place of providing water during the winter months. Often times these men suffered heavy losses from hairlessness or weak pigs and

naturally credited their pig troubles to this method of watering. To secure information on this point three sows were placed in Lot 8 and fed the same ration as Lot 1 with the exception of the garbage, which had to be eliminated on account of the moisture content. All grains were fed dry. The last snow of any consequence disappeared on March 27 so that but one gilt farrowed under these conditions, her litter of eight pigs weighing but 12 pounds, or an average of 1.5 pounds each. One pig came dead, another died in a few hours and two others within the next two weeks so that she raised but four. These sows made low gains during the winter months, lacked thrift and were badly tucked up in the middle. The other two sows made fair gains during the balance of the spring so that the average gain for the period was 76.33 pounds, and the average birth weight of pigs for the lot was 2.155 pounds. Of the 29 pigs farrowed 19 were raised, or 65.51 per cent. Due to the fact that two of these sows farrowed some time after the last snow disappeared and water was provided, this part of the experiment will be given further attention during the coming winter. Such results as were obtained would indicate that hairlessness cannot be attributed to this practice but that far better results would follow free access to water.

Importance of Sunlight

To determine the influence of sunlight on the unborn litter, three sows were wintered in a large 30 ft. x 40 ft. shed, with seven inch walls. This shed was constructed with poplar poles and straw, the walls being two feet thick, tightly packed with straw, and the roof covered with the same material to a depth of 18 inches. The two doors facing the south were then made light proof, so that it was impossible to discern a single object inside the building. All sows were placed in the shed on December 17, 1917. The first farrowed March 21; the second, April 23, and the last one, May 20, 1918, so that the latter was kept under these conditions for a little over five months. With the exception of time of feeding they were fed just as in Lot 1. To insure sufficient exercise the morning feed was given at 8 a.m., then garbage at 11 a.m., water again at 1 p.m., and whole oats scattered in the bedding at 3.30. By this means the sows were on their feet a good share of the day so that the only difference from conditions as found in Lot 1, were the lack of sunlight and less fresh air due to the complete closing in of all walls. The only ventilation possible was through the straw covering over the roof. These sows made an average gain of 96.33 pounds during pregnancy, farrowed 29 pigs weighing an



Hairless Pigs, result of Feeding Straight Frozen Wheat.

average of 2.62 pounds, and raised 25 or 86.20 per cent. All pigs came strong and gave no evidence of the peculiar method of housing. It is again wished that swine breeders place the proper interpretation on this part of the experiment. A continued practice of this sort would soon lead to an outbreak of disease for such quarters soon become unsanitary. Furthermore every effort should be put forth to make every possible use of nature's greatest purifier—sunlight. These results show that weakness or hairlessness in pigs cannot be



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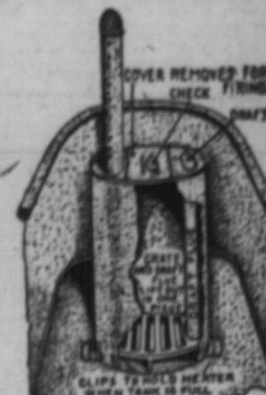
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