A Big Pig-Problem.

Much has recently been said and written about swine diseases, and many investigations have been made with reference to causes, preventions, and remedies. Wise-heads are now beginning to see the drift of the whole affair, and are fearless in the expression of their opinions, no matter what the consequences may be.

It has been repeatedly pointed out by interested speculators what rapid progress has been made in domesticating and improving the hog; fine illustrations are published showing not only the great skill of the breeder, but also the marvellous genius of the artist. The defects of the breeder in producing an animal that looks something like a huge barrel with a long, crooked cork in one end, are rectified by the skill of the artist, and then a contrast is drawn between this thing and the wild hog, showing what great improvement has been made within so short a period of time. It is natural that the hog should have been selected as the victim, for he readily responds to generous treatment, and is the most profitable consumer of farm produce. Eating all sorts of refuse, he is a profitable consumer; maturing early and growing rapidly, he makes quick returns, and he is easily domesticated.

But what have been the results of taking this advantage of his extreme flexibility?—all this high stuffing, all this greed for still earlier returns? Disease, discouragement, death! The constitution of the hog has been ruined, the muscular system has almost entirely vanished, diseased fat produced which nobody wants to eat—all for the sake of breeding and feeding a perfect (!) animal (according to the estimate of the best judges) and for the purpose of obtaining boom prices for the manipulators. These conditions are specially characteristic in those sections where corn is produced so cheaply that it is only fit for the hog to eat.

But lo! what next? His carcass comes into competition with the dairyman in the production of pure, gilt-edged dairy butter of the delicious flavor of the drug store and the keeping qualities of a basswood ham. But if this were all, it would scarcely be worth mentioning. What next? Experiment stations must be established all over the country, with headquarters at Washington (Ottawa?), for the purpose of investigating the causes of the diseases. An efficient staff of "vets" must be appointed by the Government to scour the country for diseased hogs, with power to slaughter any farmer's hogs who opposed their appointment, and if their occupation feels likely to be gone, all they have to do is to get up a hog-disease scare, by means of which it is a part of their duty to complain of overwork and to receive more pay. If this were all, nobody would think of complaining. What next? Veterinary literature must be broadcasted over the country at the people's expense; agricultural and veterinary colleges must be endowed, and millions must be spent in inducing farmers' sons to attend these institutions, for their stock is in danger, and the number of "vets" in the country is not equal to the demand. Some ambitious veterinarian writes a text book for the students of these institutions, teaching them how to treat diseases which result from the practice of stuffing hogs and other domestic animals to please the eye of judges. In this way science keeps pace with the improvement of the hog, and there is nothing like science for the practical farmer. Other domestic animals are following in the same train with the improvements of the hog—"the gintleman that pays the rint" in Ireland.

All these millions could be saved by doing what? Simply doing nothing. The majority of farmers learn moderation without teachers or Government interference. They learn that hardiness and consequent development of the muscular system are the healthful and staying qualities of farm stock, which very qualities are in demand by the consumers of flesh. Such qualities are induced by discarding those petty little fancy points in breeding by selecting healthy breeding stock of activity and vigor, the pedigree without these qualities being regarded as injurious. Give the animals clean, healthful quarters of medium temperature, give exercise and a change of diet, not forgetting plenty of grass and other succulent food for the hogs. Substitute common sense for college "learnin'."

We will not say anything about the millions of dollars that are annually thrown away for useless quack medicines for fear we will increase the effects of the other indictments to such an extent that it will cause a panic amongst the manipulators.

Feeding Hogs for Lean Meat.

We do not make the practice of publishing the results of experiments conducted at the various experimental stations until they have become sufficiently numerous to prove definite results, as a few experiments are apt to mislead unless accompanied by a caution that they are not intended to prove the objects to be attained. There are other experiments which we would not publish under any consideration, as they are based on false principles, and, being initiated by manipulators, they are intended to mislead the farmers and thereby fill the pockets of scoundrels who live by such practices. There are other useless experiments which lead in the wrong direction, some proving such things as should not be proved, such as feeding to see what can be done in the production of live stock monstrosities which make hot-beds for disease, while other experiments are intended to settle some vexed question in science, and will not be of practical use for many years to come.

On previous occasions we drew attention to the experiments of the indefatigable Prof. Sanborn, of the Missouri Agricultural College, who is intent upon determining the effects of food rations in the production of fat and lean pork. Such experiments deserve encouragement, for they will tend to counteract the abominable practice of feeding stock to please the show judges instead of the consumers of meat. Prof. Sanborn's first experiments in this direction tended to prove that fat or lean could be produced at pleasure, according to the quality of the food consumed, and more recent experiments have confirmed his first deductions.

In a recent trial he fed corn, blood and middlings (shipstuff), the food being analyzed and giving the following composition:

	Corn. Per ct.	*Blood.* Per ct.	*Shipstuff* Per ct.
Moisture	10.43	20.78	15.20
Ash	1.57	6.65	3.65
Fat	4 51	2.14	4 41
Carbohydrates (undetermined)	74.39	2.87	57.99
Crude fibre	1.92	..	2.62
Nitrogen	1.15	10 81	2 58
Albuminoids	7.18	67.56	16 13

It will be seen from the above analysis that the corn is very rich in carbonaceous substances, such as fat and starch, while the blood goes to opposite extreme, being rich in nitrogen and salts (ash). The albuminoids (flesh-formers) are nitrogenous compounds, the percentage of nitrogen being obtained by dividing the albuminoids by 6.25. The shipstuff is intermediate in its composition. We regard this as the proper principle of feeding, and it explains the reason why we have not reported the experiments conducted at our Model Farm. On the correct principle, all names of foods are discarded, the guiding principle being the "nutritive ratio" or the relation which exists between the flesh-forming and the heat (fat) producing substances, the names of the foods from which these substances are obtained not being material to the issue. Where the ration is rich in albuminoids, the nutritive ratio is said to be high; where the ration consists largely of fat, carbohydrates (starch, &c.) and crude fibre, the ratio is said to be low or wide.

Four pigs were selected and divided into two lots—average weight of pig, 55 lbs. One lot was fed exclusively on corn meal, with a small quantity of corn (nutritive ratio about 1:10), and the other lot was fed 4 parts shipstuff with one part blood, which makes a very high ratio. After slaughter, the fat was separated from the lean, and careful weighings of bone, hair, fat, lean, blood and vital organs were made.

The corn-fed pigs (lot 2) weighed respectively at time of death 139 lbs. 15 oz. and 170 lbs. 14¾ oz.; the weights of lot 1, fed on shipstuffs and blood, were respectively 138 lbs. 6¼ oz. and 170 lbs. 4½ oz., and the per cent. of external fat to live weight was, for pigs in lot 1, 31.5 and 34.6, and for pigs in lot 2, 39.9 and 47.9; the percentage of external fat to lean and bone was for pigs in lot 1, 68 and 75.4, while for pigs in lot 2 it was 95.8 and 160.8; lot 2 (the corn-fed) thus showing an increase over lot 1 (fed on albuminous food) in external fat of 33 per cent. Prof. Sanborn notes the following facts, namely, that by comparison with a former trial the slower growth in the corn-fed pigs resulted in a less increase of fat; also that certain of the vital organs weigh more after the albuminous than after the carbonaceous foods. The kidneys are a notable example. Hence, Prof. Sanborn concludes to the probability that the kind of food modifies the constitution and functions of the vital organs. He calls attention to the fact that the albuminous foods also contribute to the greater growth of hair than the carbonaceous. One of the most important results of the tria was in the evidence it afforded that there was no difference in the weight of the dressed carcasses of the pigs fed on the albuminous foods and the corn-fed. "The only difference," he says, "in the carcass is that one is more than one-half lean meat, while the other is less than one-half lean meat, when bone is excluded."

Subsequent experiments were made by the Professor, testing the respective cost of production in producing fat and lean, but the few experiments should not be regarded as decisive. It appears that the carbonaceous or cheap food, which produces the most fat and the least lean, can be made at a slightly less cost than the expensive or albuminous ration. If this can be substantiated by further experimentation, intelligent consumers will undoubtedly pay more for moderately lean and wholesome meat than f cheap, diseased blubber.