all bulky food, substituting in its place, mashes, and food in a liquid form generally.

Cooked and raw foods.—Does not this teach us something in connection with feeding pigs?

How should a fatting pig be fed? On raw or cooked food? You shall give your own answer to the question.

If the pig's food is cooked—I speak of grain, corn, barley, &c.

1. The pig does not eat so much—this is not convenient, for it is desirable that the animal should eat as much as possible in a given time.
2. He eats faster—consequently mastication is imperfect.
3. In consequence, the food enters the stomach insufficiently prepared. The albuminoids are not properly converted, and, of course, only partly absorbed—result, waste.

On the contrary, if dry grain be given:

1. The grain is eaten more slowly—better masticated.
2. The pig eats more.
3. The food is in a better state of preparation when it enters the stomach.
4. The albuminoids are thoroughly converted.
5. Entire absorption takes place.
6. No waste of food.
7. Pig fattens faster.

Professor Henry carried out 27 experiments at the Experimental Farm of the State of Wisconsin. Twenty-six of these go to prove the truth of what I have just stated: that pigs fatten faster, and with less cost, on raw than on cooked food. Only one experiment turned out differently from the other 26.

I think it my duty to relate you another series of experiments, made under the same professor, for the purpose of discovering if it were possible to make lean or fat pork at will, and which of the two was the more profitable to the feeder.

EXPERIMENTS BY PROF. HENRY, AT THE WISCONSIN EXPERIMENTAL FARM.

He took 6 pigs, of the same litter, and fed them on the same food up to the age of 100 days.

Ration. — Skim-milk, buttermilk, corn-meal, and shorts, (Pollard ?; Trans.) given in the same trough.

At the age of 100 days, they were divided into two lots of three each.

Lot *A* received 1 part of dried and pressed blood.
6 parts of shorts.
14 parts of skim-milk.

Lot *B* received all the corn it would eat.

Each lot was treated exactly alike. The experiment lasted 136 days.

Total amount of food consumed by both lots:

Lot *A*.—3302 lbs. of skim-milk = 8 lbs. a day, each.
1415 lbs. of shorts = 3½ lbs. a day, each.
236 lbs. of blood = 10 oz. a day, each.

Lot *B*.—1690 lbs. of maize = 4 lbs. 3 oz. a day, each.

The digestible matters contained in the food of these pigs was:

	Albuminoids.	Carbo-hydrates.
Lot *A*.....	428 lbs.	823 lbs.
Lot *B*.....	153 lbs.	1193 lbs.

The total amount of nutriment is within 100 lbs. of being equal in the food of both lots, that is, lot A = 1251 lbs.; lot B = 1346 lbs.

The albuminoids form the muscular part or lean meat.

The carbo-hydrates—starch, sugar, fat, &c.—serve to support the animal heat, and to make fat.

We see then, that Lot *A* was fed for the production of lean; Lot *B* was fed for the production of fat.

At the end of 136 days, the pigs were killed, and the blood carefully preserved.

Three sections were made, 1. at the neck, 2. between the 5th and 6th ribs, 3. across the flank. The sections of the pigs were photographed, and the annexed engravings show the results of the experiment; and very striking they are.

This is the difference between the two lots:

The live-weight of lot *A* is 19 °/₀ greater than that of lot *B*.

The dead-weight of lot *A* is 21 °/₀ greater than that of lot *B*.

The kidneys, spleen, and liver of *A* are from 32 °/₀ to 42 °/₀ greater than those of lot *B*.

The blood of *A* 55 °/₀ greater than that of *B*.

The bristles and skin of *A* 36 °/₀ greater than those of *B*.

The large back-muscles of *A* 64 °/₀ greater than those of *B*.

Of all the meat that could be cut from the carcases of lot *A*, 38 °/₀ was fat, of lot *B*, 46 °/₀.

The bones of *A* were 23 °/₀ heavier than *B's*, and the thigh bones of *A* were 62 °/₀ stronger (by the testing machine) than *B's* bones.

Practical conclusions.—It will be seen from these quotations that in animals fed on too fattening food, i. e. on food too rich in carbo-hydrates, the bones, the muscles, and the internal organs, diminish in volume, the blood, especially diminishing by one-half.

Consequently, their constitution is considerably weakened. If attacked by sickness, they have no power of resistance. Should a contagious disease affect them, they immediately fall victims to it. Their legs fail them. Rheumatism worries them, and, lastly, their fattened carcases are less valuable since they weigh less.

And these further considerations must be borne in mind:

The breeding sows must receive food fit to sustain the skeleton, the bones, and the muscles, as well as to harden the constitution, such as skim-milk, buttermilk, bran, pease, and green clover, with a small proportion of maize, &c. The piglings, too, require food pretty rich in albuminoids. When they are weaned, the following will be found suitable: 2 parts of milk, 1 of pollard, 1 of maize. If they are pastured on clover, their frame will show increased growth.

When the fattening time comes, pigs may be forced on maize, if fat pork is wanted, and on albuminous food, as bran, pease, and flesh (*Eugh! Trans.*), if lean is preferred.

Hence we find, that *boars* should not have food too rich in carbo-hydrates, since with such food their frames would be less, their constitutions weaker, and their progeny delicate.

Milk, a few pease, bran, and flesh, are the best things to feed *boars* on.

As to the horse.—Another result from what precedes is, that the best of all foods for the horse is a mixture of bran and oats, which, of all the cereals, except wheat, contain the greatest amount of albuminoids, and sufficient carbydrates to be economical.

Now, as the food of the horse must be regarded as furnishing, not fattening supplies, but muscular force, stoutness, energy, and the durability of the muscles, that food that contains the greatest proportion of albuminoids—oats and bran—must be given to him.

But wheat, you will say, since it is richer in albuminoids than oats, will be fitter horse-food than oats. Not at all. For besides the constituents of the other cereal grains, oats contain the *black principle* (*principe noir*), which is the stimulant par excellence of the horse. Nothing, then, not even wheat, can be substituted for oats for horses.

Cooking destroys the black principle.—This principle is destroyed by cooking. Consequently, oats must never be either boiled or scalded.

Thus, the greater the speed required of your horses—on