XLVIII. NOTE ON "SCURVY" IN PIGS.

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At the beginning of April four young pigs were observed to be ill with symptoms suggesting scurvy, namely:

- (1) Stoppage of growth.
- (2) On being approached the animals squealed with more than their usual fervour, and on being touched the squealing became frenzied.
- (3) Lack of appetite and a condition of great lassitude.
- (4) Spasmodic twitching of limb muscles (see description of scurvy in guinea-pigs by Miss Chick and co-workers).
- (5) Swollen joints.
- (6) Inability to walk or stand properly. On being made to rise or move, the pigs dragged themselves about with the trotters bent underneath the forelimbs. The hind limbs were also feeble and not held straight as in the normal pig, but the trotters were not bent under as in the forelegs.
- (7) The gums and teeth could not be examined, as the animals resented being touched and were likely to bite.

On enquiry into the diet it was ascertained that the pigs had been fed entirely on *cooked* food, a mash composed of meal, sharps and turnips. As it seemed obvious that the complaint was due to lack of the antiscorbutic factor, directions were given that the same food should be continued but in a *raw* state. The proportion of turnip (yellow swede) was increased in amount because of the high antiscorbutic value which this vegetable is known to possess. In this case the swedes were obtained direct from the field in which they were growing. Occasionally a little skimmed milk or butter milk was given both with the cooked and the raw food at those times when it was available on the farm.

As was expected the four pigs very soon improved upon the uncooked diet; their appetite showed improvement after a few meals of raw food. The other symptoms gradually lessened until in about 14 days the pig in the best condition roamed about the fields of his own free will, and on handling squealed no more than is customary with pigs. The other three pigs, whose symptoms had been more acute, took five weeks to reach the same state of recovery. The best pig walked properly after a week. The others walked on

straight limbs after four weeks, and their limbs, though still weak, are gradually gaining strength.

The animals had the following weights in kilograms which show their improved condition:

	April 9th	April 20th	April 27th	May 17th
(1)	25	32	34·5	41·6
(2)	25	29·4	35	44·5
(3)	38	37·4	41·5	50·5
(4)	20·7	22·8	25·5	31·5

The change to uncooked food has thus not only improved their condition, but has caused renewed growth. The animals were about four months old at the time they first came under observation. No. 3 took longer than the others to recover its appetite.

This case exemplifies the application of recent scientific results to agricultural problems; with the absence of suitable appliances for scientific work it was not possible to make closer study such as weighing of the food and more details of the symptoms of the animals. This disease is said to be fairly common amongst pigs reared during the winter and fed on cooked food as well as being much confined to styes. It is most frequently referred to as “rheumatism,” sometimes as “rickets” or “pig gout”; raw potatoes are in some places recommended for its cure. The term rickets as here applied is evidently incorrect, since the antirachitic factor is comparatively stable to heat. Delf [1920] has shown that cooking rapidly destroys the antiscorbutic factor.

Addendum, August 11th, 1920.

Since the above note was written, the pigs have been sold on the market and realised the current prices. Fortunately it was possible to see the ribs and bones of pig (4). The ribs on one side appeared normal: on the other side one rib showed a healed fracture (of old standing) and five other ribs showed haemorrhage; two of these ribs were curved and not straight. The leg bones of one side looked normal: those of the other side showed (a) thickening of the radius and ulna, (b) fusion and thickening of the tibia and fibula.

REFERENCE.

Delf (1920). *Biochem. J.* 14, 211.