lions, of its kind. These young trichinæ at once start out to find a place in which to encyst themselves for a dormant rest and await a resurrection by having the flesh in which they are imbedded eaten by some animal, brute or human, when they will repeat the role of their progenitors.

It is when passing from the stomach and intestines to the muscles that the trichinæ give such pain, and frequently cause death. Pushing their way through the tissues, they cause great irritation and inflammation, resulting in death when the effects become unendurable. While in this active state of migration, seeking a home, they are as liable to be found in one class of tissues as in another. Hence, lard that has not been exposed to a heat of at least 212 degs. Fahr., is just as likely to contain them, if the animal was killed when the trichinæ were in a state of activity, as in any other part or product of the hog.

The only way to avoid the evil and suffering from tape-worms and trichinæ is to either wholly abstain from eating pork, or to be sure that it is thoroughly cooked, so as to destroy the vitality of the encysted parasite. The muscle of the hog makes exceedingly palatable food, and many enjoy eating the fat. In spite of all the terrors and drawbacks, pork is a common and popular article of food. So long as animal flesh continues to be eaten by man, we presume pork will be eaten. As there is no cure for one of the diseases imparted by it, the safety of the public health demands that hogs be kept in a cleanly manner, fed only on vegetable food and such animal products as belong to the dairy, and that the meat—of all kinds, as for that matter—shall be sufficiently cooked to destroy all animal life. Nothing less than subjecting every particle of it to a heat of at least 212 degrees will do it.—[*National Live-Stock Journal.*

Cost of Producing Milk.

It will be seen in our report of the Ontario Creameries Association that it costs Mr. Graham $1.20 per 100-lbs. to produce milk from his cows, counting the cost of the food in his own barn, while Mr. Carpenter, buying all his food on the market, produced the same quantity of milk for half the money. This discrepancy shows the necessity for careful investigation, and the mode of procedure must be both business-like and scientific.

Many farmers are prone to believe that any mode of investigation which they cannot comprehend is scientific and must therefore be rejected. It is evident that this standard cannot be adopted, for what would be scientific to one farmer would be quite practical to his neighbor. The scientific method of investigation is the taking of all the known conditions into consideration without reference to the parties who may or may not comprehend them, and we think this is the only practical standard which can be adopted.

In the cases above cited, could the difference be in the individual merits of the cows, the quantity or the quality of the food consumed, or in the system of feeding? Possibly the costly milk was very superior in quality, while the other cows were bred for quantity at the expense of quality. Should there be any material difference in this respect, surely an impetus for paying according to quality should be given.

Accurate experiments have recently been made at the Amherst (Mass.) Experiment Station, three Ayrshire grades—average weight 872 lbs.—having been chosen for the purpose; the ration consisting of 4 quarts (6½ lbs.) cornmeal at $28 per ton, and all the hay they could eat, viz., an average of 16½ lbs. per day at $15 per ton. The average age of the cows was nearly 5 years. The milk produced averaged 16⅛ lbs (about 7½ quarts) per day. The average cost for food was 21 3 cents daily, making the cost of milk $1.30 per 100 lbs., or about 2.7 cents per quart (wine measure).

These figures correspond very closely to those of other experiments of a similar kind, and prove that Mr. Carpenter is nearer the mark than Mr. Graham; for the price of the food in the Amherst experiments was nearly double the prices here, and the quantity of the milk produced there was 7½ quarts per day against 10 quarts here; but in these comparisons we must presume that the length of time since calving was the same in all cases. If Mr. Graham finds that his cows consume more than 15 cents worth of food per day, the quicker he changes his herd the better, unless he increases the average quantity of milk from his cows.

Mr. Graham makes another unpardonable blunder. He says one man can attend 50 head of cattle, winter and summer, and he places the value of the manure against the cost of attendance. This can be figured in several ways; but first let us ascertain what value this estimate will give to the manure, providing he pays his man say $12 per month in winter, adding $10 for board; total $22 per month to be placed against the value of the manure of 50 cows. Counting six winter months, we get $22 \times 6 = \$132$ as the wages paid for this length of time. It is a low estimate to count one ton per month as the quantity of manure dropped by each cow, counting both the solid and the liquid excrements. This would make $1 \times 6 \times 50 = 300$ tons as the quantity of manure dropped by 50 cows in six months, which, according to Mr. Graham's estimate, is worth $132, or 44 cents per ton.

Farmers may differ in opinion as to the value of a ton of manure, but this cannot affect the standard by which we must be guided. Numberless analyses have been made of barnyard manure; but we shall take the latest which have come to our hands. At the Cornell Experiment Station, an analysis of a mixture of cattle and horse manure has been made, a large number of samples having been cut out of the manure heap and mixed together. The following table gives the results, the percentage of moisture being 72.95 percent:

TABLE SHOWING THE ANALYSIS AND VALUE OF A TON OF BARNYARD MANURE.

Nitrogen	$15.6 \times 15 =$	$2 34
Phosphoric Acid	$8.0 \times 7 =$	56
Potash	$16.8 \times 4\frac{1}{4} =$	71
Total		$3 61

That is to say, a ton contains 15.6 lbs. of nitrogen, which, at 15 cents a pound, amounts to $2.34, and so on with the other figures, making the total value per ton, $3.61, or, for Mr. Graham's 300 tons, $1,083, instead of $132, as estimated by him. This is common barnyard manure as taken from well-fed stock. But Mr. Graham may justly take exception to this method of calculation. When manure is well fermented, large quantities of carbonic acid are given off, which have no direct fertilizing value; the heap becomes more concentrated and may be more valuable than the direct excrements from the cow, weight for weight, even when there is an admixture of considerable quantities of straw, and it is quite probable that, even when some waste occurs, a ton of barnyard manure may be more valuable than the same quantity by weight of solid and liquid excrements, taken in the proportions as dropped from the cow. Let us, however, make a calculation.

A well fed cow will void about 4 tons of liquid and 10 tons of solid excrement in a year. A ton of the former will contain 16 lbs. of nitrogen, the same quantity of potash, and 9 lbs. of phosphoric acid, which, at the prices above quoted, viz., 15 cents per lb. for the nitrogen, 7 cents for the phosphoric acid, and 4½ cents for the potash, would amount to $3.71 per ton. It has been estimated that the quantity of solid excrement dropped by a cow is equal in value to the liquid excrement, so that, in round numbers, a cow will drop in a year $40 worth of manure, or $20 for the 6 months. For 50 cows, the value of the manure would therefore be $50 \times 20 = \$1,000$, against $132 as estimated by Mr. Graham. Reducing these figures to the value of the manure dropped by one cow in a day, we get 11 1-10 cents. This is not far from the average of well-fed cows; for we have seen estimates as high as 16 cents per day, and as Mr. Graham's cows are highly fed, and it may be fairly presumed that a man of his experience and intelligence takes good care of the manure, he should not consider this estimate appreciably high.

But he may urge that these figures are too scientific, and not at all practical. We answer: Science has no control whatever over commercial prices. Nitrogen, for example, brings 15 cents a pound because farmers persistently pay that price for it, and neither science nor law can prevent their doing so. All science can do is to say this: If you pay such and such prices for the constituents of commercial fertilizers, then the same constituents in your barnyard manure are worth just so much." Indeed, farmers say that barnyard manure is worth more than any other kind, and if they mean by this a pound of available nitrogen, phosphoric acid or potash is worth more in the manure heap than in the bought fertilizer, than barnyard manure must be worth more than the figures we have given. No difference, however, has been discovered either by science or by practice, and a pound of the same constituent has the same value no matter where it is found, if it is equally soluble and available.

The *agricultural* value is an entirely different thing. A bag of fertilizer will have about the same commercial value as a ton of ordinary manure, say $2 or $3, but one farmer will make nothing out of the investment, while another will make several hundred percent.

People in general have but little idea of the magnitude of the London wool market. In a single week recently the following arrivals were reported:—1,803 bales from Cossack, 5,802 Melbourne, 380 Bussorah, 4,704 Napier, 8,562 Adelaide, 18 Victoria, 1,418 Wellington, 668 Port Chalmers, 812 Dunedin, 6,130 Sidney, 10,056 Newcastle, 32 Kurrachee, 4,732 Lyttelton, 2,526 Auckland, 711 Port Pirie, 1,289 Port Germain, 3,039 Port Augusta, 2,633 Oamaru, 4,013 Lisbon, 303 Marseilles, 2,800 Brisbane, 1,694 Rockhampton, 654 Townsville, 34 Thursday Island, 3 Lusa, 19 Bagdad, 73 Ostend, 35 Bordeaux, and 985 bales from Natal. Total 65,928 bales.