

method with just average separator work shows three times as great a loss under the gravity as under the separator method. I feel perfectly safe in saying that results of average work under the gravity method will show a loss of at least one pound of butter-fat out of every nine that the milk contains, while there will not be a loss of one in forty where a separator is properly used.

I do not wish to be understood as urging everyone who keeps a few cows to buy a separator. Possibly a person keeping just three or four cows will not find it advisable to do so; this is a matter he must decide for himself after taking into consideration the losses he is sustaining under present methods. There is no doubt in my mind, however, but that where one keeps eight to ten milch cows, and frequently a much smaller number, a separator will pay for itself before any great lapse of time. Furthermore, the fresh milk from a separator has a greater feeding value.

Before closing I would strongly urge upon all who have to do with the creaming of milk to have a Babcock test of the skim-milk made frequently, to determine the amount of butter-fat it contains. It would be an eye-opener to many who, either through carelessness or faulty methods, are sustaining large and unsuspected losses. The Babcock test, freely and intelligently used, is one of the best educators a dairyman can employ.

[NOTE.—This article was sent us for publication several weeks ago, set up ready for the press, but owing to a rush of other matter connected with the fall fairs, it has been crowded out.—EDITOR.]

Some English Remedies for Gapes in Chickens

A popular remedy for gapes in many parts of England, and one that has proved very successful, is soaking the grain in urine instead of water. The ammonia escaping from the urine proves fatal to the red worms or their embryos.

A very simple method is inserting a feather down the throat of the bird and turning it round and round, thus detaching the worms. This is doubted by many to be efficacious, as they contend it is liable to push the worms further down the throat of the bird instead of drawing them up. It has, however, been tried by many who assert that it has cured their birds. The feather is sometimes dipped in paraffin oil or turpentine, but great care has to be exercised when using any of these remedies, or more harm than good may be done to the bird.

We have heard of one method, though we have never tried it, which, however, seems impossible, and that is of bending a piece of wire at the end in the form of a hook, and inserting this down the bird's throat, and by quickly extracting it one is able to draw up the worms. It seems as though the throat of the bird must be injured by this process, as the wire would go down easily enough, but would not come up so easily, as the part of the wire bent over must lacerate the throat of the bird. It might perhaps be possible to dislodge the worms in the pharynx, but we deny the possibility of their reaching the worms situated at the bottom of the trachea, where they are chiefly congregated.

By the addition of a little salicylate of soda in the drinking water, the ova and embryos are destroyed. The proportion is 3 drams of salicylate of soda to every quart of water.

Garlic has been used for many years as a cure for the gapes, and has almost always proved a great success. It can be chopped up in the food or given in pills. There is no difficulty in accounting for the efficacy of garlic. It has always been known as an excellent vermifuge, and it is at the same time volatile, and so escapes by respiration, thus reaching the trachea, where the worms are situated.

Tobacco smoke has been used to great advantage. Place the bird in a box, and fill it with tobacco smoke until it is dense, when the bird should at once be taken out and placed in the fresh air.

There are many powders and other preparations now upon the market for the cure of gapes. A well-known one is "Kalyde," which has been found very successful in many cases. Messrs. Gilbertson & Page's "Camlin" is also very efficacious.

When a bird is seen with the gapes it must at once be isolated. This is most important, as all parasitic diseases are infectious, and if not separated all the birds with which the affected one comes into contact will be liable to catch the disease. After an outbreak all the houses and runs should be thoroughly disinfected, and the houses rewhite-washed. An exceedingly important point is that the head and neck of any bird that may die with the gapes should be immediately burnt, doing this the worms and their ova are effectually destroyed.

The Value of Clover Crops

One means of increasing the amount of nitrogen in the soil, and of making some of the nitrogen already there available for grain crops, is by the growing of clover and similar plants that have the power of taking some nitrogen from the air and organizing it into such forms that a succeeding crop may use it. A crop of clover contains a large quantity of nitrogen in itself, nearly twice as much as an equal weight of hay without clover. When a crop of clover is removed from the land it takes off about 50 pounds of nitrogen per ton of dry clover. At the same time it leaves the soil richer in available nitrogen than does a grain crop which has taken off the land less than one-quarter as much nitrogen. It is further found that the above-ground and under-ground stubble and root parts of a clover crop, leave in the land a greater quantity of vegetable residue than any serial crop; and the whole quantity so left is richer in nitrogen. Most valuable information on this point is furnished by the experiments at Rothamsted, England, which were reported on for a period of 32 years (1852 to 1883). I submit one striking instance of the effect upon a crop of barley of the growing of clover on the same land the preceding year.

A field had grown one crop of wheat, one of oats, and three of barley in succession, with artificial and nitrogenous manures but without any farmyard or other organic manure. The following year (1872) barley was again sown; that was the fourth crop of barley in succession. On one-half the field the barley was sown alone; on the other half it was sown with clover. The next year (1873) barley was again sown on the one-half; but the clover only was grown on the other half. The following table shows the quantity of nitrogen per acre removed in the crops:

	Nitrogen per acre; pounds.
1873, Barley	37.3
Clover	161.3

In the succeeding year (1874) barley was grown over both portions of the field. It is to be observed that the clover crop of 1873 had removed four times more nitrogen per acre than the barley crop of that year; but the barley crop of 1874, yielded 77 per cent. more on the portion of the field where it followed clover than it did on the portion where it followed barley. This agrees with what is well known in agriculture that the growth of clover increases the produce of a succeeding cereal crop as much as if a liberal dressing of manure had been applied.—*Professor Robertson before Agricultural Committee House of Commons.*

"I understand, Pat, that you have a big family dependent upon you?" "Yis, sor—tin childers, seven pigs, and the old 'ooman." That reminds me of the Dutchman when asked who that lady was with him out riding, said, "That lady was no lady, that was my wife."

"My horses don't thrive," said a farmer who had tried all the condition powders and everything he could think of. A stable boy saw the situation at once and said, "Did you ever try oats and corn."