

Hay, as it is generally used, contains from 11 to 12 per cent of water, which is got rid of by thorough drying; and, as albumen, casein, and vegetable gluten contain 16 per cent of azote, we perceive that the azotized matter which is the representation of flesh in hay may be represented by the number of 2 per cent. Hay does not indeed always contain so much azote; that which is grown on marshy lands contains much less, and again, there are samples which contains more; after-math, or second crop hay, is certainly more nutritious than first crop hay.

After-math hay gave 2.0 per cent Azote
 A choice sample of the best hay... 1.29 " "
 The flower or ear containing little
 woody stem 2.1 " "

Those examples show that, when an animal is to be put upon another kind of food than hay it is very necessary to take the quality of the latter article which has been employed into account.

POULTRY DEPARTMENT.

Under the direction of Dr Andres, Beaver Hall, Montreal.

Indigestion in Fowls.

A reader writes to say that he has lost several fine Partridge Cochins fowls from a disease which he describes as follows: "The food remains in the crop where it putrefies. The crop itself becoming tainted. At first they are constantly making efforts to force the food from the crop to the stomach, they then become dull and reduced in flesh and die. This disease is contagious and was brought into my fowl house, by one of my neighbors' hens, who has also suffered very much from the ravages of this disease. Many of my friends also say that they have been victimized in the same way."

We answer, first. The disease is indigestion which may arise from bad food, damp, unhealthy, and badly ventilated quarters. Undigested food stopping in the crop, whether dry or liquid, will cause aggravated swelling and distention, and operates disastrously upon the crop, stomach, and intestines. The contents of the crop, may become hard and cakey, or puffy and watery.

The disease is, at this stage, often only slight and temporary, working itself off without much trouble, on removing all food for a day or so, and keeping in a dry and quiet place. We have used the following treatment in our own case of a favorite fowl with success.

The contents of the crop were hard, and the crop itself much distended. We administered one teaspoonful of sweet-oil every morning and gradually working the crop with the hand until the contents became soft giving no hard food whatever, in the afternoon giving a little milk; after three days a teaspoonful of sherry was given for three days, in the middle of the day; in a week the bird was let out to a grass run as well as ever, and, fed on soft food for a day or two, rapidly gained in flesh.

In many instances however the fowl becomes "crop bound" after a while, and the contents of the crop grow harder and harder, the receptacle itself swelling until it must be relieved of the sodden load or the bird will die.

The remedy for this difficulty is simple, but must be applied carefully. Let one person hold the bird, then make a horizontal incision in the outer skin of the swollen crop about two inches long, the contents may be turned out slowly and carefully until they are all removed.

Then with a sharp fine needle and white silk or linen thread stitch up the wound. The relief will be instantaneous. The bird should be fed sparingly for a week on soft, cooked

food, giving but little to drink, and, if properly cared, for it will generally recover.

"Indigestion frequently causes inflammation of the gizzard and liver, and the bowels becomes constipated in consequence. But it generally acts quite the contrary, and diarrhea or dysentery is the result.

In the latter case, the character of the difficulty is readily seen in the frequency and nature of the abdominal discharges; white and streaked yellow thin matter is voided. The bird rapidly loses flesh and becomes weak and dull, and in a few days the disordered intestines are highly inflamed. If attended to in time these discharges may be arrested without much trouble.

The disease may have been engendered by eating too much green food, which becomes acid and ferments in the crop or stomach sometimes; or it may have been caused by being exposed to wet and cold, or bad food, such as damaged grain, or being compelled to peck for food among manure heaps and drinking impure water.

Change the food immediately. Give liquids sparingly, and only such as contain the tincture of Iron or Red Pepper. Give a few grains of Gregory's powder (say 10 grs.) mixed with mashed, boiled pearl-barley, adding a little common pepper.

Other stronger remedies have been advised, but, when the fowl becomes so prostrated as to require them, we have but little faith in their virtue.

Indigestion will cause dysentery, diarrhea, constipation, cramps. Inflated crop, in fact, is the foundation of general diseases of the internal organs.

We strongly urge great care in feeding and properly arranged fowl houses, sheltering your birds at all seasons, as a preservative against all diseases to which fowl are subject.

Pedigree Breeding.

From our last remarks upon this subject, it will be readily understood that the one necessary point in forming any "strain" of animals is to keep definite objects *steadily* in view, and to choose generation after generation in reference to them, accumulating all the tendencies to transmission into the desired channel, and taking care that no step gained is *lost* by dropping any subsequent link in the succession. But in this course we are confronted almost at once by two difficulties.

The first is, that it is impossible to follow out such a methodical system without very considerable *in-breeding*. It is always found, practically, that a man who is buying stock constantly to cross with, can never breed well; and the considerations we have briefly sketched explain the reason why. He is constantly introducing into his strain tendencies which he knows little of; which he can, therefore, take no account of, and which crop out in the most unexpected manner. Hence very much harm to good breeding (as regards true show or "fancy" points) has been done by the stress laid in some works upon the necessity for constantly importing "fresh blood." No successful exhibitor—or at least no one such who *breeds* the specimens with which he wins—ever acts on such a system, but depends chiefly upon successive generations of his own stock. But, on the other hand, it is soon found that this course too has its limits, and is bounded by the physical weakness and deterioration which result from too close breeding of the same strain. This may be carried far further than the one class of teachers are willing to allow, without any appreciable injury; but on the other hand there are limits which cannot be passed, and which place, as we have said, great difficulties in the breeder's way. The amount of difficulty, however, *varies* a great deal with the object in view; and this we wish particularly to point out, since it appears hitherto to have been overlooked.