

The apartment is kept scrupulously clean; the bottom board is dusted every day, and from time to time petroleum is smeared carefully over every part of the coops, inside and outside.

The above covers the question of coops, size, ventilation, &c., and of preparation for feeding.

**PRINCIPLES IN FEEDING.**—Let me now refer to principles. In the March number of the *Illustrated Journal of Agriculture*, page 36 (1890) is found a table giving the average full productive rations which animals of divers weights are supposed to consume per day, in hay equivalents. Here is an extract.

	lbs.	lbs.	lbs.
"The elephant—say 10,000 weight—takes daily	1.46	per	100 weight
" " fatting ox " 3,000 " " "	2.18	"	100 "
" " cow " 1,000 " " "	3.15	"	100 "
" " heifer " 500 " " "	4.00	"	100 "
" " sheep " 100 " " "	6.80	"	100 "
" " lamb " 50 " " "	8.60	"	100 "
" " turkey " 10 " " "	14.60	"	100 "
" " cockerel " 5 " " "	18.60	"	100 "
" " young pigeon " 1 " " "	31.50	"	100 "
" " mouse " 0.1 " " "	146.	"	100 "
" " v. young " 0.05 " " "	250.	"	100 "

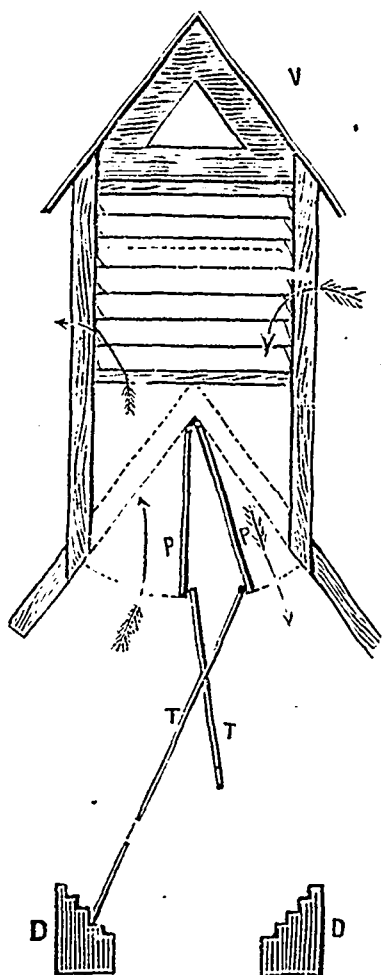


FIG. 7.

This table shows that one animal of 3,000 lbs. live weight;—or 50 animals weighing 8 lbs. each, making 400 lbs. in the aggregate;—or 98 animals, say full grown chickens, weighing 3 lbs. each, or 294 lbs. in the aggregate—would require exactly the same quantity of hay equivalents per day. Prac-

tical experiments have proved the exactness of this theory. But practice also proves that whilst the ripening, fat ox cannot possibly make more than 3 lbs. of fat meat on this ration, the growing turkey, of about 8 lbs. live weight, can be made to gain from 8 to 12 ounces each day, or for the aggregate of fifty, a gain of from 25 lbs. to 37½ lbs. of live weight daily, against 3 lbs. of fat beef, and on exactly the same quantity of hay equivalents. When the same quantity of food is supplied to chickens, weighing 3 lbs. on an average, the gain may, under the best treatment, of course, amount to from 4 to 6 ounces per day, or on the aggregate of 98 chickens, from 22 to 33 lbs. per day. These are facts of very great importance to practical men who wish to make the largest possible gain from a given capital, in animals and food, and in a given time.

A second principle, which should never be forgotten, is the needs of growing animals for the full maintenance of life; as against their requirements when ripening into fat. In the first case, combustion for the maintenance of life is the principle requirement. Cheap food, in the shape of carbohydrates, and plenty of exercise are then principally needed. When the fattening process begins, the very reverse becomes the rule. Cleanliness, warmth, confinement in darkness, and the richest of appetizing food, in the largest quantity that the animal can quickly and thoroughly digest, are alone profitable. Such are the principles to be kept constantly in view.

In order to arrive at an understanding of our aim it becomes necessary to compare the chemical elements of meat, in its various forms:

The following table is taken from Dr. F. W. Parry's *Treatise on food*. It agrees with what is given in all standard works.

**CHEMICAL ELEMENTS OF VARIOUS MEATS PER 100 lbs.**

Kind.	Water.	Minerals.	Nitrogen.	Fat	Total solids.
Lean beef.....	72.00	5.1	19.3	3.6	28.00
Fat " .....	51.00	4.4	14.8	29.8	49.00
Lean mutton.....	72.00	4.8	18.3	4.9	28.00
Fat " .....	53.00	3.5	12.4	31.1	47.00
Veal — .....	63.00	4.7	16.5	15.8	37.00
Fat pork .....	39.00	2.3	9.8	48.9	61.00
Poultry (Letheby)...	71.00	1.2	21.0	3.8	26.00

The study of this short table explains partly the economy obtained in growing and fattening poultry as against beef, mutton or pork. The advantage gained in the saving of the mineral elements of the farm alone is itself of primary importance, especially on poor sandy soils, where the raising of poultry meets with so many advantages.

Having given the principles which underlie the fattening of stock, more especially poultry,—let us now cite practical results:

Professor J. H. Elsom has lately stated that a Langshan fowl has gained, to his certain knowledge,  $\frac{1}{2}$  lb. in a single day, and that growing turkeys have increased  $\frac{1}{2}$  lb. a day regularly, on a rich nitrogenous diet.

The writer has obtained the following results, under the carefully supervision of the Ladies of S. H. Hospital at Quebec:

A pullet about 8 months old, weighing 4 lbs., was placed in one of the coops above described. A given quantity of food was carefully weighed before the experiment began and the remains were weighed with the same care after the experiment was completed. This animal was carefully fed three times a day; at early morning, at noon and at sun down—all it would eat clean in about 30 minutes. The remaining food was then removed, and only as much as could be eaten clean at each meal was again fed, through the 17 days during which the experiment lasted. The animal was then reweighed and killed. It had gained exactly 5 lbs. in 17 days—or nearly  $\frac{1}{3}$  of a lb. a day. The quality and quantity of food was as follows: