

Stock and Dairy.

Stock Feeding in France.

From a letter on agricultural topics in France we take the following extract. The fact that meat is the most profitable product of the farm is now generally known, and, consequently, everything bearing upon stock-feeding commands increased attention from the farmer. The following extract from Paris correspondence will be read with interest. Every idea communicated, every useful hint, adds to our accumulated store of knowledge in agriculture, as well as in other sciences:—

The old question is being again agitated as to the advantage of giving bruised, or too minutely divided food to animals. It is argued, that it is essential that the food should sojourn a certain time in the mouth to be impregnated with the saliva; thus grains easily masticated are best utilized when mixed with cut fodder. Many farmers decline giving oats in any other but the whole state to horses and sheep so long as these animals are vigorous and in full possession of their masticatory organs, and to secure their better digestion they are mixed with cut straw. Animals in the growing stage, when supplied with beans, peas, etc., receive this description of food after being preliminarily softened by steeping, or coarsely cracked. For cattle with bad teeth or weak digestion the food ought to be bruised. Growven and Lehmann recommended that for pigs cereals ought to be broken and mixed with matters difficult of digestion, so as to compel a long residence in the mouth. Dr. Wieske has found that grains which have passed entirely through the system have not, contrary to the general belief, undergone any serious chemical change. In Southern Germany, glands, when slightly dried, are given to sheep in their natural state, at the rate of one pound per day; they like the food much, but it often produces apoplexy. It is a good practice to give some mill refuse with it at the same time, or meadow hay, or brewers' grains. Respecting the latter, the Vienna brewers now convert the grains by great pressure into cake, previously mixing other matters such as crushed barley and malt sprouts. The compound is nutritive, and much relished by cattle.

Cattle insurance companies in Germany have not proved successful; those that have not failed are being wound up. The causes are attributed to insufficiency of capital, too high indemnities, and too low premiums. The large patronize these societies less than the small farmers. Indeed, the agricultural situation of Prussia is not cheerful; every proprietor seems to be advertising his lands for sale.

Lung Power in Horses.

How shall a colt be treated in order to develop in him the highest degree of speed? We will take an animal at two years of age, let us say, and inquire into the best method of cultivating the faculty and power of rapid motion.

The first thing to attend to, be it observed by all, is the lungs. Lung power is the best kind of power a horse can possibly have, because it alone can make other kinds of power of avail; muscular power is very desirable, but muscles can never bring a horse to the wire in time, unless his lungs are good. Nervous force is excellent; but no amount of vital energy will hold a horse up through the wear and tear of a four mile race. A perfect bone structure is admirable, but what are bones, if the breathing apparatus is inadequate? The first point, therefore, that a breeder or owner of a lively colt should consider, is this matter of lung development. The great question with him should be, "How can I expand and enlarge his lungs?" To begin with, then, let it be remarked that colts need a great deal of exercise. By nature they were made for rapid movements. Like young birds, they develop in motion. The number of miles a colt of high breeding, and in good condition, will go when at pasture, each day, is something surprising.

Now, no sensible man will turn a colt of fine promise loose in the pasture after the second year; and we do not after the first. A good colt is too valuable to risk in that foolish manner, especially if he be a horse colt. He should be kept in a large roomy stall, where he can be attended to and trained day by day. But do not forget his need

of daily exercise. Do not think that a box-stall will suffice. You might as well teach an eagle to fly in a large cage as to give the needed discipline to a colt's legs, heart and lungs in a box-stall. Many most promising youngsters are fatally checked in the development of their powers by lack of needed exercise in their second and third years. We hold that a colt needs a great deal of exercise; not to the halter, which is good for nothing but to sweat out a lazy groom; but sharp, quick exercise, in the taking of which every muscle is brought into play, every joint tested, and every vein, however small, swelled out with rapid blood, as it is the case when allowed the liberty of hill and plain, and to follow the promptings of nature.—*Rural World*.

Feeding Value of Oats, Beans, Maize and Bran.

Every good groom knows that sound oats and beans in due proportion, and at least a year old, are the very best food for a galloping horse; the only food on which it is possible to get the very best condition out of a race horse or a hunter. It has also recently become known that horses do slow work and get fat, indeed, too fat, on maize, Indian corn, which is frequently one-third cheaper than the best oats. In the East horses are fed on barley, and it is a popular idea with English officers who have lived in Persia and Syria that the change of food from barley to oats often, when imported, produces blindness in Arab horses. Now, although no men understand better or so well how to get blood horses into galloping condition as English grooms, they do not, and few of their masters do, know the reason why oats and beans are the best food for putting muscular flesh on a horse. The agricultural chemist steps in here, makes the matter very plain, and shows that if you want pace, Indian corn, although nominally cheaper, is not cheap at all. According to Dr. Voelcker's and other chemists' analyses, we find, in round numbers, in oats, beans, barley and maize, the following constituents:—

	Oats.	Beans.	Barley.	Maize.
Water	14.3	14.5	14.3	14.4
Nitrogenous or muscle-producing compounds	12.0	25.5	9.5	10.5
Starch and other non-nitrogenous heat & fat producing compounds	54.4	43.5	64.1	61.0
Oil as readily made fat	6.0	2.0	2.5	7.0
Indigestible woody fibre	10.3	11.5	7.0	5.4
Mineral matter (ash)	3.0	3.5	2.6	2.1
Total	100.0	100.0	100.0	100.0

It was a common saying in Leicestershire, before deep draining, clean-cut fences and increased sheep feeding had improved agriculture at the expense of fox-hunting, after one of those five-and-forty minute runs at best pace that are now so rare—"it found out the horse that ate old beans and best oats." In fact, they made experiments they did not understand, which it was left for the modern chemist to explain.

When we feed a bullock, a sheep or a pig for sale, after it has passed the store stage we want to make it fat as quickly and as cheaply as possible; but with a horse for work the object is to give muscle—in common language, hard flesh. There are times when it is profitable to make a horse fat, as, for instance, when he is going up for sale, after a severe hunting season. For this purpose an addition of about a pound and a half of oil-cake to his ordinary food has a good effect. It is especially useful when a horse that has been closely clipped or singed is in a low condition. It helps on the change to the new coat by making him fat. A horse in low condition changes his coat very slowly. Now oil-cake is composed of

Moisture	12.00
Oil	11.50
Nitrogenous compounds	29.70
Mucilage and digestible fibre	27.80
Woody fibre	21.00
Mineral matter (ash)	7.00
Total	100.00

When from any cause there is a difficulty in getting a supply of the best oats, an excellent mixture may be made of crushed maize and beans, in the

proportion of two-thirds of maize and one of beans, which exactly affords the proportions of flesh-forming and fat-forming food.

Bran is a very valuable food in a stable for reducing the inflammatory effect of oats and beans. Made into mashes it has a cooling and laxative effect, but used in excess, especially in a dry state, it is apt to form stony secretions in the bowels of the horse. Stones produced from the excessive use of bran have been taken out of horses after death, weighing many pounds. When sawn through they appear to be composed of a hard crystalline mass, deposited in regular annular rings, resembling in appearance the concentric yearly rings of wood; they prove to be composed of phosphate of magnesia and ammonia. Millers' horses are particularly subject to this malady. The best way to guard against it is to add half a pint to a pint of linseed, boiled until quite soft, to the mash of each horse.—*English Live Stock Journal*.

Sheep Farming.

A Western farmer whose experience in stock-raising has not been very satisfactory, asks our opinion in regard to the profit of sheep. We formerly had some experience in sheep-raising, and never failed to find it a source of profit. When to the value of the mutton and the wool is added that of the manure (which is too often overlooked), it seems impossible that sheep farming should fail to pay, and pay well. But we have generally found that those who make mutton the first object, and regard the wool as subordinate, are the most successful. Yet this, after all, must depend in some measure upon location.

The method successfully followed for many years by John Johnston, of Geneva, is to raise corn, barley, oats, wheat and hay, and purchase sheep in the fall to feed up the various products raised, and fatten them for the market. In this way manures were secured, and a greater profit realized for the products raised on the farm than if sold at market prices. His sheep were fed twice a day, at first half a pound each in the morning early, and again at 4 o'clock, p. m. After a while the feed is gradually increased to a pound of grain per day. Straw or hay is fed three times a day, the straw mostly during the first part of the fattening season, and the hay for finishing off. Oil meal is also used for feeding when it can be obtained at reasonable rates. He maintains that no animal will take on fat as rapidly as sheep if they are in fair condition to begin with.

The Construction of the Cow-house.

There is no subject connected with agriculture that more engages the attention of farmers than the care of live stock in general, and especially of milch cows. The dairy has been found to be more remunerative than the granary, and, in consequence, everything bearing upon it has a much greater interest than in by-gone years, when wheat was considered the only thing of real value on the farm. The following article on the cow-house by Mr. J. Wilkinson, of Baltimore, is well worthy our consideration:—

The use of absorbents of the liquid excrement in stables is one which I am confident will not be tolerated much longer by such as make any pretensions to cleanliness in the dairy art. In the arrangement of my best modern stables for cows, I use no bedding or absorbents of any kind by which to hold the fluid portions of the excrement where the animals are compelled to lie on it. The animal heat of the bodies of animals lying on beds charged with fetid, excrementitious matter, volatilizes it with great rapidity, and renders the air so impure that, if it is inhaled by the milch cow in sufficient quantity, it will taint the milk in the blood. It will be my purpose to explain how I construct a cow stable floor so that the liquid excrement, as it falls from the cow, passes directly through the floor into a sub-gutter, by which it is conducted under the floor, thence under ground to a proper place of deposit. I construct a belt of three feet in width, of the rear portion of the cow stable floor, of a grating of cast iron.

The plates forming the open floor of the rear of the stalls only rest on a joist at each end of their greatest length; thus the joists supporting them form no obstruction to the passage of the solid or liquid excrement through the openings in the plates. The solid excrement—a portion of it—