

STRAW, in *Agriculture*, the common name of the stalk or stem on which grain grows, and from which it is threshed, or of any other similar material. The first is an article of cattle food, which requires some management in order to consume it to the greatest advantage, and with the most economy. In employing it for store-cattle, or other stock, it should constantly be made use of when first threshed out ; as by keeping it gets musty, and is not by any means eaten so well or completely by cattle : in this view, the threshing out large quantities at a time by the threshing machine,

STRAW.

and stacking, or putting it up in other ways, is unfavourable to the perfect consumption of the fodder, and the thriving of the farm-stock. There is likewise another point necessary to be regarded in respect to this article as fodder, which is, that the inferior sorts should be first had recourse to, and afterwards those of the better kind. And in giving it, too much should not be placed before the animals at once. It has been observed by Mr. Marshall, in his "Rural Economy of Yorkshire," that straw, of every kind, is there bound upon the threshing floor. This, when straw is not used at the time of threshing, would, he thinks, in any country, be good economy. Straw in trusses is much better to move, lies in less room, and retains its flavour longer than loose straw does. In a country where cattle in winter are universally kept in the house, and foddered at stated meal-times, the binding of straw becomes, he thinks, essential to good management. Each truss, provincially "fold," contains an armful, as much as the arms can conveniently "fold;" and this is the usual meal for a pair of cattle. Thus the business of "foddering" is facilitated, and a waste of straw avoided.

And further, it has been remarked by Mr. Young, that if the cattle are fed with straw, it should be done with attention. The best farmers in Norfolk are generally agreed, he says, that cattle should eat no straw, unless it be cut into chaff mixed with hay; but, on the contrary, that they should be fed with something better, and have the straw thrown under them, to be trodden into dung; and he is much inclined to believe, that in most, if not in all cases, this maxim will prove a just one. The common cases of straw-feeding are, of cows, young cattle, or black cattle just brought in, and not yet put to fattening. With regard to cows, the food is certainly, he thinks, insufficient, and lets them down so much in flesh, that when they calve, and are expected to yield productively, they lose a considerable time, and that perhaps the most valuable, in getting again into flesh, before they give their usual quantity of milk; but if they have been well and sufficiently wintered, they are half summered, and yield at once adequately. And that for young cattle, it is still worse management; for their growth is stunted, and they never recover it. It is his opinion, that black cattle from poor mountains had better be put to straw than any other stock; but here, again, care must be taken that the system be not deranged by it. If well fed, and the beasts be not large, they may be cleared off between harvest and the end of November; but if they are wintered on straw, this may not be effected, and the farmer may be forced to put himself to the expence of corn or oil-cake, to feed beasts not of a size to pay well enough for those articles. The evil is less if he has plenty of turnips or cabbage; but for these he may have other applications. In so far as regards the quality of the farm-yard dung, all this reasoning becomes still more forcible; for from straw-fed cattle, the farmer will, at the end of winter, find perhaps a large heap, of so poor a quality, that it will go but a little way in manuring his fields; whereas, one load of dung made by fat or well-fed cattle, will be equal to two or three of such as have been fed poorly. But cut chaff, one half hay and the other half straw, answers very well, especially with some sort of succulent food. And it has been stated by the author of the "Synopsis of Husbandry," that bean-straw, if well harvested, forms a very hearty and nutritious diet for cattle in the winter-time, and both oxen and horses, when not worked, will thrive upon it: sheep also are very fond of browsing upon the pods, and the chaff is a very nutritious manger-meat. Mr. Young also suggests the great importance of

putting beans in sufficiently early, and the reaping soon enough, as the straw, well harvested, is worth from 2*l.* to 3*l.* per acre; and that Mr. Arbutnot's teams, which were always hard-worked, never had a truss of hay while the bean-straw lasted. Pea-straw, or haulm, when well got in, is likewise, in a great measure, equally nutritious, if cut into chaff, and given in that way as a fodder.

However, it has been stated by Mr. Marshall, that he met with an idea that cattle may be fatiated with straw; or, in other words, may be served with it in too great plenty. It has been observed, that after a dry summer, when straw is scarce, and the cattle have it dealt out to them regularly, in not too large quantities, they do better than when, after a plentiful year, it is thrown before them in profusion from the threshing floor, not through the superior quality of the straw in a scarce year; as these effects have been observed to be produced from the same straw. This subject is by no means uninteresting to those who winter large quantities of cattle: he has observed in Yorkshire, where cattle are tied up, and of course are regularly fed, that they in general do better at straw, than cattle in the south of England, where they go loose among a much greater plenty; but whether it proceed from the warmth, from their resting better, from the breed of cattle, or from their being regularly fed and *eating with an appetite*, he will not pretend to decide.

But where this sort of fodder can be wholly consumed by the store-stock, it is probably a better method to make use of it in that way, than by littering the yards with it, as the manure is without doubt much superior, and other articles, such as fern, &c. may, in many cases, be provided as litter.

And the quantity of manure, where an abundance of straw is at command, that may be raised by littering animals that are feeding and fattening in the stalls or yards, especially where much green food is used, is very great, and often of vast importance to the farmer, as has been stated in considering the means of stall-fattening animals. Therefore, the use of straw, both as the food of cattle and for litter in the yards, must be of very great importance to the farmer in a great many instances. See *STALL-Feeding*.

The sale of the wheat-straw, which is often permitted, is not unfrequently a matter of great consideration in different situations. The use of the cut straw, or haulm, of pulse crops, has lately, too, been found very great in the feeding out or fattening different sorts of cattle and other animals.

It has been lately stated, by Sir Humphrey Davy, that *dry straw* of wheat, oats, barley, beans, and peas, and spoiled hay, or any other similar kind of dry vegetable matter, is, in all cases, useful manure. That, in general, such substances are made to ferment before they are employed, though it may be doubted whether the practice should be indiscriminately adopted.

In examining this material chemically, from four hundred grains of that of the dry barley kind, he obtained eight grains of matter soluble in water, which had a brown colour, and tasted like mucilage. And from the same quantity of wheat-straw he gained five grains of a similar substance.

It is thought that there can be no doubt that the straw of different crops immediately ploughed into the ground, affords nourishment to plants; but that there is an objection to this method of using straw, from the difficulty of inclosing and completely burying such as is long, and from its rendering the husbandry foul, or in a littersy state.

Where straw is made to ferment, it becomes a more manageable

manageable manure; but there is likewise, on the whole, a great loss of nutritive matter. More manure is perhaps, it is thought, supplied for a single crop; but the land is less improved than it would be, supposing the whole of the vegetable matter could be finely divided and mixed with the soil.

It is usual, it is said, to carry straw that can be employed for no other purpose to the dunghill, to ferment and decompose; but that it is worth experiment to ascertain, whether it may not be more economically applied when chopped small by a proper machine for the purpose, and kept dry until it is ploughed in for the use of a crop. In this case, though it would decompose much more slowly, and produce less effect at first, yet its influence, it is thought, would be much more lasting, and perhaps ultimately more beneficial.

STRAW, Pea, Hacking of, the cutting up and reaping of the pea crop, in the haulm, in the field, when sown by the drill or hand, in the strewed manner. It is performed by means of two hooks of the reaping kind, by one of which the straw or haulm is held up from the ground, while it is cut off by the other in a sort of hacking mode, and then laid into small heaps, or, as they are often termed, wads.

STRAW and Hay Ropes for protecting and preserving Fruit-tree Blossoms and other Crops, in Gardening, the means of guarding and securing them, by such materials, from the effects of severe frosts, and other causes of mischief, injury, and destruction, to which they are liable and exposed. This is a method which is stated to have been practised with great success in the more northern parts of the island, in different papers inserted in the Memoirs of the Caledonian Horticultural Society. It is to be effected, as soon as the buds of the trees begin to have a turgid and swelled-out appearance, by placing and fixing up poles before the walls, about a foot from them, at from four to six feet distance from each other; the lower ends being sunk a little into the ground, and the upper ones rising so as just to reach below the copings of them; securing the tops of those at each end of the particular spaces or distances, by means of a strong nail or hold-fast, to either the walls or copings, in order that the ropes may be kept tight and firm. Then, having the necessary quantity of straw or hay ropes ready prepared, the work is begun by fixing one of them near the top to one of the outside poles, proceeding horizontally to the other, passing the rope on from pole to pole, and taking a turn of it round each, until it is reached, where it is made secure. When at eighteen or twenty inches lower down, another line of rope is begun again, and carried across in exactly the same manner; and so on until within from eighteen inches to three feet, as may be requisite, of the ground is reached, when the work is completed. The method is said to be both cheap, and, so far as experience has gone, extremely efficacious. Besides, as the covering does not much intercept the rays of light or of the sun, it may be applied early, and be let remain, although the fruit be set, until the weather becomes settled, towards the middle or end of the month of May. In the first trial of this method, a peach-tree had been covered, on a wall where there were many others. A heavy fall of snow took place afterwards in the beginning of the above month, and on the morning after this fall, about five o'clock, the thermometer was at two degrees and a half below the freezing point: the consequence was the loss of the whole uncovered crop, except a few fruit which were protected by the foliage of the trees; while the tree that was covered and protected produced a fine crop of fruit.

As the writer is of opinion that the parts of fructification are not unfrequently hurt before the flower is expanded,

he advises that the ropes be put on at a sufficiently early period.

Where poles are scarce, the ropes, it is said, may be fixed in a perpendicular manner, the upper ends being fastened by a proper nail to the wall, and the lower or bottom ones by a peg firmly driven into the ground. But in this way, the ropes are very apt to beat off the flower-buds in times of high winds.

The branches of different evergreens, as well as old fish-nets, as those of the herring and other kinds, have been employed for the purpose of protecting fruit-tree blossoms, but nothing that has yet been tried has been found to answer the end so well as these kinds of ropes. Besides, they are cheap, and to be obtained in almost any situation. However, woollen nets, which are much recommended for this use by some, the writer has never had the opportunity of trying. Such nets are probably too expensive for common practice in these cases.

It has also been found, that these sorts of ropes are very useful in protecting and preserving other early garden crops from the effects of the cutting frosty winds and severe frosts which often prevail in the early spring season; such, for instance, as early peas, beans, potatoes, kidney-beans, and some others; which is done simply by fixing them along the sides of the different rows, by means of pegs or pins driven firmly into the ground.

It is probable that this cheap and ready method of protecting and preserving fruit-blossoms, and crops of other kinds, may be practised and had recourse to in preference to those of a more expensive nature; as nets of several sorts, canvas, and some others, that are in pretty common use, in many situations and circumstances, especially in the more northern parts of the kingdom.

STRAW-Collar, in *Rural Economy*, a sort of collar stuffed or formed wholly of this material, instead of that of the hair kind, which is the most suitable and proper for the purpose. It is a sort still much employed in some backward districts. In Cornwall, the draught-harnes for horses and other animals in the ploughs, as well as the harrows, often consists, it is said, of a straw-collar, called there a *hame*, with wooden collar-trees, to which are fastened rope-traces.

STRAW-Cutter, in *Agriculture*, a name sometimes applied either to the person or implement by which straw is cut into chaff. See **CHAFF-Cutter**.

In order to save labour as much as possible, the power of water and steam has lately been much applied in the cutting of straw for chaff.

STRAW-Drains, a term applied to those sorts of surface-drains which are filled with straw in some way or other. See **SURFACE-Drain**.

STRAW-House, a name applied to the place for piling up straw. These contrivances are very convenient in most situations.

STRAW-Ricks, a term used for such as are formed of straw of different kinds. See **STACK**.

STRAW-Twisting Machine, the name of an engine or contrivance for twisting straw into ropes, for the purpose of filling the drains in some cases of surface under-draining. See **SURFACE-Draining**.