

cause; but it is well known that the eyes suffer most frequently where there is no light.

Whether a dark stable be pernicious to the eyes or not, it is always a bad stable. It has too many invisible holes and corners about it, ever to be thoroughly cleansed. The gloomy dungeons in which boat and coach horses are so often immured are always foul. The horses are attended by men who will not do their duty if they can neglect it. The dung and the urine lie rotting for weeks together, and contaminating the air till it is unfit for use. The horses are never properly groomed. They cannot be seen.

All these things considered, it is evident that the stable ought to be well lighted, and that the expense attending it is a prudent outlay. When side windows can not be conveniently introduced, a portion of the hay loft must be sacrificed, and light obtained from the roof. This, in ordinary cases, will not be greatly missed. Let it be well done, if done at all.

COMPARATIVE VALUE OF DIFFERENT KINDS OF FODDER FOR CATTLE.

A table of the comparative value of different kinds of fodder for cattle has been published by M. Antoine, in France, and is the result of experiments made by the principal agriculturists of the continent, Thier, Gernerhausen, Petro, Ruder, Weber, Krantz, Andre, Block, De Dambasle, Bousingault, Meyer, Plotow, Pohl, Smece, C. and Schwartz, Pabst. It is unnecessary to give the figures which each of these experimentalists have set down, but the mean of their experiments being taken, there is more chance of the result being near the truth. Allowance must be made for the different qualities of the same food on different soils and different seasons. In very dry summers the same weight of any green food will be much more nourishing than in a dripping season. So likewise any fodder raised on a rich dry soil will be more nourishing than on a poor wet one. The standard of comparison is the best upland meadow-hay, cut as the flower expands, and properly made and stacked, without much heating; in short, hay of the best quality. With respect to hay, such is the difference in value, that if 100 lbs of the best is used it will require 120 lbs of a second quality to keep the same stock as well, 140 lbs of the third, and so on, till very coarse and hard hay, not well made, will only be of half the value, and not so fit for cows or store cattle, even when given in double the quantity. While good hay alone will fatten cattle, inferior hay will not do so without other food.

100 lbs. of good hay is equal in nourishment to	102 Lattermath hay
90 " "	90 " " hay-made Clover, when the blossom is completely developed.
88 " "	88 " " Ditto, before the blossom expands.
98 " "	98 " " Clover, second crop, is equal in nourishment to
98 " "	98 " " Lucerne hay
89 " "	89 " " Sainfoin hay
91 " "	91 " " Tare hay
90 " "	90 " " Spargula arvensis, dried
246 " "	246 " " Clover hay, after the seed
410 " "	410 " " Green clover
457 " "	457 " " Vetches or tares, green
275 " "	275 " " Green Indian corn
425 " "	425 " " Green spargula
325 " "	325 " " Stems and leaves Jerusalem artichoke
511 " "	511 " " Cow-cabbage leaves
600 " "	600 " " Beet-root leaves
300 " "	300 " " Potato halm
374 " "	374 " " Shelter wheat-straw
442 " "	442 " " Rye straw
192 " "	192 " " Oat straw
153 " "	153 " " Peas halm
159 " "	159 " " Vetch halm
140 " "	140 " " Bean halm
195 " "	195 " " Buckwheat straw
170 " "	170 " " Dried stalks Jerusalem artichokes
400 " "	400 " " Dried stalks of Indian corn
250 " "	250 " " Millet straw
201 " "	201 " " Raw Potatoes
175 " "	175 " " Boiled do.
220 " "	220 " " White Silesian beet
639 " "	639 " " Mangold Wurel
504 " "	504 " " Turnips
276 " "	276 " " Carrots
287 " "	287 " " Cohlkalis
308 " "	308 " " Swedish turnips
350 " "	350 " " Ditto with leaves on
54 " "	54 " " Rye
45 " "	45 " " Wheat
54 " "	54 " " Barley
59 " "	59 " " Oats
50 " "	50 " " Vetches
45 " "	45 " " Peas
45 " "	45 " " Beans
64 " "	64 " " Buckwheat
57 " "	57 " " Indian corn
32 " "	32 " " French beans, dried
47 " "	47 " " Cheanuta
68 " "	68 " " Acorns
50 " "	50 " " Horse-cheanuta
62 " "	62 " " Sun-flower seed

69 .. ..	..	..	Linsseed cake
105 .. ..	..	..	Wheat bran
109 .. ..	..	..	Rye Bran
167 .. ..	..	..	Wheat, peas, and oat chaff
179 .. ..	..	..	Rye and barley chaff
73 .. ..	..	..	Dried lime-tree leaves
83 .. ..	..	..	oak leaves
67 .. ..	..	..	Canada poplar leaves

Lattermath hay is good for cows, not for horses. The second cut is generally considered as inferior in nourishment to the first. New hay is not wholesome. At Paris, when a load of 1000 kilos is bargained for, the seller must deliver—if between haying and October 1, 1300 kilos—from October 1 to April 1, 1100 kilos—and after April only 1000. This is fair, and allows for loss of weight in drying. In London, a load of new hay is 20 cwt; of old hay, only 18 cwt.

The dried halm of the Trifolium incarnatum, after the seed is ripe, is little better than straw. Clover, lucerne, and sainfoin are generally supposed to lose three-fourths of their weight in drying; but in general they lose more, especially in most climates, where the sap is more diluted. When touched by the frost they become very unwholesome, and should never be given to cattle except quite dry.

Straw is, on the whole, but poor food, and unless cattle have something better with it, they will not keep in any condition; when given with turnips or other roots, straw corrects their watery nature, and is very useful; cut into chaff it is very good for sheep when fed on turnips and oil-cake, and when newly thrashed is as good nearly as hay. By a judicious mixture of different kinds of food, a more economical mode of feeding may be substituted for a more expensive one, and the same result obtained. The value of straw depends much on the soil; a very clean crop will not give so nourishing straw as one containing many succulent weeds. Peas and vetch halm are superior to straw, especially when cut into chaff; it is by some thought equal to hay. The same may be said of bean halm not left too long in the field, and cut before it is completely dry. Buckwheat halm is of little value; it is thought unwholesome if given to sheep.

16 lbs of raw, or 14 lbs. of boiled potatoes will allow a diminution of 8 lbs of hay.

Turnips will feed store pigs, but they will not fatten on them. Carrots and parsnips are excellent for horses, and, when boiled, will fatten hogs. Ruta-baga is liked by horses; it makes their coats fine, but must not be given in too great quantity, or it will gripe them.

FEEDING.—A certain quantity of food is required to keep an animal alive and in health; this is called his necessary ration of food; if he has more, he will gain flesh, or give milk or wool.

An ox requires 2 per cent of his live weight in hay per day; if he works, he requires 2½ per cent; a milch cow 3 per cent; a fitting ox, 5 per cent at first; 4½ per cent when half fat; and only 4 per cent when fat; or 4½ on the average. Sheep grown up take 3½ per cent of their weight in hay per day, to keep in store condition.

Growing animals require more food, and should never be stinted.—[Journal Royal Agricultural Society.

GREEN PEAS FOR WINTER.

The lovers of green peas will be pleased to learn that they can be preserved for winter use, by simply gathering them at the proper season for using them green, shelling them and drying them in the shade, and when well cured and perfectly dry, packing them away for use.

When required for use they should first be immersed in warm water for ten or twelve hours, which will render them as tender and deliciously succulent as when taken from the vines. The best method of preserving them, after they have been thoroughly cured by the above process, is to put them into close jars or bottles. In this way, not only green peas, but green beans and green corn may be had the year round.—[Farmer & Mechanic.

IMPROVED CANDLE-WICKS.—An improved candle may be made by steeping cotton wicks in limewater, in which a considerable quantity of saltpetre (nitre) has been dissolved. By this means is obtained a pure flame and a superior light; a more perfect combustion is ensured; snuffing is rendered nearly as superfluous as in wax lights; and the candles thus made do not run nor waste. The wicks should be thoroughly dry before they are covered with tallow, otherwise they will not burn with a uniform, and clear light.

HOW TO MAKE GOOD TEA.—Boil rain water and pour upon your tea, letting it steep from one to two minutes if you wish to realize the true taste of the "plant divine." Well,

river, or spring water, in many parts of the country, is strongly impregnated with lime, which acts chemically on the tea-leaf, and greatly deteriorates, or destroys its fine aromatic flavour. In fact, water, containing lime, or much vegetable matter in solution, has more or less effect on all kinds of cookery. Besides, it is highly injurious to the health of most persons.

HOW TO MAKE GOOD VINEGAR.

Common household vinegar is usually obtained from wine, cider, beer, malt, fermented sugar, molasses, &c. the alcohol contained in them being converted into acetic acid by the absorption of oxygen, which is more or less intermixed with gum, sugar, and other vegetable matter. The principal requisites necessary to form any of these substances into good vinegar, are, contact with the air of any temperature between 70° and 80° F., the presence of alcohol, and the addition of some extraneous vegetable matter to promote the acetous fermentation.

Pure, unadulterated cider-vinegar, reduced to a proper strength, is considered the best for general use in this country, and is always attainable by those who possess apple-orchards or cider of their own, and should be more abundantly supplied in market than it is. An excellent article may be made by putting away good strong cider, without adding anything to it, in one or more substantial casks in a warm place under cover, with the bung-holes open, but covered with fine gauze, in order to admit the air, and there let it gradually undergo the necessary fermentation. If the casks are frequently shaken, and their contents occasionally drawn from one to another, the process is hastened. When fit for use, a small portion of the vinegar should be drawn from each cask, and its place supplied with a like quantity of cider that is fresh. In large establishments the operation may be carried on with a number of casks at once, worked in pairs, by commencing with one filled with good vinegar and another of the same capacity filled with pure cider. First draw out a quart or a gallon, as may be, from the cask containing the vinegar, and replace it with an equal quantity from that which contains the cider. Thus, by continuing the operation daily, for some weeks, one or more hogsheds, of good, wholesome vinegar may be formed, without the addition of any foreign or injurious materials. When sufficiently sharp, the vinegar should be drawn off into smaller casks or bottles, tightly bunged or corked, and put away in a moderately cool place for use.

A superior vinegar may be made by filling a barrel one-third full with strong cider, reduced by freezing, and letting it stand with the bung-holes slightly covered for at least nine months. If the fermentation does not proceed with sufficient rapidity, a few quarts of the liquor may be withdrawn, boiled for a short time, skinned, and then poured back into the cask.

A vinegar of good strength may be produced by putting 6 lbs of sour yeast made of leaven and rye-flour, mixed with hot water, into a cask containing 100 gallons of good cider, agitating the whole with a stick, and then let it remain for six or eight days. It is necessary to draw off this vinegar and bung it up close, as soon as it is made, otherwise it will quickly grow rapid or flat.

Those who have not cider or grape juice, at their command can make a tolerably good vinegar, by any of the following directions, which we copy from Cooley's "Cyclopedia of 6000 Practical Receipts," but it will be less pure and more liable to spoil, than that made from cider, malt, or wine:—

Sugar-Vinegar.—Add brown sugar, 4 lbs, to each gallon of water, and proceed as with cider.

German Household Vinegar.—Take soft water 7½ gallons; honey or brown sugar, two lbs; cream of tartar, 2 ounces; corn-spirit, one gallon. Ferment as above.

To prevent mouldiness in vinegar, the following methods have been proposed:—Concentrate by freezing or by distillation; put up the vinegar in bottles and keep them well-worked; or boil it in a well-tinned kettle for a quarter of an hour; put it in uncorked bottles; place them in a kettle of water with their necks above the surface, and let them boil for an hour; then take them out, cork them up, and the vinegar will keep for several years without growing mouldy or turbid.—[American Agriculturist.

CROPS IN THE UNITED STATES.

The Boston Traveller, (Massachusetts), says the crops in that neighbourhood promise an abundant harvest. New wheat has arrived in market at Saint Louis. In Virginia the wheat crop has been harvested, and is said to be good both as to quality and yield. In Georgia it is said the crops will turn out very well. From other States we have no late accounts.

Civil and Social Department.

PRICES OF GRAIN IN ENGLAND AND IN CANADA.

Few of our farmers who have given any attention to the subject but must have noticed the very wide discrepancy between the prices which they receive for their produce here and the prices which the speculators receive for it in the English market. Cupidity is explained as a necessary caution; ruined speculators are pointed out to quiet the complaints of the farmer, and he becomes reconciled to his fate, or expresses his sad conviction of the necessity of some more reliable and less expensive agency by which to convey his grain to the English consumer than that of the spiritless merchants, cramped in means or enjoying that species of monopoly which ever arises from the absence of necessary competition; but this expression does not go beyond an unmeaning murmur: it leads to no practical result: produces no remedial measure. Years pass away and the same system continues. The Banks are partial, rigidly, illiberal, or unfair in their discounts, which they confine to a comparatively few merchants, who contrive to get a monopoly of the market. The Banks, in fact, hold the purse-strings of the country; the merchants whom they favour are generally Stock-holders, so that in reality their favours are confined to themselves. Here is the nucleus and the strong-hold of a monopoly. A paper currency thus mismanaged produces evils which are not the necessary results of the system, but only the inseparable concomitants of its abuse. The partiality and favoritism which attend the whole system of bank discounts necessarily prevent competition among buyers, and compel the farmers to take such prices as are offered to them by the few merchants who have practically a monopoly of the market. To this cause, in a great measure, may be traced the fact, that on almost all occasions the price of wheat is much higher at New York, Boston and Portland than at Toronto, Hamilton, Kingston and Montreal. We have no desire to mislead the reader by assuming that this is the sole cause of the discrepancy in the price of produce in the Canadian and in the American markets. We are free to admit that higher freights from Quebec than from New York and Boston to England, add their quota towards producing this result. But the evil, we insist, does exist. Our merchants want the spirit of honourable competition; they are too few in number and too needy; the farmer wants to be insured of fair prices. Merchants, on the other hand, would be very foolish to act recklessly or run imminent risk of ruin. There is great difficulty in calculating the probable state of the English market some months hence. Merchants must, therefore, have a wide margin to cover the chances of possible loss. They may be occasional losers, but on the whole their profits must be large. How then are we to rid ourselves of the expense entailed by this uncertainty, the want of spirit, capital and competition amongst grain buyers, and the juggling system on which our banking operations are conducted? Shall we mend the old machine or construct a new one? If we determine to take the former course, how is it to be done? We cannot infuse honour into the breast of avarice by legislation; we cannot by legislation create new capital and a new race of merchants; and it is questionable whether by legislation we can convert Bank monopolists into impartial dealers in money, and divest them of all arbitrary controul over the monetary affairs of the country. No; legislation has not the talismanic power to metamorphose corruption into virgin purity, to infuse life into the motionless corpse of the commercial body, or to call into being a new, energetic race of merchants. The present system must be superseded. The farmers must bring in the matter. They must assist in bringing about the necessary commercial reform.

We are not merely dealing in vague speculations and proposing impracticable theories.