

ence of soils, would be to commit a great error, and to condemn the system of cropping in the eyes of those agriculturists, who are too little enlightened to think of introducing into their grounds the requisite changes.

Clover and sainfoin are placed amongst the vegetables that ought to enter into the system of cropping, but these plants require a deep and not too compact soil, in order that their roots may fix themselves firmly.

Flax, hemp, and corn require a good soil, and can be admitted as a crop only upon those lands that are fertile and well prepared.

Light and dry soils cannot bear the same kind of crop as those that are compact and moist.

Each kind of soil, then, requires a particular system of crops, and each farmer ought to establish his own upon a perfect knowledge of the character and properties of the land he cultivates.

As in each locality the soil presents shades of difference, more or less marked, according to the exposure, composition, depth of the soil, &c., the proprietor ought so to vary his crops, as to give to each portion of the land the plants for which it is best adapted; and thus establish a particular rotation of crops upon the several divisions of his estate.

The wants of the neighbourhood, the facility with which the products may be disposed of, and the comparative value of the various kinds of crops, should all be taken into the calculation of the farmer, in forming his plan of proceedings.

COMPARATIVE VALUE OF DIFFERENT KINDS OF FODDER.—The following table is the result of experiments made by the principal agriculturists of the continent, and published by M. Antoine, at Nancy. The best upland meadow hay is taken as the standard, at 100 lbs.: and the specified weight of the other kinds of fodder enumerated are required to produce the same results:—

	lbs.		lbs.
Good hay,.....	100	Dried stalks of Jerusa-	
Aftermath hay,.....	102	lem artichokes,.....	170
Clover hay made when		Dried stalks of Indian	
the blossom is com-		corn,.....	400
pletely developed,...	90	Millet straw,.....	250
Do. before the blossom		Raw potatoes,.....	201
expands,.....	88	Boiled ditto,.....	175
Clover, second crop,...	98	White Silesian beat,...	220
Lucerne hay,.....	98	Mangold-wurzel,.....	339
Sainfoin hay,.....	89	Turnips,.....	504
Tare hay,.....	91	Carrots,.....	276
Spergula arvensis dried	90	Swedish turnips,.....	308
Clover hay, after the		Ditto, with leaves on,...	350
seed,.....	146	Grain—Rye,.....	54
Green Indian corn,...	275	Barley,.....	54
Green Clover,.....	410	Wheat,.....	42
Vetches or tares, green	457	Oats,.....	59
Green spergula,.....	425	Vetches,.....	50
Stems and leaves of Je-		Peas,.....	45
rusalem artichokes,...	325	Beans,.....	45
Cow-cabbage leaves,...	541	Buck wheat,...	64
Beet-root leaves,.....	600	Indian corn,...	57
Potato haulm,.....	300	Linsced cake,...	69
Rye straw,.....	442	Wheat bran,...	105
Oat straw,.....	196	Rye bran,.....	109
Peas haulm,.....	153	Wheat, peas, and oat	167
Vetch haulm,.....	159	chaff,.....	179
Bean haulm,.....	140	Rye and barley chaff,...	
Buckwheat straw,.....	195		

A cauliflower, weighing 13lbs, the head of which measured one yard in circumference, without the leaves, was gathered in the garden of Mr. John Everton, at Lutterworth, on Wednesday sc'night.

EFFECT OF OILCAKE ON THE MANURE OF ANIMALS FED ON IT.—A friend of mine has lately adopted a plan which, under the same circumstance, I should strongly recommend: it is that of giving a small quantity of oilcake to animals grazing, for the sake of improving an ordinary pasture, and its effects are astonishing. The pastures I allude to are small, and one or two bullocks more than they are calculated to carry are put into each; the lot are then allowed 4lbs. of cake per day per head; this, at a cost of about 2s. per head per week—which, I believe, the stock well paid for—has entirely altered the face of pastures from what they were three years ago, when the plan was first adopted by him, and, I believe, without any loss to himself.—G. Dobito—*English Agricultural Society's Journal.*

THE CULTIVATION OF BEETROOT.—The *Moniteur* publishes the returns of the produce and consumption of beetroot sugar during the season 1844-45, from which it results that the number of manufactories still existing on the 1st of August last was 294, or 31 less than at the corresponding period of 1844. The quantity of sugar manufactured amounted to 36,241,187 kilogrammes, or 7,780,512 kilogrammes more than in 1844; that sold for consumption to 36,628,474 kilogrammes, and the duties levied on the article to 6,551,721 f.

THE PROPER DIRECTION OF THE TRACES IN HARNESS.—It is universally admitted that the best way of applying the power of horse is by means of shafts or traces to carriages. The best position of the traces, or shafts, when a horse is made to exert himself to draw in a carriage, is so well known and understood by those who are daily in the habit of "hanging to," that it needs scarcely be noticed. The trace, when a horse leads forward to draw, should become perpendicular to the collar, and parallel to the plane of the road on which he is moving. In moving up a hill the trace should become parallel to the plane of ascent. When he is standing at ease, the direction of the trace should be a little upwards; because when urged to draw, he leans forward, and in so doing lowers the fore-part of his body, which will tend to bring the trace parallel to the plane when his power is fully applied. If any deviation from the parallel be admitted, it is desirable such deviation should incline upwards rather than downwards. If the direction were downwards below the parallel, the power of the animal would have a tendency to increase the friction by pulling the wheels into the cavities of the road. After contemplating these remarks, the following suggestions present themselves:—The radius of the fore-wheels should be less than the height from the road to the point of the draught on the shoulder of the animal. The shaft or pole should be hung on a level with the centre of the wheel. The least horse, or rather the horse of lowest stature in a team, ought to be selected for the shafts, and he ought not to be so low as to cause them to incline downwards towards the road. In selecting a team, the tallest horse should be placed first, and the others ought to be so placed as to descend regularly down to the stature of the shaft-horse, in order to preserve a continued ascent in the line of traction. If a regular line of ascent be not preserved, as it will not, by placing a low horse between two tall ones, it is not difficult to show that a portion of their power will be lost in acting against one another, and thus render their united effect not so powerful as it might be by a different and proper arrangement. To the individuals acquainted with the elementary principles of mechanics, these suggestions will appear natural and obvious; but, in practice, it is known that the temper, age, and steadiness of the animal mostly regulate the situation in which we find him placed in the team, and therefore deviations from the rule laid down respecting stature will often be necessary, and perhaps desirable. In teams of perfectly well-trained horses, the rule may be adopted with advantage.—*Elements of Road Engineering by a Practical Surveyor.*

There is now to be seen in the Botanic Garden, Liverpool, a splendid specimen of the *Tucca gloriosa*, or Adam's needle, in full flower. The flower-stem alone measures ten feet.