

THE GLEANER.

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Nec aranearum sane textus ideo melior, quia ex se fila gignunt, nec noster vilior quia ex alienis libamus ut apes.

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THE GLEANER.

Agricultural Journal.

From the Fourth Edition of Mrs. Somerville's work "On the Connexion of the Physical Sciences."
Influence of Temperature on Vegetation—Vegetation varies with the Latitude and Height above the Sea.—Geographical distribution of Land Plants.—Distribution of Marine Plants.

Similar laws appear to regulate the distribution of marine plants. M. Lamouroux has discovered that the groups of algae, or marine plants, affect particular temperatures or zones of latitude, though some few genera prevail throughout the ocean. The polar Atlantic basin, to the 40th degree of north latitude, presents a well defined vegetation. The West Indian seas, including the Gulf of Mexico, the eastern coast of South America, the Indian Ocean and its Gulfs, the shores of New Holland, and the neighbouring islands, have each their distinct species. The Mediterranean possesses a vegetation peculiar to itself, extending to the Black Sea, and the species of marine plants on the coasts of Syria and in the port of Alexandria, differ almost entirely from those of Suez and the Red Sea, notwithstanding the proximity of their geographical situation. It is observed that shallow seas have a different set of plants from such as are deeper and colder; and, like terrestrial vegetation, the algae are most numerous towards the equator, where the quantity must be prodigious, if we may judge from the gulf-weed, which certainly has its origin in the tropical seas, and is drifted, though not by the gulf-stream, to higher latitudes, where it accumulates in such quantities, that the early Portuguese navigators, Columbus, and Leries, compared the sea to extensively inundated meadows, in which it actually impeded their ships and alarmed their sailors. M. de Humboldt, in his Personal Narrative, mentions that the most extensive bank of seaweed is in the northern Atlantic, a little west of the meridian of Fayal, one of the Azores, between the 25th and 36th degrees of latitude. Vessels returning to Europe from Monte Video, or from the Cape of Good Hope, cross this bank nearly at an equal distance from the Antilles and Canary Islands. The other bank occupies a smaller space, between the 22nd and 26th degrees of north latitude, about eighty leagues west of the meridian of the Bahama Islands. These masses consist chiefly of one or two species of Sargassum, the most extensive genus of the order Fucoideæ.

Some of the seaweeds grow to the enormous length of several hundred feet, and all are highly colored, though many of them must grow in the deep caverns of the ocean, in total or almost total darkness; light however may not be the only principle on which the colour of vegetables depends, since M. de Humboldt met with green plants growing in complete darkness at the bottom of one of the mines at Freyberg.

It appears that in the dark and

tranquil caves of the ocean, on the shores alternately covered and deserted by the restless waves, on the lofty mountain and extended plain, in the chilly regions of the north and in the genial warmth of the south, specific diversity is a general law of the vegetable kingdom, which cannot be accounted for by diversity of climate; and yet the similarity, though not identity, of species is such, under the same isothermal lines, that if the number of species belonging to one of the great families of plants be known in any part of the globe, the whole number of the phanerogamous or more perfect plants, and also the number of species composing the other vegetable families, may be estimated with considerable accuracy.

Various opinions have been formed on the original or primitive distribution of plants over the surface of the globe; but since botanical geography became a regular science, the phenomena observed have led to the conclusion that vegetable creation must have taken place in a number of distinctly different centres, each of which was the original seat of a certain number of peculiar species, which first grew there and no where else. Heaths are exclusively confined to the Old World and no indigenous rose tree has ever been discovered in the New; the whole southern hemisphere being destitute of that beautiful and fragrant plant. But this is still more confirmed by multitudes of particular plants having an entirely local and insulated existence, growing spontaneously in some particular spot and in no other place; for example, the cedar of Lebanon, which grows indigenously on that mountain and in no other part of the world. On the other hand as there can be no doubt but that many races of plant have been extinguished, Sir John Hershell thinks it possible that these solitary instances may be the last surviving remnants of the same groups universally disseminated, but in course of extinction or that perhaps two processes may be going on at the same time; some group may be spreading from their foci, others retreating to their last strong holds.

SOILING.

Soiling is the feeding of cattle with green crops for the sake of their manure, and this is a practice which it is absolutely necessary to pursue, where a plentiful supply of dung cannot be obtained from towns, or in any other manner exterior to the farm. The practice of purchasing cattle at fairs, and disposing of them again after a season, in a better prepared condition for market, is now largely followed in Scotland, and is attended with the best results. Throughout Flanders, a great portion of the cattle are kept in the house, and fed upon cut grass and other green food, as a profitable mode of procuring rich manure, and also of feeding the stock. With the impression that the practice of soiling should be introduced into Ireland, Mr Blacker, an intelligent landed proprietor, has endeavoured to arouse the attention of the cultivators of the soil in that country to this subject; and in one of his cheap publications to the te-

nantry, he says, 'Setting it down for certain that you ought to have one cow for every three acres of arable land, as being the smallest stock which can possibly keep the ground in heart; if this be not kept in view from the outset, you will find that you cannot manure one-fourth of your farm every year, and you will therefore be thrown out of a rotation; the land will be exhausted and left to rest as formerly; and as it gets poor, you will get poor along with it.'

Young animals require exercise in the open air, and in all likelihood they will acquire more vigour in pasture grounds than when confined in houses or fold yards. Cows, on the contrary, being impatient of heat, when the sun scorches and the gadfly stings, are deprived of that ease which is so conducive to the production of milk; and thus feeding them in the house not only increases their produce, but the manure of the stable is greatly augmented. In conducting this process it is thought to give food often and in small quantities, allowing the cattle free use of a yard for air and exercise, which will keep them in a healthy condition.—If fed in stalls, they must be kept perfectly clean, for allowing them to sleep or stand wet is very injurious.—On the least appearance of a loss of appetite, the quantity of food must be lessened, and clover should be given sparingly at first, for if wet, it is apt to bring on a disease called *hoving*, or swelling. This disease is supposed to arise from the air which the animals engender swelling on the stomach, and if assistance is not speedily rendered, it will soon cause death. When the diet of cows is suddenly changed from dry to green, they are apt to injure themselves by eating too freely of the green food, on this account care should be taken that they have not too much at once. Clover should be cut two days before it is given to the animals, and this will prevent swelling; but if this disease should attack them, half a pint of train oil, an egg full of tar, or a pint of salt dissolved in water, will afford speedy relief. Straw should be given as fodder, which will correct a tendency to looseness in the bowels; and even the tops of common heather have been recommended for this purpose.

The advantages arising from soiling have been found very great by those who have heartily adopted it. The small number of animals may be maintained on somewhat less than half of the land which would be required, if allowed to remain in the fields. This advantage, however, is not to be compared to that of the great augmentation of valuable manure which is obtained by this process. The manure is collected by soiling, and may be used for any purpose by the farmer; whereas, when the cattle feed on the fields, the manure is in a measure lost. 'The most remarkable circumstance attending, however, is that the corn crop the following year is in general better on the land from which the grass has been twice cut than on that which has been departed. But though the smothering under a strong crop of clover, and the numerous leaves which the plant sheds on the ground, may have this effect for one year, the

ground cannot be so rich afterwards, as when all the manure which the pasturing stock left remains upon it.'

The late Mr. Brown, of Markle, tried many experiments on this subject, and the result proved so decidedly in favor of soiling, over pasturing, that he continued the system ever after. He was of opinion that the saving of grass by this process is nearly fifty per cent., and many say that it is even greater. Some fold yards are fitted up with shelter-sheds and open yards well littered.—Many graziers, however, prefer open-fold yards with high palings, to shelter the cattle from the wind; and it is well known that animals will eat food laid down to them on the ground, which they would reject if given to them in stalls. Sheds may be made at little expense, by driving stakes into the ground, and covering the spaces between them with boughs of trees, branches of the fir tribe, being best adapted for the purpose. In Norfolk, the cattle are sometimes tied to stakes, on wheat or barley stubble, without covering. A manger is made of a few planks; the food is carted to the cattle; and their dung is walled up behind them, a small trench carrying away the urine. This practice, however, is not only barbarous but unprofitable; for experience has proved that cattle fed in the house can be taken to market in February, while those fed in this manner were not ready till April. Somewhat similar to this method is the practice in many parts of Scotland and Ireland of tying cows and horses upon the pasturage. In this case, however, care is taken that the cattle suffer nothing from rains, or be subjected to the heat of the mid-day sun. In uninclosed farms this practice is necessary, to prevent the cattle from wandering into cultivated fields: and it is found that the grass is more economically consumed. Many experienced agriculturists have practised this on a large scale, having found that the cattle are rendered more docile, and thrive better by it than by any other mode of feeding. The grass is also said to be improved, and will maintain at least a third more stock than when the cattle are allowed to roam at large over a field.

In soiling, the cattle should always have abundance of good water at command, and a careful servant should be appointed to manage them, and to supply fresh food five times a-day. Tares, sown at different times, to be cut in succession when the clover fails or becomes over ripe, and indispensable, as the dairy cows will otherwise fall off in milk, and the fattening stock make no progress. Many judicious dairy husbandmen in Scotland put cows out to grass in the mornings and evenings, and feed them in the houses in the middle of the day, a practice which might be extended to fattening stock with equal benefit.

From the Maine Farmer.

The Starch Tapioca Pudding.—A pudding quite as good, and not to be distinguished from Tapioca, may be made in the following manner:—For a moderate sized pudding, take eight spoons, heaped, of potato starch, set a quart of water over the fire in