

IRRIGATION.

It is said that "Van Helmont planted a willow which weighed five pounds in a pot containing 200 lbs. of earth. This he watered for the space of five years, and at the end of that time the tree was found to weigh 169½ lbs., while the earth in which it had stood being dried as at first, was found to have lost only two ounces. Here then was an increase of 164 lbs. weight, and yet the food of the plant had been water only."

If, then, watering is attended with such great results in the case of a tree, is it not reasonable that, in the case of herbage, it is still more important? It is not by any means at this day contended that the only food of plants is water; but water generally holds in solution minerals which are food for plants; and it carries those dissolved minerals to the roots of plants, exactly where they are wanted. Land may have all the necessary minerals and manure, indispensable to plants, and yet in a dry season the grass won't grow; how important then is irrigation, if only to dissolve those minerals.

Mr. Leibig, I think it is, who says that in Germany, lands which have formerly been nearly barren, have been made, by irrigation very productive. The mode adopted in this country for watering meadows, is considered by many as too expensive; they have consequently ploughed up their meadows and do not water at all. What the mode of watering is in Germany, I do not know, but I would respectfully suggest the use of a wheel mentioned by Dr. Arnott, in his *Elements of Physics*, by means of which, "streams are caused by their own action, to lift a part of their water into elevated reservoirs." For the purpose of watering meadows, where streams lie high, a small portable wheel of this kind, of about three feet diameter, would save the labor of making a great many small channels. But where the water is situated low, and is required to be raised a considerable height, "a large water-wheel is placed so that the stream may turn it; and around its circumference buckets are attached, to be filled as they sweep along below, and to be emptied into a reservoir as they pass above; or instead of buckets, the spokes of the wheel are themselves made hollow and curved, so that as their extremities dip into the water at each revolution, they receive a quantity of it, which runs along them as they rise, and is discharged into a reservoir at the centre. These are called Persian wheels, but they are in common use on the banks of the Nile, and elsewhere."

I would suggest the formation of agricultural clubs, to make trial of such wheels, and for other improvements. All the expense of such a wheel, defrayed by a club of ten or twenty members, would be so small to each member, in comparison with the great object gained, that the expense would be no objection. A wheel for the purposes of farmers generally, would not cost more than five dollars.

There are many brooks running down hills occupied either as a pasture or mowing land, where, with very little labour a part or all the water could be turned off in small channels to the right and left, and made to spread over the face of the hill. In many places the grass could by this means be greatly increased. The best water is that which has received the wash of cultivated land; the least valuable that which has passed over vitriolic slate; but we have seen a large crop of hay produced by water that was never muddy. We have known a field of seven acres in a sandy district, from which two heavy crops were annually

mowed, and the hay all sold, as the owner, who was an old bachelor, kept no cattle; as the ground had but little stone, he spread the brook over the field in a multitude of little channels not more than six inches broad, and whenever it rained in summer the old man might be seen regulating the water in his little rills. In wet seasons it was not allowed to remain but a few days at a time. No other manure was applied to the land, but it was not pastured. This brook, however, was muddy in heavy showers. Where small brooks empty into wild meadows, the grass may be much increased by turning them out of their channels and throwing the water upon the grass in summer.

Many wild and natural meadows have been greatly injured by burning them over in the spring, and some have been damaged by lowering the bed of the brook, by which they have been left too dry for the natural grass. To these it would be a great advantage to lay them under the water for six weeks in the spring, by making a dam at the outlet of the brook from the meadow. Many such dams have been made for the sake of introducing the Fowl meadow grass, and, where the brook was large, were sometimes used to water meadows in a dry season.

In pastures where a little water from a brook is spread over the face of a hill, the feed is always more early in the spring than upon land not watered; and for this reason, in England, some level meadows have been thrown into artificial hills at an expense exceeding £12 per acre, for the purpose of feeding early lambs which always sold for an extra price. It is estimated in England, that by the help of water good feed can be produced a month before the usual time, but it is always necessary to have the water under command, so that it can be turned off at any time, as upland grasses may be injured by allowing the water to remain too long.

CURE FOR THE DISTEMPER IN CATTLE.—The symptom of the disease are, the animals wishes to stand away from the rest of the cattle, with its fore legs apart and its head hung down. The sides heave violently, and sometimes tremble as if from cold, the tail stuck close to its quarters, the top of the horns very cold, and the mouth blistered, with a total disinclination to food. The following doses will be found most effectual, if given as soon as the symptoms are discovered:—One pound of Epsom salts, one ounce of nitre, and one ounce of ground ginger, dissolved in about three pints of lukewarm water, and given from a bottle—in about thirty or thirty-six hours afterward; the second dose to be given, consists of one pound of Epsom salts, half an ounce of nitre, half an ounce of ground ginger, and two ounces of sulphur, mixed in three pints of gruel, as the sulphur will not mix well with water; should a third dose be required, let it be the same as the first. The above is for a moderate sized cow, and may be increased or diminished according to the size of the beast. The animal should have a dry bed, and the feet kept well washed with soft soap and water; the drinks should be gruel, or bran would be preferable, but in no instance to be cold, also be particular to get Epsom salts.

STAGGERS IN HORSES.—Bleed freely. Give a mash twice a week, compose of one gallon of bran, 1 table-spoonful of sulphur, 1 tea-spoonful of salt-petre, 1 quart of boiling sassafras tea, and eighth of an ounce assafoetida. Do not let the horse have any cold drink for half a day afterwards.