

HEAVY VERSUS LIGHT IMPLEMENTS.

Many people appear to be unaccountably stupid in regard to the most economical and convenient weight of implements and vehicles, and especially the weight of one-horse and two-horse vehicles. A large proportion of the four-wheeled and two-wheeled vehicles in use are sufficiently heavy and strong to bear three times as much, with entire safety, as they usually carry. The two-wheeled coal and dirt carts are often sufficiently heavy for a single horse without any load on them; and the huge four-wheeled express waggons are almost always built sufficiently heavy to carry with safety all that four or six horses ought to draw. There is great need of an improvement in regard to the weight of almost any kind of implements and vehicles. A horse of ordinary size will draw, on a smooth road, one ton anywhere, with ease, besides the vehicle of suitable weight for one animal. In hauling earth of any kind, or stone, one horse would take 2000 pounds with no more fatigue than he now feels when he draws only seven or eight hundred pounds on a large lumbering cart, many of which will weigh from ten to twelve hundred pounds without any load. It is truly surprising that intelligent men do not perceive this fact. By reducing the weight of an implement six hundred pounds, which could often be done with sufficient strength, the team would be able to haul six hundred pounds more of earth or stone at every load by exerting only the same strength. The same principles hold true in the construction of hand tools. A labourer shovelling earth with a shovel only one pound heavier than a neatly made light shovel, will exert strength to no purpose sufficient to throw up one pound of earth at every shovelful, which would amount to several tons in a short period of time. Many excellent teams are well nigh ruined in consequence of a ponderous vehicle, as most teamsters are apt to be governed by the number of pounds that is placed on the vehicle as a load, rather than by the weight of the waggon or cart, and the load in the aggregate. When farmers are hauling material of various kinds, they are not always aware of the unnecessary weight they require their teams to haul to and from the field.

Hay rrigings are frequently made more than one hundred pounds heavier than is necessary. If only made as light as consistent strength would admit of, a team might haul one hundred pounds more of hay and grain just as well as to draw the same number of unnecessary pounds of rigging.

Ploughs are frequently made twenty pounds, or even more, heavier than is really essential to secure the necessary strength of materials. Every good ploughman knows that an addition of twenty pounds to a plough that is already as heavy as it ought to be, greatly augments the fatigue of the team, and renders ploughing far more laborious for the ploughman than if his implement were as light as ploughs might be made for ordinary work. Farmers should study the strength of materials for the purpose of ascertaining, as nearly as practicable, how light every implement may be made consistent with strength.—*Colorado Agriculturist.*

DEPARTMENT OF AGRICULTURE REPORT, UNITED STATES.

The June report of the Department of Agriculture, concerning the condition of the growing crops, is out quite promptly.

Wheat.

The breadth of wheat, both winter and spring, has been increased. The indicated aggregate increase is 107 per cent.

The reduction of acreage in Vermont and elsewhere in New England, is owing to the lingering of winter in the lap of spring, which caused a portion of the land intended for wheat to be planted in other crops.—The increase of area in the South is due to a realization of the necessity of growing home supplies on the part of a few planters. The remunerative prices of the past year have had a stimulating effect on grain-growing in the West.

The condition of wheat is better than the average of a series of years. In some instances rust has attacked the stalk and destroyed the heads, but generally is confined

to the leaves. In North Carolina depredations of the chinch bug are reported. While the average in Texas is not high, the quantity of wheat will be largely in excess of former supplies, and in some counties the yield informally reported is very high.

In West Virginia, and in all the North-Western and Pacific States, an increased acreage is reported. In West Virginia wheat, in some quarters, stands drought better than any other crop. Several counties anticipate the finest crop for years. In Russell, Ky., rust has spoiled a splendid crop; in some other counties drought has prevented the filling of the grain, but the general condition is 25 per cent. above average. North of the Ohio River the crop was considerably winter killed. The chinch bug is reported as injurious in some counties of Illinois and Wisconsin. The prospect is below average in all these states except Illinois, which reports

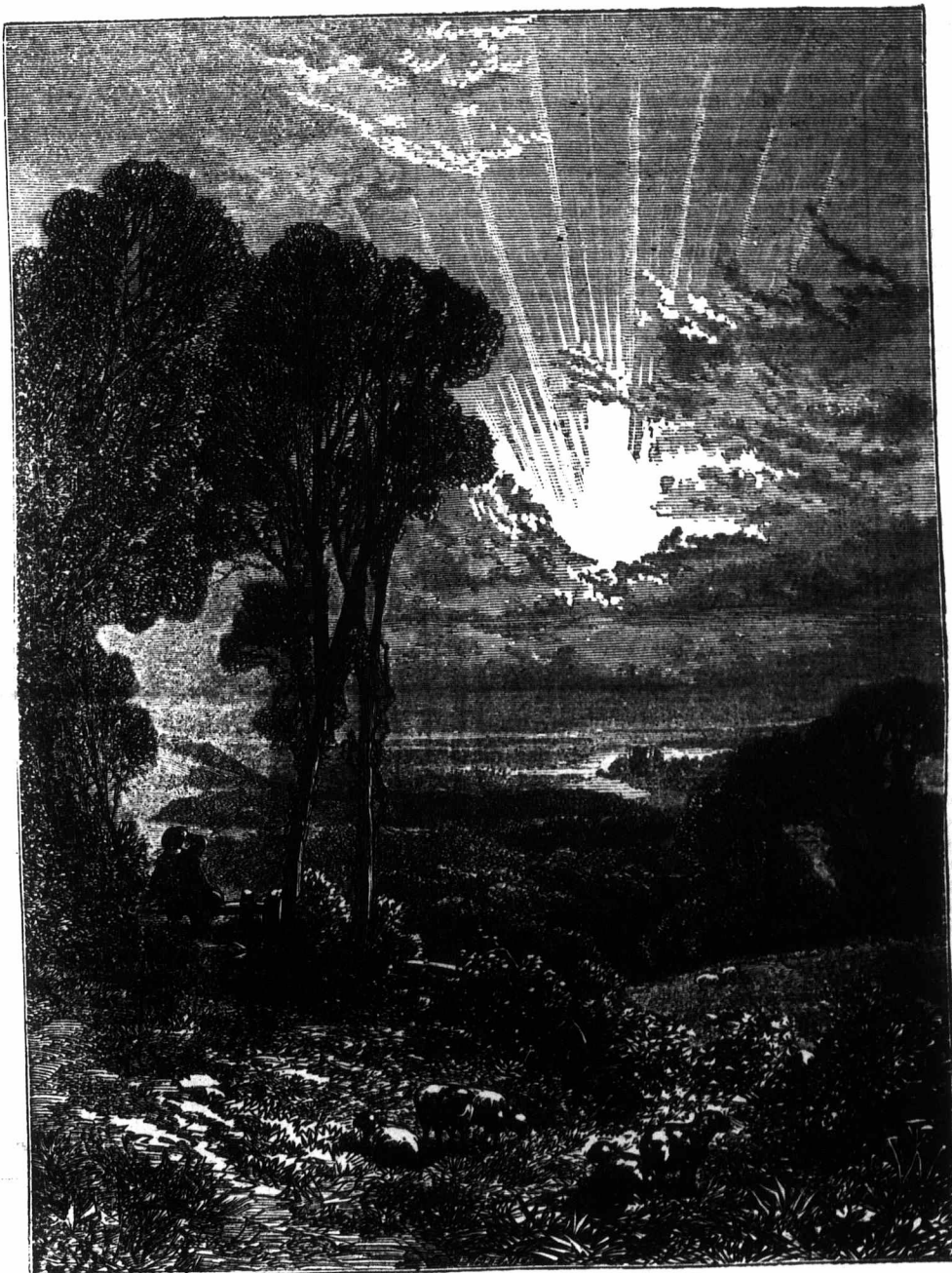
Rye.

In most of the states the acreage in winter rye is fully equal to, or surpasses that of last year. The comparative aggregate area is 101.

Oats.

The breadth of oats is increased two per cent. The condition of the crop is slightly below average.

Almost the only variety of oats successfully grown in the South is the "red rust proof," which has been cultivated twenty years in a single locality without rusting.—The testimony is general, almost universal, to its exemption from rust. In a few cases some signs of rust are reported. Drought in May, after long continued rains in April, has been a prominent cause of inferior condition.



SUNRISE.

Sunrise.

What a glorious hour this! how fragrant the flowers, how fresh the grass borders and every herb and plant in the garden! It seems another spring, with more than a spring's luxuriance. But yesterday at noon every green thing was wilted, and seemed withering away. There was no song from the grove; the cattle found no delight in the pasture, but sought the grateful shade.—Now all is life and animation, and every tree gives forth its song. Let us away to the fields;—there all things are flourishing. It is said the greatest growth of all plants is at night. We think differently. When the sun, at his first rising, adds to the refreshing dew the life and light of the early morning, then all vegetation starts forth with a vigor only then experienced. Such are the mornings and such the scenes the Editor of the FARMER'S ADVOCATE has been enjoying

in the Old Home, Merrie England. In the green woods and the shady lanes, fragrant with woodbine, and the rich pastures and meadows, what a pleasure to take a summer mooning's ramble with old friends!

SUPERPHOSPHATE.

The discovery of the use of superphosphate of bones as a powerful manure was made by Sir James Murray in the year 1809, and he subsequently used it on a large scale on his own farm at Pointfield, near Belfast. In the year 1812 he presented to the Belfast House of Industry, a waggon load of monster "murphies," grown on a field which had been frequently visited by the members of a Belfast Board of Guardians, "to see potatoes growing over vitriolized bones."

One of the collateral advantages of the superphosphate of bones is the rapid decomposition of the bones and their liquefaction which enables the farmer to apply just enough of the manure as is needful for the one crop for which it is intended. Crude bones are many years in giving out their chemical components—in other words, in dissolving, as the following case will show. A friend of mine, in applying the bone manure to a field intended for wheat, found that there would be a considerable quantity more than he expected, and told his foreman to lay on a larger dressing on the rest of the field. The man immediately began to give a double dose, which, as it was impossible to rectify the error, was passed over. Eleven years after this the field was again under wheat for the third time, and having a friend staying with him he took him round his farm. On coming to the field in question, he requested his friend to take particular notice of any difference he saw in the crop. Coming to a certain part of the field—"How is this?" he asked; "the wheat here is several inches higher than the rest of the field." He then told him that eleven years previously he had given that part of the field a double dressing of bone manure, and that the fertilizing materials were not yet exhausted. This is easily accounted for by an analysis as follows:—One pound of bones contains phosphate enough for 23 pounds of wheat. A crop of wheat of 5 qrs. per acre, at 60 lbs. per bushel, weighs 2,400 pounds. Divide this by 23, and it gives rather less than 100 pounds of bone for a crop. Bones were formerly dressed with one ton and a half per acre, which was enough for 42 good crops of wheat if properly managed. Superphosphate of bones has changed all this, and the farmer, by good management, can put any amount of bones on his land he chooses, and in a state prepared for immediate absorption by the crop.—*Mark Lane Express.*

CAMPOR ON SEEDS.

Some curious and all but forgotten experiments, of much interest to agriculture and gardening, observes a London paper, have lately been revived by a German savant. Very many years ago it was discovered and recorded that water, saturated with camphor, had a remarkable influence upon the germination of seeds.—Like many another useful hint, the

stupid world took no heed of this intimation; but a Berlin Professor came across the record of it, and he appears to have established the fact that a solution of camphor stimulates vegetables as alcohol does animals. He took seeds in various sorts of pulse, some of the samples being three or four years old, and therefore possessing a very slight degree of vitality. He divided these parcels, placing one moiety of them between sheets of blotting paper simply wetted, and the other under strictly similar conditions between sheets soaked in the camphorated water.—In many cases the seeds did not swell at all under the influence of the simple moisture, but in every case they germinated where they were subjected to the camphor solution. The experiment was extended to different kinds of garden seeds, old and new, and always with the same result of showing a singular awakening of dormant vitality and a wonderful quickening of growth. It also