INFLUENCE OF DIFFERENT KINDS OF MANURE ON HERBAGE.

The grasses form a most important tribe of farm plants. Nutritious in their bulky green state, and highly conducive to the health of the stock which browse upon them in our pasture fields, they are no less valuable when dried into hay. The natural history of the grasses has long since been written; they are belonging to one great family of plants—the graminaceous—and possess certain characteristic properties by which we readily recognize them. The chemical and other properties of the grasses vary very considerably. One contains more albuminous compounds; another, more mineral ingredients; one is most nutritive at the period of flowering; another contains most nutritive matters when fully matured, It is, however, singular that we are not in possession of reliable data whereby to pronounce an opinion as to the relative merits of the grasses. Science has thrown some light upon this subject; it is but that dim glimmer which prevents our seeing the entire distance before us. There is a dark place which must be illumined, and an ignorance which must be corrected, ere the farmer and the grazier can truly balance the merits and demerits of particular grasses for particular purposes. Chemical analysis alone will not accomplish all that we require, any more than the empiric conjecture of the more practical man; the two must co-operate, and naturally correct and assist each other.

The grasses, like other plants, are amenable to those various physical agencies which influence vegetable life. Heat, air and light exercise their own distinctive functious in modifying the size, &c., of plants. That there is a most intimate connection, too, between the soil and the character of the vegetation which it naturally bears, is well known. It is also a well-known fact, that the manures with which we top-dress grass lands very considerably influence the character of the sward, diminishing the proportion of one species of grass, and increasing that of another. The laws by which these modifications were effected remained, unknown, however, until Messrs. Lawes and Gilbert undertook to investigate the subject. In experiments instituted to test the effects of different manures in simply increasing the valuable yield of grass, they were so struck with the marked effects of some of the manures in destroying certain plants and families of plants, that they sought the assistance of the late Professor Henfrey in classifying the plants composing the sward. The plots selected for botanical examination were:—

1. Not manured.
2. Manured with ammoniacal salts alone.
3. " mixed mineral manures alone.
4. " do. and ammoniacal salts.
5. " do. and double quantity of do.
6. " farm-yard manure.
7. " do. and ammoniacal salts.

The herbage was classified chiefly into (*a*) graminaceous plants, (*b*) leguminous plants, and (*c*) miscellaneous herbage, principally weeds.

The graminaceous plants formed, at the time of cutting, 75 per cent. of the produce of the unmanured portion; on the part manured with farm-yard manure, they found 87¾ per cent.; 79¾ per cent. when farm-yard manure and ammoniacal salts were used; 72 per cent. on the portion to which mineral manures were applied; 89 per cent. where 40 lbs. of ammoniacal salts alone were used; 79⅛ per cent. by the same amount of ammoniacal salts and mineral manure; and 97¼ per cent. where the double allowance of both ammoniacal salts and mineral manures were applied. The quality of the graminaceous herbage varies, no less than the proportion of it which composed the herbage under the different manures.

At one time the graminaceous portion of the herbage consisted of 66 per cent. of flowering or seeding stem, and 34 per cent. of leaf and undeveloped stem, on the unmanured plot; 59 per cent. of flowering and seeding stem by mineral manure alone; 40 per cent. of the same by ammoniacal salts only; 75 per cent. by the joint application of animal and mineral manures; 67 per cent. by double application of both manures; and 80 per cent. when farm-yard manure and ammoniacal salts were applied.

It has been found that the manures which increase the amount of whole produce also increase, in a very high degree, the proportion of graminaceous herbage, a conclusion which is of no less interest than importance. The foregoing facts also lead to another instructive conclusion, namely, that nitrogenous manures have a special effect in developing the "proportion of leaves and shoots," while mineral manures tend to the increase of the flowering and seeding of the plants; a conclusion of great practical value to the farmer, as it teaches that guano and sulphate of ammonia produce very different results from those mineral manures which depend for their efficacy on their containing the ash constituents of plants.—*Irish Agricultural Review.*

PENNSYLVANIA ROCK OIL.

In most countries, a troublesome process must be undergone to extract oil from mineral substances, such as from coral and asphalt; but Pennsylvania seems to be so favorably dealt with by Dame Nature, that the very rocks distil oil into her lap. The north-western part of that State seems to contain quite a number of subterranean springs which yield a limpid oil, some of which we have examined; and quite recently there was a considerable excitement caused by the discovery of a rich oil spring, at Titusville, while sinking a shaft to find a salt spring. This excitement is unabated, as the subjoined extracts from papers issued in the oil region demonstrate:—

"We learn, from the Potter county *Journal*, the following facts relative to the Seneca oil spring, near Titusville, the editor being a native of the aforesaid place. It appears that the 'Pennsylvania Rock Oil Company' purchased the spring of Brewer, William & Co., for the sum of $5,000; and, in 1858, leased it to Mr. E. L. Drake, with the understanding that he should gather the oil at his own expense, and pay them 12½ cents a gallon for it. His lease extended for 15 years, with full privilege of working it at his own option. In May last, he commenced looking for salt, and after sinking a shaft 71 feet, on the first of last month, he struck a fissure through which he was boring, and the discovery of the subterranean spring of oil was the result. The yield per day, up to the period of the recent fire, had increased from 400 to 1,600 gallons. The tract of land on which this spring is located was once purchased by the father of the editor of the *Journal* for a cow, and previously it had been sold at the treasurer's sale for taxes. Now, it is believed, $100,000 would not purchase one acre of it."—*Erie Gazette, Oct. 20th.*

"We learn that an oil spring has been discovered a few miles up the Mullingus Creek, in Spring Creek township, which bids fair to eclipse the Titusville establishment. It has been known for some years that oil rose to the top of the water there, but it has not until recently attratced much attention."—*Warren Mail.*

"The substance known here as "Seneca oil, and about which there is at present so much excitement in this countro, exudes from the rocks, or floats on the surface of springs, in various parts of the world. The name of 'Seneca oil' was derived from the Seneca Indians, a tribe famous in the confederacy known as the Six Nations, and which numbered among its chiefs the great orator, Red Jacket, Farmer's Brother, Big Tree, and Cornplanter, after whom a township in this county is named. The oil in this county was discovered and used by this tribe. The oil is found in abundance at Amiano, in Italy; Birmah, on the borders of the Caspian Sea; on the West India Islands; along the shore of the Kanawha, Virginia; in Kentucky; near Seneca Lake, New York; in western Pennsylvania, generally; and in great abundance in Venango county. The wells of Birmah yield 400,000 hogsheads annually. Its uses are almost endless. As a medicine, it is used both externally and internally; is regarded as an excellent stimulating embrocation in chilblains, chronic rheumatism, affections of the joints, paralysis, and kindred complaints. It is an ingredient in the celebrated 'British oil.' It is also used for making an excellent lamp oil, known as 'Carbon oil,' and is considered, among machinists, as the best lubricator extant. The demand for it cannot be satisfied. In this county, companies are being formed in many localities to dig for it. Mr. Hilands has granted the right to search for it to a large and wealthy Pittsburgh company. Mr. Stewart has leased the well-known Brandon spring, below this place, on the river. Two engines, intended to be used for boring, were landed at our wharf last night, and the work of searching will now be commenced in earnest."—*American Citizen, Oct. 19th.*

TENNESSEE COTTON.—The crop has been excellent this year, and large quantities are pouring into Memphis. The receipts are expected to amount to 400,000 bales this season, the estimated value being from $18,000,000 to $20,000,000. In 1858, 30,000 bales were shipped up the river for the East and West; in 1859, 80,000 bales were shipped in the same direction; and it is expexted that 150,000 bales will take the same course in 1860.

THE DEEPEST ARTESIAN WELL.—The appropriation for carrying on the artesian well at Columbus, Ohio, has been exhausted, and the work has stopped unfinished, with the well at the depth of 2,300 feet—four feet deeper than any other astesian well in the world.

A COLUMN OF INTERESTING VARIETIES.

It is stated that all the fixed stars, as they are called, are in motion; but, though some of the motions are very rapid, the distance of the stars is so great that it will require many thousands of years to produce any considerable change in the appearance of the constellations.....One of the most common causes of baldness, is the presence of an animal invisible to the naked eye, at the root of the hair.....When dead bodies decay, they are converted principally into gases, and pass off into the air, where a portion of them is absorbed by the leaves of plants, and being formed into grain or fruit, is again eaten by animals, and thus travels the great circle of change ordained by the Creator.....The editor of the Warrentown (Va.) *Flag* has in his possession a plain gold ring, 138 years old. It has engraved on it, in the old style these words: "J. W., obit March ye 7th, 1721." It was plowed up by one of the servants on a plantation, in the county of King George. The ring is of pure gold, and is supposed by some to have been the property of the father of General Washington, as the initials we believe, are the same. The owner has been offered and refused the sum of $200 for it.....A man died very suddenly in Pennsylvania from the effects of whisky. The beverage was analyzed, when the chemist reported that he found in it the poisonous constituent of cocculus indicus. The proportion found was two grains to the pint of whisky. This poison is considered fatal to human life in quantities of from five to ten grains, according to circumstances and conditions.....The Pacific wagon road has been finished. During the summer some 1,500 wagons, 12,000 head of cattle, and about 4,000 persons have passed over it. Grass, wood, and water are found abundantly along the route. It commences at the South Pass, leaving the Sage Plains to the southwest, and going directly through the Wasatch Mountains, by way of Thompson's Pass, crosses the head waters of Bear and Great Snake rivers.....An iron steamer was launched in Philadelphia, Oct. 25th, from the yard of Reaney, Neaffie & Co. This steamer is 200 feet long, 29 feet beam, 12 feet hold, and will be propelled by a beam engine, having a cylinder 45 inches in diameter, and 11 feet stroke. She is built in a very substantial manner, and will, it is expected be a fast steamer. She will connect with the Delaware Railroad..... Sweden and Norway are slowly being lifted out of the sea at the rate of from one half to one tenth of an inch per annum. The West coast of Greenland is as gradually sinking.....Petrified remains of shell-fish very closely resembling lobsters have been found in the rocks; some of them over six feet in length.....Coats of arms came into vogue in the reign of Richard I. of England, and became hereditary in families about the year 1192. They took their rise from the knights painting their banners with different figures to distinguish them in the crusades.....The first standing army of modern time was established by Charles VII. of France, in 1455. Previous to that time the King had depended on his nobles for contingents in time of war. A standing army was first established in England in 1638 by Charles I. but it was declared illegal, as well as the organization of the Royal Guards in 1379. The first prominent military band instituted in England, was the yeomen of the guards, established in 1486.....Guns were invented by Swartz, a German, about the year 1378, and were brought into use by the Venetians in 1382. Cannons were invented at an anterior date, they were first used at the battle of Cressy in 1345. In England they were first used at the siege of Berwick in 1405. It was not until 1544, however, that they were cast in England. They were used on board of ships by the Venetians in 1535, and were in use among the Turks about the same time. An artillery company was instituted in England for weekly exercise in the year 1510.....The first railroad constructed in the United States was at Quincy, Mass., connecting the granite quarries with tide water. It was about three miles in length. The Baltimore and Ohio was the first passenger railroad. It was opened in 1830, a distance of 15 miles, with horse power. Next in the order of time came the Mohawk and Hudson, from Albany to Schenectady, 16 miles, opened for travel also with horse power, in the summer of 1831, the first locomotive used in this country was on that road, in 1831. Locomotives were in operation in South Carolina and upon the Ohio and Baltimore road in 1832.