

Rural Economy.

FERTILIZERS FOR THE FARM AND GARDEN.

The manufacture and sale of fertilizers is a branch of business which, originating in a very small beginning ten to fifteen years ago, has now reached very large dimensions.

There never will be, probably, a complete substitute for barn-yard manure; but its indiscriminate application, without reference to soil or crop, or other circumstances, has frequently proved, compared with bone-dust, the superphosphates, and other articles, a loss instead of a profit.

The safe rule would seem to be, (and there is no safe rule which agricultural, or any other kind of chemistry, can give), that farmers should find, by careful experiment on their own places, which kind of fertilizer produces, for them, the best crops, and having found this, adhere to it,—but by no means discontinue experimenting.

We cannot reason upon this and many other facts we see around us. We, however, commenced this article with the object of saying something about the almost inexhaustible sources of abundant fertility, within the reach of every farmer, and to be had for almost nothing; and as we have been connected with the agricultural interests of the county for several years, we will give the information to our brother farmers without any charge.

These sources are, depth of soil beneath their crops, and fertilizing atmospheric gases above them. These are both within reach, and can be procured, 1st, by deep ploughing, and 2d, by thorough pulverization on the surface.

The old motto of "Cujus est solum usque ad cœlum," is also applicable in the other direction beneath the ordinary surface plowing. A man may be said to have it in his power to get a new farm every year by plowing an inch deeper. Here is a comparatively inexhaustible bed of inorganic elements in the growth and structure of plants, which have never been disturbed, and by turning up to the sun and air, become speedily converted into plant food.

By thorough pulverization and fine tilling on the surface, the oxygen of the air is admitted into the soil, chemical combinations take place, and indigestible plant food is converted into that which is nutritious. Deep plowing, if the surface is allowed to become hard, baked, and impenetrable, will be of but little use. It is only when the two are combined, constituting what is called "deep tillage," that the highest and best results are to be secured.—Rural Advertiser.

TRAINING COLTS.

T. S. Ingersoll, Berea, Ohio, a practical man, now more than eighty years of age, but who has broken a great many colts, and is training the second for the present year, writes to the Times: "Colts are taught in the first place, while I am their friend, I must be their master and they must obey. This lesson is sometimes hard for them to learn, especially as I used to break colts in former years, when a young man. Then, if the colt did not come right up to the chalk the first time, it was abused by the whip. I was most unmerciful in my dealings, exercising no reason nor good judgment, which are the most necessary attributes of character to be called into requisition by the trainer of colts.

"My friends often say to me: 'You are too old to break colts. Why, a man near eighty years of age to think of breaking such wild colts; it seems quite absurd; you'll get killed by them by-and-by.' My reply always has been, I am better qualified to break colts, as you term it, than when I was young. It is not halt the work now that it was forty years ago. I don't break my colts now; I train them; I don't like the term of breaking colts; I use the term of training or educating them—treating never something as I would a young child, never punishing them for ignorance. I seldom use a whip in my early training. The first exercise with a colt, after he has carried the harness till he is not afraid of it, is to put lines to the bits and over the outlocks and running them through the reeching, so as to keep them up; I go behind and attempt to drive him. This

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sometimes makes awkward work; but patience and reason and good judgment now must be exercised, for the colt will cut up all manner of pranks, sometimes rearing and kicking up. Do not hold the reins too tight; humor him till he finds he cannot get away nor rid himself of his harness; and as he gets a little tired he will begin to yield. I get my colts accustomed to the bits by drawing them around with the harness on, always letting the traces dangle about their legs as much as possible, to get them used to having anything hit their heels without being frightened at it. I should have said before, that while I am driving them I talk to them a great deal. They will soon learn my language. If they seem inclined to back, I gently pull on the lines and say back, back, Charley, if that is his name. When they choose to go forward, I say go on. When I want them to turn round, I gently pull the line on the side I wish them to turn, and say, come round 'Charlie, always speaking his name. When I think it is safe to put him between a pair of thills, with two wheels, I first let him see it and smell of it, leading him round it, lifting up the thills and letting them fall till he sees it will not hurt him. Then I put him between the thills and let him stand awhile before I attempt to drive him. By driving awhile in this vehicle until I think it safe, I put him before a lumber-wagon, and he will soon be manageable at ordinary work.—New York Times.

THE TURNIP FLY.

In notes on the season, the Farmer gives the following hints as to preventing the ravages of this destructive pest:—"As a preventive, we have always placed great dependence on the use of hot lime, our practice having been to apply it a short time previous to sowing; and although we have suffered severely from the fly when we omitted, from any particular reason, to apply lime, we were always safe when we did use it. In other cases, we have known hot lime applied a few days after the turnip seed had been sown, and with uniform success. The use of manures which stimulate a rapid growth of the young plants is of the greatest possible utility, because the fly ceases to injure them as soon as they get into the rough leaf. Keeping the land clear of charlock, etc., is most useful in preventing attacks of the fly, as the insects feed upon and is nourished by such plants, even at other periods of the rotation than the turnip break. As a remedial measure," says Stephens, "a long-haired hearth-brush switched along the drills by field-workers would cause the insects to fall from the plants better than any board of net; and if quicklime were strewed immediately upon the plants, their destruction would likely be more certain."

PROFITABLE BEE CULTURE.

Mr. David Hardy, of Homer, Cortland county, N. Y., writes to the Rural New Yorker, that after forty-five years experience in bee culture, he has demonstrated to his own satisfaction, that bee-keeping may be made a profitable branch of rural industry; and being desirous of calling the attention of all who may feel an interest in the subject, he sends the following statistics of his Apiary for the past year:—

Table with 2 columns: Description of colonies and products, and Profit. Includes items like 'To 38 colonies of bees at \$6 50, \$247 00' and 'Profit, \$262 61'.

A NEW FARM YEARLY.

The Rural Advertiser, for June, in remarking on the various fertilizers used by farmers, says there is one unfailing source of supply within reach of every farmer. This is found in deep plowing and a proper pulverization of the soil. In other words, "depth of soil beneath their crops and fertilizing atmospheric gases above them." By plowing an inch deeper every year, a new farm, so to speak, is obtained. Of course there is a limit to this, but the trouble generally is, that but few persevere till they reach it.

SIGNS OF RAIN.

The earth was very dry. No rain had fallen in a long time, and all were looking anxiously for "signs" of a coming storm. The direction of the wind, the color of the sky, the shape of the clouds, and their varied hues at sunrise and sunset, were all prophesied by; and many thought the rain at hand when the swallows flew low, or they heard the crows crow before midnight, or the dog and cat ate grass, or the new moon took a shape so she would not hold water between her horns. The barometer, even, was vacillating and could not be relied on. But one afternoon the cellar bottom grew moist and even wet. At night, Patrick said that the outlet of the long tile drain, which had been almost dusty for days, was wet with water coming down the drain. I strolled down the road at sundown and met the "Deacon." "We shall have rain shortly," said he, "the brook back of the barn is rising, and I never knew that sign to fail. If the brook rises in a dry time, it is sure to rain in a few hours. At noon the water did not run in many places in its bed, but to-night there is quite a stream." Well, it did rain copiously the next day, and I remembered that the sign which

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most surely foretold the storm, was the rising of water to the surface of the ground. The springs increased and the brook flowed more. Water rose into the drains and made its appearance at their outlets. Why should the water rise to the surface before a storm? Because, when a storm approaches, the atmosphere becomes less dense, or lighter. The pressure on the earth is not so great, and the water rises to the surface more freely.

A POINT IN COOKERY.

No one but a German could have had the patience to invent the following "process of quickly cooking soft and rendering easily digestible, dried peas." The dried peas are covered with cold water and left to soak during twelve or fifteen hours; the water is then poured off, and the moist, swollen peas are placed in a covered vessel, which is set in a tolerably warm place and left there during forty-eight hours. Under this treatment the peas begin to germinate, they become rather soft, and a certain amount of sugar is produced within them. On now cooking the peas, says the chronicler, they will be quickly done, and will be found to have an agreeable taste, to be easily digestible, and to exhibit almost precisely the same characters as fresh green peas.

Scientific.

POSSIBLE FAILURE OF THE BRITISH COAL SUPPLY—ANOTHER VIEW.

In the House of Commons, June 12th, Mr. H. Vivian, in a long and interesting speech, full of elaborate scientific calculations, moved for a Royal Commission to inquire into the extent of the British coal-fields, the consumption of coal, and other points connected with this question. After some prefatory remarks, he divided his subject under three heads—the depth at which coal could be profitably worked; the amount of coal actually known to exist, and which might possibly exist in undiscovered coalfields; the rate of consumption and the necessity of economy. In dealing with the first point, he combated Mr. Hall's assertion that coal could not be worked below 4000 feet, remarking that it would cut off from the South Wales coal district 24,000 million tons, of the value of £84,000,000, and showed by relating a series of practical experiments which had been made, that the objections to deep pits on the ground of temperature, pressure, and expense, were unfounded, and that they could be worked with as much health, comfort, and safety to miners, and with as little expense comparatively, as shallow pits; and that hitherto, as a matter of experience, the additional cost of sinking deeper had been more than compensated by the additional amount of coal obtained. He gave some interesting details as to the extent of our known coalfields, which he placed at 2770 square miles, containing 84,000 million tons, but gave many strong reasons and quoted high authorities for believing that under the Permian and other strata there existed coalfields three or four times as extensive, which were within the reach of man, and that in all probability the source of English coal was full of attainable coal. On the question of future consumption he declined to make any predictions, but contended that consumption ought not to increase at a more rapid rate than the population, which was at present about one and one-fifth per cent.; and applying it to the manufacture of iron, he showed by a reductio ad absurdum that Mr. Jevons' theory of geometrical progression in the consumption was fallacious and entirely untrustworthy, concluding that there was no ground for the dismal prophecies which had been uttered on this point. By the adoption of the "long wall" system, in place of the "pillar and stall," he showed that considerable economy might be obtained in the working of coal, and in regard to its consumption he indicated various inventions which had been and might be expected to be made to effect a large saving. He adverted, in conclusion, to Mr. Torrens' amendment for confiding the inquiry to the Geological Survey, and gave his reasons for preferring a commission composed not only of scientific but practical men.

Mr. Liddell seconded the motion, and, though not apprehending any imminent failure in our coal supplies, urged the necessity—looking to the importance of the material to our commercial superiority—of adopting every safeguard for the economical consumption of coal. Sir G. Grey intimated that the Government, being fully sensible of the importance of accurate information on this subject, would grant the inquiry, and being unwilling to delay the completion of the important work on which the Geological Survey was engaged, they preferred the proposal of Mr. Vivian, to confide the inquiry to a Royal Commission, on which it was hoped Sir R. Murchison would serve. The motion was agreed to.

VIOLINS AND VIOLIN-MAKERS.

Persons who hold with Dean Swift in despising "fiddlers and all their fine stuff" (happily they are a minority in these, our musical days,) will not believe how much curious and varied information gathers itself around the most difficult to handle, yet the most exquisite of musical instruments. Less available, as representing music, with all its fullness of harmonies, than the piano forte, and requiring, as it does, special physical qualifications not to be acquired by the most patient labor, even the singer, whose instrument is part and parcel of his own frame, can hardly express his feeling or sentiment more infinitely than the wordless interpreter who caresses the violin. Then, it has a peculiarity which sets it apart from all its comrades: that of being better for age. Whereas every other instrument wears out, a violin improves with time; nor can the most artificial or ingenious use of science replace the steady, mellowing process of years. By

baking the wood, and by using acids, a temporary semblance of the rich old tone of the great Italian and Tyrolese violins may, we are informed, be fabricated; but the result is only temporary, and the preciously-formed manufacture does not abide wear and tear. It is no more possible to improvise a violin than it is to force a cedar tree. Further antiquarian interest is given to the subject by the fact that, in the production of the violin, certain secrets of the construction have been lost. The receipt of the Cremona varnishes, which add so much to the value of the old Italian instruments, (possibly to their sonority, certainly to their preservation,) seems as little ascertainable as that of the old ruby glass.

Gaspard Duiffoprugor, a Tyrolese, established at Bologna in 1610, who went to Paris at the invitation of Francis the First, afterward removed to Lyons, is said to have been the first maker of the genuine violin we have on record. Not even old pictures have risen in value comparably with old violins. The Cremona price of Joseph Guarnerius (born in 1683; died in 1745.) was some four pounds, or thereabouts. He was an irregular maker, because he was a careless, eccentric man; but his best violins seem to have been "best of the best." Paganini played on one of them; and for the magnificent violin known by the name of the King Joseph Guarnerius, Mr. Hart received the enormous sum of £700, which is the largest amount ever obtained for a violin on record. Lastly, the violin is nothing without its bow; and violin-makers are not bow-makers. The greatest of bow-makers was Tourte, of Paris, (born 1749, died 1835,) and whose productions, highly finished, and made of the finest Brazil wood, are as precious, according to their order, as the Cremonese violins which they bid to "discourage."—English Paper.

TRUE SCIENCE NOT CONTRARY TO SCRIPTURE.

While infidels ridicule the faith of Christians, facts prove that there are none so credulous as they in seizing upon and accepting whatever in their opinion will discredit or overthrow the sacred record. An immense quantity of flints shaped like axes, arrow-heads, and other rude implements, found in the valley of the Somme in Picardy, Northern France, led many geologists to pronounce that they afforded incontrovertible proof of the existence of man for ages before the creation of Adam, according to the Bible, though it is known that flint has a natural tendency to break into similar shapes. Some human bones and flint arrow-heads found last year in mounds at Caithness, in Scotland, were elaborately described, and authoritatively pronounced by scientific men to belong to a period before the Scripture record. A thorough investigation of the mounds, however, has proved them to be composed of limpets and periwinkle shells, and the human remains to be those of a Danish sailor, while a pair of tailor's shears like those in modern use, and coins bearing the image of King William III., were also found among these "pre-historic remains."

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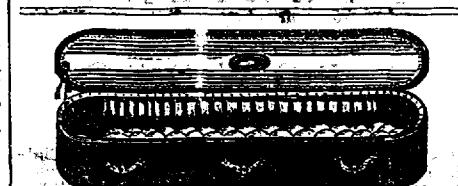
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