THE FARM AND FIELD.

INTERESTING SUBJECTS FOR

Preservation of Manure--Plants that Flavor Butter--Hilling Po-tatoes--Depth of Good Soil.

Preservation of Manure.

The June bulletin (No. 32) of the New York Agricultural Experiment Station contains a great deal of suggestive information with regard to various kinds of fertilizers. In the pages devoted to the barnyard manures there are two or three sections relating to the fermentation of such manures, and the proper methods of caring for them to prevent the loss of fertalizing constituents. That there is a vast amount of indifference-not to say ignorance-among farmers with regard to the losses they suffer in consequence of the heating or leaching of their stores of manure is too painfully evident to those who have looked into the matter.

But the conditions under which farming is now conducted in this country in all the older States, and even in many of the newer sections, are such that wiser methods are becoming imperative. Farmers cannot longer afford to cart "the ghosts of their manure piles," as an English writer expressed it, into their fields, for the stored up fertility which gave them fair crops in spite of the mocker/ of fertilizing material they laboriously applied to them is largely ex-They must learn to husband all their fertilizing resources and utilize them to the best advantage in order to maintain unimpaired the fruitfulness of their farms.

The suggestions of the agricultural station bulletin are, therefore, of great value, even if they seem trite to those who have learned, years ago, that waste in the barnyard means

poverty in the barn.

There are two principal ways, it says, in which stable manures commonly loses some of its fertilizing constituents-first, by improper methods of fermentation, and, second, by leaching. In regard to the first point, more or less nitrogen is lost by allowing manure to ferment without sufficient moisture; especially is this apt to be true in the case of horse manure, which decomposes very rapidly. A strong odor coming from a manure heap indicates that wasteful fermentation is taking place. This source of loss can be avoided

by keeping the manure heap moistened with water or by sprinkling land plaster about the stables to be mixed constantly with the accumulations or by using dry earth as an absorbent. Only nitrogen compounds can be lost by vaporization. By leaching there will be a loss of not only nitrogen compounds, but of potash and phosphoric acid also.

The common method of storing farm-yard manure for several months under the eaves of the barn often, if not generally, results in a loss of onehalf or more of the fertilizing constituents by leaching; and, moreover, the materials thus leached out by rain are the more easily soluble portions of the manure, and hence the more

valuable portions. Another point of great importance in connection with the preservation of stable manure is the saving of the this go to waste. But, as shown in one of the stables of the Bulletin, the liquid is, in most instances, much more valuable than the solid portions. Thus the solid fresh excrement of cattle contains only half as much nitrogen and about one-fifth as much potash as the fresh urine.

The difference between the solid manure and the urine of the horse is greater still, while the fertilizing constituents of the urine are entirely soluble, and therefore more readily available for plant food than those of solid excrement. To let the former go to waste, therefore, while utilizing latter is much as if an orchardist should carefully pick out for sale the poorest of his fruit and leave the rest to ret on the trees.

The main object in caring for barnyard manure is to prevent the loss of compounds containing nitrogen, potash and phosphoric acid. When the manure is kept for some time before being carted afield, the three princi-pal points to be observed are these:

1. Save the liquid manure by means of litter, using in addition land plaster or some form of dry earth, such as peat or muck.

2. Keep the manure heap in a sufficiently moist condition. 3. Protect carefully from leaching

by rain.

With regard to the first point it is suggested that the use of too much litter diminishes the relative value of manure and add to the cost of handling; but enough litter should be used not only to absord and retain the urine, but also to absord any am-monia that may be formed in the process of decomposition.

Hilling Potatoes.

Experiments made by us, 20 years ago and more, showed that the common and almost universal practice of drawing the earth up in small hills was founded on the erroneous supposition that all the roots and tubers the country most of the potato fields | American Cultivator. and gardens are seen still to continuo

the practice. be observed by digging down a few still young and before the tubers have each other between and in the three treatment will pregnarily reduce the want to or not, is a humbin, I begrowth of the tubers, which although hear the center of the hill, are fed by the roots.

The experiment is well worth trying.

Select three or four more, and let the soil be well cultivated and kept mel-low and flat. Count the bushels of each when dug, and it will be found that those from the flat rows have from ten to twenty per cent more po-

There may sometimes be very pe-culiar conditions of the soil—shallow soil or rocky, or otherwise which may modify the result; but for common ground, plowed at a good depth and planted deep enough, there is but one result. We observe that the Michigan station has modified this test by placing manure between the rows, where the long horizontal roots could feed from it with better returns than by manuring in, under or over the hill.—Albany Cultivator.

Plants Tnat Flavor Butter. A grass which should be the dairyman's favorite, owing to the sweet scented fragrance it communicates to the milk, is the Vernal grass(anthoxanthum odoratum). It springs up early in the spring, flowers and scents the air with its fragrance. As a grass for exclusive feeding it will not rank high, but when mixed properly with the other more nutritious grasses it gives a tragrance to the whole mass which is very delightful.

No grass probably flavors milk, seeam and butter so directly and noticeably as this sweet scented Vernal grass, and where it is found in abundance in the fields growing along with the other varieties, the butter made from that section has a distinguishing and exquisite taste. When this grass is moved and stowed away in the silo with other grasses it gives a splendid milk food for winter feeding. On large dairy farms it is well worth the trouble to scatter some of the seeds of the Vernal grass in the pastures. The result in the flavor of the milk and butter will soon be noticable. Where fancy butter is made a specialty this grass is an essential to the pastures.

The fragrance of the grass is due to the presence of gum benzoin or benzoic acid, which can be dissolved in cold Butter washed in water in which the grasses have been soaking will lose its rancidity to a large ex-tent. Ensilage butter is often destitute of true flavor, and it can only be flavored by artificial methods or adding some such fragrant grass to the silo which will impart its sweetness to the milk before it leaves the cows.—E. P. Smith in American Cultivator.

Depth of Good Soil.

The opinions of farmers differ,

though not more widely than the facts on which they are based, as to the depth that soil may be profitably cultivated. In the best soils plant food is found deeper than the plow can ever go. This, however, is mainly mineral. Vegetable matters collect near the surface. If they are deep, as they sometimes are, the lower portions are generally filled with stagnant water. Some settlers on black muck soil in the west thought they had secured land of inexhausti-ble fertility, mainly because it was black to a great depth. They found after a while that however deep their muck beds, only the part that could be thoroughly dried during the growing season was of any use to them. What such land needs most is thorough drainage. As soon as it gets this, however, the muck bed be-comes thinner, as its carbon burns by exposure to sun and air. Then comes the severest test. If the original soil is deficit in mineral plant food the lacking elements must soon be supplied. But whether poor or rich in mineral plant food, supplies of potash and phosphate will be needed. How-ever poor the vegetable matter may be, its decomposition will liberate ammonia enough togo a long way toward supplying grain crops, provided phosphate is furnished. But whereever the subsoil is sandy, potash is also probably needed. Wood ashes also probably needed. Wood ashes are nearly always beneficial to muck lands, as the caustic potash they contain hastens decomposition of vegetable food, besides making phosphate also more available.—Correspondent New York Tribune.

Truck Farming This industry, according to a bulletin recently issued by the census office at Washington, has assumed surprising proportions. Truck farming is considered by the statistician as dis- living even three miles under water tinct from market gardening. The former is carried on in favored localities at a distance from market, water and rail transportation being necessary, while the latter is conducted near local markets, the grower of vegetables using his own team for transporting his products direct to either the retailer or consumer. Upward of \$100,000,000 are invested in this industry in the United States, the annual products reaching a value of \$76,517,155 on the farms after paying freights and commissions, realized upon 534,440 acres of land. There are employed in this industry 216,765 men, 9,254 women, and 14,874 children, aided by 75,866 horses and mules and \$8,971,200 70 worth of implements.

Use Manure,

When all other forms of wealth manage to evade taxation, why should not the farmer add to his land as much as possible of what makes it productive, and which the assessor drawing the earth up in small bills does not see. If he were to go into feverish, and none were made quieted gardening business, build hot houses, or made sleepy. When, nowever, the and thus add to the visible material oxygen, after having been passed once on the farm, he would undoubtedly. be taxed higher. But he can double or treble the productive value of his were confined within a narrow space land by underdraining and heavy manof comparatively few inches around each plant, and that a deep bed of earth in a narrow hillock was just in more land, leaving him less able to what was wanted. On riding through | manure, cultivate and manage it.

About Honey. The great mistake thus made may old combs, do not the bees see rete more was than they use with profit? inches in the spaces between rows. It In other words, is not some of the will be tound that while the plants are wax wasted! was a query profounded still young and before the tubers have and answered recently in the American datestion in the lakaled gas, is a formed or grown to any size, the burican Bee Journal. Prof. Cook replied: problem which will doubtless be south routs have met and crossed "I do not think so. I believe this studied with much interest. waste of wax imaginary. Bees secrete foot spaces. By hilling the plants, wax when they need it. A. B. Mathe earth must be scraped or plowed son said: "My been do not secrete wax away from these spaces, and the huri-miless they need it. The idea that somal roots cut offer last have. These been have to make wax, whether they

FIGURES ABOUT WAISTS. The American Ones Said to be Entirely New York City O . . a Restaurant That Too Small. Is Whol', Oriental.

Dr. J. C. Kellogg, of Battle Creek Mich., spoke at the Washington high school to the girls of the school during his visit recently.

He opened his remarks by announce ing that he was going to say some very impleasant things about young ladies. Notwithstanding their good-looking faces, he said, most of them are crippled and deformed. The doctor has devoted fifteen years to the study of the human figure. He has made measurements of the Mexican, the Italian, German and French peasants and compared the size of their waists with those of American girls, and he has come to the conclusion that the average American woman is deformed. that her waist is too small for her body. He had compared the waist measure-ment with the height, and, as a result of 1,200 measurements, found that the average waist measurement is only 39 per cent of the height. The average waist of the American woman is 24.6 inches. The waist of the Venus de Milo is 47 per cent of the height. With such a waist as that a woman could draw a great big breath.

The waist of a woman, he said, ought to be larger than a man's, because her liver is larger. He said "a smaller heart but a larger liver."

waist didn't increase at all.
While in Washington the last few days Dr. Kellogg has measured the waists of twelve little girls in a private school and found the smallest waist was 23 inches. The average was 24 inches; one was 251 inches, and one 261 inches, and those waists, he said, will become smaller as the girls grow older.

These restrictions of the waist cause many other deformities, such as holchests, drooping and round shoulders.

Dr. Kellogg did not see any reason why women should not be as strong as men. The doctor spoke of the Swiss women who carry heavy burdens on their shoulders up and down hills, and said they are among the healthlest women in the world.

He showed by diagrams that the same evils occasioned in women by tight clothes were to be found in men who wore belts.-New York Commercial advertiser.

DEEP-SEA PRODUCTS.

Phosphorescent Fishes Which Light the

phosphorescent fishes, those which ight up the waves about them so brilliantly, are found as far as a mile below the surface. The most of the fishes found in what are called the "abyssal zones" have only rudimentary eyes. Some have only long feelers, but these enable them to grope their way about at the bottom of the sea. On the other hand, there are several eyes so large that they are wholly out of proportion to the rest of their bodies. These are supposed to follow their phosphorescent brethren, which act as beacon lights in the mazy depths of old Neptune's trackless wastes. The light of some of these ocean lampsurface by deep-sea dredgers, are so bright that during the brief space the animal survives it is easy to read by the light, even though the night be one of "Egyptian darkness." are able to bear the pressure of the cant fact that it found the vast major-waves above them, which is one ton to ity of its supporters among the city the square inch at the depth of only a school children, whose knowledge of flow through every interstice like it would through the pores of a sponge, thus equalizing the weight. Indeed, it is asserted, the main cause of their dying almost immediately upon being brought to the surface, is because the accustomed pressure has been removed. According to the naturalists of the Challenger expedition, all species of sharks brought up from a depth of over two miles are dead be-

A Curious Chemical Anomaly.

An astonishing result was reached by Dr. Richardson, the English expert physiologist, in some experiments on the respiration of animals confined in pure oxygen. In most cases a steady flow of fresh oxygen rendered the animals confined in it excited and through the chambers containing the animals, was collected, purified and again used, all the warm-blooded animals, such as dogs, cats, guinea pigs, rabbits, etc., became drowsy and fell quietly asleep; and, when the gas was again used after another purification. the sleep became deeper and some of the animals soon died. The oxygen appeared chemically pure at each time of using, and the cause of its re-In producing extracted honey with markable change in effect is as yet a mystery. Whether some poculiar medfication of oxygen takes place during respiration, or whether the toxic properties are due to some active product of respiration which has escaped

Kind father ... My dear, if you want good husband, marry Mr. Goodheart. He ren'ly and truly loves you. haughter ... 'Are you aire of that, pa" Kind father ... 'Yes, indeed, I've seen borrowing money of him for six months and still he keeps coming."-New York Work

A TURKISH DINNER.

Washington street that great street full of foreign markets, there is a Turkish restaurant, says the New York Recorder. The entrance is not inviting and the arrangements inside are a trifle the worse for wear. The divans or red velvet are not very clean, but the carpets are genuine Turkish and the waiters are not American colored men, but genuine Egyptian blacks. They speak Arabic and Turkish and very little English, though

they trifle with French. You ask for dinner. A quaint oriental bottle, with designs in gold. sed, and blue, together with a tiny liquor glass similarly ornamented, was brought upon a bronze tray and placed upon an octagon ball tae beside the low divan upon which you have curied yourself. The magic word "raki" is all that is uttered and you help your-self to a glass of the Mohammedan's favorite aniseed smelling bitters to give you an appetite and to help you digest what is coming. A pure white cloth is laid on the carpet in front of you, and a bowl of tepid water, scented with roses, and a towel, form the

next dinner appliances.

Then comes plate after plate of sweetments arranged in front of you, together with all sorts of dried fruit. but not pleasing the young ladies by this remark he added: "Only in quantity; in quality it is otherwise."

The doctor said that those organs

The doctor said that those organs hadji bekir lokoom, loz helvs tahin which should be above the waist line are so pressed down by tight clothing as to make women deformed.

He called particular attention to the fact that although a woman doubled in weight the measurement of her measurement of her titles, and Sultana raisins. But you had a sort of paste, apricots in pasticles, and Sultana raisins. But you had a sort of paste, apricots in pasticles, and Sultana raisins. But you don't begin yet. There is the piece de resistance, the pilau, a sort of stew made of mutton, onions and rice. Koushkouseh, or caush-couseh, as it is pronounced by different dialects, is brought over to this country ready prepared to make this really delicious dish. None but an oriental can make it properly. The rich gravy in which are found the tender morsels of meat flavored with invisible onions sends up a most savory smell, and the white, mealy rice which surrounds the whole ounteracts the extreme richness, Then there are beans and peas and lantis (a species of lenti).

Now comes the glut of sweetmeats, and after or with them the black tea or coffee in tiny cups and very strong, and the few delicious whiffs from a narghile or hubble-bubble pipe, or from the long chibouk, taken while you lie back sleepily on the soft pillow of the divan. Now, too, you may indulge in a bottle of Cyprus or Salonican wine, for wine must be taken after and not during meals.

The atmosphere of the restaurant is not refreshing, but you get accustomed Water Far Below. to it, and before you are half way Fishes have been found, it is said, through the rich and almost voluptuous three miles below the surface of the meal you quite understand why Turks ocean says the St. Louis Republic, and are so fat and so easy going, why they when a specialty has been made of love to sit and dream and smoke and deep-sea soundings, as in the voyage say nothing; why opinion is not necesof H. M. S. Challenger and others, sary to them; why they are lymphatic the very greatest ocean depths have been found to be very populous. Plants, roused to push and struggle and comon the contrary, do not live in the very deepest waters, and it is supposed, therefore, that the deep-sea animals either prey upon each other or get their food from dead organisms and plants which sink to the bottom. The be the final lot of every man who falls in battle with his face to the foe.

ABOUT "THE GOLDEN ROD." Singular Preference of the Children in

Voting for a State Flower. As the golden rod is likely to be the New York State flower, nominated and elected by the school children, says 'abyssal" species of fishes which have the New York Herald, perhaps they would like to know more about it.

It is a large genus or family, containing upward of eighty species or members, confined almost entirely to North America. One species is found in England and

on the continent, also in temperate posts, which have been brought to the Asia, two in South America and one in the Azores. What peculiar fitness this plant has to entitle it to the distinction of being the state flower the children alone The know. It is nothing more than a perreason that fishes and mollusks nicious weed. It impoverishes the soil where it grows, and it is a signifi-

mile, is because they have exceedingly it was doubtless confined to the emloose tissues, which allow the water to broidered caricatures of it done by their mammas and grown sisters. Their little ears no doubt were pleased with its euphonious title of golden rod," and thus their hearts were won and their votes cast for this farmers' pest. The country children knew it better and looked upon it with

disdain, preferring to vote for the rose and other more aristocratic candidates. A field of golden rod has charms of its own, and visitors from abroad, where it is almost unknown; become enraptured with it and carry away pleasant memories of our fields clothed in richest golden yellow, but daily association with it would quickly destroy

this feeling.
Its harsh, coarse stems and leaves, the dry, artificial-looking, scentless spikes of gaudy flowers are without charm for anyone with the least pretence to knowledge of the beautiful in nature. It seems somewhat ridiculous to submit a question of this kind to the children for docis on without first giving them instruction on the subject; for, surely, if they were fully conversant with the golden rod's peculiarities they would not vote for it with such unanimity. This view is borne out by

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are its main supporters.

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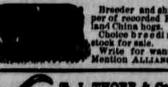
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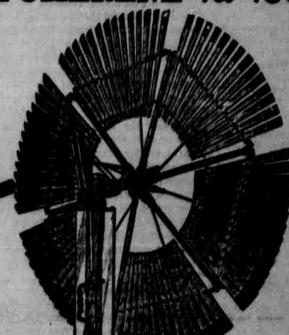
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